



ENTI NATIONAL
SMART TERRITORIES STRATEGY

Local and Regional Action Plan Framework for Smart Territories



INDEX

EXECUTIVE SUMMARY

INITIAL FRAMEWORK

GUIDELINES FOR LOCAL AND REGIONAL ACTION PLANS

CURRENT SITUATION DIAGNOSIS

FUTURE VISION DEFINITION

SUSTAINABILITY AND IMPACT EVALUATION

TEMPLATE TO BE COMPLETED

3

5

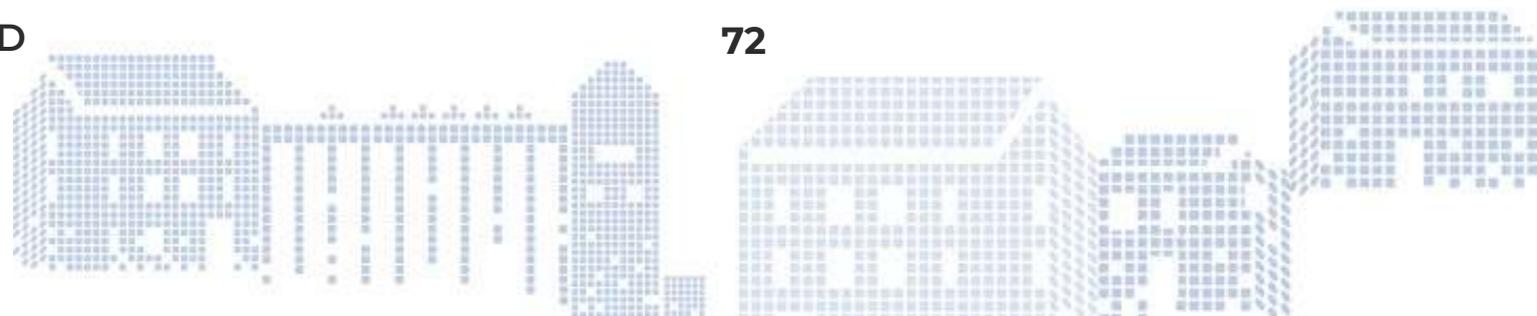
9

14

28

65

72



EXECUTIVE SUMMARY

About this document

This document serves as a comprehensive guide for the development of Local and Regional Action Plans, with a particular emphasis on the adaptation of the recommendations set out in the National Smart Territories Strategy (ENTI) to the specific regional and local contexts. The document employs a thorough methodological approach to guide the creation of a structured action plan. The plan will comprise a vision, strategic areas and objectives, which will be translated into a set of smart initiatives to be implemented by municipalities and inter-municipal entities by 2030.

Purpose

The purpose of this document is to guide and empower the territories in the development of well-founded action plans adapted to each regional and local context, promoting smart development.

Firstly, the document is instrumental in facilitating a diagnosis of the present situation of the territory, encompassing the identification and mapping of pertinent strategic documents, ongoing projects and prevailing challenges. Furthermore, it provides tools to characterise the territory's data ecosystem and to identify opportunities for improvement. Secondly, the objective is to establish a future vision for the territory, based on local priorities and needs. The process of co-creating the vision, defining specific objectives, identifying and prioritising the initiatives to be implemented, and drawing up an implementation roadmap will provide clear guidance for the territory.

In conclusion, the document provides tools for conducting a sustainability assessment, including a governance model to monitor the implemented solutions. This ensures that initiatives are effective and adjustable, as necessary.

Target audience

This document is intended for:

- Policy makers: Mayors, Deputy Mayors, Councillors, Directors-General and municipal or inter-municipal leaders who are responsible for defining smart policies and strategies;
- Technical staff and middle management: department heads, managers and professionals who are involved in the implementation and monitoring of local and regional development initiatives;
- Other stakeholders: businesses, academia, citizens and other entities that aim for the smart development of the territory.

Structure

The document is divided into three sections, each of which provides detailed guidance and practical resources for the development and implementation of Local and Regional Action Plans:

1. Initial framework

This section provides an overview of the document, emphasising the significance of Local and Regional Action Plans in the context of sustainable and smart territorial development.

The section begins by addressing the role of ENTI and action plans in the smart transformation of municipalities and inter-municipal entities. In this context, it introduces the key concepts, objectives, guiding principles, areas and recommendations of the National Strategy and reflects on their applicability to regional and local contexts. It also includes a reflection on the concept of an action plan, describing the main recommended practices ("dos") and practices to avoid ("don'ts"). Finally, it provides clear guidelines for territories that already have a smart territory action plan. These territories must ensure their alignment with the ENTI. Territories lacking a plan can use the recommended tools to develop one.

2. Guidelines for Local and Regional Action Plans

The main section of the document is divided into three subchapters, representing each stage of the development of Local and Regional Action Plans.

This section commences with a concise overview of the framework, subsequently presenting the specific activities for each stage. It provides methodologies, tools, practical examples and identifies the important milestones to be achieved throughout the process.

The framework comprises three stages:

1. Current situation diagnosis: This stage will assess the territory's current context in terms of data, digital infrastructure, and smart initiatives, identifying opportunities for improvement;
2. Future vision definition: This stage will guide the construction of a clear vision and specific objectives for the territory's future as a smart municipality or inter-municipal entity, in line with ENTI recommendations;
3. Impact assessment of implemented solutions: helps define guidelines for continuously monitoring the implementation of the action plan, ensuring that goals are achieved and adjusted as necessary.

3. Template for completion

The final section of the document provides a template for the Local and Regional Action Plan, to be completed by municipalities and inter-municipal entities. This template is a practical tool that territories can use to draw up Local and Regional Action Plans, ensuring uniformity in their structure and terminology.

The template is divided into several sections, corresponding to the stages described in the framework, allowing territories to document the main conclusions of the process in an organised and structured manner.

Benefits

This document offers several advantages to territories when developing Local and Regional Action Plans:

- Structured Approach: it provides a detailed guide for developing Local and Regional Action Plans, promoting the effective and efficient allocation of resources throughout the process;
- Strategic Alignment: it helps municipalities and inter-municipal entities prioritise solutions based on each territory's needs and gaps, ensuring alignment with strategic priorities for national, regional and local contexts;
- Proven Methodologies: providing accredited methodologies and tools with a proven track record in developing action plans;
- Practical Use Cases: provides practical examples of smart initiatives to inspire the adoption of proven and innovative solutions;
- Active Ecosystem Participation: it promotes the active participation of the local ecosystem of stakeholders, ensuring that all stakeholders are involved in the co-creation process.

Use and Recommendations

This document should be used for the development of Local and Regional Action Plans, which should be materialised with the support of the template provided in the final section.

01.

INITIAL FRAMEWORK



National Smart Territories Strategy (ENTI):

The ENTI, published in December 2023 under Resolution of the Council of Ministers No. 176/2023¹, aims to accelerate the integrated digital transformation of Portuguese municipalities and inter-municipal entities. As a result, five actions financed through the Recovery and Resilience Plan (RRP) were identified as crucial for accelerating sustainable and smart development in Portugal:

- Smart Territories Portal: an online platform accessible to the entire ecosystem, which brings together comprehensive information about smart territories;
- Urban Management Platforms (PGU): technological tools for integrated territorial management to be implemented by municipalities;
- Digital Twins: pilot projects to be implemented by municipalities in partnership with academic institutions to test digital twins focused on priority areas such as water, agriculture, mobility and decarbonisation;
- Dashboard for Public Policies: an interactive tool for monitoring the implementation of ENTI and promoting policy decision-making;
- Training and Mentoring: training focused on promoting smart territories and sustainability for various ecosystem stakeholders.

ENTI Vision:

ENTI's strategic objective is to consolidate Portugal's position as a digital and smart nation, ensuring the establishment of a network of smart and connected territories that facilitate inclusive and sustainable economic growth, with interoperable services centred on citizens and businesses.

ENTI Guidelines:

The ENTI is guided by the following overarching principles:

- A citizen-centred approach;
- Capitalising on good practices identified at the national and international levels;

- Communicating and guiding actions towards results;
- Promoting inclusion and cohesion through a two-way approach;
- Acting locally and thinking globally with a long-term focus.

ENTI Initiatives and Recommendations:

The ENTI comprises 16 strategic initiatives and 31 recommendations, covering various smart domains, including governance, society, mobility, environment, quality of life, economy and technology. These initiatives and recommendations are designed to anticipate, manage and plan the needs of Portuguese territories in an integrated and sustainable manner.

From Smart Cities to Smart Territories:

Following extensive discussions with various stakeholders, the scope of the strategy evolved from 'Smart Cities' to 'Smart Territories', which is based on two main pillars:

1. Promotion of territorial cohesion: The strategy aims to play a key role in promoting territorial cohesion by leveraging higher levels of digital maturity among local authorities. This is one of the biggest challenges faced by Portugal;
2. Results at different territorial scales: The strategy aims to provide a reference for producing results and perspectives at different territorial scales and for different stakeholders. This will be achieved by combining bottom-up and top-down approaches to promote economies of scale and positive externalities for the whole community.

¹ Government of Portugal. Resolution of the Council of Ministers No. 176/2023 ([Resolution of the Council of Ministers No. 17/2023 | DR \(diariodarepublica.pt\)](#))

ENTI Domains and Recommendations:

ENTI DOMAINS	ENTI RECOMMENDATIONS
 SMART GOVERNANCE	Improve access to digital public services , portals and integrated applications by making optimal use of Public Administration reference architectures Promote the participate.gov portal to enhance open governance initiatives and encourage citizen involvement in living labs
 SMART SOCIETY	Empower society through education and digital inclusion and literacy initiatives Promote health and social inclusion activities to encourage healthy lifestyles, prevent risky behaviour and retrain socially excluded people, as well as taking action within the social support network Use digital platforms to reach out to voters
 SMART MOBILITY	Promote the investment in and development of smart infrastructure and systems Promote smart and sustainable modes of mobility Improve mobility through the use of low-carbon fuels and electric mobility , in terms of charging infrastructure, incentives and fleet Encourage the use of public transport , making it more sustainable and efficient
 SMART ENVIRONMENT	Promote the creation of accessible, inclusive and green public spaces (urban gardens) and the energy and environmental sustainability of buildings, as well as the use of natural structures (e.g. green roofs), contributing to health and well-being Promote the circular economy covering the entire product life cycle Boost the production and use of renewable energy sources and promote energy production from agricultural and forestry waste Promote sustainable multi-purpose public lighting Promote efficient water supply management with integrated systems Promote the monitoring of air quality, climate, noise and harmful gas emissions with integrated systems Promote efficient waste management with integrated systems
 SMART QUALITY OF LIFE	Implement partnerships between municipalities and health entities , in line with the 2030 National Health Plan and Local Health Plans, contributing to improving the health of populations and strengthening the accessibility, efficiency and differentiation of local healthcare provision (telehealth, telecare) Create integrated systems for protection, safety and emergencies , from a predictive and reactive perspective, in line with national guidelines Promote affordable and intergenerational housing Include culture, arts and sports as dimensions of urban and territorial planning Promote energy communities
 SMART ECONOMY	Increase the attractiveness of municipalities for new residents, families and the business sector by promoting residence and investment in the territories Support the local economy through initiatives that promote the services and products of micro-enterprises, small traders and SMEs Promote entrepreneurship and innovation in the territories by supporting entrepreneurs in the region Strengthen R&D by developing innovation clusters, hubs and technological, creative and innovation infrastructures, testing and experimentation spaces Promote the region as a preferred tourist destination to attract domestic and foreign visitors
 TECHNOLOGICAL DIMENSION	
Improve PGU implementation and the availability of open data, as well as communication technology and infrastructure	
Strengthen cybersecurity , attack prevention and privacy, leveraging synergies with the competent authorities at national and international level	

What is an Action Plan?

An Action Plan is a document developed by a territory to guide the implementation of smart initiatives that meet the specific priorities and needs of that territory. The foundation for this initiative is a thorough diagnosis of the present circumstances in the designated territory. This diagnosis identifies the primary deficiencies and opportunities for enhancement. The subsequent step involves the creation of a future vision, which is then translated into a series of initiatives to be executed. Furthermore, the action plan incorporates mechanisms for continuous monitoring to track the progress of initiatives. This monitoring is crucial to assess the results obtained, identify areas that need adjustment, and ensure that the established objectives are being achieved.

The plan provides detailed guidelines, including targets to be achieved, implementation timelines and resource allocation, thereby ensuring that the municipality or inter-municipal entity follows a clear and objective implementation roadmap. The effective implementation of the initiatives enables territories to efficiently address local challenges, capitalise on available opportunities and promote continuous development.

AN ACTION PLAN SHOULD...	AN ACTION PLAN SHOULD NOT...
Promote a multisectoral and collaborative approach	Adopt a centralised approach focused on policy makers
Be integrated with existing strategies and adapted to local and regional realities	Standardise policies without flexibility for local and regional adaptations
Incorporate continuous monitoring mechanisms	Set unrealistic and unachievable goals

I don't have a smart territory action plan – what should I do?

In the absence of a designated smart territory action plan, it is advisable to develop the territory's own local or regional action plan, with reference to the provided framework.

The creation of this plan is to be undertaken in accordance with the methodology recommended in the following sections, which provide a set of detailed guidelines for the development of Local and Regional Action Plans.

I already have a smart territory action plan – what should I do?

If the territory already has a smart territory action plan, it must be aligned with the guidelines for developing Local and Regional Action Plans.

What must be ensured in both cases?

To ensure an effective and cohesive action plan, the municipality or inter-municipal entity must follow several key principles:

- Ensure co-creation: ensure that all stakeholders are involved in the process of drawing up and/or adapting the plan;
- Align the action plan with the ENTI time horizon: establish specific measures to be achieved by 2030;
- Strengthen existing strategies and initiatives: integrate existing strategies and initiatives in regional and local contexts to build on projects already underway and planned investments for the new plan.
- Follow the guidelines for Local and Regional Action Plans: ensure that all steps and milestones identified in the guidelines for Local and Regional Action Plans are implemented.

02. GUIDELINES FOR LOCAL AND REGIONAL ACTION PLANS



The Local and Regional Action Plan Framework:

The tool, which is designed to guide the development of local and regional action plans, consists of three main stages: Current Situation Diagnosis, Future Vision Definition, and Sustainability and Impact Evaluation. Each stage contains detailed activities that support the territory in identifying the main challenges and monitoring the impact of the implemented initiatives.

Capacity-building initiative:

The framework will be used in the context of capacity-building courses to be developed as part of the capacity-building initiative promoted by the National Administration Institute (INA), in partnership with AMA. This initiative is aimed at local decision-makers, technical staff and middle managers. Its objective is to build capacity towards smart territorial development and to provide support to municipalities in the preparation and execution of Local and Regional Action Plans centred on smart initiatives.

Relevant metrics:

To ensure the framework is efficient and effective, it is important to consider the following:

- The time and resources needed to complete each task. Estimate the time needed for each stage and allocate the appropriate resources;
- Key consultation or co-creation moments should be identified. Identify key moments for stakeholder involvement and ensure their active participation according to the needs of the municipality or region.

This tool will help territories develop Local and Regional Action Plans methodically, aligned with their specific needs.



Phases of the Local and Regional Action Plan Framework:

The framework consists of three main stages:

1. CURRENT SITUATION DIAGNOSIS:

This stage involves an evaluation of the current situation of the territory with regard to data, digital infrastructure and smart initiatives. It is essential to identify existing initiatives and areas for improvement.

2. FUTURE VISION DEFINITION:

The Definition of a clear vision for a smart territory and the establishment of specific objectives to address the challenges identified, in line with the recommendations for the different ENTI domains.

3. Sustainability and Impact Evaluation:

The impact of implemented solutions will be assessed, including the Definition of guidelines for monitoring the implementation of the Local and Regional Action Plan. This will ensure that the initiatives implemented are having the desired impact and allow for adjustments as necessary.

This document will describe each of these stages in greater detail, covering the activities to be carried out and the important milestones associated with them. This will enable progress to be measured.



Local and Regional Action Plan Framework activities:

The framework comprises ten activities:

- 1. Identification of Relevant Strategic Documents:** gathering all strategic documents that influence the development of the plan;
- 2. Mapping Projects and Challenges:** assessing ongoing projects and identifying the key challenges currently faced by the territory;
- 3. Characterising Datasets for the Territory:** identifying data sources available in the territory to capitalise on for smart solutions;
- 4. Concluding on the Level of Maturity:** assessing the territory's digital and technological maturity level;
- 5. Co-creating the Smart Territory Vision:** involving the territory's ecosystem in creating a shared vision;
- 6. Identifying initiatives to be implemented:** listing of possible initiatives that can be implemented to achieve the defined objectives;
- 7. Prioritising Initiatives:** classification of initiatives based on criteria such as impact, financial viability and community desire;
- 8. Designing the Implementation Roadmap:** developing a detailed timetable for implementing the prioritised initiatives;
- 9. Selection of Monitoring Indicators:** Definition of metrics and indicators to monitor the progress and impact of the implemented initiatives;
- 10. Definition of a Governance Model:** establishing a team responsible for overseeing the implementation and ongoing monitoring of the initiatives.

For each activity, a methodology will be presented, along with the relevant tools and illustrative examples, to demonstrate the practical application of the activity.



Important milestones in the Local and Regional Action Plan Framework:

The territory must achieve four important milestones throughout the framework implementation process.

Each of these milestones represents a critical point in the progress of the Local and Regional Action Plan, ensuring that its objectives are being achieved effectively:

1. **Identification of existing gaps:** This milestone provides a clear understanding of the areas that need to be addressed, providing a solid foundation for future planning;
2. **Definition of the vision and specific objectives:** This milestone defines the strategic direction and goals to be achieved, ensuring that all efforts are geared towards a common objective;
3. **Translating the vision and specific objectives into operational actions:** This milestone enables the practical implementation of the plan, with a clear roadmap of actions to be implemented;
4. **Monitoring the impact of implemented solutions:** This milestone ensures that the plan is being effectively implemented and adjusted as necessary to maximise the impact and sustainability of the initiatives.

The milestones will also be detailed throughout the document. For each one, two sections will be presented:

- **‘It is important to ensure that’:** this section includes a detailed checklist to ensure that all necessary steps have been followed correctly;
- **‘Therefore, it is necessary to’:** includes a description of what completion of this milestone enables, highlighting the expected benefits and contribution to the overall progress of the action plan.



03.

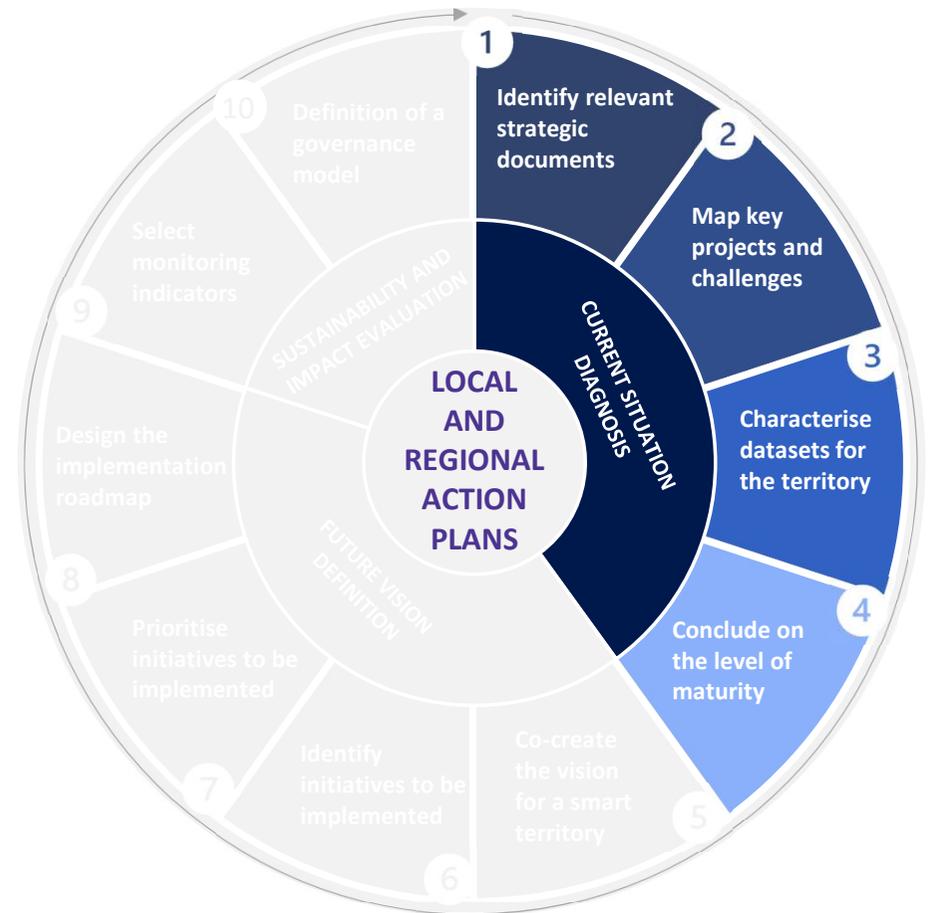
CURRENT SITUATION DIAGNOSIS



CURRENT SITUATION DIAGNOSIS

The current situation of the territory is assessed in terms of data, digital infrastructure and smart initiatives. This allows us to conclude on the level of maturity of the smart territory and identify the main challenges to be considered when defining the future vision

The current situation diagnosis should be concluded with an assessment of the maturity level of the smart territory. To this end, it is essential to first identify the strategic guidelines that are already in place. Following this, the main projects and challenges of the municipality or region must be mapped out. Furthermore, it is essential to characterise the territory's data ecosystems. This will allow for establishing the maturity level of the territory, which in turn will inform its potential transformation into a smart territory. This will provide a solid foundation upon which to define the future vision.



IN THIS SECTION YOU WILL LEARN:

- How to map existing initiatives and identify the main challenges that need to be addressed;
- How to assess the municipality's level of maturity in terms of data, digital infrastructure, and smart initiatives, and identify its strengths and areas for improvement.

1. IDENTIFICATION OF RELEVANT STRATEGIC DOCUMENTS

The aim of this activity is to identify strategic documents containing information on the territory's defined priorities, as well as initiatives underway or planned within the ENTI's time horizon.

What type of documents should be analysed?

The relevant documents that should be identified are those that have some impact on the theme of smart territories, such as:

- The Portugal 2030 regional territorial development strategies, which include territorial development and cohesion contracts. These contracts aim to facilitate concerted action, alignment and commitment around the needs and priorities of each local area. They are signed by the CCDR (Regional Coordination and Development Commissions) and inter-municipal entities.

- Regional strategies for smart territories (if any): regional action plans for smart territories, which define several smart initiatives to be implemented at the regional level.
- Municipal strategies for smart territories (if any): Local and Regional Action Plans for smart territories, which identify smart initiatives to be implemented at the municipal level.
- Other municipal or regional strategies: strategic plans related to ENTI's impact domains, such as Climate Action Plans, Circular Economy Action Plans, Water Cycle Plans, Municipal Health Strategies, and other plans that signal the specific strategic priorities of each local or regional context.

How to identify relevant documents?

To identify the strategies and action plans developed by each territory, it is necessary to contact regional and local entities. Contact points at the CCDR, inter-municipal entities and city councils can be identified for this purpose, or the official websites of regional and municipal entities can be consulted.

Why is it important to analyse these documents?

Analysing these documents will provide an understanding of the characteristics and specifics of each territory, contributing to:

- Gaining a clear overview of the priorities and initiatives underway or planned to address the challenges facing the territory;
- Ensuring that this action plan and the respective initiatives to be identified are in line with strategic priorities and investment plans at municipal and regional level;
- It will also ensure that financial, human and technological resources are allocated efficiently and effectively, avoiding redundant efforts.

2. MAPPING KEY PROJECTS AND CHALLENGES

The aim of this activity is to identify smart initiatives that are underway or planned in the municipality, which have an associated budget and allow data to be used to improve citizens' quality of life, boost the economy, and promote environmental sustainability.

To achieve this, it is necessary to survey the main projects at a municipal or regional level and analyse the key challenges associated with managing, implementing and operating them.

How can we distinguish between smart territory and digital transformation initiatives?

It is crucial to establish a common glossary that defines the differences between the two initiatives.

DIGITAL TRANSFORMATION INITIATIVES	SMART TERRITORY INITIATIVES
SCOPE Digital transformation is the comprehensive integration of digital technologies, processes and strategies into every aspect of an organisation's operations. The aim is to streamline internal operations and customer experiences, as well as increasing organisational competitiveness.	SCOPE Smart territory initiatives have a broader scope and a wider impact on the ecosystem. They aim to improve quality of life, promote environmental sustainability and enhance the economic value of the territory.
OUTCOMES Possible outcomes include simplified processes, automated tasks, improved data analysis and optimised use of digital tools and platforms.	OUTCOMES Outcomes may include implementing technologies such as IoT sensors to enable data collection for decision-making purposes, or adopting smart management systems. They may also include systems that do not require technology.

How to assess key projects and challenges?

Firstly, the territory's ecosystem must be mapped, i.e. the main contributors to its dynamism must be identified:

- This includes municipal or inter-municipal services responsible for implementing smart territory initiatives. These services may include organisational units responsible for smart territories (if applicable), the environment, mobility, civil protection, the economy and urban planning, among others.
- Other entities outside the municipality or inter-municipal entity that are involved in implementing smart initiatives should also be identified. These entities may include universities, research centres, technology parks, municipal companies and the private sector.

Based on this mapping, a process for consulting the entities in the ecosystem should be planned that follows several good practices:

1) Schedule meetings pragmatically

- Group municipal or inter-municipal services to be consulted by a municipal department or ENTI domain (governance, society, environment, mobility, quality of life, or economy) to ensure different perspectives on the same topic are gathered, thus fostering a more comprehensive discussion;
- Conduct interviews over a short period of time to maximise efficiency in gathering contributions. The various consultation sessions can be scheduled on the same day or throughout the same week;
- Use online meeting scheduling platforms that allow participants to select convenient times, thereby simplifying the scheduling process (e.g., [Doodle](#); [Calendly](#); [Google Calendar](#));

2) Preparing an interview script

- Before the meeting, it is important to prepare a list of questions to guide the discussion and enable contributions to be gathered more effectively.

Example of a script for a consultation session:

Framework

- Brief introduction of participants: organisation, role and responsibilities associated with each stakeholder;
- Explanation of the scope and objectives of the session: framing the topic of smart territories, aligning concepts and highlighting the importance of mapping planned/ongoing projects as well as challenges;

Planned/Ongoing Projects

- What are the key smart projects planned/in progress in the territory?
- What types of innovative technologies or practices have been implemented?
- Which types of entities in the smart ecosystem have partnerships been developed with (e.g. universities, research centres, companies)?
- How do you assess the impact of projects currently underway/planned?

Challenges

- How would you generally describe the current situation in the territory in terms of smart initiatives? Which areas demonstrate greater or lesser maturity? Why?
- What are the key challenges faced in implementing smart initiatives?
- What strategies have been adopted to mitigate/overcome these challenges?

3) Encourage open discussion

- It is important to encourage participants to share their perspectives and experiences on the topics covered during the session, to foster open discussion.

4) Draw up meeting minutes

- Appoint someone to document the main topics addressed by the various participants at each meeting, ensuring that all contributions are fully and accurately recorded;
- After each session, summary minutes should be drawn up, highlighting the key points discussed and the next steps agreed upon, such as the submission of documentation or scheduling future meetings;
- These meeting minutes should serve as a basis for systematising the key projects and challenges identified;

5) Systematise the assessment of key projects and challenges

- Aggregate key projects and challenges by ENTI domain, allowing for a detailed analysis of the maturity of the territory from different sectoral perspectives.

Finally, it is vital to evaluate how the Local and Regional Action Plan can address the key gaps and challenges to enhance the territory. It can therefore be concluded that the territory is more developed in terms of smart waste collection initiatives (Smart Environment) than smart public transport initiatives (Smart Mobility).

However, stakeholders may perceive the maturity of a given domain differently, so it is crucial to ensure they are fully represented throughout the consultation process.

Illustrative example of smart projects systematisation

	Project description	ENTI domain
P1	Implementation of a smart territory command and control centre	Smart governance
P2	Digital literacy programme, with training for citizens about smart territory topics	Smart Society
P3	Mapping of critical traffic flow points in the territory, supported by smart technology	Smart Mobility
P4	Installation of LED solutions on public lighting poles	Smart Environment
P5	Implementation of a smart irrigation system supported by 5G technology	Smart Environment
P6	Development of a mobile app that allows citizens to report locations of extraordinary waste accumulation	Smart Environment
P7	Creation of energy communities aimed at the collective production, consumption, storage and/or sale of energy	Smart Quality of Life
P8	Programme to support entrepreneurship and innovation, including hackathons	Smart Economy

Illustrative example of territorial challenges systematisation

	Challenge description	ENTI domain
D1	Very long response times in urban planning licencing processes	Smart Governance
D2	Not all citizens are familiar or comfortable with the use of new technologies, which hinders the adoption of smart initiatives by the community	Smart Society
D3	Lack of access to real-time data that would allow residents to be informed about car park occupancy	Smart Mobility
D4	Decentralised communication with residents, increasing response times and undermining satisfaction levels	Cross-cutting across ENTI domains
D5	Lack of an overarching vision that promotes real-time data-based operational management	Cross-cutting across ENTI domains
D6	Insufficient human resources specialised in emerging technologies	Cross-cutting across ENTI domains
D7	Lack of interoperability of decision-making support information systems	Cross-cutting across ENTI domains

3. Characterising datasets for the territory

A territory is smarter when its decision-making is more informed. In this sense, it is important to characterise the data ecosystem available in the territory, identifying available datasets, assessing their quality and usefulness, and determining how they can be capitalised on to develop smart initiatives.

This exercise also contributes to a deeper understanding of the current situation in the territory, identifying the main gaps and complementing the analysis of the main projects and challenges.

How to characterise the data ecosystem?

Firstly, it is crucial to establish a common glossary to ensure consistency and alignment among all stakeholders in the design of the Local and Regional Action Plan. It is therefore important to clarify the concepts that make up the smart territory data ecosystem:

- **Metadata:** data that describes basic aspects of a dataset (e.g. date created, responsible entity, data format);
- **Open data:** data in machine-readable format that is publicly available under an open licence that ensures it can be freely used, reused or redistributed by anyone for any lawful purpose;
- **Data set:** comprises a significant amount of data that can generally be provided via a file;
- **Data management:** the development, implementation and oversight of plans, policies, programmes and practices that control, protect, deliver and enhance the value of data and information assets;
- **Open data portal:** an online platform designed to provide a single point of access to a data catalogue for the general public.

To identify a data valorisation roadmap that enables the strategic use of available information to promote the territory's sustainable and intelligent development, the municipality's or region's data ecosystem must be mapped.

To this end, it may be relevant to ask whether the municipality or region has:

- **a robust and up-to-date data catalogue** that clearly identifies what types of data and metadata are available in the territory (e.g. personal data, business data or other data critical to decision-making)?
- **open data**, made available through the Public Administration's open data portal ([dados.gov](https://dados.gov.pt))² or its own portal, so that it can be reused to improve public services?
- **a data sharing business model** aimed at establishing partnerships with the private sector?
- **Sensor records**, designed to make use of technologies such as the Internet of Things to monitor and understand how, where and what data is collected from sources such as cameras, streetlights, air quality sensors and traffic sensors, to name a few?
- **A team dedicated to data management and governance**, which oversees the collection, storage, security and use of data from the territory?

As with mapping projects and challenges, it may be necessary to consult the different stakeholders in the smart territory ecosystem to answer the above questions:

- **Municipal or inter-municipal services** responsible for managing smart territory data. These services may include the organisational units responsible for Smart Territories (if any), the Environment, Mobility, Civil Protection, the Economy, etc.
- **Other entities outside the municipality or inter-municipal scope** involved in smart territory data management. These entities may include universities and research centres, technology parks, municipal companies, the private sector, etc.

² AMA. Public Administration Open Data Portal (dados.gov.pt)

What are the typical datasets for a territory?

The datasets of a municipality or region are highly valuable due to their contribution to fundamental pillars of smart territories, such as the efficiency of public services and the transparency of policies. The openness of this data is essential to ensure its applicability in the co-creation of smart initiatives.

In this regard, it is important to analyse the **available datasets that have an impact on the ENTI domains**: smart governance (e.g. public budget), smart society (e.g. official statistics on local elections), smart mobility (e.g. road traffic data), smart environment (e.g. environmental sensorisation), smart quality of life (e.g. geospatial data) and smart economy (e.g. official statistics on local businesses and associations).

The readiness of these datasets must be assessed to gauge the territory's ability to capitalise on its data in the development and implementation of smart initiatives. According to the World Bank's methodology for assessing open data readiness³, datasets can be classified as follows:

- **Readily available**: datasets in structured formats, available for download, and which can therefore be linked from an open data portal, promoting transparency;
- **Pending**: high-priority datasets that require intervention (e.g. licencing) before they can be published as open data, but which can be easily transformed in the short term;
- **Unavailable**: datasets that are not available, either due to major deficiencies in data sources or institutional barriers.

Illustrative example of smart territory datasets:

ENTI domain	Data Set	Examples of Indicators	Data Set Readiness	Authority
Smart Governance	Public Budget	Total investment allocated annually to Innovation and Development	Readily available	Administrative and Financial Management
	Public Expenditure	Annual expenditure on Innovation and Development	Pending	Administrative and Financial Management
	Public Procurement	Total goods and services purchased by category, contractor and value	Readily available	Administrative and Financial Management
Smart Society	Official election statistics, including voting records	Number of voters per parish	Readily available	Voter Support Office
		Abstention rate in local elections	Readily available	
Smart mobility	Data on traffic, public transport use and citizens' mobility patterns	Number of passengers by type of public transport	Unavailable	Mobility Department
		Average frequency of trips per passenger	Unavailable	
Smart Environment	Statistics on renewable energy production and consumption	Total renewable energy consumption by sector	Pending	Environment Department
	Environmental sensors	Air and water quality index	Readily available	Environment Department
Smart quality of life	Geospatial data, including maps and addresses	Number of points of interest by category and area of the territory	Pending	Urban Planning Department
	Location of public assets	Location and opening hours of municipal swimming pools	Readily available	Sports Department
Smart Economy	Official statistics on local businesses and associations	Number of local businesses by sector, size and annual revenue	Pending	Economy Department
	Urban planning data, including land registry	Total area of uninhabited, abandoned and/or marginalised territory	Readily available	Urban Planning Department

³ World Bank. Open Data Readiness Assessment Tool (<https://opendatatoolkit.worldbank.org/en/data/opendatatoolkit/odra>)

In addition, the quality of datasets should be assessed based on different criteria. As a reference, best practices from the public administration open data portal² were used to identify the criteria required for qualitative analysis, such as:

- **Data provenance:** This dimension covers the completeness, clarity and accessibility of the metadata description associated with each dataset. This involves examining whether they provide a comprehensive understanding of key concepts, methodological notes, units of measurement, formulas and reference periods.
- **Data coverage:** This dimension analyses the extent to which the data covers a significant time period, as well as the representativeness and completeness of the sample. This involves identifying the earliest and most recent periods for which data are available, ensuring that the time frame is sufficient for meaningful analysis and identification of trends, and whether the available data cover the entire sample (e.g. municipal or regional territory), ensuring alignment with the intended scope of analysis.
- **Data granularity:** This dimension analyses the level of detail or precision with which data is collected and stored. The more detailed or specific the data is, the greater its granularity. Conversely, the more aggregated or summarised it is, the lower its granularity.
- **Data timeliness:** This dimension includes analysing how often data is updated to ensure its relevance and timeliness. This involves assessing update frequencies (e.g. every four years, every two years, annually, every six months, monthly, daily, in real time), as well as identifying the date of the most recent data update for each indicator, assessing whether the data is up to date.

Illustrative example of smart territory datasets:

Examples of Indicators	Data provenance	Data coverage	Data granularity	Data timeliness
Total investment allocated annually to Innovation and Development	Metadata file available	Available between 2005 and 2024	Low	Annually
Annual expenditure on Innovation and Development	Metadata file available	Available between 2000 and 2024	Low	Annually
Total goods and services purchased by category, contractor and value	Metadata file available	Available between 2008 and 2024, by department	High	Whenever procedures take place
Number of voters per parish	Metadata file available	Available between 1910 and 2024, by parish	High	Whenever elections are held
Abstention rate in local elections	Metadata file available	Available between 1910 and 2024, by parish	High	Whenever elections are held
Number of passengers by type of public transport	Not available	Not available	Not available	Not available
Average frequency of trips per passenger	Not available	Not available	Not available	Not available
Total renewable energy consumption by sector	Metadata file available	Available between 2000 and 2024, by region	Low	Annually
Air and water quality index	Metadata file available	Available between 2010 and 2024, by municipality	High	Daily
Number of points of interest by category and area of the territory	Metadata file available	Available between 2000 and 2024, by parish	High	Annually
Location and opening hours of municipal swimming pools	Metadata file available	Available between 1990 and 2024, by parish	High	Monthly
Number of local businesses by sector, size and annual revenue	Metadata file available	Available between 1980 and 2024, by parish	High	Monthly
Total area of uninhabited, abandoned and/or marginalised territory	Metadata file available	Available between 1990 and 2024, by parish	Low	Every 2 years

² AMA. Public Administration open data portal (dados.gov.pt)

4. CONCLUDING ON THE LEVEL OF DIGITAL MATURITY

The results of previous activities, which involved surveying strategic priorities, ongoing and planned projects, and the challenges of implementing smart initiatives, as well as the territory's data ecosystem, allow conclusions to be drawn about the territory's strategic maturity.

Additionally, this activity aims to evaluate the maturity level of the territory's digital capabilities, identifying its strengths and areas for improvement.

To carry out this digital maturity assessment, we recommend **using LORDIMAS⁴**, a free and interactive tool developed as part of the Living-in.EU movement⁵. It aims to empower local and regional governments across Europe to assess their digital progress, encourage open data sharing, and promote more efficient governance.

This tool can be used to assess different dimensions, such as governance, technological infrastructure, innovation, digital public services and citizen participation. The assessment of these dimensions will identify the strengths of the territory, i.e. areas where the municipality or region is advanced and well positioned in the adoption of smart technologies and practices. Furthermore, areas for improvement will also be highlighted, indicating where there are opportunities for development.

The analysis of the digital capabilities is essential to **guide the strategic planning of the municipality or region**, providing relevant information for the development of public policies, programmes, and projects that aim to promote the sustainable and smart territorial development.



What is LORDIMAS?

LORDIMAS is a tool developed by the European Commission to assess and monitor the progress of European regions and cities in developing and implementing digital innovation policies.

What is LORDIMAS used for?

LORDIMAS is used to assess the digital maturity of a given region or city. It aims to help local and regional authorities understand where they are in their digital transition journey. It provides a comprehensive overview of the current state of digital innovation, identifying strengths, opportunities for improvement, and recommendations to drive digital transformation.

What does LORDIMAS consist of?

It consists of an assessment methodology covering seven key dimensions of digital innovation. This tool uses a combination of quantitative and qualitative indicators to measure the progress and digital maturity of a municipality or region.

Why use LORDIMAS?

- **Assess:** assesses digital maturity based on seven dimensions;
- **Compare:** provides real-time results on an interactive dashboard, where you can compare results with other cities and regions in Europe;
- **Share:** share achievements and challenges;
- **Learn:** provides policy recommendations to raise awareness of emerging topics and policy guidance;

⁴ European Commission. LORDIMAS. ([LORDIMAS Digital Maturity Assessment](#))

⁵ European Commission. Living-in Eu. (<https://living-in.eu/>)

Why is LORDIMAS useful for cities, regions and communities across Europe?

- It offers a moment of reflection on key digital challenges and priorities, including a glossary to ensure understanding and alignment on key concepts related to smart territories and data strategies.
- It provides cities and regions with the opportunity to gain relevant knowledge about their initiatives;
- It allows learning from other realities across Europe;
- It is interactive and actionable.

How is LORDIMAS used?

LORDIMAS is used by local and regional authorities to carry out digital maturity self-assessments.

Regions provide data and information on seven specific dimensions, which are then analysed by LORDIMAS to produce results and recommendations.

What kind of questions does LORDIMAS consist of?

LORDIMAS has nine different sections:

- Section 1: general information about the entity;
- Sections 2 to 8: questions for each dimension mentioned;
- Section 9: general contacts.

For sections 2 to 8, LORDIMAS includes four to eight mandatory questions, consolidated into a simple matrix, and some optional questions for each dimension. For each question, it is possible to answer:

- Not at all;
- Under consideration;
- Under development or adoption;
- In operation in only one or a few service sectors;
- In operation in several or most service sectors.



Illustrative example of LORDIMAS questions:

(governance) Does the local/regional administration have a policy whereby digital transition objectives are directly linked to the green transition?

(service design) Does the local/regional administration engage users when developing or improving digital public services?

(data management) Does the local/regional administration keep a record of the different algorithms used in artificial intelligence-based solutions, systems and services?

(interoperability) Does the local/regional administration offer open application programming interfaces (APIs) for software applications and public data?

(service delivery) Does the local/regional administration offer digital services?

(technology) Does the local/regional administration use the following technology in its infrastructure or services: 5G network?

(network of contacts) Does the local/regional administration collaborate to use common technical standards, shared resources or capabilities to acquire, develop, implement or share common digital infrastructure or services: with other public administrations within the country?

What kind of solutions does it offer to municipalities and regions?

By using LORDIMAS, it is possible to obtain:

- **Real-time data, information, analysis and visualisations:** to monitor the progress of digital transformation;
- **An overview of current policy initiatives:** for relevant information on initiatives at European Union (EU) level and receive personalised policy recommendations;
- **An opportunity to share best practices:** in the territory and learn from others;
- **A space for discussion with other territories and organisations:** to enable engagement in discussions about results with other organisations within the Living-in.EU initiative;
- **More informed policy support and targeted funding:** to benefit from support from policy makers at national and EU level;
- **Valuable information and support in digital transformation:** to align with broader EU policies and initiatives.

How to identify gaps through LORDIMAS?

It is possible to identify gaps as a smart territory through:

- **Detailed scores and rankings** relating to the various dimensions of digital maturity allow flagging of areas where performance is below expectations;
- **Comparison with other regions and cities,** highlighting areas where the territory may be lagging behind its peers, helping to identify best practices and strategies to adopt;
- **Personalised policy recommendations** that can be implemented to improve the territory's digital maturity;
- **Positioning in terms of digital maturity,** according to the six standard levels, characterising the current state of digital development and the main areas for improvement.

What points need to be considered to address the gaps identified?

The results of the digital maturity assessment should be used by local and regional authorities to compare their performance with that of other regions or cities, enabling self-awareness of their positioning in relation to others, identifying strengths, gaps and priority areas for improvement.

LORDIMAS provides an overview of the technological gaps that need to be filled, with a particular focus on:

- **Digital Infrastructure:** investing in high-speed communications networks and emerging technologies is essential, as robust infrastructure is the foundation for any digital advancement;
- **Capacity-building and Digital Inclusion:** promoting digital literacy and ensuring that all citizens have access to digital tools is essential to increase digital inclusion and improve technological proficiency;
- **Digital Governance and Strategy:** developing a clear and coordinated digital strategy ensures that all digitisation initiatives are aligned and that resources are used efficiently;
- **Data Security and Privacy:** implementing robust cybersecurity measures and data protection policies is crucial to gaining and maintaining public trust in digital solutions;
- **Innovation and Continuous Adaptation:** fostering an environment of continuous innovation allows the territory to remain competitive by adapting to new technologies and trends.

Diagnosing these gaps and combining the results with those of the survey of existing projects, challenges and data makes it possible to define concrete objectives for addressing them. This enables local and regional authorities to develop specific, effective action plans that promote smart development and align with EU best practices.

What are the levels of digital maturity?



1. Digitally Born – Lack of digital transition: the territory has minimal or no digital infrastructure. The adoption of digital technologies is virtually non-existent and digitisation is not a priority.

- Gaps: Minimal digital infrastructure, low levels of digital literacy and absence of digital public services.
- Priorities: Investment in basic internet infrastructure, promoting digital literacy and initiating the digitisation of essential public services.

2. Digitally Reactive – Very low levels of digital transition: the territory operates reactively, as a result of crises or external pressures. There is no digital strategy and the implementation of technologies is fragmented.

- Gaps: Lack of digital strategy and resilience.
- Priorities: Develop a clear digital strategy, improve interdepartmental coordination and promote proactive digital responses.

3. Digitally Emerging – Low levels of digital transition: the territory recognises the importance of digitisation and implements initial digital technologies, albeit limited in scope and impact.

- Gaps: Insufficient infrastructure, lack of interoperability, and limited funding.

- Priorities: Expand digital infrastructure, ensure system interoperability, and secure adequate funding to expand initiatives.

4. Digitally Intentional – Moderate levels of digital transition: the territory has a defined digital strategy and is actively working to implement digital technologies. There is an increase in digital integration across various sectors, although there is still room for improvement.

- Gaps: Need for more capacity-building initiatives, limited citizen participation, low level of digital security.
- Priorities: Promotion of continuous training, increased civic engagement in digital processes, robust cybersecurity measures.

5. Digitally Optimised – High levels of digital transition: the territory has a well-developed digital infrastructure, with integrated processes and policies to improve services and operations.

- Gaps: Need for continuous innovation, service customisation, and solution scalability.
- Priorities: Foster constant innovation, adapt digital services to citizens' needs, ensure the scalability of digital solutions.

6. Digitally Native – Very high levels of digital transition: the territory is at the forefront of digitalisation, with an advanced and highly integrated digital infrastructure. Digital innovation is a priority and there is extensive use of emerging technologies to improve service efficiency.

- Gaps: Long-term sustainability, ensuring digital inclusion and data protection.
- Priorities: Ensuring the sustainability of digital initiatives, promoting digital inclusion for all segments of the population, and maintaining high standards of privacy and data protection.

IT IS IMPORTANT TO ENSURE THAT:

- The strategic priorities of the region or municipality previously established have been recognised
- All stakeholders in the territory are represented in the consultation process
- The maturity of the smart territory has been assessed in its strategic and digital components

THEREFORE, IT IS NECESSARY TO:

Map projects and challenges, understand the local data ecosystem and create solid foundations for the digital transformation of the territory

In this way, in-depth knowledge of the current situation of the territory is acquired, taking the gaps identified as a starting point to shape the future vision of the smart territory



IDENTIFICATION OF EXISTING GAPS

04.

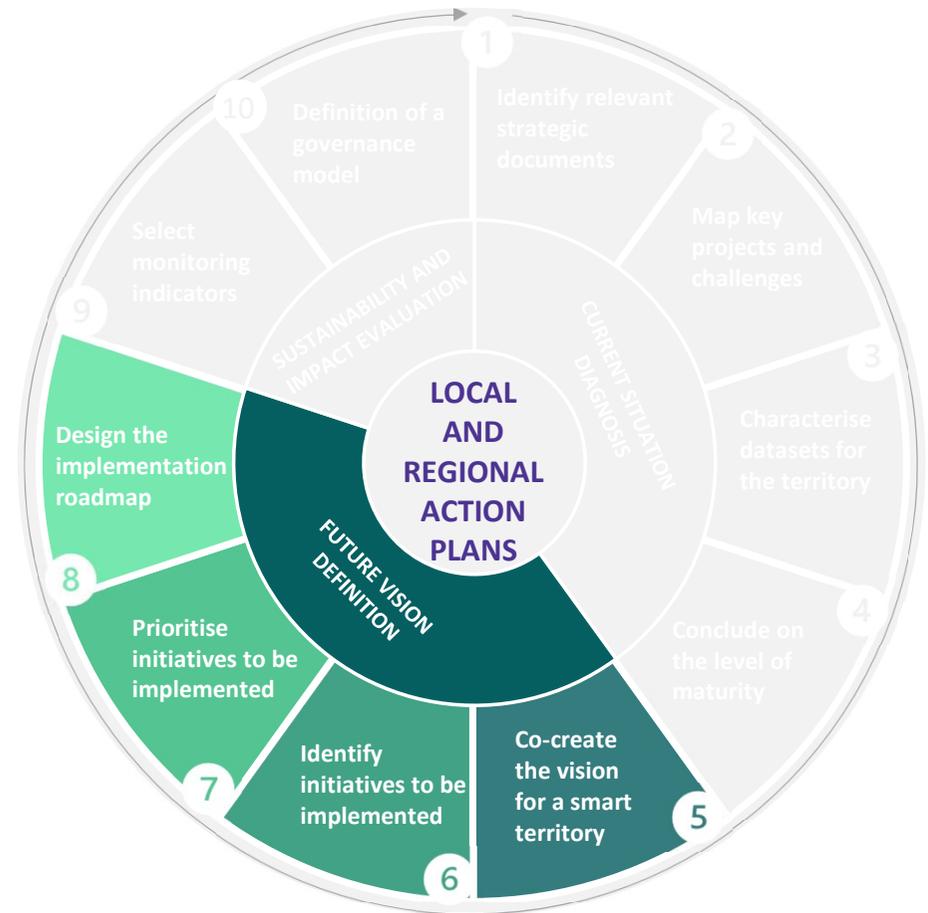
FUTURE VISION DEFINITION



FUTURE VISION DEFINITION

The **vision for the municipality or region is defined as a smart territory**, and **strategic objectives** are established to address the identified challenges, in line with the recommendations for the different ENTI domains

The starting point for defining the vision should be related to the gaps identified in the diagnostic analysis of the current situation. Given these premises, the vision should be co-created in collaboration with the most relevant stakeholders in the territory's ecosystem. In this context, it is essential to establish strategic objectives and implement a set of short-term, impactful operational actions to achieve them. Prioritising these actions over a five-year time horizon will result in the creation of an implementation roadmap.



IN THIS SECTION YOU WILL LEARN:

- How to design and communicate the vision and objectives for a smart territory;
- How to transform strategic objectives into tangible actions that create value;
- How to prioritise actions to be implemented within a given timeframe.

5. CO-CREATING THE VISION OF A SMART TERRITORY

Firstly, to ensure consistency and alignment among all stakeholders in the design of the Local and Regional Action Plan, it is crucial to establish a common glossary. The concepts that make up a strategic smart territory architecture are outlined below, following a top-down approach:

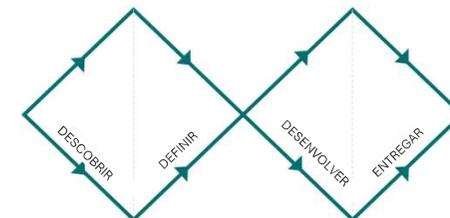
Uma visão orientadora	Frase que define a aspiração para 2030 no que diz respeito à região ou município enquanto território inteligente
Eixos de atuação	Verticais relacionados com os domínios da ENTI e com as recomendações definidas a nível regional e local 
Objetivos estratégicos e metas	Objetivos estratégicos e metas SMART (Específicos, Mensuráveis, Alcançáveis, Relevantes e Oportunos) orientados pelos eixos de atuação
Iniciativas	Compostas por ações associadas aos eixos de atuação que refletem as áreas de foco e materializam os objetivos e metas definidas
Ações	Medidas específicas de curto ou médio prazo, tomadas para alcançar determinados objetivos ou metas dentro de uma iniciativa

⁶ Design Council. Double Diamond. (Framework for Innovation)

The Double Diamond methodology⁶

The starting point for defining the vision lies in the challenges identified through the diagnostic analysis of the current situation. The Design Council's Double Diamond model is intended to facilitate the creative process of designing products and services. The two diamonds represent a design process that starts with exploring an issue more broadly or deeply (divergent thinking), before taking focused action (convergent thinking). This process goes through the following phases:

- 1. Discover.** The first diamond aims to support understanding of the problem, rather than simply assuming it. This process involves listening to stakeholders affected by the problems to understand their needs.
- 2. Define.** The results obtained in the discovery phase can help define the challenge in a different way.
- 3. Develop.** The second diamond encourages the ideation of different solutions to the clearly defined problem, seeking inspiration and co-creating with various stakeholders.
- 4. Deliver.** Delivery involves testing different solutions on a small scale, rejecting those that are not viable and improving those that will work.



It is important to note that this process is iterative, not linear. It is crucial to be prepared to receive constant feedback on the devised solutions and be ready to continuously improve them by revisiting the different phases of the diamonds.

Following the Double Diamond methodology, the co-creation of the vision should begin with a **discovery process**. Based on the challenges identified in the diagnostic analysis, it is important to bring together key stakeholders to explore their different points of view.

How to select the stakeholders for consultation to co-create the vision?

Bringing together a group of stakeholders from the municipality or region in a working session to define the future vision is of paramount importance. This group may include:

- Municipalities and/or inter-municipal entities;
- Regional and/or national government;
- Public entities;
- Service providers;
- Information and communication technology companies;
- Non-governmental organisations;
- Other private companies and associations;
- Universities and/or research and development institutions;
- International city networks and/or other partners.

This group should not exceed 20 participants per session to ensure an organised collection of contributions. During the selection process, it is important to ask the following questions:

- Who should be involved?
- Who may be affected?
- Who should be included given their key role?
- Who has the power to block the implementation of the Local and Regional Action Plan?
- Which groups are excluded from this analysis?

Once the group of stakeholders to be involved has been identified, **a working session should be planned with a view to reaching consensus on the vision, lines of action and strategic objectives for the territory.**

How to define the vision?

The smart territory vision should be developed through ongoing, participatory processes. The action plan will succeed when stakeholders share a common vision and work together.

A shared vision guides actions and decisions, providing direction in times of change. It also inspires stakeholders to contribute their best and collaborate for success.

Four main questions will guide the vision development process:

- What does it hope to achieve?
- How will the municipality or region be perceived in 2030?
- What are the main challenges preventing this ambition from being realised?
- What will be different from the present? What will be similar?

Illustrative examples of a smart territory vision

The municipality of _____ aims to transform itself into a smart urban ecosystem, prioritising sustainable mobility, efficient resource management and government transparency.

The region _____ aims to consolidate its position as an innovation hub, connecting smart municipalities and promoting balanced and inclusive growth through strategic partnerships and advanced technological infrastructure.

What are the action pillars?

The action pillars must be directly linked to the main ENTI domains (Governance, Society, Environment, Mobility, Economy, Quality of Life) and to the recommendations defined for regional and local contexts.

To prioritise the most critical action pillars, an analysis of the domains should be carried out. This exercise should be based on the municipality's or region's characteristics and challenges, as identified in the diagnostic stage.

SMART GOVERNANCE

Tirar partido da tecnologia e da inovação para **melhorar as operações governamentais e envolver os cidadãos nos processos de tomada de decisão**, promovendo a transparência, a eficiência e a colaboração

SMART SOCIETY

Capacitar os cidadãos através da educação, da **literacia digital** e de **iniciativas inclusivas no domínio da saúde**, promovendo simultaneamente o **voto dos cidadãos através de plataformas digitais**

SMART MOBILITY

Integração de tecnologias avançadas e práticas sustentáveis para melhorar os sistemas de transporte, incluindo o investimento em **infraestruturas inteligentes**, a promoção de **opções sustentáveis** e a melhoria da **eficiência dos transportes públicos**

SMART ENVIRONMENT

Criação de espaços e **edifícios públicos sustentáveis**, introdução de práticas de **economia circular**, promoção de fontes de **energia renováveis**, implementação de sistemas eficientes de **gestão da água e dos resíduos** e monitorização da qualidade do ar e das emissões

SMART QUALITY OF LIFE

Melhorar o bem-estar das comunidades através da **melhoria dos cuidados de saúde**, da **segurança**, da **habitação a preços acessíveis**, da integração cultural e de soluções energéticas sustentáveis, melhorando o bem-estar geral dos residentes

SMART ECONOMY

Impulsionar o crescimento económico regional atraindo residentes e empresas, **apoiando as empresas locais**, fomentando a **inovação**, investindo em **investigação e desenvolvimento (I&D)** e promovendo o **turismo** para estimular a prosperidade

How to set strategic objectives?

Defining clear and measurable objectives gives the elements of the smart territory ecosystem strategic direction. Once the objectives are clear, the outcomes of the initiatives are predictable and the local and regional action plan to achieve them can be implemented.

At least one high-level strategic objective should be defined for each priority action pillar. These objectives should outline the steps required to achieve the smart territory vision. They should embody the strategic vision and adhere to the SMART criteria⁷:

- **Specific:** The objective must be clear and specific so that everyone involved understands exactly what is expected to be achieved. It must answer the following questions: What? Why? Who? Where?
- **Measurable:** Progress towards the objective must be measurable to ensure that the goal is achieved. It must answer the following questions: How much? How to tell when it is complete?
- **Achievable:** The objective must be realistic and achievable, considering the available resources and existing limitations. It is important that the goal is challenging, but still possible. It must answer the following questions: How can I achieve it? Is it realistic with current resources and constraints?
- **Relevant:** The goal must be relevant to the smart territory vision. It must be aligned with other long-term objectives and goals. It must answer the following questions: Is the goal important? Why? Is it worthwhile?
- **Timely:** The goal should have a clear deadline for achievement. It should answer the questions: When? What can I do today? What can I do in six months?

Illustrative examples of smart territory strategic objectives

The municipality of _____ aims to make the city's public transport system smarter and more sustainable, increasing its use by 25% by 2027.

The region _____ plans to support the creation of a regional technology park, attracting 50 new start-ups to the region by 2030.

⁷ Doran, G. T. (1981). 'There's a S.M.A.R.T. way to write management's goals and objectives'. Management Review. 70 (11): 35–36

IT IS IMPORTANT TO ENSURE THAT:

- The main gaps identified in the current situation diagnosis are addressed
- The vision is co-created, involving the most relevant stakeholders in the ecosystem
- The strategic objectives defined are SMART (Specific, Measurable, Achievable, Relevant and Timely)

THEREFORE, IT IS NECESSARY TO:

Develop a solid, cohesive and comprehensive strategic vision for the municipality or region, supported by a number of concrete strategic objectives.

Once a clear direction has been defined, stakeholders can establish the basis for implementing high-impact operational actions.



DEFINITION OF THE VISION AND STRATEGIC OBJECTIVES

6. IDENTIFICATION OF INITIATIVES TO BE IMPLEMENTED

As we return to the Double Diamond method, the identification of initiatives to implement marks the beginning of the **design process**. To translate aspirations into concrete initiatives capable of leading to the objectives designed, it is important to base this process on the vision and strategic objectives identified.

What solutions are there that can be scaled up?

Firstly, it is essential to recognise existing solutions to avoid duplication of effort. Considering the analysis conducted in Activity 2 on the current situation diagnosis, it is essential to identify the solutions currently being implemented or planned by the municipality or region. Furthermore, it is crucial to determine which of these solutions can be scaled up to different contexts and domains to meet the strategic objectives. The following points should be given due consideration:

- **Feasibility:** assess the human, financial and technological resources needed to expand the solutions.
- **Adaptability:** check whether the solution can be adjusted to different regional or sectoral realities by adapting methodologies, technologies and processes.
- **Accessibility:** ensure that solutions are accessible to all as their features evolve and the number of users increases.

Which national and international use cases can be replicated?

In addition, a benchmark analysis can help to identify use cases from other national and international contexts that can be replicated and adapted to local or regional circumstances. The **use cases presented in the following pages**, which are based on the local and regional recommendations described in the ENTI, can be used for this purpose.

What funding opportunities are available?

The identification of initiatives to be implemented may be motivated by the national funding context within the State Budget⁸ and supported by European funds within the European Union Budget⁹ for the period 2021–2027 (Multiannual Financial Framework), as well as the temporary instrument created to stimulate the EU's recovery from the COVID-19 pandemic (NextGenEU).

In this context, it is crucial to take a **proactive stance in seeking relevant funding opportunities** that detail:

- The name of the associated funding programme and opportunity;
- The funding mechanism (grants/loans/other);
- A brief description of the funding opportunity;
- Status of the funding opportunity (open/planned);
- The type of management of the funding opportunity;
- The distinction between the source of funding (national or European);
- The geographical scope for which it is intended;
- The associated budget and the respective co-financing rate;
- The duration of the funding opportunity (start and end dates);
- The beneficiary entities (municipalities/private sector/academia);
- The ENTI domains affected;
- Keywords (IoT sensors/5G/Artificial Intelligence/other);
- Applicable implementation stages (Implementation and Infrastructure/Research and Development/Demonstration and Innovation Initiatives);
- Useful links associated with the funding opportunity.

It is important to note that these funding opportunities are subject to frequent updates. Consequently, it is imperative to constantly and proactively monitor both the [European Union's funding portal](#) and the [Balcão dos Fundos](#) (Grant Opportunities) at a national level.

⁸ XXIII Government. State Budget 2024. ([Portuguese Republic \(portugal.gov.pt\)](https://portugal.gov.pt))

⁹ European Commission. EU funding programmes. (https://commission.europa.eu/funding-tenders/find-funding/eu-funding-programmes_pt)

What is the legal framework?

The sustainability of initiatives must also be assessed within their legal and regulatory framework. These initiatives may be impacted by European and national standards that impose restrictions (e.g. limits on the use of artificial intelligence), require compliance with certain criteria (e.g. climate targets) or facilitate procedures (e.g. simplification of urban planning licences or technology free zones).

In addition to these documents, a set of interoperability and data standards must also be adopted. Compliance with these standards is often a prerequisite for accessing funding opportunities, particularly those that promote innovation and modernisation through advanced technologies.

In this context, it is essential to take a **proactive stance in seeking legislation and regulation** with relevant implications for smart initiatives that details:

- The topic and subtopic associated with the legislation and/or regulation;
- The name of the legislation and/or regulation;
- The date of the last update of the legislation and/or regulation;
- A summary description of its content;
- Keywords (European Union/Artificial Intelligence/other);
- The ENTI domains affected;
- Useful links associated with the legal instrument.

It is imperative to acknowledge that these standards are subject to frequent updates, with new legislation being repealed or enacted daily. Consequently, it is necessary to continuously and proactively monitor the legal and regulatory framework for smart territories.

How to select the initiatives to be implemented?

The **delivery process**, as outlined by the Double Diamond methodology, involves the preliminary testing of various solutions on a small scale. Solutions that are not viable are then discarded, and those that show potential for success are improved upon.

To this end, a feasibility analysis of the previously identified solutions should be carried out. The solutions that best meet the strategic objectives should then be selected. At this stage, it is crucial to ensure broad representation of the various stakeholders to consider their needs and preferences.

To assist with the feasibility analysis of the initiatives, it may be helpful to prepare an **initiative sheet**. This would allow for a structured response to the following questions:

- What requires implementation? Why? How?
- Which entities are responsible for the implementation? And for the initiative management? Which other entities should be involved?
- What is the estimated length of implementation? And for the initiative operationalisation?
- What is the necessary budget? How will it be secured? Through European Union funding? Municipal funds?
- Who are the potential beneficiaries of the initiative?
- How can the impact of the initiative be measured? Who is responsible for monitoring? What goals are to be achieved?
- What are the main dependencies to note? Approval of funding? Does this initiative require other initiatives or actions to precede it?

Accurate descriptions of all initiatives and the respective actions to be implemented, together with a defined investment plan and clear identification of purpose, will enable them to be prioritised according to effort and expected impact.

How can open governance initiatives be enhanced by encouraging citizen involvement in *living labs*?

- Establish a **living lab** that promotes the involvement of residents and visitors in technological experimentation



QUICK-WIN

Promote co-creation workshops with residents and visitors to the municipality or region to gather contributions related to a pre-identified strategic challenge



DID YOU KNOW THAT...

the City of Águeda has implemented a Living Lab dedicated to the decarbonisation of the city?

- Águeda has launched the Sm@rt City Lab¹⁰ with the aim of creating an open environment for innovation, involving the city in the development, implementation, validation and testing of new technologies and services. The main focus of the lab is to change consumption habits and the use of public and private spaces, with a view to reducing greenhouse gas (GHG) emissions. Residents and visitors are invited to participate in working sessions to share contributions, test and use technologies that help mitigate climate change.

#livinglab

#co-creation

#experimentation

[Find out more here](#)

- Provide **an open data portal accessible to all**, to promote innovation and business opportunities in the municipality or region



QUICK-WIN

Identify high-value datasets from the municipality or region that will be made available to academia, businesses and citizens, promoting research, innovation and knowledge about the territory



DID YOU KNOW THAT...

the Helsinki region provides datasets free of charge?

- The Helsinki Metropolitan Area's open data portal¹¹ is free and available to everyone. The portal offers more than 500 statistical datasets, time series and real-time data on the region's population, economy and well-being, as well as a wide range of geospatial data. The release of this public data has enabled the creation of new services and business opportunities in the region, with the value of the data increasing as it is used, for example, for research and development or data journalism.

#datadrivendecisionmaking

#opendataportal

[Find out more here](#)

¹⁰ Águeda City Council. Sm@rt City Lab. (cm-agueda.pt)

¹¹ Helsinki. Open data portal for the Helsinki Metropolitan Area. ([Helsinki Region Infoshare - Open data service](https://helsinki.fi/en/open-data))

How can access to digital public services, portals and integrated applications be improved by making preferential use of Public Administration reference architectures?

- **Digitalise local or regional administration services**, ensuring they are accessible to all citizens.



QUICK-WIN

Develop a data valorisation strategy and a standardised catalogue of municipal or regional services



DID YOU KNOW THAT...

99% of Singapore's public services are fully digital?

- Singapore presents 'Digital Public Services' as an essential pillar of its Smart Nation strategy¹². The primary objective is to leverage technology to improve quality of life, public services and governance. By introducing solutions such as single digital authentication, multilingual digital services and the official mobile app for accessing public services, citizen and business satisfaction levels rose to 83% in 2023

#digitalpublicservices

#publicadministration

#digitalgovernment

Find out more [here](#)

- Set up an **operations centre to improve the management of public services**, making it more informed and efficient.



QUICK-WIN

Ensure the interoperability of municipal or regional systems, with the aim of integrating data to inform policy-making.



DID YOU KNOW THAT...

the City of Lagoa has implemented an integrated operations centre?

- Smart City Lagoa¹³ is an operations centre that, by using sensors installed in several pieces of equipment and the LoRa network (long-range wireless technology that enables connectivity and the creation of applications for sharing information across the municipality), receives, analyses and integrates data that contributes to improving the management of various public services, such as lighting, waste collection, traffic, irrigation systems, water meters and various incidents reported by residents

#operationscentre

#urbanplatform

#digitalgovernment

Find out more [here](#)

¹² Singapore. Smart Nation. (smartnation.gov.sg)

¹³ Lagoa City Council. Smart City Lagoa. (cm-lagoa.pt)

How can society be empowered through the education system and digital literacy initiatives?

- Create an **integrated multidisciplinary education programme**, promoting the development of digital skills in the education system



QUICK-WIN

Distribute electronics, robotics or other computer equipment kits in schools



DID YOU KNOW THAT...

the City of Aveiro has implemented a STEAM education programme?

- The STEAM Education strategy¹⁴, promoted by Aveiro City Council across its school network, aims to implement a teaching methodology that integrates knowledge of Science, Technology, Engineering, Arts and Mathematics. This modern, interdisciplinary approach recognises education as a cornerstone of a smart territory and prepares new generations with the skills necessary for success in the digital age. To date, the initiative has benefited more than 22,600 students in Aveiro

#digitalliteracy

#STEAM

#educationsystem

[Find out more here](#)

- Develop **partnerships with municipal libraries** to promote digital literacy courses accessible to the entire population



QUICK-WIN

Promote free, open-access online courses introducing digital topics



DID YOU KNOW THAT...

the New York Public Library offers free digital literacy courses?

- Through the 'TechConnect' programme¹⁵, the New York Public Library supports citizens in developing their computer skills and feeling more comfortable in the digital world. It offers more than 100 technology classes, both online and in person, at libraries in the Bronx, Manhattan and Staten Island, completely free of charge. The target audiences and topics are diverse, ranging from beginner to advanced levels, and classes are offered in several languages.

#digital literacy

#socialinclusion

#publiclibrary

[Find out more here](#)

¹⁴ Aveiro City Council. STEAM Education. ([STEAM Education :: Aveiro Tech City](#))

¹⁵ New York Public Library. TechConnect. (<https://www.nypl.org/techconnect>)

How can activities that promote healthy lifestyles and social inclusion be fostered?

- Forge **transnational partnerships to address shared challenges**, such as encouraging healthy lifestyles among the population



Create a pilot project focused on promoting healthy eating at schools

QUICK-WIN



DID YOU KNOW THAT...

the Baltic Sea region has come together to promote healthy lifestyles?

- The 'Healthy Boost' project¹⁶ was created with the aim of contributing to innovative, effective and integrated cross-sectoral policies in cities in the Baltic Sea region. The various pilot projects enabled citizens to participate in the planning of health and well-being policies. The pilot project in the city of Jelgava, Latvia, focused on healthy, local and sustainable food. Around 200 children took part in the project, improving their eating habits at school, which also benefited their families

#healthylifestylehabits

#transnationalcooperation

#co-creation

Find out more [here](#)

- Build **transnational partnerships to address common challenges** such as the inclusion of marginalised communities



Devise a pilot project focused on tackling social isolation among the elderly

QUICK-WIN



DID YOU KNOW THAT...

the City of Porto is supporting the inclusion of the most vulnerable communities through technology?

- The 'CommuniCity' project¹⁷ is a transformative, citizen-centred project that aims to develop innovative technical solutions to overcome digital, urban and social challenges. In collaboration with companies and technology providers, organisations and citizens, seven European cities will test 100 technological pilot projects in Europe in urban areas and suburbs to empower marginalised communities

#socialinclusion

#transnationalcooperation

#technologicalexperimentati
Find out more [here](#)
on

¹⁶ Interreg Baltic. Healthy Boost. (interreg-baltic.eu)

¹⁷ CommuniCity Project. Porto Pilots (communi-city-project.eu)

In what ways can digital platforms be used to encourage people to vote?

- Implement a **Participatory Budgeting model**, inviting citizens to submit proposals and decide on the municipal budget according to their needs



QUICK-WIN

Design a participatory budgeting model for testing on a small scale



DID YOU KNOW THAT...

the City of Cascais promoted its 12th Participatory Budgeting initiative?

- Since 2011, the City of Cascais has been promoting Participatory Budgeting¹⁸, an initiative in which every citizen is invited to submit proposals and decide on part of the municipal budget. This participatory system contributes to active, informed and responsible citizenship. Through this initiative, Cascais has allocated a total of €57 million from the municipal budget to 241 winning projects, the result of participatory and civic engagement that places the municipality among the most prominent in Europe and the world.

#co-creation

#activecitizenship

#participatorybudgeting

[Find out more here](#)

- Design an **electronic voting platform** that enables citizens to fulfil their civic duty in a way that is accessible, sustainable, secure and efficient



QUICK-WIN

Set up a pilot project to test electronic voting technology on a small scale.



DID YOU KNOW THAT...

Estonia is a pioneer in the implementation of electronic voting?

- Estonia implemented the *i-Voting*¹⁹ system in 2005. This system allows Estonian citizens to vote online in various elections using their national identity cards, which include their digital signatures. The system uses encryption and blockchain technology to ensure security and transparency. Hence, Estonia has seen an increase in voter turnout and greater public confidence in the electoral process. For the first time in history, more votes were cast online than on paper in 2023, with 51% of votes cast online and 49% on paper.

#transparency

#blockchain

#e-voting

[Find out more here](#)

¹⁸ Cascais City Council. Participatory Budgeting. ([Cascais Participates](#))

¹⁹ e-Estonia. I-voting. ([e-Democracy & open data - e-Estonia](#))

How to promote investment and the development of smart infrastructure and systems?

- Implement **smart parking solutions** that use sensors to monitor occupancy in real time and optimise parking space management.



QUICK-WIN

Design a mobile app that enables drivers to check parking availability in real time and pay for parking via their phone



DID YOU KNOW THAT...

the City of Coimbra already has a remote parking payment app?

- The *iParque Driver*²⁰ app enables users to search for and pay for parking remotely. This avoids the need to use parking meters and ensures that users only pay for the time they actually park for. This system makes parking management easier and improves the driver experience. Since its implementation, it is estimated that more than 10,000 users have registered with the app, reducing parking search time by 20%

#smartparking

#remoteparking

#app

[Find out more here](#)

- Install **smart traffic lights** that use sensors to monitor traffic flow in real time and automatically adjust signal timing



QUICK-WIN

Set up a pilot network of smart traffic lights at some high-traffic intersections in the territory



DID YOU KNOW THAT...

the City of Copenhagen has implemented a smart traffic light system?

- Copenhagen has invested in Intelligent Transport Systems (ITS)²¹ by installing new traffic light controllers at 380 intersections across the city. This new technology enables the city to control and optimise traffic lights in real time, resulting in a more efficient flow of bicycles and buses. It also reduces the energy consumption of traffic lights by a third. Overall, cyclists' travel time will be reduced by 10%, while bus travel time will be reduced by 20%

#smarttrafficlights

#decarbonisation

#sustainability

[Find out more here](#)

²⁰ Coimbra City Council. *iParque Driver*. (coimbra.pt).

²¹ C40 Cities. Smart Traffic Signals Boost Cycling. ([Cities100: Copenhagen](http://Cities100:Copenhagen))

How can the use of smart and sustainable modes of transport be maximised?

- Install **bike sharing stations** at strategic points across the city to facilitate user access



QUICK-WIN

Set up a pilot network of electric bike-sharing stations in densely populated areas and near train and bus stations



DID YOU KNOW THAT...

the City of Águeda has installed bike sharing stations in the city?

- The *beÁgueda*²² app offers electric and conventional bicycles for shared use, integrating advanced technology for efficient service management and operation. This system has contributed significantly to reducing the use of privately-owned vehicles (POVs) and promoting sustainable mobility in the region. During the first stage of *beÁgueda*'s implementation, sustainable travel was promoted, and mobility was facilitated for around 160 users, avoiding the emission of approximately 4.14 tonnes of CO₂

#sustainablmobility

#electricbikes

#sharedtransport

[Find out more here](#)

- Develop an **integrated mobility platform** that combines different modes of transport in a single app with a single payment system



QUICK-WIN

Test a pilot app that integrates the various modes of public transport available in the municipality or region



DID YOU KNOW THAT...

the City of London has implemented a *Mobility-as-a-Service* solution?

- The City of London has introduced a smart mobility solution that enables users to plan, book and pay for various transport services via a single app. The *CityMapper Pass*²³ app offers a monthly subscription that includes unlimited travel on buses, the underground, shared bicycles, and even discounts on taxis and on-demand transport services. This *Mobility-as-a-Service* system makes urban mobility easier, encourages the use of environmentally friendly transport and reduces reliance on POVs

#smartmobility

#integratedtransport

#MaaS

[Find out more here](#)

²² Águeda City Council. *Be Águeda*. (cm-agueda.pt).

²³ London. *CityMapperPass*. (Citymapper - The essential public transport app)

In what ways can the use of low-carbon fuels and electric mobility improve mobility, in terms of charging infrastructure, incentives and fleets?

- Install **charging stations for electric vehicles in strategic locations** to increase accessibility and encourage the use of electric vehicles



QUICK-WIN

Install fast charging stations for electric vehicles in high-traffic areas, such as shopping centres and public car parks



DID YOU KNOW THAT...

the City of Lisbon is installing charging stations for heavy electric vehicles?

- The Lisbon City Council, in partnership with MOBI.E and the Port of Lisbon, is moving forward with the installation of charging stations for heavy electric vehicles²⁴. This initiative aims to increase accessibility, encourage the use of electric vehicles and facilitate the transition to more sustainable mobility. It will reduce pollutant emissions and improve air quality in the city

#electricvehicles

#greentransport

#emissionreduction

[Find out more here](#)

- Set up a **fleet monitoring and management system** to promote sustainable mobility, encouraging the use of low-carbon fuels and electric vehicles



QUICK-WIN

Create a centralised platform for integrating and visualising data, which aggregates historical and real-time data from various sources



DID YOU KNOW THAT...

the City of Boston has implemented an advanced municipal fleet management system?

- Boston²⁵ has implemented an advanced fleet management system. This system provides real-time monitoring of municipal vehicles via GPS, integrating real-time location data, vehicle diagnostics, and driver behaviour analysis. Route optimisation and monitoring of electric and hybrid vehicles have significantly reduced carbon emissions. The platform also enables preventive maintenance, reducing vehicle downtime and improving efficiency.

#GPStechology

#municipalfleet

#routeoptimisation

[Find out more here](#)

²⁴ Mobie. Charging stations for heavy vehicles. (mobie.pt).

²⁵ City of Boston. The City of Boston increases EV miles driven by 36% with Samsara EV features. (samsara.com).

How can the use of public transport be promoted to make it more sustainable and efficient?

- Integrate **smart sensors into public transport**, enabling real-time location monitoring, optimising routes and reducing waiting times



QUICK-WIN

Install location sensors in public transport vehicles on a pilot route to provide real-time data to passengers



DID YOU KNOW THAT...

the City of Viseu intends to improve the use of public transport through technology?

- Viseu is focused on improving urban mobility through smart technologies. With the MUV Viseu²⁶ mobile app, it is possible to monitor the location of buses in real time, check timetables and stops, and plan journeys efficiently. This initiative is part of an ongoing investment in smart transport solutions to promote sustainability and convenience for citizens. This app is expected to increase bus usage, reduce CO2 emissions and improve user satisfaction.

#publictransport

#real-timedata

#integratedsystems

[Find out more here](#)

- Enable **autonomous, driverless public transport** to improve mobility in the region, reduce traffic congestion and promote a more sustainable city



QUICK-WIN

Set up an autonomous vehicle pilot project in a defined area, in collaboration with local partners



DID YOU KNOW THAT...

the City of Lausanne, Switzerland, has launched a driverless metro line?

- The City of Lausanne has launched a 6-kilometre-long, 14-station driverless metro line²⁷ that provides easy access for passengers in a city with a level difference of 338 metres and a gradient of more than 12%. The track layout and train control software have been designed to enable trains to run at 2-minute intervals

#autonomouspublictransport

#sustainability

[Find out more here](#)

²⁶ Viseu City Council. Urban Mobility in Viseu. (MUV).

²⁷ Lausanne. Lausanne Metro – true underground rail. (myswitzerland.com)

How can efficient water supply management be achieved with integrated systems?

- Install **smart water meters and advanced metering infrastructure** to monitor water consumption in real time, detect abnormal usage patterns, and identify potential water leaks or inefficiencies



QUICK-WIN

Set up a pilot project in critical areas of the city to flag significant water losses

- Develop a **digital twin of water systems**, including water supply networks, distribution systems, wastewater infrastructure, and environmental sensors



QUICK-WIN

Develop a centralised data integration and visualisation platform that gathers historical and real-time data from various sources



DID YOU KNOW THAT...

the City of Abrantes intends to install smart meters across the Municipality?

- Abrantes²⁸ has included tackling water waste among its strategic priorities. To this end, it plans to install smart meters across the municipality to automatically monitor losses throughout the network. This operation is expected to cover 22,000 devices across a 780-kilometre network, with a total investment of €2.5 million

#watersaving

#sensorization

#smartmeters

Find out more [here](#)



DID YOU KNOW THAT...

the City of Porto is a pioneer in the implementation of a digital twin of the water system?

- The Águas e Energia do Porto²⁹ platform allows monitoring and control of all stages of the urban water cycle, such as supply, drainage and wastewater treatment, stormwater drainage, streams and beaches. A digital twin can allow for the creation of digital representations of all the city's water systems, enabling us to anticipate pollution and flooding episodes while adapting equipment and scaling networks

#scenariosimulation

#watersystem

#digitaltwin

Find out more [here](#)

²⁸ CIM Médio Tejo. The City of Abrantes installs smart meters to reduce water consumption. (mediotejo.net).

²⁹ Águas e Energia do Porto, EM. BBC visited the City of Porto to learn about the technological innovations of Águas e Energia do Porto. (aguasdoporto.pt).

How can the monitoring of air quality, climate, noise and harmful gas emissions be promoted using integrated systems?

- Develop **smart irrigation systems** that include air quality and climate monitoring sensors, enabling automatic adjustments based on environmental data



QUICK-WIN

Implement smart irrigation systems with climate sensors in a pilot area to assess effectiveness and collect data to evaluate benefits and possible improvements

- Develop an **integrated data platform** that centralises data from real-time monitoring of air quality, climate, noise and harmful gas emissions



QUICK-WIN

Install environmental sensors in strategic locations throughout the city to monitor air quality, climate, noise and harmful gas emissions, enabling real-time data collection



DID YOU KNOW THAT...

the Alqueva region is testing a smart irrigation pilot project?

- The Reguengos de Monsaraz City Council, together with partners from the Alqueva region, is sponsoring the AgroSatAdapt³⁰ Project. The primary objective of this project is to develop integrated land management software to support the agricultural community by providing tools to aid production and improve profitability. The software will focus on environmental sustainability by addressing ecological, climatic, water and socio-economic aspects

#smartirrigation

#sustainability

#smartagriculture

[Find out more here](#)



DID YOU KNOW THAT...

the City of Barcelona has developed an integrated data platform?

- The *Smart Citizen Platform*³¹ is a digital platform that integrates Internet of Things (IoT) technologies to collect and share environmental data in real time. In addition, citizens can connect sensors to their smartphones or install devices in their homes to monitor air quality, noise, temperature, etc. The data is publicly available, giving researchers and authorities access and encouraging civic participation in environmental monitoring. This promotes urban policies that are aimed at achieving sustainability

#dataplatfrom

#dataintegration

#interoperability

[Find out more here](#)

³⁰ The Alqueva region is a pilot area for the AgroSatAdapt Project: Smart Territories 2050. (EDIA, S.A.).

³¹ Fab Lab Barcelona. Smart Citizen Platform. ([Smart Citizen](#)).

How can efficient waste management be achieved through integrated systems?

- Index the **urban waste management service tariff** to the amount of waste generated, in line with the 'pay-as-you-throw' model



QUICK-WIN

Start a pilot programme in selected areas to test the feasibility and effectiveness of the PAYT system on a smaller scale



DID YOU KNOW THAT...

the City of Maia has already implemented the PAYT system?

- Maia was the first Portuguese city to index the urban waste management service tariff³² to its waste generation. Thus, residents now pay for the service based on the volume of unsorted waste they generate. This means that the more they recycle, the less they pay. This system is fairer and more equitable for citizens, reduces the amount of unsorted waste generated and prevents it from being sent to landfill, hence promoting greater circularity and environmental sustainability

#urbanwaste

#recycling

#PAYT

[Find out more here](#)

- Establish a **smart waste collection system** to promote operational efficiency and environmental sustainability



QUICK-WIN

Apply IoT technology to bins in high-traffic areas or commercial districts to monitor waste levels and optimise collection routes



DID YOU KNOW THAT...

the City of Cascais has implemented a smart waste collection system?

- Cascais has developed an automated urban waste management monitoring solution³³. By placing sensors in 400 waste sorting bins and recycling stations with underground refuse storage (URS), reports on fill levels are generated, allowing for more efficient collection route design and planning. Waste collection trucks are also equipped with technology that enables them to handle all types of bins and read location tags at selective waste collection points.

#smartcollection

#sensors

#wastemanagement

[Find out more here](#)

³² Maia City Council. The City of Maia innovates with the "Pay As You Throw" system. ([sapo.pt](#)).

³³ Cascais City Council. Smart Waste. ([Cascais Data](#)).

How can the creation of accessible, inclusive and green public spaces, as well as the energy and environmental sustainability of buildings, be promoted to contribute to health and well-being?

- Implement **nature-based solutions** focused on rainwater management and the creation of green spaces, reducing surface runoff, preventing flooding, and improving water quality



QUICK-WIN

Design and install rain gardens in urban areas to capture and infiltrate rainwater. This reduces the burden on urban drainage systems and prevents flooding, while also creating additional green spaces



DID YOU KNOW THAT...

the City of Sintra has implemented nature-based solutions to create sustainable green spaces?

- The Eixo Verde e Azul (EVA)³⁴ establishes the creation of a continuous network of connected green spaces (ecological corridor) along the Jamor River, covering the municipalities of Sintra, Oeiras and Amadora. The initiative covers approximately 150 hectares and aims to promote the connectivity of a larger territory, interconnecting various territorial assets in the three municipalities and contributing to improving quality of life

#naturebasedsolutions

#ecologicalcorridor

#connectivity

Find out more [here](#)

- Promote **energy efficiency in public buildings**, by reducing energy consumption and greenhouse gas emissions



QUICK-WIN

Identify public buildings with high occupancy rates and implement several significant measures to enhance energy efficiency



DID YOU KNOW THAT...

the City of Helsinki has been investing in improving the energy efficiency of public buildings?

- Helsinki is equipping buildings with smart technologies that improve energy efficiency. The project includes the installation of smart thermostats, heat demand response systems, and the integration of renewable energy and energy storage systems. The *Viikki Environment House*³⁵, a high-performance office building, uses solar panels and wind turbines to produce 20% of its energy. This also includes water-drilling cooling systems to make 95% of its cooling energy renewable

#publicbuildings

#energyefficiency

#sustainability

Find out more [here](#)

³⁴ Sintra City Council. Eixo Verde e Azul awarded the Portugal Smart Cities Prize. (cm-sintra.pt).

³⁵ Smart Cities Marketplace. mySMARTLife. (europa.eu).

How can the circular economy be promoted to cover the entire product life cycle?

- Engage the local community in promoting **circular economy practices**, such as upcycling workshops, repair cafés, among other initiatives



QUICK-WIN

Promote small-scale thematic workshops in collaboration with local organisations, schools or businesses to test the level of engagement of residents



DID YOU KNOW THAT...

the City of Oeiras offers textile reuse workshops for its residents?

- The Oeiras City Council³⁶ conducted three sewing workshops with the aim of promoting sustainable practices and spreading awareness of the circular economy among its residents. The workshops focused on creative reuse (upcycling) as a means of reducing textile waste. Consequently, participants are encouraged to apply their creativity by learning new ways to extend the lifecycle of products and reduce clothes shopping

#circulareconomy

#reuse

#upcycling

[Find out more here](#)

- Improve bio-waste collection systems** and encourage residents to reuse and compost



QUICK-WIN

Provide bins for separating bio-waste at waste collection stations in areas with a high population density



DID YOU KNOW THAT...

the City of Oslo is implementing a selective bio-waste collection and composting scheme?

- Oslo, in Norway, has adopted an integrated approach to transforming waste into circular bio-resources³⁷. The city has developed a biogas plant that converts food waste into biogas, which is used as fuel for buses and waste collection trucks. In addition, the plant produces biofertilisers used by local farmers. This system allows 46% of food waste to be separated at source by citizens, with the remainder being used for energy recovery

#circulareconomy

#biowaste

#selectivecollection

[Find out more here](#)

³⁶ Oeiras City Council. ReCostura workshops. (oeiras.pt).

³⁷ European Circular Economy Stakeholder Platform. Oslo takes an integrated approach to treat waste into circular bio-resources. (europa.eu).

How to increase the production and use of renewable energy sources and promote energy production from agricultural and forestry waste?

- Encourage **energy production from agricultural and forestry waste**, investing in rural development and improving quality of life



QUICK-WIN

Find strategic locations for forestry waste recycling stations to prevent burning and encourage the production of energy from forestry waste



DID YOU KNOW THAT...

the City of Viseu has set up recycling stations for forestry waste that the community can use?

- The City of Viseu, through the 'Viseu Rural'³⁸ programme, promoted rural and agroforestry development by installing forestry waste recycling stations. In this context, the community was provided with temporary storage areas for agricultural and forestry waste, with the aim of eradicating the practice of burning waste and preventing fires. The waste is processed, from a circular economy perspective, as it is sold to the Viseu Biomass Plant for energy production, with more than 1,200 tonnes of waste sold since 2020

#biomass

#forestry

#ruralworld

[Find out more here](#)

- Install **smart grids**, which improve energy efficiency by analysing relevant data such as grid performance, voltage levels and energy quality



QUICK-WIN

Install energy grid monitoring sensors and data platforms to identify energy optimisation opportunities, detect anomalies or faults in the grid, and prioritise maintenance activities



DID YOU KNOW THAT...

the City of Évora has been named the first Iberian city with Smart Grid solutions.

- Évora is the first Portuguese city to install smart grids³⁹ and systematically seek new ways of designing energy grid production and distribution. This demonstrates that modernisation can be combined with the preservation and appreciation of cultural traditions. The city has vast potential for photovoltaic generation. This can be realised by increasing local production from renewable sources through solutions that respect the city's architectural heritage

#positiveenergydistricts

#historiccentre

#smartgrids

[Find out more here](#)

³⁸ Viseu City Council. Viseu Rural. (cm-viseu.pt).

³⁹ POCITYF Project. Évora. (POCITYF).

How can sustainable, multi-purpose street lighting be achieved?

- Replace **existing street lighting with LED technology** to reduce energy consumption and maintenance costs, while improving lighting quality and visibility



QUICK-WIN

Install LED lights on the city's main streets or alleyways to serve as demonstration sites for sustainable public lighting

- Install **smart lighting controls and sensors** to enable adaptive lighting strategies based on real-time conditions such as pedestrian activity, traffic flow, and ambient light levels



QUICK-WIN

Start up smart lighting pilot projects in high-traffic areas, such as city centres, pedestrian zones, or public transport stations and stops



DID YOU KNOW THAT...

the City of Lyon is promoting sustainable street lighting with LED technology?

- The City of Lyon has implemented a comprehensive project to replace thousands of street lights across the city with more efficient LED lights⁴⁰. The aim of the project is to reduce energy consumption and maintenance costs while improving the lighting quality and visibility. The transition to LED lighting solutions has resulted in reduction in energy consumption, with street lighting systems now using approximately 50% less energy

#energyefficiency

#sustainability

#LEDlighting

[Find out more here](#)



DID YOU KNOW THAT...

the City of Figueira da Foz has implemented a smart street lighting project?

- The 23,000 streetlights connected to the municipal communication network⁴¹ offer several benefits, including air quality monitoring, traffic monitoring (including presence and speed), urban waste management, irrigation system performance monitoring in green spaces, video surveillance of predetermined areas, energy consumption reduction and, consequently, environmental impact mitigation. The total investment in this project is approximately €7 million

#energyefficiency

#sensorization

#smartpubliclighting

[Find out more here](#)

⁴⁰ Smart Cities Marketplace. Smarter Together Lyon website. (europa.eu).

⁴¹ Figueira da Foz City Council. The first municipality in the country to implement a public lighting energy efficiency project. (cm-figfoz.pt).

What steps are needed to implement partnerships between municipalities and healthcare establishments, and how can the accessibility, efficiency and differentiation of local healthcare provision be improved?

- Increase the **supply of local healthcare services** to the population in collaboration with local health authorities



QUICK-WIN

Proper vehicles must be acquired, and a multidisciplinary healthcare team must be trained and made available to travel to visit patients when necessary



DID YOU KNOW THAT...

the City of Alfândega da Fé implemented a Mobile Health Unit programme?

- In response to the issue of social isolation among the elderly population, the city of Alfândega da Fé has introduced a Mobile Health Unit⁴² programme. This unit travels to villages in the municipality every two weeks, providing specialised services in disease prevention and health literacy promotion. The aim is to monitor health status on an ongoing basis and in close proximity, as well as to empower users with basic skills to improve their quality of life and autonomy

#diseaseprevention

#socialisolation

#proximitycare

[Find out more here](#)

- Develop an **integrated digital health platform** for real-time monitoring of waiting times in emergency rooms, scheduling appointments and sharing medical data



QUICK-WIN

Implement a real-time monitoring system for waiting times in emergency rooms to optimise healthcare flow



DID YOU KNOW THAT...

the Autonomous Region of Madeira has implemented an integrated system capable of sharing data among all public health units in the region?

- The integrated electronic health records system of the Autonomous Region of Madeira⁴³ enables the efficient sharing of medical information among all public health units, ensuring access to clinical data whenever necessary. The project includes monitoring waiting times in emergency rooms, scheduling appointments online, and integrating health data between healthcare units and professionals, ensuring continuity and efficient care

#digitalhealth

#realtimemonitoring

#accessibility

[Find out more here](#)

⁴² Alfândega da Fé City Council. Saúde de Proximidade. ([LACSAF](#)).

⁴³ Health Services of the Autonomous Region of Madeira, EPERAM. ([sesaram.pt](#)).

How to create integrated systems for protection, safety and emergencies, from a predictive and reactive perspective, in line with national guidelines?

- Set up an **integrated command and control centre for emergency management** to enable efficient coordination between different safety and emergency services



QUICK-WIN

Implement a unified communications system for the various emergency services to facilitate coordination during incidents

- Develop a **monitoring and alert platform for natural disasters**, integrating meteorological, seismic and other relevant data sources to predict and respond to emergencies.



QUICK-WIN

Install natural event monitoring sensors in strategic locations and implement an early warning system for the population



DID YOU KNOW THAT...

the Autonomous Region of the Azores has established an integrated Civil Protection command centre?

- The Azores Regional Civil Protection and Fire Service⁴⁴ is an integrated command and control centre that coordinates the actions of various safety and emergency services in the region, including firefighters, police, medical services and other emergency response organisations. This centre enhances the capacity for emergency responses by providing centralised coordination, facilitating rapid and efficient communication among different entities, and enabling continuous monitoring of emergency situations. This ensures that accurate data is available for decision-making purposes

#emergencyresponse

#commandandcontrolcentre

#civilprotection

Find out more [here](#)

n



DID YOU KNOW THAT...

the City of Tokyo has one of the most advanced seismic warning systems in the world?

- Tokyo, in Japan, has one of the world's most advanced seismic warning systems⁴⁵. This system, when integrated with seismic sensors across the country, has the capacity to detect an imminent earthquake and send alerts to the population and critical infrastructure in a matter of seconds. This allows immediate protective measures to be activated

#seismicalerts

#naturaldisasters

#protectionandsafety

Find out more [here](#)

⁴⁴ Azores Operational Command with a high-tech operations centre. (acorianooriental.pt).

⁴⁵ Japan Meteorological Agency. (jma.go.jp).

How can affordable, intergenerational housing be achieved?

- Develop **municipal affordable housing programmes**, integrating spaces for different generations and promoting social cohesion



Locate underused municipal or regional land and start building intergenerational social housing

QUICK-WIN

- Introducing **advanced technologies makes housing access and management easier**, while also promoting digital inclusion and efficiency in housing services



Launch a pilot project to test technologies that improve efficiency, speed and access to affordable housing

QUICK-WIN



DID YOU KNOW THAT...

the City of Braga is promoting affordable housing initiatives?

- Braga has developed the 'BragaHabit'⁴⁶ programme, focused on creating affordable housing for several generations. This programme includes the construction of new affordable housing units and the renovation of existing buildings. 'BragaHabit' aims to integrate young people, families and the elderly into common spaces, promoting social cohesion and community well-being. The initiative also encourages intergenerational coexistence through shared leisure areas and community services.

#affordablehousing

#intergenerational

#renovation

Find out more [here](#)



DID YOU KNOW THAT...

the City of Kelowna in Canada is using AI chatbots in municipal housing?

- Kelowna is integrating AI chatbots⁴⁷ to revolutionise municipal housing by facilitating access to housing information and services. This technology enables citizens to ask questions and receive immediate responses regarding housing availability, eligibility criteria and application procedures via a user-friendly interface that is accessible 24/7. The chatbot also automates the processing of housing applications, significantly reducing response times and improving service efficiency

#chatbots

#municipalhousing

#advancedtechnologies

Find out more [here](#)

⁴⁶ Braga Municipal Housing Company ([BRAGAHABIT](#)).

⁴⁷ City of Kelowna. City of Kelowna receives 3 awards for work with chatbots. ([kelownanow.com](#)).

In what ways can culture, the arts and sports be incorporated into urban and territorial planning?

- Transform **urban areas into multifunctional public spaces**, creating traffic-free zones where culture, arts and sports are promoted through parks, art installations and leisure areas



QUICK-WIN

Find a pilot area in the city to implement a "green neighbourhood" project, removing motor traffic and installing temporary cultural and sports facilities to assess the impact on the community

- Integrate **urban art into public space redevelopment projects**, transforming underused areas into vibrant community spaces



QUICK-WIN

Create an event that involves local artists and the community in creating murals in public spaces



DID YOU KNOW THAT...

the City of Barcelona is transforming urban areas into multifunctional public spaces?

- The 'Superblocks'⁴⁸ project in Barcelona creates traffic-free zones where culture and sports are promoted through the creation of parks, art installations and leisure areas, improving social cohesion and citizens' well-being. Since the project's inception, it has achieved a 42% reduction in CO2 emissions in the affected areas, a 33% increase in bicycle use, and the creation of additional green spaces totalling more than 30,000 square metres. Furthermore, there has been a substantial increase in the satisfaction index of residents in these areas

#greenneighbourhood #urbanism

#cultureandsport

Find out more [here](#)



DID YOU KNOW THAT...

the City of Lisbon promotes urban art by holding a festival?

- MURO_LX⁴⁹ is an urban art festival held in Lisbon. It was created by Galeria de Arte Urbana in 2016. The festival promotes urban art by supporting the creation and production of new works in public spaces, as well as promoting the artists involved. Held annually in a different parish of the city, MURO_LX reveals the local heritage through art in collaboration with artists, communities, and institutions. To date, the festival has showcased the work of over 200 urban artists and commissioned around 150 new pieces of urban art

#urbanart

#redevelopmentofspaces

#communityinvolvement

Find out more [here](#)

⁴⁸ City of Barcelona. Barcelona's Superblocks: Putting People at the Centre. (CityChangers.org).

⁴⁹ Lisbon City Council. Festival - MURO – Festival de Arte Urbana LX_23. (festivalmuro.pt).

How can energy communities be established?

- Encourage the **formation of local energy communities** by promoting collaboration between residents, businesses, and public entities to produce and share renewable energy



QUICK-WIN

Hold workshops and information sessions to educate citizens about the benefits of energy communities, and explain how they can participate

- Create **Positive Energy Districts (PEDs)** where the production of renewable energy exceeds consumption, thereby contributing to the region's energy sustainability



QUICK-WIN

Install solar panels on public and residential buildings to start producing renewable energy locally



DID YOU KNOW THAT...

the City of Porto is a pioneer in the creation of energy communities in Portugal?

- Porto has developed the "Asprela + Sustentável" project⁵⁰ to create a sustainable energy community among universities, businesses and residents. This community promotes the production and sharing of renewable energy, increasing energy efficiency and sustainability. The initiative incorporates solar and wind energy, storage technologies and energy efficiency practices. To date, over 500 solar panels have been installed, generating around 200 MWh of clean energy each year and cutting CO₂ emissions by around 150 tonnes annually

#energycommunities

#energyefficiency

#solarpanels

Find out more [here](#)



DID YOU KNOW THAT...

the City of Groningen is creating Positive Energy Districts?

- The "Making City"⁵¹ project, which focuses on developing positive energy districts where renewable energy production exceeds consumption, was implemented in the city of Groningen in the Netherlands. With more than 1,000 solar panels and energy storage technologies with a total capacity of 500 MWh installed, energy efficiency practices have been promoted, reducing consumption by 20%. The project generates around 2,500 MWh of clean energy each year, reducing CO₂ emissions by around 1,800 tonnes annually

#positiveenergy

#renewableenergy

#energyconsumption

Find out more [here](#)

⁵⁰ Municipality of Porto. Asprela + Sustainable. (asprelaimaissustentavel.pt).

⁵¹ Making City Project. Groningen. (Making_City).

How can the attractiveness of municipalities be increased for new residents, families and businesses by encouraging people to live and invest in the territories?

- Use statistical and georeferenced **data** from the municipality or region to **support investment decisions** and attract national and international funds



QUICK-WIN

Promote investment in the municipality or region by making georeferenced datasets available



DID YOU KNOW THAT...

the City of Porto is attracting investment using statistical and georeferenced data?

- In collaboration with the Financial Times, Porto has developed the InvestPorto Business Explorer⁵². This tool has already been adopted by other international investment promotion agencies and supports investment decision-making by combining statistical and demographic data with georeferenced information from the municipality. This technological innovation is part of the InvestPorto municipal strategy to attract investment, and reinforces the website's status as a 'one-stop shop' for potential investors and companies

#investment

#databasedecisions

#georeferencing

Find out more [here](#)

- Work with ecosystem partners to develop a **strategy that will attract investment** and accelerate the economic potential of the municipality or region



QUICK-WIN

Promote incentives to attract foreign direct investment, such as fast-track licencing procedures for cutting-edge technology companies



DID YOU KNOW THAT...

Dubai has the best investment attraction strategy globally?

- According to the Financial Times, Dubai ranked first in global attraction of Foreign Direct Investment (FDI)⁵³ projects in 2023. This year, Dubai hosted 1,070 global FDI projects, 142% more than the second in the ranking, occupied by Singapore. The city was also number one globally in terms of jobs created through FDI attraction. In line with Dubai's ambition to double its economy by 2033, its global FDI performance underscores the city's robust economic growth and attractiveness to international investors.

#FDI

#economicdevelopment

#business

Find out more [here](#)

⁵² Municipality of Porto. Business Explorer. ([InvestPorto](#)).

⁵³ City of Dubai. Dubai FDI Monitor. ([Dubai FDI Monitor](#)).

How can the local economy be supported through initiatives that promote the products and services of micro-enterprises, small traders, and SMEs?

- Encourage the **consumption of local or regional products** through initiatives to promote small traders and retailers in the municipality or region.



QUICK-WIN

Offer incentives to encourage consumption at local or regional commercial establishments, such as discounts or offers for residents

- Develop an **e-commerce platform** that allows small businesses, small traders and SMEs to sell their products online



QUICK-WIN

Encourage traditional traders in the municipality or region to join an e-commerce platform



DID YOU KNOW THAT...

the City of Funchal is supporting local trade among residents?

- Funchal, through the '+Comércio Local'⁵⁴ initiative, aims to boost and support local trade in all parishes. The allocation of coupons for every €20 spent in participating commercial establishments can yield a voucher worth €250 for each buyer. The initiative involved 276 participating commercial establishments and generated half a million euros in local commerce in its first month. The Municipality is also developing a resident card, which aims to offer discounts at local restaurants and shops, and will be available from 2025.

#localcommerce

#circulareconomy

#residentcard

[Find out more here](#)



DID YOU KNOW THAT...

the City of Amsterdam promotes local products using a digital platform?

- Amsterdam supports the 'Amsterdam Made'⁵⁵ initiative, which promotes products made by local merchants and artisans. The platform offers a digital marketplace and directory where consumers can discover and purchase local produce. Additionally, the initiative provides local businesses with support and resources to help them grow, including marketing assistance, networking opportunities and access to business development workshops and seminars

#e-commerce

#smallproducers

#localbusiness

[Find out more here](#)

⁵⁴ Municipality of Funchal. + Local Commerce 2024. ([Funchal.pt](#)).

⁵⁵ City of Amsterdam. Amsterdam Made. ([Amsterdam Made](#)).

How can entrepreneurship and innovation be promoted in the region by supporting local entrepreneurs?

- Promote **conferences, events and workshops that are dedicated to encouraging entrepreneurship and innovation** and that boost the municipality's or region's ecosystem



QUICK-WIN

Organise, in conjunction with partners from the local or regional ecosystem, events that promote entrepreneurship and innovation

- Organise **hackathons** to promote the creation of innovative technological solutions to the challenges facing the municipality or region



QUICK-WIN

Host hackathons in collaboration with ecosystem partners, focusing on the municipality's or region's priority thematic challenges



DID YOU KNOW THAT...

Porto is the city that promotes the largest innovation academy in the world?

- The European Innovation Academy⁵⁶ is promoted by Porto City Council, in conjunction with partners from the local ecosystem. It is considered the world's largest innovation and technological entrepreneurship programme, offering intensive and accelerated innovation training in an international working environment. The latest event attracted over 500 participants from 50 countries and 65 universities, as well as more than 75 mentors, speakers and entrepreneurs from tech giants such as Google, Amazon and Microsoft

#openinnovation

#entrepreneurship

#academia

[Find out more here](#)



DID YOU KNOW THAT...

the City of San Francisco regularly hosts hackathons under the motto 'Artificial Intelligence for Good'.

- San Francisco, the world's Artificial Intelligence capital⁵⁷, regularly hosts hackathons using the city's open data portal. These 24–48 hour hackathons have a clear objective: to develop solutions to the city's challenges. The latest event attracted over 100 participants, who proposed solutions using artificial intelligence for housing-related challenges

#hackathons

#artificialintelligence

#openinnovation

[Find out more here](#)

⁵⁶ European Innovation Academy. Porto. (inacademy.eu).

⁵⁷ City of San Francisco. An AI for good hackathon tackles SF's problems ([Mission Local](#)).

In what ways can R&D be strengthened through the development of innovation clusters, hubs, and infrastructures for technology, creativity, and innovation, as well as testing and experimentation spaces?

Develop **urban innovation ecosystems** that include technology hubs, research centres, and collaborative spaces prioritising technological experimentation and the implementation of innovative solutions in real environments



QUICK-WIN

Implement a free technology zone, i.e. an area of the city where technological experimentation can be carried out in a real environment, involving businesses, the scientific ecosystem and citizens



DID YOU KNOW THAT...

the City of Matosinhos has one of the most innovative experimentation spaces in Portugal?

- The Matosinhos *test bed*⁵⁸ is an infrastructure dedicated to experimenting with new technologies in a real environment, focused on creating a smart and sustainable city. With a focus on innovation and development, it enables the validation of technologies in collaboration with universities and research centres, facilitates real-time data collection, and promotes open innovation. Several pilot projects promoting sustainable mobility, energy efficiency and the circular economy have been implemented in this space

#testingspace

#experimentation

#startups

Find out more [here](#)

- Create **innovation hubs with modern infrastructure, co-working spaces, and labs** to promote collaboration and knowledge sharing, and to integrate the various stakeholders in the innovation ecosystem



QUICK-WIN

Organise workshops that bring together start-ups, academic institutions and investors to solve specific challenges and develop new technologies



DID YOU KNOW THAT...

MotionLab.Berlin is one of Berlin's most dynamic innovation hubs?

- MotionLab.Berlin⁵⁹ is an innovation hub that offers cutting-edge technology workshops, such as 3D printing and laser cutting, as well as coworking spaces and community events. It brings together start-ups, companies and researchers, providing an environment conducive to the development of new technologies and innovative solutions. In addition, the hub promotes a wide range of mentoring programmes and networking events to facilitate collaboration and knowledge sharing among the various stakeholders in the innovation ecosystem

#innovationhubs

#innovativesolutions

#coworking

Find out more [here](#)

⁵⁸ Matosinhos Living Lab. Creating a Smart Neighbourhood. ([UCITYLAB](#)).
⁵⁹ MotionLab Berlin. HardTech Innovation Hub. ([MotionLab.Berlin](#)).

How can the region be marketed as the preferred tourist destination to attract both domestic and international visitors?

- Implement **digital innovations that promote sustainable tourism practices** in the municipality or region



Design a mobile app that provides visitors with real-time information on available modes of transport

QUICK-WIN



DID YOU KNOW THAT...

the City of Porto has implemented a mobile app to promote tourism in the city?

- The Explore Porto⁶⁰ app provides information on mobility and tourist attractions in the city. As well as providing real-time information on public transport, it offers data on taxi ranks and the city's scooter service, thereby encouraging the use of more environmentally friendly modes of transport. Since its launch in June 2021, the service has recorded more than 2 million sessions. Since then, it has been used regularly by over 400,000 people, around 15% of whom are tourists, primarily from Spain, France, Germany and Italy

#smarttourism

#realtimeinformation

#sustainablmobility

[Find out more here](#)

- Develop **digital innovations that promote immersive and interactive experiences** for visitors to the municipality or region.



Design a mobile app that brings together all the tourist attractions in the municipality or region

QUICK-WIN



DID YOU KNOW THAT...

Dublin has been named the European Capital of Smart Tourism for 2024.

- The European Capital of Smart Tourism⁶¹ recognises outstanding tourist destinations based on criteria such as sustainability, accessibility, digitalisation, cultural heritage and creativity. Dublin has prioritised accessibility, developing a sensory area at the airport for people with dementia or special needs, for example. The city has also developed digital innovations, such as the 'Dublin Discovery Trails' app, which uses augmented reality to guide tourists, and the 'EPIC' museum, which offers immersive and interactive experiences

#smarttourism

#augmentedreality

#accessibility

[Find out more here](#)

⁶⁰ Porto City Council. Explore Porto. ([Explore Porto](#)).

⁶¹ City of Dublin. Dublin European Capital of Smart Tourism 2024. ([Ireland.ie](#)).

7. PRIORITISE THE INITIATIVES TO BE IMPLEMENTED

Establishing the priority of the identified initiatives when developing a phased implementation plan aligned with the municipality's or region's vision and strategic objectives.

What variables should be considered when prioritising initiatives?

Initiatives should be prioritised in a matrix according to their expected implementation effort (horizontal axis), their expected impact (vertical axis) and their suitability for potential beneficiaries (ball size).

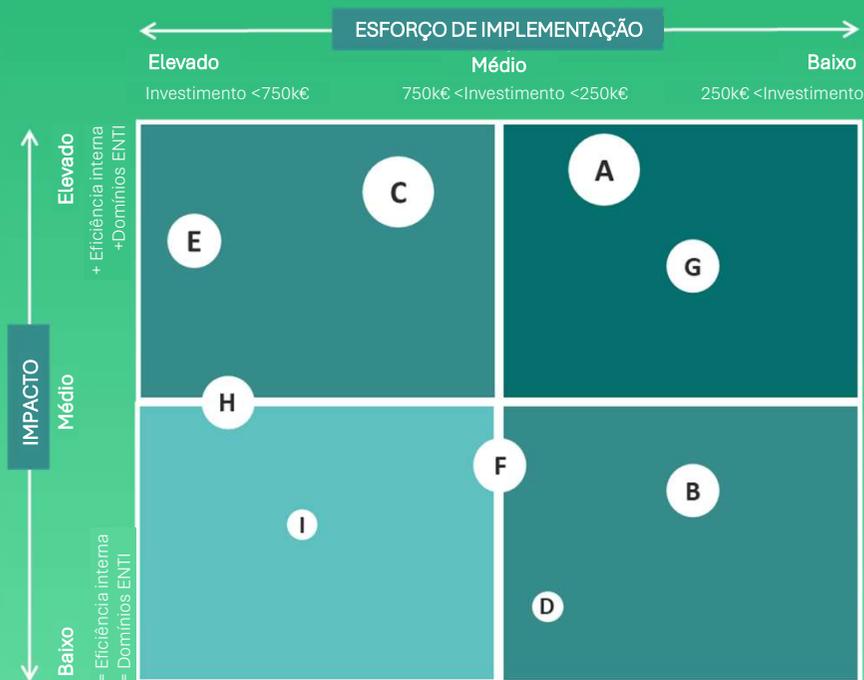
The **implementation effort** of the initiative is analysed in relation to the total investment required, calculated based on the full-time equivalent (FTE) required and the estimated duration of implementation. The rating to be assigned should be reflected on a scale from 'low' to 'high', according to the overall range of calculated investment values, excluding outliers.

The **impact assessment** of the initiative is carried out in relation to its potential contribution to achieving the defined strategic objectives, as well as to the expected benefits in the internal efficiency of the municipality or region's operations. This assessment is categorised on a scale ranging from "low" to "high", reflecting minimal or significant changes.

The **convenience for the community** is assessed by considering the expected increase in satisfaction among the direct beneficiaries of the initiative. The assessment follows a scale from "low" to "high", considering the impact on the level of satisfaction of those involved.

The assignment of high, medium, and low implementation priority levels is explained based on the position of each initiative in the matrix quadrants.

Illustrative example of how to prioritise smart territory initiatives



- Initiatives A and G should be implemented immediately.
- Initiatives B, C, D and E should begin within 12 months.
- Initiatives F, H and I should begin within 24 months.

Key:

Alta	Início imediato
Média	Início dentro de 12 meses
Baixa	Início dentro de 24 meses

IT IS IMPORTANT TO ENSURE THAT:

- Existing solutions that can be scaled up/replicated are considered
- The selected initiatives are impactful and generate added value in the short term
- An investment/financing plan is properly secured for each initiative

THEREFORE, IT IS NECESSARY TO:

Achieve effective and sustainable outcomes by carefully planning each stage of the implementation process, ensuring the replicability of solutions, the relevance and impact of initiatives, and the financial viability of each project.



**TRANSLATING THE VISION
AND STRATEGIC OBJECTIVES
INTO SHORT-TERM ACTIONS**

8. DESIGNING THE IMPLEMENTATION ROADMAP

ROADMAP

Once the initiatives have been prioritised, the next step is to design an implementation roadmap covering a five-year period. The first step is to create a detailed calendar setting out the start and completion dates for each initiative. This involves allocating initiatives to each year according to their priority and complexity, ensuring that the most critical or easiest to implement are addressed first.

During the implementation period, it is essential to continuously assess progress and adjust the roadmap as necessary. This allows any challenges to be identified and corrective measures to be enacted.

Which factors can influence the timeframe for implementing initiatives?

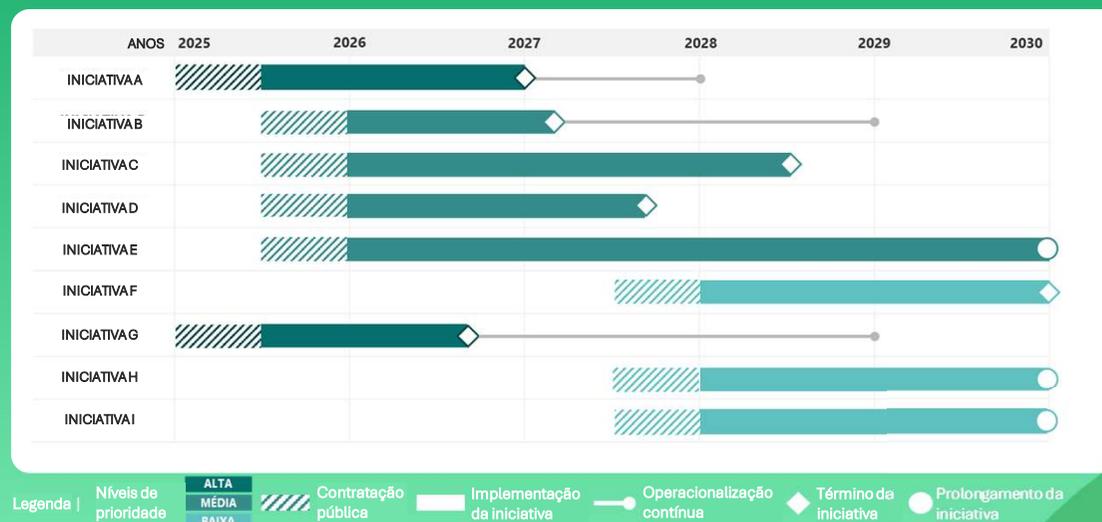
During the implementation process, it is important to ensure the adequate allocation of resources, including financial, human and technological resources. This may involve hiring qualified personnel, acquiring the necessary technology and ensuring adequate funding for each initiative. In this regard, it is important to set aside specific periods for public procurement procedures, considering the legal deadlines and necessary bidding processes.

Furthermore, some initiatives may depend on the success of others, making it crucial to identify and establish precedences between initiatives. This means that certain initiatives need to be completed before others can begin, which should be taken into account when planning the roadmap.

Example of a smart territory implementation roadmap (illustration)

According to the level of priority assigned to initiatives, they should be distributed throughout the implementation plan as follows:

- Year 2025: Immediate start of initiatives A and G. Preparation and public procurement procedures for initiatives B, C, D and E.
- Year 2026: Continued implementation of initiatives A and G. Start of implementation of initiatives B, C, D and E after public procurement procedures.
- Year 2027: Operationalisation of initiatives A and G. Continued implementation of initiatives B, C, D and E. Preparation and public procurement procedures for initiatives F, H and I.
- Year 2028: Initiatives B and G will be operationalised and the implementation of initiative E will continue. Initiatives F, H and I will be implemented after public procurement procedures have been completed.
- Year 2029: Continuation and completion of the implementation of Initiative F. Final evaluation and adjustments as necessary to ensure compliance with established strategic objectives. Preparation for the continuation of initiatives E, H and I.



05. SUSTAINABILITY IMPACT ASSESSMENT

Sustainability and Impact Evaluation

Monitoring and tracking the impact of implemented solutions, as well as defining guidelines for overseeing the implementation of the Local and Regional Action Plan

The final stage of the Local and Regional Action Plan's design involves the preparation of a monitoring and follow-up exercise for the initiatives included in the implementation roadmap. The primary objective will be to ensure the sustainability of each initiative, with progress assessed through selected impact monitoring indicators and the verification of the evolution of their legal and regulatory framework. In this context, it is essential to establish a governance model with fixed monitoring structures. These structures must be able to effectively monitor initiatives and ensure compliance with established deadlines and targets.



IN THIS SECTION YOU WILL LEARN:

- How to select the appropriate impact monitoring indicators for each initiative;
- How to identify the entities that should comprise the monitoring structures and their respective responsibilities and monitoring forums.

9. SELECTION OF MONITORING INDICATORS

Each municipality or region should select several indicators with which to monitor the impact of its smart initiatives. The choice of these indicators directly affects the management of the municipality's or region's activities and strategic decision-making. Therefore, it is vital to adopt good monitoring practices to ensure effective, comparable evaluations between municipalities, regions and countries.

What monitoring frameworks are there?

The need for standardised monitoring across Europe has given rise to various initiatives and flagship projects funded by the European Union, including the Smart Cities Marketplace⁶² and the international standard ISO 37120:2018⁶³. Other strategic plans and initiatives have also emerged, such as the UN Sustainable Development Goals⁶⁴, which have resulted in a set of KPIs for evaluating smart territory projects.

⁶² Smart Cities Marketplace. (europa.eu).

⁶³ ISO 37120 - Sustainable cities and communities. (Indicators for city services and quality of life)

The *Intelligent Cities Challenge* initiative⁶⁵ surveyed the main existing frameworks and identified several tools for assessing territorial development in terms of sustainability and intelligence. In this context, a set of typical performance indicators for smart territory solutions were identified:

- **Technological KPIs** measure the effectiveness and interoperability of a solution in relation to operational parameters and technical constraints. Examples include energy consumption and the number of people using apps that allow residents to monitor and analyse their energy consumption;
- **Environmental KPIs** measure the efficiency of the solutions demonstrated in terms of their expected environmental impact, such as the reduction of CO2 emissions;
- **Business KPIs** measure the impact from a market perspective and the cost/benefit ratio, such as the average estimated savings;
- **Socioeconomic KPIs** measure the impact of technology or policy measures on social factors, such as user satisfaction.

In addition to these frameworks, the strategy's own monitoring indicators should also be consulted. ENTI includes 48 indicators from 13 official information sources, covering a variety of areas and providing a comprehensive basis for selection.

These standardised KPIs should be adapted according to the initiatives and actions included in the municipality's or region's action plan, considering the level of detail available from official, credible sources. It is also important to set targets for each indicator to evaluate the success of implementing the action plan in relation to the strategic objectives.

⁶⁴ Sustainable Development Goals. (SDGs)

⁶⁵ Intelligent Cities Challenge. Twin Transition of Cities. (intelligentcitieschallenge.eu)

Illustrative examples of smart territory monitoring indicators

- **Initiative:** Smart Mobility System
- **Action Pillar:** Urban Mobility
- **Description:** The municipality is aiming to improve the efficiency of urban transport and reduce congestion in cities by integrating advanced technologies such as Internet of Things (IoT) sensors, big data and artificial intelligence (AI). The system will monitor traffic in real time, optimise traffic signals and provide drivers with alternative route information. It will also encourage the use of public transport and sustainable modes of transport, such as cycling and walking.

Monitoring KPI	Target to be achieved	Source
Average travel time for public transport users	Reduce average travel time by 20% by 2025	City Council Traffic Sensors – Mobility Department
Number of public transport users	Increase public transport use by 25% by 2027	Transport Operator Ticketing Systems
Greenhouse gas emission rate	Reduce CO2 emissions from public transport by 30% by 2030	Air Quality Sensors of the City Council – Environment Department
User satisfaction with public transport	Improve public transport user satisfaction by 20% by 2030	Transport operator satisfaction surveys

How to keep up with developments in the legal and regulatory framework?

As previously stated, legal regulations are subject to frequent updates, with new laws being repealed or enacted daily. This means that the sustainability of smart initiatives depends on the evolution of their legal and regulatory framework.

Constant and proactive monitoring is therefore essential, involving regular consultation of official sources such as:

- **Electronic Diário da República**, where all official laws, decrees and regulations in Portugal are published;
- **Official Journal of the European Union** where all EU legislative acts are published, which is the essential source of legal and regulatory information for EU Member States.

Other relevant resources can also be consulted, such as:

- **N-Lex**, a common portal for national law databases in EU Member States;
- **Legislative Observatory - European Parliament (OEIL)**, which tracks the progress of legislative proposals and other documents in the legislative process;
- **Portal of the Lisbon District Attorney General's Office (PGDL)**, which contains a legal database providing access to Portuguese legislation and legal documents.

In addition to these official sources, a set of **international standards and minimum interoperability mechanisms** must be adopted by territories to ensure the success of smart initiatives. Monitoring the progress of initiatives such as **Living-in.EU** is crucial for ensuring the sustainability of the action plan.

10. DEFINITION OF A GOVERNANCE MODEL

After selecting the impact monitoring indicators, it is important to appoint monitoring structures to ensure compliance with the deadlines and targets set out in the action plan.

What is the appropriate governance model?

According to the *Programme Management Institute*⁶⁶, an action plan can be managed at different levels, and the governance model to be defined varies according to the strategic objectives to be achieved. The appropriate governance model for a Smart Territory Action Plan consists of four distinct levels, from strategic to operational, and should be implemented using a top-down approach.

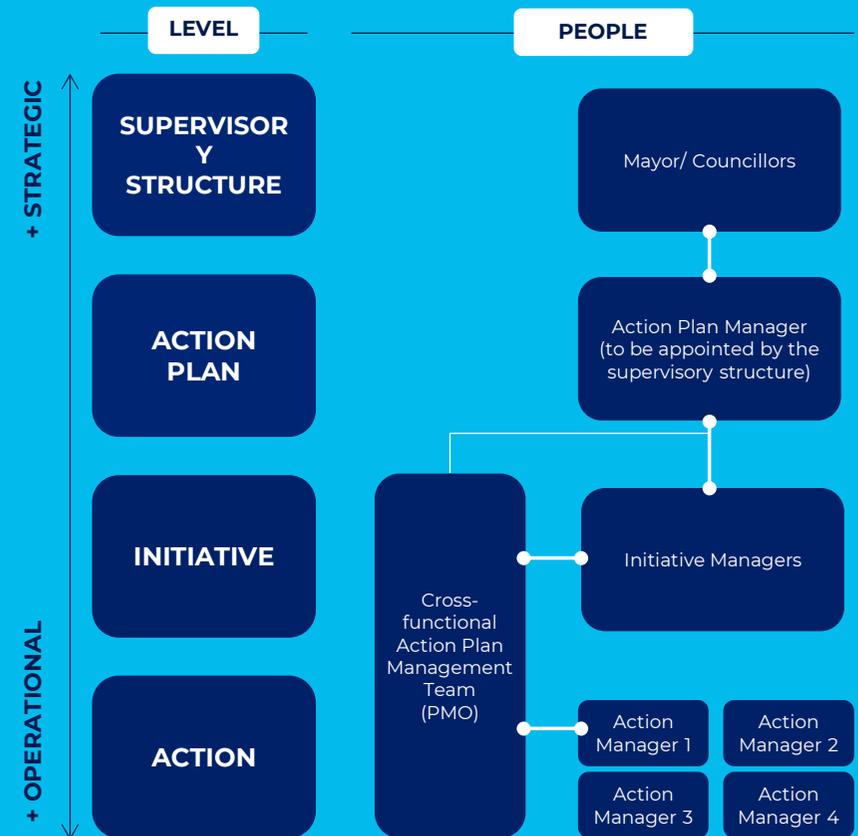
What is the function of each of these structures?

The structures of the governance model consist of:

- **Supervisory structure:** in charge of strategic decision-making at the municipal or regional level, defines objectives and targets to be achieved and ensures their fulfilment at the action plan level;
- **Action Plan Manager:** implements the policies and management model of the action plan, monitoring and communicating the progress of initiatives, making strategic decisions, mitigating risks and managing dependencies;
- **Initiative Manager:** starts and plans each initiative, monitoring its progress, making strategic decisions, mitigating risks and controlling resource allocation;
- **Action Manager:** initiates and plans each action, monitoring its progress, making strategic decisions, mitigating risks and controlling resource allocation.

⁶⁶ Project Management Institute. PMBOK Guide. (pmi.org)

Illustrative example of a smart territory governance model



- **Cross-functional Action Plan Management Team:** Appointed by the Action Plan Manager, this team will be responsible for the day-to-day management of the Action Plan, its initiatives and actions, to:
 - Define planning policies for financial management, quality management, indicators and reporting on initiatives and actions;
 - Develop management support tools;
 - Prepare reporting documents (e.g. executive presentations, plans, status reports, risks, financial reports, etc.);
 - Monitor development and unlock risks;
 - Implement the orientation of priorities at the action plan level, the management of dependencies between initiatives, the process of scope changes, and the quality validation of deliverables;
 - Ensure the alignment of Initiatives with strategic objectives;

What are monitoring forums?

Monitoring forums are designed to monitor the progress of the action plan, streamlining decision-making and internal coordination between different levels of management, and external coordination with different stakeholders. These may include:

1. **Monitoring and progress reporting forums:** presentation of the main KPIs for evaluating the action plan to the supervisory structure;
2. **Monitoring forums with external entities:** gathering contributions and validating results with external stakeholders;
3. **General coordination forums:** clarification of the status of initiatives and actions relating to planning, risk identification and highlighting of interdependencies between initiatives;
4. **Status forums by initiative:** information on the current status of initiatives, unblocking pending issues and aligning next steps;
5. **Operational coordination forums by action:** allocation of the necessary operational resources to fulfil the action plan.

It is also important to plan for each of the monitoring forums:

- **Stakeholders:** fixed structures should be selected for participation in meetings, according to their management levels;
- **Frequency and duration:** Meetings should be held regularly at set intervals according to the objectives (e.g. quarterly forums lasting one hour);
- **Objectives and agenda:** the objectives of each forum should be concrete and achievable in accordance with the duration of each meeting;
- **Inputs:** forum inputs may include supporting documents with relevant information to be shared at the meeting;
- **Outputs:** outputs should include minutes of each meeting, namely with the main decisions taken and risks.

What type of KPIs should be monitored?

These KPIs should be assessed after the various actions and initiatives have been completed. Depending on the time elapsed between the completion of the actions and the time of assessment, the indicators may measure:

- **Outputs:** in a short-term assessment, immediately after the completion of each action, performance can be assessed through its outputs (e.g. provision of electric buses and installation of smart bus stops);
- **Outcomes:** In a medium-term assessment, some time after the completion of the actions that make up an initiative, it is possible to measure the ability to achieve the desired outcomes (e.g. increased use of public transport);
- **Benefits:** In the long term, it is possible to evaluate the success of the action plan's proposed benefits (e.g. reducing greenhouse gas emissions from public transport and improving the satisfaction of public transport users).

The outputs, outcomes and benefits of each assessment should be communicated in the respective monitoring forum.

IT IS IMPORTANT TO ENSURE THAT:

- The selected indicators follow best monitoring practices;
- A governance model is defined, with fixed monitoring structures and regular forums;
- Communication between municipal and inter-municipal levels is coordinated and fluid, ensuring alignment on common points between initiatives.

THEREFORE, IT IS NECESSARY TO:

Monitor the progress of the Local and Regional Action Plan implementation, ensuring continuous improvement and effective resource allocation, necessary for the success of each initiative.

Effective and transparent monitoring creates an environment of trust and greater willingness to innovate among stakeholders, encouraging the adoption of new solutions.



MONITORING THE IMPACT OF IMPLEMENTED SOLUTIONS

06.

TEMPLATE TO BE COMPLETED



What tools are used in the design of Local and Regional Action Plans?

To design Local and Regional Action Plans, we recommend that municipalities and inter-municipal entities complete the supplied templates.

These templates are **practical tools that territories should use to draw up local and regional action plans.**

The use of these templates ensures the standardisation of the structure and terminology used in the plans, facilitating understanding and comparison between different territories.

The templates are organised into several sections, each of which corresponds to a specific stage described in the framework. This structure enables territories to document the main conclusions and stages of the process in a systematic and organised way. The sections cover everything from identifying local problems and opportunities to defining objectives and strategic actions and implementing and monitoring them. In this way, the templates ensure that all important areas are covered, resulting in complete and coherent action plans.

Moreover, using these templates makes it easier for different municipalities and inter-municipal entities to collaborate, promoting the exchange of good practices and experiences. This helps to create a more integrated and efficient approach to developing smart and sustainable territories. Therefore, we recommend filling them in carefully as an essential step in creating robust and effective Local and Regional Action Plans.

Templates for Local and Regional Action Plans:



The image displays several overlapping templates for Local and Regional Action Plans. The most prominent one is the cover page titled "Plano de Ação Local de Território Inteligente" (Local Action Plan of Smart Territory) for the "Município de São João del-Rei". It features the logo of ENTI (Estratégia Nacional de Territórios Inteligentes) and the logo of the local government.

Other visible templates include:

- A circular diagram titled "Plano de Ação Local" showing various stages and components of the plan.
- A table titled "4. Análise de Impacto e Sustentabilidade" (Impact and Sustainability Analysis) with columns for "Objetivo", "Impacto", "Indicador", and "Fonte de Dados".
- A table titled "4.1. Indicadores de monitorização" (Monitoring Indicators) with columns for "Objetivo", "Indicador", "Unidade de Medida", "Frequência de Medição", "Fonte de Dados", and "Responsável".
- A table titled "4.2. Monitorização do progresso" (Progress Monitoring) with columns for "Indicador", "Valor", "Data de Medição", "Responsável", and "Observações".
- A table titled "5. Monitorização e Avaliação" (Monitoring and Evaluation) with columns for "Objetivo", "Indicador", "Unidade de Medida", "Frequência de Medição", "Fonte de Dados", and "Responsável".
- A table titled "6. Avaliação de Impacto" (Impact Assessment) with columns for "Objetivo", "Indicador", "Unidade de Medida", "Frequência de Medição", "Fonte de Dados", and "Responsável".

References

- 1- Government of Portugal. Resolution of the Council of Ministers No. 176/2023 ([Resolution of the Council of Ministers No. 17/2023 | DR \(diariodarepublica.pt\)](#))
- 2- AMA. Public Administration Open Data Portal ([dados.gov.pt](#))
- 3- World Bank. Open Data Readiness Assessment Tool (<https://opendatatoolkit.worldbank.org/en/data/opendatatoolkit/odra>)
- 4- European Commission. LORDIMAS. ([LORDIMAS Digital Maturity Assessment](#))
- 5- European Commission. Living-in Eu. (<https://living-in.eu/>)
- 6- Design Council. Double Diamond. ([Framework for Innovation](#))
- 7- Doran, G. T. (1981). "There's a S.M.A.R.T. way to write management's goals and objectives." *Management Review*. 70 (11): 35–36
- 8- XXIII Government. State Budget 2024. ([Portuguese Republic \(portugal.gov.pt\)](#))
- 9- European Commission. EU programmes and funds. (https://commission.europa.eu/funding-tenders/find-funding/eu-funding-programmes_pt)
- 10- Águeda City Council. Sm@rt City Lab. ([cm-agueda.pt](#))
- 11- Helsinki. Helsinki Metropolitan Area open data portal. ([Helsinki Region Infoshare - Open data service](#))
- 12- Singapore. Smart Nation. ([smartnation.gov.sg](#))
- 13- Lagoa City Council. Smart City Lagoa. ([cm-lagoa.pt](#))
- 14- Aveiro City Council. STEAM Education. ([STEAM Education :: Aveiro Tech City](#))
- 15- New York Public Library. TechConnect. (<https://www.nypl.org/techconnect>)
- 16- Interreg Baltic. Healthy Boost. ([interreg-baltic.eu](#))
- 17- Communicity Project. Porto Pilots. ([communicity-project.eu](#))
- 18- Coimbra City Council. iParque Driver. ([coimbra.pt](#))
- 19- e-Estonia. I-voting. ([e-Democracy & open data - e-Estonia](#))
- 20- Coimbra City Council. iParque Driver. ([coimbra.pt](#))
- 21- C40 Cities. Smart Traffic Signals Boost Cycling. ([Cities100: Copenhagen](#))
- 22- Águeda City Council. beÁgueda. ([cm-agueda.pt](#))
- 23- London. CityMapperPass. ([Citymapper - The indispensable public transport app](#))
- 24- Mobie. Charging Stations for Heavy Vehicles. ([mobie.pt](#))
- 25- City of Boston. The City of Boston increases EV miles driven by 36%. ([samsara.com](#))
- 26- Viseu City Council. Urban Mobility in Viseu. ([MUV](#)).
- 27- Lausanne. Metro Lausanne– true underground rail. ([myswitzerland.com](#))
- 28- CIM Médio Tejo. Abrantes installs smart meters to reduce water consumption. ([mediotejo.net](#)).
- 29- Águas e Energia do Porto, EM. BBC visited the city of Porto to learn about the technological innovations of Águas e Energia do Porto. ([aguasdoporto.pt](#)).
- 30- Alqueva is a pilot area for the AgroSatAdapt Project: Smart Territories 2050. ([EDIA, S.A.](#)).
- 31- Fab Lab Barcelona. Smart Citizen Platform. ([Smart Citizen](#)).
- 32- Maia City Council. Maia innovates with the "Pay As You Throw" system. ([sapo.pt](#)).
- 33- Cascais City Council. Smart Waste. ([Cascais Data](#)).
- 34- Sintra City Council. Eixo Verde e Azul awarded the Portugal Smart Cities Prize. ([cm-sintra.pt](#)).
- 35- Smart Cities Marketplace. mySMARTLife. ([europa.eu](#)).
- 36- Oeiras City Council. ReCostura Workshops. ([oeiras.pt](#)).
- 37- European Circular Economy Stakeholder Platform. Oslo takes an integrated approach to treat waste into circular bio-resources. ([europa.eu](#)).
- 38- Viseu Municipal Council. Viseu Rural. ([cm-viseu.pt](#)).
- 39- POCITYF Project. Évora. ([POCITYF](#)).
- 40- Smart Cities Marketplace. Smarter Together Site Lyon. ([europa.eu](#)).
- 41- Figueira da Foz City Council. The first municipality in the country to implement the public lighting energy efficiency project. ([cm-figfoz.pt](#)).
- 42- Alfândega da Fé Municipal Council. Proximity Health. ([LACSAF](#)).
- 43- Health Services of the Autonomous Region of Madeira, EPERAM. ([sesaram.pt](#)).
- 44- Azores Operational Command with a "technologically advanced" operations centre. ([acorianooriental.pt](#)).
- 45- Japan Meteorological Agency. ([jma.go.jp](#)).
- 46- Braga Municipal Housing Company. ([BRAGAHABIT](#)).
- 47- City of Kelowna. City of Kelowna receives 3 awards for work with chatbots. ([kelownanow.com](#)).
- 48- City of Barcelona. Barcelona's Superblocks: Putting People at the Centre. ([CityChangers.org](#)).
- 49- Lisbon City Council. Festival - MURO - LX_23 Urban Art Festival. ([festivalmuro.pt](#)).
- 50- Municipality of Porto. Asprela + Sustainable. ([asprelamaissustentavel.pt](#)).
- 51- Making City Project. Groningen. ([Making City](#)).
- 52- Municipality of Porto. Business Explorer. ([InvestPorto](#)).
- 53- City of Dubai. Dubai FDI Monitor. ([Dubai FDI Monitor](#)).
- 54- Municipality of Funchal. + Local Trade 2024. ([Funchal.pt](#)).
- 55- City of Amsterdam. Amsterdam Made. ([Amsterdam Made](#)).
- 56- European Innovation Academy. Porto. ([inacademy.eu](#)).
- 57- City of San Francisco. An AI for good hackathon tackles SF's problems ([Mission Local](#)).
- 58- Matosinhos Living Lab. Creating a Smart Neighbourhood. ([UCITYLAB](#)).
- 59- MotionLab Berlin. HardTech Innovation Hub. ([MotionLab.Berlin](#)).
- 60- Porto City Council. Explore Porto. ([Explore Porto](#)).
- 61- City of Dublin. Dublin European Capital of Smart Tourism 2024. ([Ireland.ie](#)).
- 62- Smart Cities Marketplace. ([europa.eu](#)).
- 63- ISO 37120 - Sustainable cities and communities. ([Indicators for city services and quality of life](#))
- 64- Sustainable Development Goals. ([SDGs](#))
- 65- Intelligent Cities Challenge. Twin Transition of Cities. ([intelligentcitieschallenge.eu](#))
- 66- Project Management Institute. PMBOK Guide. ([pmi.org](#))



ENTi NATIONAL SMART TERRITORIES STRATEGY

