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ACTION PLAN FOR APPLYING BEST PRACTICES IN PILOT AREAS

Development of an Action Plan for applying the best practices in pilot areas to facilitate knowledge & experiences transferring and replication to other MED areas.

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1. Introduction

Mediterranean destinations are increasingly confronted with tourism dynamics that evolve faster, fluctuate more intensely and interact more directly with territorial systems than traditional management approaches were designed to handle.

Visitor concentration, seasonal peaks, pressure on heritage assets, environmental sensitivity and operational fragmentation are no longer isolated issues affecting only highly visited destinations. They are becoming **structural management challenges** across a wide variety of urban, coastal, island and protected areas.

At the same time, destinations now generate growing volumes of **tourism-related data**, while often struggling to translate this information into coordinated operational responses and practical management decisions.

Within this context, the **TOURISMO** project explores how tourism flows intelligence, digital monitoring tools and multi-actor governance approaches can support more adaptive, data-informed and operational forms of destination management.

This document constitutes **Deliverable D2.3.2 - Action Plan for applying best practices in pilot areas**, developed within **Activity 2.3: Development of a Best Practice Framework for Certification of Sustainable Tourism Destinations** of the TOURISMO project.

The Action Plan builds on the outcomes of Deliverable D2.3.1 - *Best Practices Guide on tools and strategies for certification of sustainable tourism destinations*, which provided a structured overview of reference frameworks and experiences at Mediterranean level. This plan translates the main approaches, practice typologies and strategic orientations identified in the Guide into **action-oriented pathways** tailored to the specific characteristics, governance models, operational conditions and implementation needs of the TOURISMO pilot areas.

The primary objective of D2.3.2 is to **support pilot areas in moving from analysis to implementation** by proposing a **set of actions** that are grounded in the realities of the project pilots, aligned with the strategic priorities of the TOURISMO project, and designed to be **transferable and replicable** across other Mediterranean destinations.

In this sense, the Action Plan provides structured and implementable actions, identifying **priority areas of intervention, types of actions to be undertaken, key stakeholder groups involved and indicative implementation approach**. This ensures a **balance between territorial specificity and scalability**, allowing the Action Plan to serve both the pilot areas and the wider MED community, ensuring that the proposed actions can inspire and guide other destinations



facing similar challenges related to tourism flows, heritage pressure, environmental sensitivity or governance complexity.

Finally, the Action Plan is fully aligned with the core assets and added value of the TOURISMO project, in particular:

- The management of tourism flows as a central challenge for sustainability
- The use of data and indicators to support evidence-based decision-making
- Multi-level and multi-actor governance models
- The deployment of digital tools to enhance monitoring, coordination and adaptive management

Through this integrated approach, Deliverable D2.3.2 aims to bridge the gap between strategic frameworks and practical implementation, contributing to the capacity of Mediterranean destinations to manage tourism in a more balanced, data-driven and resilient way.



2. Purpose and scope of the action plan

This Action Plan is designed as a practical step forward from the analytical work developed in Deliverable D2.3.1. While the previous deliverable focused on identifying and structuring best practices, this document concentrates on how these can be realistically applied in the context of the TOURISMO pilot areas.

The scope of the Action Plan is deliberately positioned between strategic guidance and operational planning. It provides a **structured set of actions**, designed to **guide decision-making and intervention in pilot areas**, while remaining flexible and adaptable to different territorial contexts, governance models and levels of destination maturity.

Each proposed action is designed to **address specific challenges identified in the pilot areas**, contribute to improving the management of tourism flows and their impacts, support data-informed decision-making processes, and strengthen coordination among relevant stakeholders.

At the same time, the Action Plan is conceived with a strong emphasis on **transferability**. The proposed actions are not limited to the pilot areas in which they are described, but are intended to inform and **inspire other Mediterranean destinations facing similar challenges**.

The document therefore maintains a dual focus, since it operates at two complementary levels: it provides context-aware guidance tailored to the TOURISMO pilot areas, while at the same time offering a broader Mediterranean perspective in which transferable approaches and lessons learned can support wider uptake.



3. Methodological Approach

The development of this Action Plan is based on a combination of complementary methodological principles that ensure its relevance, applicability and coherence with the objectives of the TOURISMO project.

First, the document adopts a **pilot-based approach**, using the project's pilot areas as real-life testing environments. Rather than proposing abstract or generic recommendations, the Action Plan builds on the **specific conditions, challenges and opportunities identified in each pilot**, ensuring that the proposed actions are grounded in reality. This approach is informed by the continuous exchange developed throughout the project with pilot representatives, technical partners and local stakeholders, including periodic coordination meetings, technical discussions and pilot requirement assessments carried out during the implementation process.

Second, the Action Plan is **action-oriented**. Each action is structured to include a clear **objective, a description of the intervention, the main stakeholder groups involved, and an indicative time horizon for implementation**.

Third, the methodology integrates a strong **transferability perspective**. From the outset, actions are conceived not only for the pilot areas but also for their potential replication in other Mediterranean destinations. This is reflected both in the design of individual actions and in the overall structure of the document.

Finally, the methodological approach **builds upon the broader knowledge framework generated throughout the TOURISMO project**. In addition to the analysis developed in previous deliverables, the Action Plan draws on the sustainability indicators framework, pilot state-of-the-art assessments, tourism flow analyses, technical documentation and implementation experiences generated across the project. This ensures coherence with the project's overall objectives and reinforces the practical and operational dimension of the proposed actions.



3.1. Integration with the TOURISMO framework

The methodological approach is fully aligned with the core assets and thematic priorities of the TOURISMO project. In particular, the Action Plan builds upon **four key pillars** that have emerged as central across project activities:

- **Tourism flows management**, addressing challenges related to overcrowding, seasonality and spatial concentration of visitors;
- **Use of data and indicators**, enabling evidence-based decision-making and more adaptive management of tourism systems;
- **Governance and coordination of actors**, recognising the need for multi-level and multi-stakeholder collaboration;
- **Digital tools and smart solutions**, including the use of platforms to support monitoring, analysis and communication.

Beyond these thematic pillars, the TOURISMO approach is based on the recognition that tourism management in Mediterranean destinations can no longer rely exclusively on static planning instruments, periodic reporting exercises or isolated monitoring initiatives. Tourism dynamics are becoming increasingly complex, fluctuating rapidly across time and space and interacting directly with territorial systems, public spaces, mobility networks, heritage assets and environmentally sensitive areas.

Across many destinations, tourism pressure is no longer limited to exceptional peak moments or highly visited landmarks. Instead, it emerges through **changing and interconnected dynamics** that evolve differently depending on the season, visitor behaviour, mobility conditions or the concentration of tourism activity within specific parts of the territory. This complexity requires management approaches capable not only of observing tourism activity, but also of **interpreting evolving situations and responding more adaptively**.

Within this context, the TOURISMO approach places particular emphasis on tourism flows intelligence as a practical management tool. The objective is not simply to increase the amount of available data, but to strengthen the capacity of destinations to **detect changing tourism dynamics, identify emerging pressure situations, coordinate stakeholders more effectively and support operational decision-making processes** in real or near real time.

This implies moving progressively from fragmented monitoring practices towards more **integrated and operational approaches** in which tourism flows, environmental conditions, occupancy levels, mobility dynamics and territorial pressures can be analysed together in order to support more informed and coordinated responses.

At the same time, the project recognises that technology alone is not sufficient to improve tourism



management. Data only becomes operationally valuable when it is connected to governance structures, coordination mechanisms and practical response capacity. For this reason, the Action Plan combines digital monitoring and tourism intelligence with a strong focus on multi-actor coordination, adaptive management and operational decision-making.

These principles form the basis for the definition of the Strategic Areas presented in this document, ensuring consistency between the analytical work carried out in previous deliverables and the actions proposed in this Action Plan.

3.2. Role of pilot areas

The pilot areas play a central role in the development of this Action Plan, as they provide the practical foundation on which the proposed actions are built. Together, they represent a diverse set of territorial contexts across the Mediterranean region, including historic urban centres, coastal zones, islands and protected natural areas. Each of these contexts is characterised by specific tourism dynamics, pressures and governance conditions, which shape both the challenges faced and the types of responses that can be realistically implemented.

Rather than treating these pilot areas as isolated case studies, the Action Plan approaches them as **living laboratories**. This perspective allows for the exploration of how different solutions can be tested, adapted and refined in real operational environments. It also makes it possible to observe how similar challenges (such as visitor concentration, pressure on heritage or natural assets, or the need for better coordination among stakeholders) manifest in different ways depending on the territorial context.

At the same time, working across multiple pilot areas enables the **identification of recurring patterns and shared needs**. Despite their diversity, the pilots show a strong convergence around key issues, particularly in relation to tourism flows management, the use of data for decision-making, and the integration of digital tools. This reinforces the relevance of developing a structured yet flexible framework that can respond to these common challenges while remaining sensitive to local specificities.

3.3. Use of survey results

The Action Plan is also informed by the results of a **preparatory survey** (see Annex 1) conducted across the pilot areas, aimed at better understanding their operational realities, current management practices and implementation priorities in relation to sustainable tourism management.

Beyond providing a general overview, the survey reveals a clear pattern across destinations: while



contexts differ, there is a strong alignment in the type of challenges faced. In particular, pilot areas consistently highlight the need to better understand and manage tourism flows, to strengthen the use of data and indicators in decision-making processes, to enhance the operational use of digital tools, and to address governance complexity through more effective coordination among stakeholders.

At the same time, the responses point to a shared gap between ambition and operational capacity. Many pilot areas already recognise the importance of data-driven and coordinated approaches, but face practical constraints that limit their implementation. These include fragmented or insufficient data ecosystems, limited technical and analytical capacity, constrained financial resources, and institutional silos that hinder integrated action. Similar patterns can be observed in several pilot contexts, where, for instance, data collection exists but is not yet fully operationalised for decision-making, or where monitoring systems are still at an early stage of development.

In this context, the survey not only validates the relevance of the project's thematic focus but also highlights the need to move from isolated tools and data collection efforts towards more integrated, actionable and governance-oriented approaches.

These insights have directly informed both the definition of the Strategic Areas and the design of the proposed actions. Rather than introducing abstract or idealised solutions, the Action Plan builds on these **identified needs** to propose **practical, scalable and adaptable interventions**, supporting pilot areas in bridging the gap between analysis and implementation while ensuring transferability to other Mediterranean destinations.

3.4. Transferability approach

Transferability is a core principle guiding the development of this Action Plan and is considered throughout the document. The proposed actions are not fixed solutions designed for direct replication, but as approaches that can **inspire and inform implementation in a variety of tourism destinations**.

Although the Action Plan is grounded in the realities of the TOURISMO pilot areas, many of the challenges identified across the project are not unique to those destinations. Issues such as visitor concentration, seasonal pressure, fragmented governance, limited operational coordination or difficulties in translating data into management decisions are increasingly common across Mediterranean tourism destinations, regardless of their size or typology.

For this reason, transferability within the TOURISMO approach is understood less as the replication of specific tools or actions and more as the ability to adapt underlying management logics to different contexts and levels of destination maturity.



Some destinations may already operate advanced monitoring systems and integrated governance structures, while others may still rely on more fragmented or observational approaches. The Action Plan is therefore designed to support progressive implementation pathways, allowing destinations to strengthen their management capacity gradually according to their available resources, institutional structures and operational priorities.

This flexibility is reflected throughout the proposed actions, many of which can **evolve incrementally over time**, from basic coordination mechanisms or simple monitoring practices to more integrated tourism intelligence and adaptive management systems.

At the same time, the document highlights several enabling conditions that repeatedly emerge as important across different contexts, including stakeholder coordination, access to usable data, operational clarity, institutional collaboration and the capacity to connect monitoring processes with practical decision-making.

By adopting this **flexible and progressive approach**, the Action Plan aims to provide a useful operational reference not only for the TOURISMO pilot areas, but also for other Mediterranean destinations seeking to strengthen their capacity to manage tourism dynamics in a more adaptive, coordinated and intelligence-led way.



4. Overview of Pilot Areas

The TOURISMO project brings together **eight pilot areas** across the Mediterranean region: Rhodes (Greece), Florence (Italy), the Port and the historical city of Valencia (Spain), Limassol (Cyprus), Varna (Bulgaria), the island of Biševo (Croatia), and Golden Bay (Malta).

Together, these pilot areas represent a wide range of tourism realities, including historic cities with high cultural value and World Heritage status, port areas with complex mobility dynamics, coastal and island destinations subject to strong seasonal pressure, and environmentally sensitive natural areas. They differ not only in their physical and geographical characteristics, but also in their governance structures, institutional capacity and tourism management approaches. **This diversity is a key asset of the project**, as it allows for the exploration of different types of challenges and responses within a shared Mediterranean context.

Rather than presenting each pilot area as an isolated case, this section provides a consolidated overview of their main characteristics, with the aim of identifying **common patterns** and **key differences** that are relevant for the design of the Action Plan.

Across the pilots, tourism pressure manifests in different forms. In urban heritage destinations such as Florence and Valencia, challenges are primarily associated with visitor concentration in high-demand areas, congestion in access points, and the impact of tourism on cultural assets. In coastal and natural environments, such as Malta or Biševo, pressures are more closely linked to peak-season overcrowding, environmental degradation and the need to define and manage carrying capacity.

Despite these contextual differences, all pilot areas share a common need to better understand and manage tourism flows. This includes not only quantifying visitor numbers, but also **analysing temporal patterns, spatial distribution and visitor behaviour**. In most cases, existing data is either limited, fragmented or insufficiently integrated to support real-time decision-making.

A second common element across the pilots is the **progressive incorporation of technological solutions**. Several pilot areas are already implementing or testing tools such as sensors, people-counting systems, mobile applications or data platforms. These initiatives represent an important step towards more data-driven management.

Governance also emerges as a key cross-cutting dimension. The management of tourism flows and impacts typically involves multiple stakeholders, including local authorities, tourism organisations, site managers and private operators. Coordination mechanisms are often still evolving, and in many cases, there is a need to strengthen collaboration, clarify roles and improve decision-making processes.



Based on these elements, the pilot areas can be broadly understood through a set of **complementary typologies**, which help to structure the analysis and inform the design of the Action Plan:

- Urban heritage environments with high visitor concentration and pressure on cultural assets
- Coastal and natural areas facing environmental sensitivity and seasonal peaks
- Island contexts with limited capacity and strong dependency on tourism flows
- Mixed or hybrid contexts combining several of these characteristics.

These typologies are not mutually exclusive but provide a useful framework for understanding how similar challenges manifest differently across territories.

Overall, the analysis of the pilot areas highlights a strong convergence around a limited number of **core issues**:

- The need to better manage tourism flows
- Improve the availability and use of data
- Integrate digital tools into decision-making processes
- Strengthen governance frameworks.

At the same time, the diversity of contexts reinforces the importance of designing actions that are both structured and adaptable.

This combined reading —recognising both shared challenges and contextual specificities— provides the basis for the definition of the **Strategic Areas** and the development of the pilot-based Action Plans presented in the following sections.



5. Strategic Areas

The Strategic Areas presented in this Action Plan are intended to organise the main dimensions through which tourism flows and tourism-related pressures interact with Mediterranean destinations.

Rather than functioning as isolated thematic categories, these areas reflect **interconnected operational, territorial and governance challenges** that increasingly require integrated management responses. In practice, issues such as visitor concentration, mobility pressure, environmental degradation, overcrowding or impacts on local communities rarely occur separately. Instead, they tend to emerge simultaneously across different parts of the tourism system, affecting public space, heritage assets, ecosystems, mobility networks and local quality of life at the same time.

The Strategic Areas provide the **main structure for organising and presenting the proposed actions**. Their formulation builds directly on the framework developed in Deliverable D2.3.1, ensuring continuity with the dimensions commonly used in sustainable tourism certification and assessment systems.

In line with these references, the Action Plan is structured around **four core dimensions: Governance, Socio-Economic dimension, Heritage and Cultural assets, and Environmental sustainability**. These areas offer a recognised and comparable framework that facilitates the organisation of actions, supports consistency across pilot areas, and enhances the transferability of the proposed approaches to other Mediterranean destinations.

At the same time, the definition of these strategic areas has been adapted to reflect the specific focus and added value of the TOURISMO project. In particular, the analysis of pilot areas and preparatory work has highlighted the need to move beyond purely thematic classifications and to incorporate a more **operational perspective**.

For this reason, cross-cutting elements such as tourism flows management, the use of data and indicators, and the deployment of digital tools are embedded across all strategic areas. These elements act as key enablers for implementation, ensuring that the proposed actions are not only aligned with established frameworks but also grounded in the practical challenges and opportunities identified across the pilot areas.

Together, these Strategic Areas provide a **structured yet flexible framework that supports the transition from best practices to concrete action**, while maintaining both methodological consistency and practical relevance.



This combined approach allows the Action Plan to maintain consistency with recognised certification structures while providing a more actionable and context-driven framework for implementation.

5.1. Definition of Strategic Areas

5.1.1. Strategic Area 1: Governance

This Strategic Area addresses the **institutional and organisational conditions required to enable effective and coordinated tourism management**. It focuses on how decisions are made, how responsibilities are distributed, and how different actors interact within the tourism system.

In many destinations, tourism management is characterised by fragmented competencies, overlapping responsibilities and limited coordination between public authorities, destination management organisations, site managers and private stakeholders. These limitations can significantly reduce the effectiveness of actions aimed at managing tourism flows or mitigating impacts.

Within the TOURISMO approach, governance is understood not only as an institutional structure, but as the **practical capacity to coordinate actors, align operational responses and support decision-making processes** across different territorial and administrative levels.

Actions under this Strategic area aim to **strengthen collaborative frameworks, improve vertical and horizontal coordination, and support more agile and informed decision-making**. Particular attention is given to the integration of tourism flows management into governance processes, ensuring that decisions are based on a shared understanding of pressures, capacities and priorities across the destination.

5.1.2. Strategic Area 2: Socio-Economic dimension

This Strategic Area focuses on the **interaction between tourism activity and local socio-economic systems**, with particular attention to **how tourism benefits and impacts are distributed** across the territory.

While tourism represents a key economic driver in many destinations, it can also generate **imbalances**, including pressure on housing, changes in local economic structures, seasonal employment patterns and potential conflicts with resident communities. These dynamics are often closely linked to the intensity and distribution of tourism flows.

The Strategic Area, therefore, focuses on **how destinations can improve the territorial distribution of tourism activity** while strengthening the connection between tourism and local socio-economic resilience.



Actions developed under this area aim to support more balanced tourism dynamics, reduce territorial concentration patterns and improve the distribution of tourism-related opportunities across the destination.

5.1.3.Strategic Area 3: Heritage and Cultural assets

This Strategic Area focuses on the **protection, management and valorisation of cultural and heritage assets** that are directly or indirectly affected by tourism activity.

Many Mediterranean heritage destinations are experiencing increasing pressure linked not only to the overall number of visitors, but also to the concentration of flows within confined historic environments, circulation bottlenecks, queue formation and fluctuating occupancy conditions in highly sensitive cultural spaces.

Within this context, heritage management can no longer be approached exclusively from a conservation perspective detached from visitor dynamics and operational management realities.

This Strategic Area promotes approaches that move towards a **preventive conservation**, integrating heritage management into broader tourism strategies. This includes regulating access where necessary, improving visitor experience while reducing pressure, and using data to better understand usage patterns and carrying capacity.

Actions may involve the implementation of visitor management systems, the diversification of cultural routes and experiences, and the use of digital tools to monitor flows and guide visitors. In this context, heritage is not only seen as an asset to be protected, but as a **dynamic component of the destination that requires active and adaptive management**.

5.1.4.Strategic Area 4: Environmental sustainability

This Strategic Area addresses the **environmental dimension of tourism**, focusing on the management of natural resources, ecosystems and environmental pressures associated with tourism activity.

Tourism flows can generate significant impacts on ecosystems, biodiversity, erosion processes, water resources, coastal dynamics and environmental carrying capacity. These impacts are often intensified by seasonal peaks and the spatial concentration of visitors.

The objective of this Strategic Area is to **support a more sustainable interaction between tourism and the natural environment**, ensuring that tourism activity remains within ecological limits while contributing to the preservation of natural assets.

Actions under this area include the monitoring and management of environmental pressures, the integration of carrying capacity considerations, and the use of data and digital tools to support more adaptive management. Particular emphasis is placed on linking environmental indicators



with tourism flows, allowing destinations to better understand the relationship between visitor dynamics and environmental impacts.

GOVERNANCE

Focused on **coordination**, **decision-making**, **stakeholder collaboration** and **tourism flow management governance**.



SOCIO-ECONOMIC DIMENSION



Focused on the relationship between **tourism activity**, **local communities** and the distribution of **tourism benefits** across the territory.

HERITAGE AND CULTURAL ASSETS

Focused on the **protection**, **management** and **preservation** of **heritage sites** affected by tourism activity.



ENVIRONMENTAL SUSTAINABILITY



Focused on managing the relationship between **tourism flows** and **environmental impacts**.



6. Action Plan

This Action Plan represents the transition from analysis to implementation within the TOURISMO project, focusing on how the insights generated can be translated into concrete actions in real destination contexts.

A key premise underpinning this approach is that **tourism flows are not only a quantitative phenomenon, but a spatial, temporal and behavioural dynamic that directly affects the sustainability, resilience and quality of destinations.**

Across the pilot areas, this is reflected in recurring patterns such as the concentration of visitors in specific locations, seasonality, limited monitoring capacity and fragmented coordination between stakeholders.

Building on the work carried out across the pilot areas, the Plan responds to a shared challenge identified throughout the project: the need to move beyond understanding tourism dynamics and towards actively managing them in a more structured and operational way.

In this context, the Action Plan focuses on identifying practical ways to address these challenges. The objective is not to define detailed operational plans for each pilot, but to propose **a set of actionable directions that can support more effective tourism management, while remaining adaptable to different destination realities.**

To ensure a structured and coherent approach, the Action Plan is organised around the **four Strategic Areas** previously defined, which serve as organisational pillars linking the recommendations from the Best Practices Guide with their practical application. These areas reflect both the core dimensions of sustainable tourism and the specific added value of the TOURISMO project, particularly in relation to tourism flows management, the use of data and indicators, multi-level governance, and the integration of digital tools.

Within each Area, actions are presented through a **common structure** that includes their **objective, implementation rationale, stakeholder involvement, indicative implementation horizon and transferability potential.**

Although the actions are presented separately for organisational purposes, **many of them are closely interconnected and reinforce one another operationally.** In practice, tourism management challenges often cut across multiple dimensions simultaneously, requiring destinations to combine governance mechanisms, tourism intelligence, environmental monitoring and territorial management approaches in a coordinated manner.

For this reason, the Action Plan should not be understood as a linear sequence of isolated



measures, but as **a flexible operational framework that destinations can progressively adapt** according to their own territorial context, governance structures, technical capacity and strategic priorities.

6.1. Structure of the Action Plan

The following section presents a set of actions organised under the Strategic Areas defined above. Each action is designed to provide a practical response to the challenges identified across the pilot areas, while remaining adaptable to different destination contexts.

To ensure consistency and usability, all actions follow a common structure, including:

- a brief description and objective;
- the main stakeholder groups involved;
- an indicative implementation horizon;
- and considerations regarding transferability and adaptation potential.

Although presented individually, many of the actions are operationally interconnected and may reinforce one another when implemented in a coordinated manner.

6.2. Actions by strategic area

6.2.1. Overview of proposed actions

This overview provides a quick reference map of the actions proposed under each Strategic Area. Each action is further detailed in the following sections.

Strategic Area	Action Title
Governance	Action 1.1 Establishment of an operational tourism flows management coordination group
	Action 1.2 Definition of clear operational protocols for peak visitor management



	Action 1.3 Integration of tourism intelligence into operational decision-making
	Action 1.4 Creation of data-sharing agreements between key stakeholders
	Action 1.5 Capacity-building for local stakeholders on data-driven tourism management
Socio-Economic Dimension	Action 2.1 Development of alternative visitor routes and experiences in under-visited areas
	Action 2.2 Integration of local businesses into flow redistribution strategies
	Action 2.3 Adaptive planning of tourism services based on visitor demand patterns
	Action 2.4 Integrated monitoring of tourism pressure on local communities and territorial systems
	Action 2.5 Development of incentive mechanisms to align private sector activity with tourism flow redistribution objectives



Heritage and Cultural Assets

Action 3.1 Implementation of real-time occupancy monitoring systems in key heritage and cultural sites

Action 3.2 Deployment of queue monitoring and adaptive management systems at high-demand tourism environments

Action 3.3 Dynamic management of visitor access based on occupancy levels

Action 3.4 Redirection of visitors towards alternative cultural sites through data-driven visitor guidance systems

Action 3.5 Integration of occupancy information into preventive heritage conservation management

Action 3.6 Use of tourism flow intelligence to redesign visitor itineraries and spatial organisation in high-demand tourism environments

Environmental Sustainability

Action 4.1 Deployment of real-time environmental pressure monitoring systems in sensitive natural areas

Action 4.2 Activation of adaptive behavioural guidance systems through live environmental and tourism flow intelligence

Action 4.3 Adaptive regulation of access and tourism activities based on environmental pressure intelligence



Action 4.4 Development of integrated tourism-environment intelligence systems to support ecosystem resilience and impact assessment

Action 4.5 Anticipation and management of peak environmental pressure periods through predictive tourism flow analysis

Action 4.6 Use of monitoring systems to detect and prevent environmentally harmful visitor behaviours

6.2.2. Governance

Action 1.1: Establishment of an operational tourism flows management coordination group

1. Description and objective

Tourism flow management often involves multiple actors operating simultaneously across the destination, including public authorities, mobility services, site managers, ports, operators and tourism agencies. However, coordination between these actors is frequently limited, particularly during periods of high visitor pressure or rapidly changing operational conditions.

As a result, information may be available but decisions remain fragmented, delayed or insufficiently coordinated on the ground.

The action proposes the creation of an operational coordination group bringing together the main actors involved in tourism management in order to facilitate faster, more coordinated and data-informed responses.

The coordination group should function as a practical operational mechanism focused on day-to-day coordination, rapid communication and shared situational awareness.

Its functions may include:

- sharing and interpreting available data on tourism flows
- anticipating peak situations and pressure points
- coordinating responses in real time or near real time
- aligning operational decisions across different actors

The objective is to improve operational coordination during changing tourism situations, ensuring that key actors can respond more quickly, consistently and collaboratively.



2. Key stakeholders involved

- Local and regional public authorities (tourism, mobility, urban management)
- Destination Marketing Organisation (DMO)
- Site managers (heritage sites, natural areas, attractions)
- Port authorities and cruise operators (where relevant)
- Mobility and transport operators
- Technology and data providers (where applicable)

3. Implementation approach

The implementation can follow a progressive approach, combining time horizons with different levels of data use and decision-making:

Operational level (short-term): Establishment of the coordination group, including identification of key stakeholders, definition of roles and communication channels, and activation of rapid response mechanisms. Initial focus on improving information exchange and operational response during immediate situations such as congestion peaks, incidents or unexpected demand surges.

Tactical level (medium-term/short-term adjustments): Consolidation of regular coordination routines, using real-time or near real-time information to anticipate recurring situations linked to weekends, events, cruise arrivals or seasonal peaks. This stage supports more coordinated short-term operational adjustments and visitor redistribution measures.

Strategic level (long-term – analytical use): Integration of the coordination mechanism into the broader governance structure of the destination.

Information and operational experience generated through the group can progressively inform planning processes, management priorities and long-term tourism flow management approaches.

4. Transferability

Operational coordination challenges are common across destinations where tourism management responsibilities are distributed among multiple actors and where visitor pressure can fluctuate rapidly across time and space.

This action is particularly relevant in contexts where effective management depends on the ability of different organisations to exchange information quickly, align operational decisions and respond jointly to changing conditions.

One of the main advantages of this action is that it does not necessarily require the creation of new governance structures or significant financial investment. In many cases, it can build on



existing institutional relationships, operational teams and coordination practices already in place within the destination.

Its effectiveness depends primarily on the existence of clear communication channels, operational commitment among stakeholders and access to timely information capable of supporting coordinated responses.

The action can be introduced progressively, starting with relatively informal coordination dynamics and evolving over time towards more structured operational management mechanisms as collaboration and data integration mature.

Action 1.2: Definition of clear operational protocols for peak visitor management

1. Description and objective

Peak visitor situations are often managed differently depending on the actors involved, the time available to react or the level of operational pressure at a given moment. In the absence of predefined procedures, responses may become inconsistent, delayed or heavily dependent on ad hoc decisions.

This action focuses on the development of clear and predefined operational protocols to manage peak visitor situations in a structured and coordinated way.

The proposed action aims to establish agreed response protocols that define what actions should be triggered when specific thresholds or situations are reached. These may include:

- Visitor density levels in specific areas
- Queue lengths at key attractions
- Number of arrivals (e.g. cruise passengers, events)
- Environmental or capacity-related indicators

Protocols can include measures such as temporary access control, redistribution of visitors, activation of alternative routes or experiences, communication to visitors, or coordination with mobility services.

The objective is to ensure faster, more consistent and better coordinated responses during peak visitor situations, reducing uncertainty and improving operational readiness across the destination.



2. Key stakeholders involved

- Local and regional public authorities (tourism, mobility, security)
- Destination Management Organisation (DMO)
- Site managers (heritage sites, natural areas, attractions)
- Port authorities and cruise operators (where relevant)
- Mobility and transport operators
- Law enforcement and emergency services (where applicable)
- Data and technology providers

3. Implementation approach

A phased approach is recommended for the development and implementation of these protocols.

Operational level (short-term): Identification of priority hotspots and peak situations, and definition of basic response protocols based on existing knowledge and experience. Initial protocols can be simple and focused on the most critical situations (e.g. queue management, access regulation).

Tactical level (medium-term): Progressive refinement of operational procedures through the use of historical and real-time information, allowing destinations to anticipate recurring congestion patterns linked to weekends, cruise arrivals, events or seasonal peaks. Coordination with the operational coordination group (Action 1.1) to ensure consistent activation and implementation.

Strategic level (long-term): Integration of protocols into the destination's governance and management systems, including regular review and adjustment based on data analysis and experience. Alignment with broader planning instruments such as mobility plans, visitor management strategies or risk management frameworks.



4. Transferability

Many tourism destinations experience recurring situations in which visitor pressure exceeds the operational capacity of specific areas, attractions or services for limited periods of time. In these contexts, the absence of predefined response procedures often leads to inconsistent management decisions and slower reaction times.

This action is particularly applicable in destinations where tourism demand fluctuates significantly according to seasonality, events, cruise arrivals or temporary concentration patterns.

Its effectiveness depends largely on clear coordination mechanisms, a practical definition of responsibilities and the ability of stakeholders to respond consistently under pressure situations.

The protocols can evolve progressively over time, moving from relatively simple operational guidelines towards more dynamic systems connected to real-time monitoring and tourism flow intelligence tools.

Action 1.3: Integration of tourism intelligence into operational decision-making

1. Description and objective

In many destinations, increasing volumes of tourism-related data are already being generated through monitoring systems, sensors, mobility platforms, visitor counting tools or operational reporting mechanisms. However, this information often remains fragmented or disconnected from everyday management processes, limiting its practical value for operational decision-making.

At the same time, responsibilities regarding who collects information, who interprets it and who is expected to act are not always clearly defined, particularly in contexts where multiple organisations participate simultaneously in tourism management and operational coordination.

As a result, destinations may possess relevant information while still struggling to anticipate pressure situations, coordinate responses or translate data into timely operational action.

This action focuses on strengthening the integration of tourism intelligence into routine destination management processes by connecting data use, operational responsibilities and decision-making practices more systematically.

The proposed action may include:

- defining clear roles and responsibilities across the data-to-action chain;



- identifying which actors are responsible for data collection, validation, interpretation and operational response;
- incorporating tourism flow information into regular coordination routines and operational meetings;
- defining key indicators and thresholds requiring operational attention;
- linking monitoring systems with operational protocols and response mechanisms;
- progressively integrating tourism intelligence into broader governance and planning processes.

The objective is to ensure that tourism-related information becomes an operational management tool supporting more coordinated, timely and evidence-informed decision-making across the destination.

2. Key stakeholders involved

- Local and regional public authorities (tourism, data, urban management)
- Destination Management Organisation (DMO)
- Site managers (heritage sites, natural areas, attractions)
- Port authorities and cruise operators (where relevant)
- Mobility and transport operators
- Data and technology providers
- Research institutions or data analysis partners (where applicable)

3. Implementation approach

The integration of tourism intelligence into operational management can evolve progressively according to the governance structure, technical capacity and data maturity of the destination.

Operational level (short-term): Identification of existing data sources, platforms and actors currently involved in data collection and management. Initial clarification of operational responsibilities and introduction of basic routines for reviewing tourism flow information during coordination and management activities.

Tactical level (medium-term): Formalisation of roles and responsibilities related to data collection, interpretation, escalation procedures and operational response. Establishment of coordination mechanisms with the operational coordination group (Action 1.1) and alignment with operational protocols (Action 1.2).

Strategic level (long-term): Integration of role allocation and decision chains into broader tourism governance and management systems. Continuous refinement of responsibilities and workflows according to operational experience, institutional evolution and technological development.



4. Transferability

The gap between data availability and operational decision-making is a common challenge in many destinations, particularly where multiple actors are involved in data collection and decision-making processes.

This action helps strengthen the link between information, coordination and response, especially in contexts where data is available but not systematically used to inform decisions.

Its implementation does not necessarily depend on advanced technological infrastructure, but rather on organisational clarity, coordination capacity and the progressive establishment of routines linking monitoring processes with operational action.

The approach can therefore be adapted to different levels of destination maturity, evolving gradually from relatively simple monitoring and coordination practices towards more integrated tourism intelligence and adaptive management systems over time.

Action 1.4: Creation of data-sharing agreements between key stakeholders

1. Description and objective

Tourism-related information is often distributed across multiple organisations, with each actor managing only part of the overall picture. In many cases, relevant data on tourism flows is often generated by different actors—such as port authorities, municipalities, site managers or mobility operators—but remains fragmented, inaccessible or unevenly shared. When this information is not exchanged regularly, destinations may struggle to build a shared understanding of visitor dynamics or coordinate operational responses effectively.

The proposed action aims to facilitate structured data exchange between stakeholders, enabling a more integrated and operational use of information. This may include:

- sharing data on visitor arrivals
- access to occupancy or visitor count data at key sites
- mobility and transport-related data
- contextual data relevant to tourism management (e.g. major events, weather alerts, mobility disruptions or temporary access restrictions)

Data-sharing agreements can range from informal arrangements to formal protocols, depending on the governance context and data sensitivity.



The objective is to improve the practical exchange and shared use of information across the destination, supporting better coordination and a more complete understanding of tourism dynamics.

2. Key stakeholders involved

- Local and regional public authorities
- Destination Management Organisation (DMO)
- Port authorities and cruise operators
- Site managers (heritage sites, natural areas, attractions)
- Tour operators and intermediaries (where relevant)
- Local tourism businesses
- Mobility and transport operators
- Data and technology providers
- Public utilities or other data holders (where relevant)

3. Implementation approach

The establishment of data-sharing mechanisms can evolve progressively, taking into account legal, technical and organisational constraints:

Operational level (short-term): Identification of key data holders and existing data sources. Initial agreements for sharing essential operational information through simple or informal channels.

Tactical level (medium-term): Development of more structured data-sharing arrangements, including agreement on data types, formats, frequency and responsibilities. Alignment with coordination mechanisms (Action 1.1) and data use practices (Action 1.4).

Strategic level (long-term): Formalisation of agreements and integration of shared information into common management systems or platforms, supporting more coordinated and long-term tourism intelligence practices.



4. Transferability

Fragmentation of data across multiple stakeholders is a common feature in many tourism destinations, particularly in complex environments involving multiple public and private actors.

This action is particularly relevant in contexts where operational decisions depend on information generated by different organisations that do not routinely exchange data or coordinate monitoring practices.

It can be adapted to different governance contexts, from highly centralised systems to more distributed or multi-actor structures. Its implementation does not necessarily require advanced technological solutions, but rather clear agreements on data sharing, responsibilities and trust among stakeholders.

It can be developed incrementally, starting with the exchange of basic information and evolving towards more structured and integrated data ecosystems.

Action 1.5: Capacity-building for local stakeholders on data-driven tourism management

1. Description and objective

The increasing availability of tourism data does not automatically translate into better management decisions. In many destinations, local stakeholders still face difficulties interpreting information, understanding indicators or applying data insights to real operational situations.

This action focuses on strengthening the capacity of local stakeholders to use data effectively in tourism management, with a strong emphasis on practical application.

The proposed action aims to develop targeted capacity-building initiatives focused on practical application and operational relevance. This may include:

- training on how to interpret key tourism flow indicators
- practical sessions on using dashboards or monitoring tools
- simulation exercises linked to operational protocols (Action 1.2)
- joint workshops involving different stakeholders to strengthen coordination and shared understanding

The objective is to ensure that stakeholders are not only aware of the importance of data, but are able to use it confidently and effectively in decision-making processes.



2. Key stakeholders involved

- Public utilities or other data holders (where relevant)
- Local and regional public authorities
- Destination Management Organisation (DMO)
- Site managers (heritage sites, natural areas, attractions)
- Port authorities and cruise operators (where relevant)
- Mobility and transport operators
- Tour operators and intermediaries (where relevant)
- Data and technology providers
- Universities, research centres or training providers

3. Implementation approach

Capacity-building activities can evolve progressively according to the needs and operational maturity of local stakeholders.

Operational level (short-term): Identification of capacity gaps and development of basic training sessions focused on practical data use and interpretation of tourism flow information.

Tactical level (medium-term): Development of more advanced and practice-oriented training formats, including workshops, simulations and case-based learning linked to real management situations. Strengthening collaboration between stakeholders through joint training activities.

Strategic level (long-term): Integration of capacity-building into the governance framework, including regular training programmes and continuous skills development. Alignment with evolving data systems and tourism management needs.

4. Transferability

Limited capacity to interpret and use data effectively is a common challenge across many tourism destinations.

This action can be adapted to different operational realities, focusing on practical skills and real-use cases rather than technical complexity. Its effectiveness depends on the relevance of the training to local needs and on the active involvement of stakeholders.

It can be introduced progressively, starting with basic training initiatives and evolving towards more structured and continuous capacity-building programmes as monitoring systems and operational practices become more advanced.



6.2.3. Socio-economic dimension

Action 2.1: Development of alternative visitor routes and experiences in under-visited areas

1. Description and objective

Visitor flows in many destinations tend to concentrate around the same attractions, access points and mobility corridors, generating pressure in specific areas while limiting the visibility and economic activity of other parts of the destination.

The increasing availability of tourism flow data makes it possible to better understand how visitors move across destinations, where congestion tends to emerge and at which moments visitors make decisions about routes, activities or places to visit.

This action focuses on using tourism flow data to identify opportunities for redirecting visitors towards alternative routes, experiences and under-visited areas, while generating socio-economic benefits beyond the main tourism hotspots.

Building on this evidence, the action proposes the identification of key intervention points within the visitor journey, including:

Possible approaches may include:

- identification of key visitor decision points such as ports, parking areas, transport hubs or access gates
- detection of congestion patterns and peak pressure situations in real or near real time
- promotion of alternative routes, attractions or time slots according to saturation levels
- dynamic visitor recommendations through apps, digital interfaces or signage
- coordination with guides, mobility services and tourism operators
- integration of local businesses, cultural assets and services into alternative visitor experiences

Using tools such as Snap4City, these points can be monitored to support targeted interventions at the right moment and place, such as:

- real-time recommendations to alternative areas
- promotion of off-peak visits or alternative time slots based on congestion levels
- adaptation of recommendations according to real-time saturation or expected demand
- dynamic routing through apps, digital interfaces or signage
- coordination with guides, operators or mobility services



- promotion of local experiences, services and businesses located outside the most congested areas

Alternative routes should be linked to real visitor movement patterns, local capacity and the ability of under-visited areas to provide attractive and accessible experiences.

The objective is to influence visitor decisions at critical moments within the visitor journey, supporting a more balanced distribution of tourism activity while reducing pressure on saturated areas and generating new opportunities for local businesses and communities.

2. Key stakeholders involved

- Destination Management Organisation (DMO)
- Local and regional public authorities
- Tourism businesses, including guides, tour operators, accommodation providers and local services
- Cultural and heritage site managers
- Mobility and transport operators
- Technology and data providers, including platform managers and data integrators
- Local business associations and community representatives

3. Implementation approach

Implementation should combine data analysis with local stakeholder engagement, ensuring that alternative routes are both operationally feasible and socio-economically meaningful.

Operational level (short-term): Activation of targeted interventions at key decision points, such as entry areas, junctions or congested sites, using live data to redirect visitors through digital tools, signage or direct communication. Initial actions should focus on simple and visible alternatives that are easy for visitors to understand and access.

Tactical level (medium-term): Use of recent and historical data to refine intervention points, adjust alternative routes and align tourism services, such as guided tours, transport, opening hours or visitor information, with observed demand patterns. This may also include adjustments linked to peak hours, seasonality or temporary congestion patterns. Engagement with local businesses is essential to ensure that redistributed flows generate real economic value.

Strategic level (long-term – analytical use): Integration of flow redistribution strategies into the destination's broader tourism model, using long-term data analysis to redesign visitor itineraries, strengthen under-visited areas and support a more balanced distribution of tourism benefits across the territory.



4. Transferability

This action is relevant for destinations where tourism activity is highly concentrated in a limited number of sites while other areas, routes or businesses remain underused.

It can be applied in urban destinations with iconic hotspots and secondary neighbourhoods, coastal destinations with pressure concentrated in specific zones, or destinations with multiple access points such as ports, gates or transport hubs.

Its implementation does not necessarily require highly advanced technology from the outset. Many destinations can begin through basic visitor information systems, operational coordination and historical flow analysis, progressively evolving towards more dynamic and real-time redistribution approaches.

The effectiveness of the action depends not only on the ability to redirect visitors, but also on the existence of attractive, accessible and locally supported alternatives capable of generating meaningful visitor experiences and economic activity beyond the main tourism hotspots.

Action 2.2: Integration of local businesses into flow redistribution strategies

1. Description and objective

Redistributing visitor flows does not automatically guarantee a more balanced distribution of tourism benefits. In many destinations, alternative areas continue to receive limited economic value because local businesses, services and communities are not sufficiently integrated into visitor redistribution strategies.

This action focuses on strengthening the connection between tourism flow management and local economic activity, ensuring that redistribution initiatives generate tangible opportunities for businesses and communities located outside the main tourism hotspots.

Possible approaches may include:

- integration of local businesses into alternative routes and visitor experiences
- promotion of locally based gastronomy, culture, products and services
- coordination between visitor information systems and local commercial activity
- improved visibility for businesses operating in under-visited areas
- collaboration with guides, tour operators and tourism services to support local economic participation
- involvement of local stakeholders in the design and adaptation of visitor experiences



The action recognises that successful redistribution depends not only on redirecting visitors, but also on ensuring that alternative areas provide meaningful and economically beneficial experiences.

The objective is to ensure that visitor redistribution translates into tangible economic opportunities for local businesses and communities, supporting a more balanced distribution of tourism benefits across the destination.

2. Key stakeholders involved

- Destination Management Organisation (DMO)
- Local and regional public authorities
- Local businesses and tourism service providers
- Tour operators and guides
- Local business associations and chambers of commerce
- Cultural and heritage organisations
- Community representatives
- Technology and communication providers (where relevant)

3. Implementation approach

Implementation should combine visitor management priorities with local economic development priorities.

Operational level (short-term): Identification of local businesses and services that can be integrated into redistribution initiatives. Initial promotion of alternative areas through visitor information systems, digital tools or guided experiences.

Tactical level (medium-term): Development of coordinated visitor experiences involving local businesses, including gastronomy, cultural activities, local products or mobility services. Adjustment of redistribution measures according to visitor behaviour, business participation and local demand patterns.

Strategic level (long-term): Integration of local economic development objectives into tourism flow management strategies, strengthening the role of under-visited areas within the destination's tourism model and supporting a more diversified and balanced distribution of tourism benefits over time.



4. Transferability

Many destinations experience a strong concentration of tourism spending in a limited number of areas, while other neighbourhoods, communities or businesses remain marginally connected to tourism activity.

This action is particularly relevant in destinations seeking to combine visitor redistribution with broader local economic development objectives.

Its success depends largely on stakeholder engagement, the existence of locally relevant experiences and the capacity to connect redistribution strategies with the real needs and opportunities of local businesses and communities.

The action can begin through relatively small-scale collaborations and progressively evolve towards more integrated economic activation strategies linked to tourism management and visitor redistribution policies.

Action 2.3: Adaptive planning of tourism services based on visitor demand patterns

1. Description and objective

Tourism demand rarely remains stable throughout the day, week or season. Cruise arrivals, events, weather conditions, mobility patterns or seasonal peaks can generate rapid fluctuations in visitor concentration, creating temporary imbalances between demand and the operational capacity of tourism services.

In many destinations, however, tourism services such as transport, opening hours, guided visits or visitor support systems continue to operate through relatively fixed planning models that are not always capable of adapting quickly to changing visitor dynamics.

This action proposes a more flexible operational planning approach in which tourism services and visitor management measures are adjusted according to observed and anticipated demand patterns.

Possible approaches may include:

- adapting opening hours or access conditions during peak periods
- adjusting transport frequency or mobility services according to visitor concentration levels
- coordinating guided visits and tourism activities according to expected demand
- adapting staffing levels and visitor support services during pressure situations



- synchronising operational services with real-time or forecasted tourism flows

Rather than responding only after congestion occurs, the action promotes a more anticipatory and flexible management model capable of adapting services to changing tourism conditions.

The objective is to improve operational efficiency, reduce pressure during peak situations and strengthen the capacity of destinations to respond dynamically to visitor demand patterns.

2. Key stakeholders involved

- Destination Management Organisation (DMO)
- Local and regional public authorities
- Mobility and transport operators
- Tourism businesses and service providers
- Site managers (heritage sites, attractions, natural areas)
- Port authorities and cruise operators (where relevant)
- Technology and data providers
- Tour operators and guides

3. Implementation approach

Implementation should progressively strengthen the connection between visitor flow analysis and operational planning across tourism services.

Operational level (short-term): Introduction of basic adaptive measures during identified peak situations, such as temporary service reinforcement, adjusted visitor information or operational coordination during congestion periods or cruise arrivals.

Tactical level (medium-term): Use of historical and predictive data to improve scheduling, staffing, transport coordination and service allocation during recurring pressure situations. Coordination mechanisms between tourism, mobility and operational actors become increasingly important at this stage.

Strategic level (long-term): Integration of adaptive service planning into broader tourism management frameworks, enabling tourism services and infrastructure to evolve according to changing visitor dynamics, territorial pressures and long-term demand trends.



4. Transferability

Many destinations experience recurring mismatches between visitor demand patterns and the operational capacity of tourism services, particularly during temporary peaks linked to seasonality, events or cruise tourism.

This action can be progressively implemented across different territorial contexts, starting with simple operational adjustments and evolving towards more coordinated and data-informed adaptive planning systems.

The effectiveness depends on the ability to connect tourism flow intelligence with operational decision-making and cross-sector coordination among tourism, mobility and service providers.

Action 2.4: Integrated monitoring of tourism pressure on local communities and territorial systems

1. Description and objective

Tourism pressure is often discussed through perceptions, complaints or isolated incidents, but destinations frequently lack integrated mechanisms capable of understanding how visitor concentration affects daily life across different parts of the territory.

In areas exposed to strong tourism intensity, visitor flows may influence mobility, public space use, noise levels, access to services or the overall liveability of neighbourhoods and community spaces. These impacts tend to fluctuate significantly depending on seasonality, peak periods, events or cruise-related activity.

The proposed action aims to complement existing social perception mechanisms with objective indicators linked to tourism flows and territorial conditions, enabling destinations to better identify, monitor and anticipate pressure situations.

Rather than analysing tourism activity in isolation, the action promotes the integration of tourism flow data with other indicators reflecting the functioning and liveability of the destination. This may include:

- monitoring congestion levels in public spaces and mobility corridors
- analysis of pedestrian or traffic density linked to tourism activity
- monitoring noise levels and intensity of use in highly visited areas
- identification of pressure associated with cruise arrivals, events or seasonal peaks
- analysis of pressure on public infrastructure and shared urban spaces



- integration of community feedback and observational information into monitoring systems

The action seeks to strengthen the territorial intelligence capacity of destinations, allowing tourism pressure to be understood not only as a tourism issue, but as a broader territorial and socio-economic management challenge.

The objective is to support more informed, anticipatory and balanced decision-making, improving the capacity of destinations to align tourism activity with community wellbeing and territorial resilience.

2. Key stakeholders involved

- Local and regional public authorities
- Destination Management Organisation (DMO)
- Mobility and transport authorities
- Community representatives and neighbourhood associations
- Site managers (heritage sites, attractions, public spaces)
- Port authorities and cruise operators (where relevant)
- Technology and data providers
- Universities, observatories or research institutions

3. Implementation approach

Implementation should strengthen the integration between tourism flow monitoring, territorial indicators and community-based knowledge.

Operational level (short-term): Identification of priority pressure areas and selection of basic indicators linked to congestion, mobility or public space use. Initial integration of existing complaints, observations or community feedback into the monitoring process.

Tactical level (medium-term): Development of more structured monitoring systems combining tourism flow data with mobility, environmental or territorial indicators. Identification of recurring pressure dynamics linked to specific periods, tourism activities or visitor concentration patterns.

Strategic level (long-term): Integration of territorial pressure monitoring into tourism governance and planning frameworks, supporting decisions related to carrying capacity, mobility management, public space use and long-term tourism development strategies.



4. Transferability

Understanding tourism pressure as an issue affecting everyday life and territorial functioning is becoming increasingly relevant across destinations exposed to concentrated visitor activity, particularly in contexts where visitor concentration affects mobility, public space use, access to services or everyday quality of life.

This action is especially applicable in urban centres, coastal areas, heritage destinations and locations exposed to strong seasonal or cruise-related peaks, where tourism pressure tends to fluctuate significantly over time and space.

Destinations can begin by combining existing tourism flow information with locally available indicators and community feedback mechanisms, progressively developing more integrated monitoring approaches over time.

By linking tourism dynamics with territorial and social conditions, the action supports a more balanced and evidence-based understanding of tourism impacts, helping destinations move beyond reactive debates and towards more informed management and planning processes.

Action 2.5: Development of incentive mechanisms to align private sector activity with tourism flow redistribution objectives

1. Description and objective

Tourism flow distribution is shaped not only by visitor behaviour, but also by the structure and location of tourism services, commercial activity and visitor experiences across the destination.

The concentration of tourism businesses, opening hours, excursion schedules or promotional visibility often reinforces demand in the same peak areas and periods, intensifying territorial pressure while limiting the economic activation of alternative areas.

Within this context, redistribution strategies are unlikely to succeed without the active participation of the private sector.

This action proposes the development of incentive mechanisms capable of encouraging businesses to support more balanced tourism dynamics and contribute to redistribution objectives. Possible approaches may include:

- incentive schemes for businesses operating in under-visited areas or during off-peak periods
- preferential visibility within destination marketing, platforms or visitor communication channels



- support for experiences and services contributing to redistribution objectives
- coordination with tour operators, mobility providers or excursion services to diversify visitor patterns
- integration of redistribution criteria into destination partnerships, promotional programmes or public support mechanisms

The action seeks to strengthen the alignment between destination management priorities and private sector dynamics, positioning businesses as active actors in tourism flow management and territorial balance.

The objective is to encourage tourism businesses to actively support more balanced visitor distribution patterns while creating new economic opportunities beyond the most concentrated tourism areas.

2. Key stakeholders involved

- Destination Management Organisation (DMO)
- Local and regional public authorities
- Tourism businesses and service providers
- Tour operators and guides
- Local business associations and chambers of commerce
- Mobility and transport operators
- Technology and communication providers

3. Implementation approach

Implementation should combine redistribution objectives with incentive structures capable of influencing both business behaviour and visitor dynamics.

Operational level (short-term): Identification of priority areas, services or periods requiring redistribution support and development of initial incentive measures, such as visibility campaigns, promotional partnerships or collaborative initiatives involving local businesses.

Tactical level (medium-term): Development of more structured incentive mechanisms linked to redistribution goals, including coordinated marketing strategies, support programmes, differentiated promotion or partnerships encouraging businesses to diversify tourism activity spatially and temporally.

Strategic level (long-term): Integration of redistribution incentives into the destination's broader tourism governance and economic development frameworks, aligning destination management, tourism promotion and private sector activity around more balanced territorial and socio-economic objectives.



4. Transferability

Redistribution objectives often face structural limitations when the tourism demand continues to be reinforced by the commercial logic of the market itself, concentrating visibility and activity in the same areas and periods.

This action can be adapted to different governance and market contexts, combining promotional, operational, financial or partnership-based mechanisms depending on local priorities and institutional capacity.

Its effectiveness depends on the ability to connect destination management objectives with the operational logic of the tourism sector, encouraging businesses to actively contribute to more balanced and resilient tourism dynamics rather than reinforcing existing concentration patterns.

The action can evolve progressively over time, beginning with relatively simple promotional collaborations and developing towards more integrated incentive systems capable of influencing tourism dynamics across the destination.

6.2.4. *Heritage and Cultural assets*

Action 3.1: Implementation of real-time occupancy monitoring systems in key heritage and cultural sites

1. Description and objective

The management of visitor pressure in heritage and cultural assets increasingly requires the ability to understand not only how many visitors access a site but how occupancy evolves across spaces and over time.

In many highly visited heritage environments, operational decisions rely primarily on ticketing data, manual observations or ex-post analysis, providing only partial visibility over real occupancy conditions and circulation dynamics. This constrains the capacity of site managers to anticipate pressure situations, regulate visitor flows or respond to operational and conservation risks as they emerge.

Within sensitive cultural and heritage contexts, overcrowding can generate impacts that go beyond visitor experience, affecting circulation patterns, safety conditions, conservation requirements and the overall integrity of the site.

This action proposes the deployment of real-time occupancy monitoring systems capable of providing continuous visibility over visitor presence, density and movement patterns within



heritage environments.

The action builds directly on approaches being explored across several TOURISMO pilot areas, where real-time monitoring and flow analysis are already being used to better understand occupancy dynamics, visitor concentration and operational pressure in sensitive heritage environments

Possible approaches may include:

- entry and exit counting systems
- occupancy monitoring at critical nodes, rooms or circulation areas
- sensors, cameras or digital access control systems
- integration with monitoring platforms such as Snap4City
- real-time visualisation of occupancy conditions for operational management purposes

The value of these systems lies not only in data collection itself but in their capacity to support more adaptive and evidence-based heritage management approaches.

The objective is to strengthen the operational and conservation management of heritage assets by enabling destinations and site managers to monitor occupancy dynamics in real time, anticipate pressure situations and support more balanced visitor use of culturally sensitive spaces.

2. Key stakeholders involved

- Site managers and heritage authorities
- Destination Management Organisation (DMO)
- Local and regional public authorities
- Technology and data providers
- Cultural institutions and heritage organisations
- Mobility and security services (where relevant)
- Universities, observatories or research institutions

3. Implementation approach

Implementation should progressively combine monitoring technologies with operational management and conservation objectives.

Operational level (short-term): Deployment of basic occupancy monitoring systems at priority access points or high-pressure areas, allowing site managers to obtain real-time visibility over visitor concentration and movement patterns.



Tactical level (medium-term): Integration of occupancy data into operational management practices, supporting adaptive measures such as access regulation, queue management, redistribution of visitors or temporary adjustments during peak periods.

Strategic level (long-term): Use of occupancy intelligence to inform long-term conservation planning, carrying capacity assessment and heritage governance frameworks, integrating visitor dynamics into broader strategies for site resilience and cultural asset protection.

4. Transferability

Growing pressure on heritage and cultural assets is a shared challenge across many Mediterranean destinations, particularly in sites characterised by high visitor concentration, spatial constraints or conservation sensitivity.

This action can be implemented progressively depending on the scale and complexity of the site, ranging from relatively simple counting mechanisms to more integrated occupancy intelligence systems connected to wider destination management platforms.

Its effectiveness depends on the capacity to translate occupancy data into operational and conservation-oriented decisions, ensuring that monitoring systems contribute not only to visitor management efficiency, but also to the long-term sustainability and resilience of heritage assets.

Action 3.2: Deployment of queue monitoring and adaptive management systems at high-demand tourism environments

1. Description and objective

Queue formation has become one of the most visible manifestations of tourism pressure in highly visited tourism environments, particularly in destinations where visitor demand concentrates around iconic landmarks, restricted-access spaces or narrow circulation areas.

Beyond affecting visitor experience, persistent queues can generate operational disruption, pressure on surrounding public spaces, circulation bottlenecks and additional stress on sensitive heritage environments. In many cases, queues are monitored informally or managed reactively once congestion has already escalated.

This action proposes the deployment of queue monitoring and adaptive management systems capable of improving visibility over waiting conditions and supporting faster operational responses during periods of concentrated demand.

Possible approaches may include:

- real-time monitoring of queue length and waiting times



- identification of recurring queue formation patterns linked to specific time periods or visitor profiles
- integration of queue data into operational management platforms such as Snap4City
- activation of temporary redistribution measures during peak congestion periods
- dynamic visitor information regarding waiting times, alternative access points or nearby experiences
- coordination between ticketing systems, access control and visitor circulation management

The action promotes a shift from passive observation of queues towards more adaptive and operationally integrated management approaches.

The objective is to strengthen the capacity of destinations to anticipate congestion situations, improve circulation conditions and reduce the operational and territorial impacts associated with concentrated visitor demand.

2. Key stakeholders involved

- Site managers and heritage authorities
- Destination Management Organisation (DMO)
- Local and regional public authorities
- Technology and data providers
- Mobility and security services
- Ticketing and access management operators
- Tour operators and guides (where relevant)
- Universities or research institutions (where applicable)

3. Implementation approach

Implementation should progressively combine queue monitoring technologies with operational visitor management and circulation strategies.

Operational level (short-term): Deployment of basic queue monitoring systems at priority access points, enabling site managers to obtain real-time visibility over waiting times, visitor accumulation and circulation bottlenecks.

Tactical level (medium-term): Integration of queue intelligence into operational decision-making processes, supporting adaptive responses such as timed access adjustments, visitor redistribution, temporary routing measures or dynamic visitor communication during congestion periods.

Strategic level (long-term): Use of queue and circulation data to inform broader visitor



management, carrying capacity and heritage protection strategies, integrating queue dynamics into long-term planning for site resilience and operational sustainability.

4. Transferability

Queue-related pressure affects many heritage destinations characterised by concentrated demand, restricted circulation capacity or highly variable visitor peaks.

The approaches associated with this action can be adapted to different types of heritage environments and operational realities, ranging from simple waiting-time monitoring systems to more integrated queue management tools connected to wider visitor management platforms.

Its effectiveness depends on the ability to connect queue monitoring with concrete operational responses, ensuring that queue management contributes not only to visitor experience improvements, but also to the protection, functionality and long-term resilience of heritage and cultural assets.

Action 3.3: Dynamic management of visitor access based on occupancy levels

1. Description and objective

Access to highly visited heritage and cultural sites is often managed through fixed systems that remain relatively static despite significant fluctuations in occupancy, circulation dynamics and visitor pressure throughout the day.

In sensitive heritage environments, this lack of adaptability can intensify overcrowding, generate operational stress and reduce the capacity of site managers to maintain balanced conditions for both conservation and visitor experience. The challenge is particularly visible in sites characterised by limited physical capacity, constrained circulation spaces or strong temporal concentration patterns linked to tourism peaks, events or cruise arrivals.

Experiences demonstrate the importance of moving beyond static access models towards more adaptive approaches capable of responding to real occupancy conditions in near real time.

This action proposes the introduction of dynamic access management approaches in which visitor entry conditions are adjusted according to real-time occupancy levels, circulation conditions and operational thresholds within the site.

Possible approaches may include:

- temporary modulation of visitor access during overcrowding situations



- timed-entry systems linked to occupancy conditions
- adaptive allocation of visitor slots according to circulation capacity
- temporary pauses or restrictions in access to sensitive spaces
- differentiated access management according to time periods or pressure levels
- integration of occupancy thresholds into operational access control systems

The action seeks to improve the ability of heritage managers to regulate visitor entry more flexibly according to changing site conditions and circulation capacity.

The objective is to maintain more stable occupancy conditions within heritage environments while protecting visitor experience, circulation functionality and conservation needs.

2. Key stakeholders involved

- Site managers and heritage authorities
- Destination Management Organisation (DMO)
- Local and regional public authorities
- Ticketing and reservation system operators
- Technology and data providers
- Mobility and security services
- Tour operators and guides (where relevant)
- Universities or research institutions (where applicable)

3. Implementation approach

Implementation should progressively integrate occupancy information into operational access management systems.

Operational level (short-term): Introduction of basic occupancy thresholds and temporary access adjustment mechanisms during peak congestion situations, supported by real-time occupancy monitoring.

Tactical level (medium-term): Integration of occupancy-based decision-making into ticketing, reservation and circulation management systems, allowing more adaptive regulation of visitor entry and time-slot allocation according to observed demand patterns.

Strategic level (long-term): Incorporation of dynamic access management principles into broader heritage governance and carrying capacity frameworks, supporting long-term resilience, conservation and operational sustainability objectives.



4. Transferability

Many heritage and cultural assets face recurring overcrowding situations linked to concentrated demand and limited circulation capacity.

This action can be progressively adapted according to the operational complexity, conservation sensitivity and technological maturity of each site, ranging from relatively simple timed-entry measures to more advanced dynamic access management systems.

Its effectiveness depends largely on the ability to connect occupancy monitoring with practical operational measures capable of regulating visitor concentration before critical conditions emerge.

Action 3.4: Redirection of visitors towards alternative cultural sites through data-driven visitor guidance systems

1. Description and objective

Visitor demand within cultural destinations frequently concentrates around a limited number of iconic attractions, while other heritage assets with significant cultural value remain comparatively under-visited.

This concentration not only generates operational pressure on major sites, but also limits the visibility, interpretation and economic activation of broader cultural networks across the destination.

The growing availability of tourism flow information creates new opportunities to guide visitors towards alternative cultural sites according to occupancy conditions, circulation patterns and visitor behaviour.

This action proposes the use of data-informed visitor guidance systems capable of supporting a more balanced distribution of cultural visits across the destination.

Possible approaches may include:

- real-time recommendations linked to occupancy conditions at major attractions
- promotion of secondary heritage assets through digital platforms or visitor interfaces
- adaptive signage and visitor information systems
- integration of alternative cultural routes into mobility and tourism services
- dynamic recommendations linked to congestion levels or waiting times



- development of connected cultural itineraries across multiple sites

Beyond redistributing visitor flows, the action also seeks to diversify cultural narratives and strengthen the visibility of lesser-known heritage assets within the destination.

The objective is to reduce pressure on highly visited attractions while improving the distribution of cultural activity, visitor attention and economic opportunities across a wider network of heritage sites.

2. Key stakeholders involved

- Destination Management Organisation (DMO)
- Site managers and heritage authorities
- Local and regional public authorities
- Cultural institutions and museums
- Technology and data providers
- Tourism businesses, guides and tour operators
- Mobility and transport operators
- Local cultural organisations and community actors

3. Implementation approach

Implementation should progressively combine visitor flow analysis with adaptive communication and cultural interpretation strategies.

Operational level (short-term): Introduction of basic visitor guidance mechanisms linked to occupancy conditions, including temporary recommendations, dynamic visitor information or promotion of nearby cultural alternatives during congestion periods.

Tactical level (medium-term): Integration of real-time and historical flow data into visitor guidance systems, enabling more adaptive routing recommendations and coordinated promotion of alternative cultural assets according to circulation patterns and demand dynamics.

Strategic level (long-term): Incorporation of adaptive cultural redirection strategies into broader heritage management and destination planning frameworks, strengthening the role of secondary cultural sites within the territorial distribution of tourism activity.

4. Transferability

Many cultural destinations experience strong concentration around iconic attractions while other heritage assets remain comparatively disconnected from visitor flows.



This action can be progressively implemented using different levels of technological sophistication, ranging from simple adaptive signage and visitor communication systems to more integrated real-time guidance platforms connected to tourism flow intelligence systems.

Its effectiveness depends not only on the ability to redirect visitors, but also on the quality, accessibility and interpretative value of the alternative cultural experiences offered across the destination.

Action 3.5: Integration of occupancy information into preventive heritage conservation management

1. Description and objective

Highly visited heritage sites are often exposed to progressive deterioration linked to repeated visitor use, particularly in fragile interiors, historic circulation areas or conservation-sensitive spaces.

In many heritage environments, factors such as continuous foot traffic, humidity fluctuations, vibration, physical contact or concentrated occupancy may gradually affect the condition of materials, decorative elements and sensitive architectural features. However, visitor monitoring and conservation management frequently continue to operate separately, limiting the ability of site managers to understand how tourism pressure contributes to long-term deterioration processes.

This action proposes the integration of occupancy information into preventive conservation practices in order to improve how heritage managers identify, monitor and mitigate risks associated with intensive visitor use.

Possible approaches may include:

- correlation of occupancy levels with material wear or deterioration patterns
- monitoring of humidity, vibration or microclimatic conditions linked to visitor concentration
- identification of conservation-sensitive areas exposed to repeated circulation pressure
- detection of occupancy thresholds associated with accelerated deterioration risks
- integration of visitor pressure indicators into preventive conservation plans
- temporary operational adjustments to protect fragile spaces during periods of elevated occupancy



The action seeks to strengthen preventive conservation management by improving the connection between visitor use patterns and the physical preservation needs of heritage assets. The objective is to support earlier and more informed conservation decisions capable of reducing deterioration risks associated with concentrated tourism activity and intensive visitor circulation.

2. Key stakeholders involved

- Site managers and heritage authorities
- Conservation specialists and cultural institutions
- Destination Management Organisation (DMO)
- Local and regional public authorities
- Technology and data providers
- Environmental monitoring specialists
- Universities and research institutions
- Mobility and operational management services (where relevant)

3. Implementation approach

Implementation should connect occupancy monitoring systems with conservation-oriented analysis and decision-making processes.

Operational level (short-term): Identification of sensitive heritage areas exposed to visitor pressure and initial integration of occupancy information with existing conservation or environmental monitoring practices.

Tactical level (medium-term): Development of integrated monitoring frameworks capable of correlating visitor dynamics with environmental or conservation indicators, supporting adaptive operational responses when pressure thresholds are exceeded.

Strategic level (long-term): Incorporation of integrated occupancy-conservation intelligence into broader heritage governance, carrying capacity assessment and long-term conservation planning frameworks.

4. Transferability

Many heritage destinations face increasing difficulties in balancing visitor accessibility with conservation requirements, particularly in sites exposed to concentrated or highly variable tourism demand.

Implementation can evolve gradually depending on the monitoring capacity, management



structure and conservation needs of each heritage site. In many cases, the action can build on existing occupancy, environmental or maintenance monitoring practices, progressively improving the integration between them over time.

Its value lies in improving the ability of heritage managers to anticipate deterioration risks associated with intensive visitor use and to introduce preventive measures before damage becomes operationally or materially significant.

Action 3.6: Use of tourism flow intelligence to redesign visitor itineraries and spatial organisation in high-demand tourism environments

1. Description and objective

Visitor circulation within heritage and cultural sites often follows repetitive movement patterns that concentrate pressure in the same access points, rooms, viewpoints, facilities or attraction areas. Over time, these concentration dynamics may affect visitor experience, operational functionality and the preservation of sensitive spaces.

In many cases, visitor itineraries and spatial organisation models were not originally designed to accommodate current tourism intensity levels or changing visitor behaviour patterns. As a result, congestion, circulation bottlenecks and uneven spatial use frequently emerge within highly visited heritage environments.

The growing availability of tourism flow information now provides new opportunities to better understand real movement dynamics within heritage environments and use this knowledge to inform spatial and operational redesign processes.

This action proposes the use of visitor flow data to support the reconfiguration of itineraries, circulation systems and spatial organisation within heritage and cultural sites.

Possible approaches may include:

- analysis of recurrent circulation patterns and congestion points
- identification of underused, overexposed heritage areas or high-potential areas and attractions
- redesign of visitor routes to improve circulation balance
- reorganisation of entry, exit or transition areas
- relocation of interpretative elements, services or waiting areas
- creation of alternative circulation paths during peak periods



- adjustment of spatial layouts according to observed visitor behaviour patterns

The action seeks to improve how visitors move through heritage environments, reducing pressure concentration while improving circulation conditions and operational functionality.

The objective is to support more balanced use of heritage spaces through practical adjustments to visitor routes, circulation flows and spatial organisation.

2. Key stakeholders involved

- Site managers and heritage authorities
- Destination Management Organisation (DMO)
- Architects, conservation planners and spatial designers
- Local and regional public authorities
- Technology and data providers
- Cultural institutions and museums
- Universities or research institutions
- Visitor management and operational services

3. Implementation approach

Implementation should progressively connect tourism flow analysis with spatial planning and heritage management processes.

Operational level (short-term): Identification of circulation bottlenecks, recurrent congestion points and underused areas through visitor flow observation and occupancy analysis.

Tactical level (medium-term): Introduction of targeted spatial and operational adjustments, including revised itineraries, circulation changes, relocation of interpretative elements or temporary reorganisation of visitor pathways during peak situations.

Strategic level (long-term): Integration of tourism flow intelligence into long-term planning and spatial management frameworks, supporting adaptive redesign processes capable of improving site resilience, circulation balance and conservation conditions over time.

4. Transferability

Many heritage and cultural sites increasingly face challenges linked to circulation pressure, spatial bottlenecks and uneven visitor distribution, particularly in contexts where current tourism dynamics exceed the original functional design of the site.

The action is particularly valuable in sites where improving visitor circulation and reducing pressure concentration are essential to protecting sensitive spaces while maintaining accessibility and visitor experience quality.



The approaches proposed through this action can be applied across different heritage settings and scales, from confined indoor spaces to complex urban heritage environments, adapting the level of intervention according to operational needs and spatial constraints.

Its implementation does not necessarily require major physical interventions from the outset. In many cases, relatively simple adjustments to routes, signage, waiting areas or circulation logic can already improve operational functionality and visitor distribution significantly.

6.2.5. *Environmental sustainability*

Action 4.1: Deployment of real-time environmental pressure monitoring systems in sensitive natural areas

1. Description and objective

Coastal ecosystems, protected natural areas and environmentally sensitive landscapes are increasingly exposed to highly dynamic tourism pressure patterns that can fluctuate significantly across time, location and season.

In these environments, pressure is rarely determined solely by the total number of visitors, but rather by how visitor concentration interacts with ecological sensitivity, spatial conditions and the temporal intensity of use. Short periods of overcrowding, concentrated circulation patterns or repeated pressure on fragile ecosystems may generate disproportionate environmental impacts, even when overall visitor volumes remain relatively stable.

Several TOURISMO pilot areas already highlight the growing need to better understand how tourism dynamics affect environmentally sensitive territorial systems, particularly in coastal and nature-based contexts exposed to strong seasonal concentration patterns.

The action is designed to improve real-time visibility over how visitor concentration evolves across environmentally sensitive areas, allowing managers to identify pressure situations as they emerge and respond more quickly on the ground.

Possible approaches may include:

- real-time monitoring of visitor density in beaches, protected areas or ecological corridors
- integration of tourism flow data with environmental indicators such as erosion, temperature or biodiversity stress
- occupancy and circulation analysis through sensors, cameras or mobility-based systems
- detection of overcrowding hotspots and unusually high-pressure situations



- integration of monitoring data into operational management platforms such as Snap4City
- real-time visualisation tools supporting daily environmental management decisions

The objective is to improve operational awareness in sensitive natural areas, helping destinations detect pressure situations earlier and support faster, more coordinated management responses.

2. Key stakeholders involved

- Environmental and protected area authorities
- Destination Management Organisation (DMO)
- Local and regional public authorities
- Coastal and natural areas site managers
- Technology and data providers
- Environmental observatories and research institutions
- Mobility and transport operators (where relevant)
- Environmental NGOs and community organisations

3. Implementation approach

Implementation should progressively strengthen the integration between tourism flow intelligence, environmental monitoring and ecosystem management processes.

Operational level (short-term): Deployment of basic monitoring systems in environmentally sensitive areas exposed to visitor concentration, enabling managers to obtain real-time visibility over occupancy conditions and emerging pressure situations.

Tactical level (medium-term): Integration of tourism flow data with environmental indicators to identify recurring pressure dynamics, ecological stress patterns and critical periods requiring adaptive operational responses.

Strategic level (long-term): Incorporation of environmental pressure intelligence into broader territorial governance, carrying capacity assessment and long-term ecosystem resilience strategies, supporting more integrated and adaptive tourism-environment management models.

4. Transferability

This type of monitoring is particularly relevant in destinations where visitor concentration changes rapidly throughout the day or season, making it difficult to manage sensitive areas



through conventional observation methods alone.

The systems and approaches associated with this action can be adapted to different environmental contexts, from beaches and coastal ecosystems to protected inland areas, using technologies and monitoring capacities appropriate to each destination.

Its practical contribution lies in improving situational awareness, enabling managers to identify pressure hotspots in real time and react more efficiently before operational or environmental problems intensify.

Action 4.2: Activation of adaptive behavioural guidance systems through live environmental and tourism flow intelligence

1. Description and objective

The environmental impact of tourism is shaped not only by visitor volumes, but by the collective behavioural dynamics that emerge across destinations in response to changing territorial conditions.

In environmentally sensitive areas, seemingly individual decisions — such as choosing a particular beach, route, access point or time of visit — can rapidly accumulate into significant pressure patterns affecting ecosystem resilience, congestion levels and environmental carrying capacity. These dynamics are particularly difficult to manage in contexts characterised by fluctuating occupancy conditions, strong seasonality and high spatial concentration.

At the same time, visitor behaviour is not static. It is continuously influenced by information availability, perceived conditions, mobility patterns and real-time decision-making processes.

This action proposes the activation of adaptive behavioural guidance systems capable of influencing visitor decisions through the real-time communication of environmental and occupancy conditions.

Possible approaches may include:

- dynamic communication of occupancy and environmental pressure levels
- adaptive nudging mechanisms encouraging redistribution towards lower-pressure areas or periods
- real-time behavioural recommendations through apps, digital platforms or connected mobility systems
- live alerts linked to ecosystem stress, overcrowding or temporary environmental restrictions



- integration of behavioural guidance into visitor information and destination management platforms such as Snap4City
- adaptive communication strategies promoting environmentally responsible decision-making according to changing territorial conditions

Rather than relying primarily on restrictive regulation, the action promotes a more anticipatory and behaviour-oriented management approach capable of influencing tourism dynamics before environmental pressure situations intensify.

The objective is to encourage visitor decisions that help reduce pressure on sensitive areas and support a more balanced distribution of tourism activity across the destination.

2. Key stakeholders involved

- Destination Management Organisation (DMO)
- Environmental and protected area authorities
- Local and regional public authorities
- Technology and data providers
- Mobility and transport operators
- Visitor communication and digital service providers
- Environmental observatories and research institutions
- Community and environmental organisations

3. Implementation approach

This action should strengthen the integration between environmental intelligence systems, real-time communication tools and behavioural management strategies.

Operational level (short-term): Deployment of basic live communication mechanisms capable of informing visitors about occupancy conditions, environmental sensitivity or temporary pressure situations in priority areas.

Tactical level (medium-term): Development of more adaptive behavioural guidance systems integrating real-time tourism flow and environmental data into dynamic recommendations, redistribution prompts and contextual nudging strategies.

Strategic level (long-term): Integration of behavioural guidance approaches into broader environmental governance and destination management frameworks, supporting long-term shifts towards more adaptive, ecosystem-sensitive and territorially balanced visitor dynamics.

4. Transferability

Many destinations struggle to influence visitor behaviour before environmental pressure becomes operationally or ecologically critical, particularly in contexts where tourism dynamics



evolve rapidly across space and time.

This action can be progressively adapted according to technological capacity, visitor management maturity and environmental sensitivity, ranging from relatively simple live information systems to more integrated behavioural intelligence frameworks connected to wider destination governance structures.

Its contribution goes beyond providing information to visitors, supporting a more proactive management approach in which communication systems become part of the destination's environmental response capacity. By influencing decisions as conditions evolve, these tools can help reduce pressure concentration, support more balanced territorial use patterns and improve the adaptability of tourism management in sensitive natural environments.

Action 4.3: Adaptive regulation of access and tourism activities based on environmental pressure intelligence

1. Description and objective

The environmental sustainability of tourism destinations increasingly depends on their capacity to regulate tourism use dynamically in response to changing ecological and territorial conditions.

In environmentally sensitive areas, tourism pressure does not evolve in a linear or stable manner. Ecosystem vulnerability may fluctuate significantly depending on occupancy levels, climatic conditions, biodiversity cycles, erosion processes, water stress or the cumulative intensity of tourism activities over time. Under these conditions, fixed access models and static operational rules often prove insufficient to prevent environmental degradation or maintain ecological resilience.

The increasing availability of tourism flow intelligence and environmental monitoring systems is creating new opportunities to support more adaptive environmental management approaches, particularly in coastal and protected natural environments exposed to strong concentration dynamics.

This action proposes the development of adaptive regulation mechanisms in which visitor access conditions and tourism activities are adjusted according to real-time environmental pressure intelligence.

Possible approaches may include:

- dynamic modulation of visitor access according to ecosystem pressure conditions
- temporary restriction or redistribution of tourism activities during environmentally critical periods



- adaptive management of circulation routes, use zones or recreational activities
- integration of environmental thresholds into operational tourism management systems
- coordination between tourism regulation measures and ecosystem protection objectives
- activation of adaptive management responses linked to occupancy, environmental stress or territorial sensitivity indicators

Rather than relying exclusively on static restrictions or predefined carrying capacity limits, the action promotes a more responsive governance model capable of adapting tourism use to evolving environmental realities.

The objective is to help destinations adjust visitor access and tourism activities more dynamically according to changing environmental conditions and pressure levels.

2. Key stakeholders involved

- Environmental and protected area authorities
- Destination Management Organisation (DMO)
- Local and regional public authorities
- Coastal and site managers
- Technology and data providers
- Environmental observatories and research institutions
- Tourism activity providers and guides
- Mobility and transport operators
- Community and environmental organisations

3. Implementation approach

Implementation should progressively integrate environmental pressure intelligence into operational regulation and territorial governance mechanisms.

Operational level (short-term): Introduction of basic adaptive regulation measures in priority sensitive areas, including temporary access adjustments, redistribution of activities or responsive management actions during periods of elevated environmental pressure.

Tactical level (medium-term): Integration of environmental and tourism flow indicators into operational decision-making systems, enabling more dynamic regulation of access conditions, tourism uses and visitor circulation according to changing ecosystem conditions.

Strategic level (long-term): Incorporation of adaptive environmental regulation principles into broader territorial governance, carrying capacity assessment and ecosystem resilience frameworks, supporting long-term alignment between tourism dynamics and environmental sustainability objectives.



4. Transferability

Coastal ecosystems, protected areas and environmentally sensitive landscapes across the Mediterranean are increasingly exposed to fluctuating tourism pressure patterns that challenge conventional management approaches based on static regulation models.

The approaches proposed through this action can evolve according to the environmental sensitivity, governance capacity and monitoring maturity of each destination, ranging from relatively simple adaptive access measures to more integrated environmental pressure governance systems.

Its effectiveness depends on the ability to connect environmental intelligence with operational regulation mechanisms, enabling destinations to manage tourism activity in ways that remain responsive to evolving ecosystem conditions rather than relying exclusively on fixed access or activity models.

Action 4.4: Development of integrated tourism-environment intelligence systems to support ecosystem resilience and impact assessment

1. Description and objective

Tourism-related environmental impacts rarely emerge as isolated events. In environmentally sensitive territories, degradation processes tend to develop progressively through the accumulation of pressures linked to visitor concentration, mobility patterns, seasonal peaks and the repeated intensity of use over time.

At the same time, environmental monitoring and tourism analysis frequently continue to operate through parallel and disconnected systems. Visitor flows may be measured operationally, while ecological indicators such as erosion, biodiversity stress, habitat degradation or thermal pressure are assessed separately within environmental management frameworks. This fragmentation limits the capacity of destinations to understand how tourism dynamics interact with ecosystem resilience and territorial change. It also makes it more difficult to prioritise conservation measures, identify vulnerable areas or assess how tourism activity contributes to long-term environmental degradation.

The growing availability of tourism flow intelligence, environmental monitoring technologies and spatial analysis tools creates new opportunities to develop more integrated approaches capable of interpreting tourism activity within its broader ecological context.

This action proposes the development of integrated tourism-environment intelligence systems capable of analysing the relationship between tourism dynamics, environmental pressure and ecosystem resilience across time and space.



Possible approaches may include:

- correlation of tourism concentration patterns with erosion, biodiversity disturbance or habitat degradation
- analysis of cumulative impacts linked to repetitive visitor pressure over time
- identification of environmentally vulnerable areas exposed to recurrent tourism intensity
- integration of tourism dynamics into environmental vulnerability and ecosystem condition assessments
- combination of tourism flow information with climate, vegetation, temperature or water stress indicators
- incorporation of tourism-environment analysis into conservation and territorial planning processes

The action seeks to strengthen the analytical capacity of destinations to better understand how tourism activity influences environmental conditions and long-term ecosystem vulnerability.

2. Key stakeholders involved

- Environmental and protected area authorities
- Destination Management Organisation (DMO)
- Environmental observatories and research institutions
- Universities and scientific organisations
- Local and regional public authorities
- Technology and spatial data providers
- Coastal and site managers
- Community and environmental organisations

3. Implementation approach

This action should strengthen the integration between tourism intelligence, environmental monitoring and territorial governance systems.

Operational level (short-term): Identification of priority environmental and tourism indicators in sensitive areas, enabling initial analysis of spatial pressure patterns and ecosystem vulnerabilities associated with tourism activity.

Tactical level (medium-term): Development of integrated analytical frameworks capable of correlating tourism dynamics with environmental change processes, supporting the identification of recurring stress patterns, cumulative impacts and environmentally critical areas.



Strategic level (long-term): Incorporation of tourism-environment intelligence into ecosystem resilience strategies, territorial governance and long-term environmental planning frameworks, supporting more adaptive and evidence-based sustainability management approaches.

4. Transferability

Many destinations already generate large volumes of tourism and environmental information, but often lack mechanisms to analyse these datasets together in ways that support environmental planning and decision-making.

The approaches associated with this action can evolve progressively according to available data, institutional capacity and environmental priorities, ranging from relatively simple correlation analysis to more advanced territorial intelligence frameworks.

Its relevance lies in helping destinations identify long-term environmental trends and cumulative tourism impacts that may otherwise remain difficult to detect through isolated monitoring systems.

Action 4.5: Anticipation and management of peak environmental pressure periods through predictive tourism flow analysis

1. Description and objective

Some of the most challenging environmental situations in tourism destinations are highly predictable. Seasonal peaks, weekends, cruise arrivals, extreme weather conditions or holiday periods often generate recurring pressure patterns that repeat over time in specific locations.

Despite this, many destinations still manage these situations reactively, intervening only once congestion or environmental stress is already visible.

This action focuses on improving the ability of destinations to identify recurring pressure windows in advance, using historical tourism flow analysis and predictive tools to support earlier preparation and coordination.

Possible approaches may include:

- identification of recurring temporal pressure patterns linked to tourism activity
- forecasting of peak occupancy periods using historical and live data
- identification of high-risk periods associated with weather, mobility or seasonal demand dynamics
- development of early-warning indicators for expected pressure situations



- preparation of operational resources and coordination mechanisms ahead of anticipated peaks
- activation of preventive communication measures before pressure intensifies

The objective is to improve the preparedness of destinations facing recurrent pressure peaks, improving operational preparedness during periods of unusually high visitor concentration.

2. Key stakeholders involved

- Environmental and protected area authorities
- Destination Management Organisation (DMO)
- Local and regional public authorities
- Technology and data providers
- Environmental observatories and research institutions
- Mobility and transport operators
- Coastal and site managers
- Community and environmental organisations

3. Implementation approach

Implementation should progressively strengthen the capacity of destinations to identify, interpret and anticipate recurring pressure dynamics.

Operational level (short-term): Identification of recurring peak pressure situations using historical data and local observations. Initial preparation of operational responses for periods of expected congestion or environmental stress.

Tactical level (medium-term): Development of predictive analysis systems capable of identifying high-risk periods based on tourism flows, mobility patterns, weather conditions or seasonal demand trends. Coordination of preventive management measures across different stakeholders and operational services ahead of anticipated pressure peaks.

Strategic level (long-term): Integration of predictive pressure analysis into environmental planning, visitor management and territorial governance frameworks, supporting more preventive and adaptive approaches to tourism management in sensitive natural areas.

4. Transferability

Recurring pressure peaks affect many coastal, island and protected destinations, particularly where visitor concentration follows strong seasonal or short-term demand patterns.

The practical measures associated with this action — such as preparing temporary restrictions, reinforcing controls, adjusting mobility systems or activating alternative visitor areas — can be



implemented under very different operational and governance contexts, even where predictive capacities remain relatively limited.

The main contribution of the action is its ability to improve preparedness. By identifying recurring pressure windows in advance, destinations can organise resources, coordinate stakeholders and activate preventive measures earlier, reducing the operational and environmental consequences of sudden tourism concentration.

Action 4.6: Use of monitoring systems to detect and prevent environmentally harmful visitor behaviours

1. Description and objective

Certain tourism-related impacts are not necessarily linked to overall visitor numbers, but to specific behaviours capable of generating disproportionate pressure on natural and environmentally sensitive areas.

Examples such as off-trail circulation, access to restricted zones, vandalism, improper waste disposal, disturbance of wildlife, trampling of fragile vegetation or inappropriate recreational practices can rapidly degrade sensitive environments, particularly in coastal ecosystems, protected areas or high-pressure natural sites.

These situations are often difficult to manage through conventional supervision alone, especially in destinations characterised by dispersed spaces, fluctuating visitor flows and limited operational capacity.

This action proposes the use of monitoring and supervision systems to help detect, prevent and respond to environmentally harmful behaviours in sensitive areas.

Possible approaches may include:

- identification of recurrent misuse patterns in vulnerable locations
- monitoring of restricted or environmentally sensitive zones
- detection of abnormal concentrations or inappropriate circulation patterns
- integration of cameras, sensors or mobility analysis tools to support site supervision
- activation of alerts for operational teams when critical situations are detected
- reinforcement of preventive communication and on-site visitor guidance in high-risk areas
- coordination between monitoring systems and environmental enforcement or ranger services

The action seeks to improve the practical capacity of destinations to intervene before harmful



situations escalate, supporting more effective day-to-day protection of environmentally sensitive areas.

The objective is to reduce the environmental impacts associated with inappropriate visitor behaviour and strengthen the operational protection of fragile ecosystems exposed to tourism pressure.

2. Key stakeholders involved

- Environmental and protected area authorities
- Destination Management Organisation (DMO)
- Local and regional public authorities
- Site managers and ranger services
- Technology and data providers
- Environmental enforcement and security services
- Environmental observatories and research institutions
- Community and environmental organisations

3. Implementation approach

Implementation should combine monitoring technologies with operational prevention and environmental protection practices.

Operational level (short-term): Identification of priority risk areas and deployment of basic monitoring or supervision systems in locations exposed to recurrent harmful behaviours or environmental misuse.

Tactical level (medium-term): Integration of behavioural monitoring into operational management systems, enabling quicker identification of incidents, improved coordination between stakeholders and more targeted preventive actions.

Strategic level (long-term): Incorporation of behavioural monitoring intelligence into broader environmental management and visitor regulation frameworks, supporting long-term protection strategies for environmentally sensitive areas.

4. Transferability

Many natural and protected destinations face recurring problems linked to inappropriate visitor behaviour, particularly in areas where environmental sensitivity coincides with high visitor concentration and limited supervision capacity.

The measures associated with this action can be adapted to different territorial contexts and operational realities, combining technological monitoring tools with on-site management,



environmental education and preventive communication approaches.

Its practical value lies in improving the capacity of destinations to detect problematic situations earlier, intervene more efficiently and reduce the cumulative environmental impacts associated with repeated harmful behaviours over time.



7. Conclusions and key recommendations for MED destinations

The experience developed through TOURISMO highlights the growing need for Mediterranean destinations to evolve beyond traditional tourism management models based primarily on visitor growth, promotional performance and static monitoring systems. Across the pilot areas, the project reveals a common structural challenge: many destinations continue to manage tourism through fragmented governance frameworks and reactive approaches that are increasingly insufficient to address the complexity, speed and territorial impacts of contemporary tourism dynamics.

The diversity of contexts represented within TOURISMO (historic cities, UNESCO sites, cruise destinations, coastal environments, islands and protected natural areas) demonstrates that **tourism pressure manifests differently across territories**, yet often generates **similar systemic tensions**. These include concentration of flows in sensitive areas, seasonal overload, pressure on infrastructure and public space, conflicts between visitor and resident uses, environmental degradation, and increasing difficulties in balancing tourism growth with heritage preservation and quality of life.

Within this context, the project confirms that **tourism flow management** should no longer be understood as an isolated operational issue, but rather as **a central component of destination governance and long-term territorial resilience**.

Towards adaptive and intelligence-based destination management

One of the main conclusions emerging from TOURISMO is the need for destinations to progressively transition towards more **adaptive, evidence-based and anticipatory management models**. The pilots demonstrate that tourism dynamics can no longer be managed effectively through static planning instruments alone, particularly in destinations exposed to strong seasonality, cruise tourism fluctuations, climate-related pressures or rapidly changing visitor behaviours.

In this regard, the integration of tourism data, real-time monitoring systems and predictive analysis capacities becomes increasingly relevant not only for operational management, but also for strategic planning and policy design. The project highlights the importance of evolving from fragmented data collection exercises towards **integrated destination intelligence systems** capable of combining tourism, mobility, environmental, territorial and heritage-related information into shared decision-making frameworks.



At the same time, destination intelligence should not be interpreted exclusively as a technological concept. Its value depends fundamentally on the **capacity of destinations to translate information into governance processes, operational coordination and adaptive management responses**.

Reinforcing the integration between tourism and territorial management

The project also reveals the limitations of treating tourism management as a sector operating independently from broader territorial, environmental and urban policies. In many Mediterranean destinations, tourism pressures directly affect heritage conservation, mobility systems, public services, ecological conditions and the everyday functioning of local communities.

This reinforces the need to **integrate tourism flow management into wider territorial governance frameworks**, particularly in areas such as:

- heritage conservation and site management;
- urban planning and public space management;
- mobility and accessibility strategies;
- environmental monitoring and ecosystem protection;
- climate adaptation and resilience planning;
- local economic development policies.

This integrated perspective is particularly important in sensitive heritage and natural environments, where tourism pressure often accumulates spatially and temporally in highly concentrated areas. Several pilots clearly illustrate how tourism monitoring systems can support more balanced management approaches by identifying pressure hotspots, improving understanding of visitor behaviour and facilitating more targeted interventions.

Moving from reactive to preventive approaches

Another major contribution emerging from the actions developed under the TOURISMO project is the importance of **strengthening preventive and anticipatory capacities within destination management systems**.

Historically, many tourism management responses in the Mediterranean have emerged only after visible congestion, environmental degradation or social tensions become difficult to manage. However, increasingly dynamic tourism realities require **earlier forms of intervention** capable of **identifying pressure patterns before they become structurally problematic**.

This preventive logic is especially relevant in destinations currently experiencing tourism growth



trajectories that may generate future management challenges, even where overtourism situations are not yet evident. In this sense, tourism flow management should not be understood exclusively as a corrective mechanism, but also as a tool for safeguarding future destination resilience.

The Action Plan therefore considers the importance of incorporating:

- early warning approaches;
- predictive visitor flow analysis;
- carrying capacity considerations;
- seasonal pressure monitoring;
- tourism pressure indicators linked to environmental and heritage conditions.

This **shift towards preventive management** constitutes one of the most relevant strategic contributions of the project.

Governance as a critical enabling condition

The effectiveness of tourism flow management depends less on the existence of isolated technological solutions than on the **capacity of destinations to establish collaborative governance mechanisms** capable of supporting coordinated responses.

Tourism pressures frequently involve multiple institutions and stakeholders operating with different responsibilities, priorities and data systems. As a result, fragmented governance structures often reduce the capacity to respond effectively to emerging challenges.

Strengthening tourism management capacities therefore requires reinforcing:

- multi-level governance approaches;
- coordination between tourism, heritage, mobility and environmental authorities;
- operational collaboration mechanisms;
- data-sharing frameworks;
- stakeholder participation processes;
- shared decision-making environments.

Within this perspective, governance should not be considered as a parallel dimension to tourism management, but rather as the enabling condition that determines whether destination intelligence and monitoring systems can generate real operational value.

The role of digital tools and scalable infrastructures

The growing availability of interoperable digital infrastructures is creating new opportunities for more integrated tourism management approaches across Mediterranean destinations.



The technologies and tools implemented through TOURISMO illustrate the potential of shared data ecosystems capable of supporting operational, tactical and strategic decision-making processes.

At the same time, the project highlights the importance of **maintaining flexible and scalable approaches** adapted to different levels of destination maturity. The proposed methodologies should not be interpreted as models accessible only to highly digitalised destinations, but rather as **progressive implementation pathways capable of evolving according to local capacities**, governance structures and available resources.

This flexibility is particularly relevant for many Mediterranean destinations characterised by fragmented data ecosystems, limited technical capacity or constrained institutional resources.

A shared Mediterranean challenge

Across the Mediterranean, destinations of very different scales and tourism profiles are facing similar pressures linked to tourism concentration, seasonality, mobility constraints, environmental vulnerability, pressure on heritage and natural assets, and growing complexity in territorial governance and operational management. While these challenges manifest differently across destinations, many of the underlying management needs are increasingly shared.

The diversity of pilot contexts represented within the project demonstrates the need for tourism flow management approaches that are flexible and adaptable to different territorial realities, governance structures and implementation capacities. Transferability should not be understood as the direct replication of identical actions, but rather as the adaptation of common management principles, operational approaches and governance logics to different destination contexts.

The pilot areas should therefore be seen not merely as isolated case studies, but as practical reference settings that can inform future tourism governance models across the Mediterranean region and beyond. Their value lies not only in the local solutions tested, but also in their contribution to **a broader shift towards more adaptive, coordinated and evidence-based approaches to tourism management**.

For the same reason, this Action Plan deliberately prioritises transferable actions, implementation guidance and stakeholder engagement recommendations over fixed budgets, timelines or KPIs, which should be defined according to the specific context, capacities and priorities of each destination.



Annexes

Annex 1 – Preparatory survey for deliverable 2.3.2. (Pilot survey)

As part of **Activity 2.3 – Development of a Best Practice Framework for Certification of Sustainable Tourism Destinations**, we are now preparing **Deliverable D2.3.2 – Action Plan for applying best practices in pilot areas**.

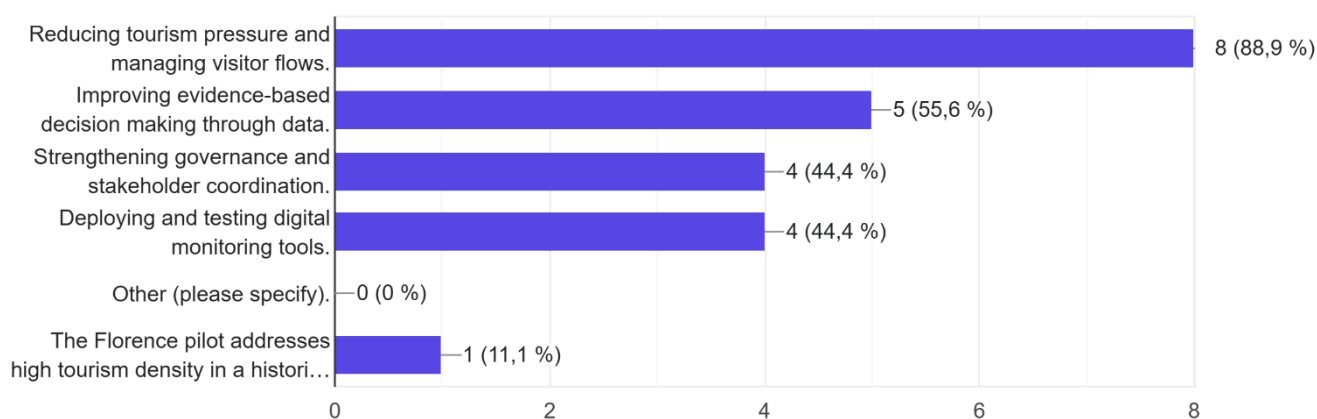
This short survey aims to collect operational input from each pilot area in order to support the development of a practical and implementation-oriented Action Plan.

The purpose of this survey is to:

- Identify concrete and feasible actions that can be implemented within each pilot area, building on the work already carried out in TOURISMO.
- Understand how these actions align with the project's Strategic Areas (Governance, Socio-economic dimension, Heritage and cultural assets, Environmental dimension).
- Assess the potential for transferability and replication of pilot-based actions to other Mediterranean destinations.
- Ensure that Deliverable D2.3.2 reflects the real implementation context, capacities, and priorities of each pilot area.

Your input will help ensure that the Action Plan is practical, realistic, and directly grounded in pilot experience, while also contributing to its wider MED relevance.

*1) Which of the following **dimensions** are most strongly addressed by your pilot within TOURISMO? Please select up to 2 options.*





*2) Please propose at least **2 concrete actions** that could realistically be implemented in your pilot area and included in the Action Plan (feel free to suggest additional actions if relevant).*

For each action, please indicate:

- Action title
- Strategic area (Governance, Socio-economic dimension, Heritage and cultural assets, Environmental dimension)
- Main objective of the action
- Description of the action
- Main stakeholder groups involved
- Indicative timeframe
- Status of the action
- Transferability potential
- Are the monitoring data collected in your pilot relevant for this action?
- Existing or potential funding sources (EU Programmes, National funds, Regional funds, Private sector, Public-private partnerships, Other)

Action title: **Smart Visitor Flow Management System**

Strategic area: Governance / Environmental dimension

Main objective: To reduce tourism pressure in the historic centre through real-time monitoring and predictive management of visitor flows.

Description of the action: The action consists of deploying an integrated digital monitoring system that aggregates data from sensors, mobility platforms, ticketing systems and open data sources. The system will generate real-time dashboards and congestion indicators, with threshold-based alerts for sensitive heritage areas. The outputs will support adaptive municipal decision-making, including temporary access regulation, visitor re-routing and targeted communication measures, while ensuring compliance with data governance requirements and integration into institutional processes.



Main stakeholder groups involved:

- Municipality of Florence
- Tourism management authorities
- Cultural heritage site managers
- Mobility operators (public transport and urban mobility service providers contributing mobility data)
- ICT providers (technology developers responsible for data integration and monitoring infrastructure)
- Local businesses and residents' associations

Indicative timeframe: Short to medium term (12–24 months), including system consolidation, validation of monitoring indicators and progressive scaling to full municipal operational use.

Status of the action: Currently under pilot implementation within TOURISMO; ready for consolidation and transition to full operational implementation.

Transferability potential: High. The methodology (data integration, dashboards, congestion indicators) can be replicated in other MED historic cities facing overtourism, subject to adaptation to local governance structures and data availability.

Relevance of monitoring data collected in the pilot: Data collected within the pilot constitute the core operational basis of the system and are directly relevant for performance monitoring and adaptive management.

Existing or potential funding sources:

- EU Programmes (e.g. INTERREG, Horizon Europe, Digital Europe);
- National and regional innovation funds;
- Public-private partnerships with technology providers.

Action title: **Multi-stakeholder Governance Platform for Sustainable Tourism Management**

Strategic area: Governance / Socio-economic dimension

Main objective: To institutionalise structured stakeholder coordination for sustainable tourism decision-making at city level.

Description of the action: Formalisation of a permanent governance platform building on the Quadruple Helix approach (public authorities, academia, private sector, civil society). The platform will:



- Validate monitoring indicators;
- Co-design mitigation measures;
- Support evidence-based policy adjustments;
- Facilitate dialogue between residents and tourism operators.

The platform will operate through periodic thematic working groups linked to specific Strategic Areas (environmental sustainability, socio-economic balance, heritage preservation).

Main stakeholder groups involved:

- Municipality and metropolitan authorities;
- Universities and research centres;
- Tourism operators and trade associations;
- Cultural institutions;
- Civil society organisations and resident committees (representing local communities; individual citizens participate indirectly via these bodies or public consultations).

Indicative timeframe: Medium term (up to 18 months) for formalisation of the governance structure, adoption of procedural rules and integration into regular municipal decision-making processes.

Status of the action: Partially operational through pilot stakeholder engagement activities; requires formalisation and procedural codification.

Transferability potential: Medium to high. Transferable where local authorities demonstrate institutional capacity and stakeholder commitment. Adaptation required depending on governance culture and administrative structures.

Relevance of monitoring data collected in the pilot: Data are essential to inform deliberation and support evidence-based decisions within the platform.

Existing or potential funding sources:

- Regional governance and innovation funds;
- EU cohesion policy instruments;
- Municipal budget allocations;
- Financing or implementation through Public-Private Partnerships



Action title: **Visitor Diversification Strategy through Data-Driven Communication**

Strategic area: Heritage and cultural assets / Socio-economic dimension

Main objective: To redistribute visitor flows towards lesser-known areas and cultural assets, enhancing local economic balance and reducing pressure on hotspots.

Description of the action: Design and implementation of targeted communication campaigns and digital nudging tools based on real-time congestion indicators. The action includes the development of alternative itineraries, promotion of peripheral cultural sites, and integration with mobility solutions.

Main stakeholder groups involved:

- Tourism promotion agencies;
 - Cultural institutions;
 - Local SMEs;
 - Digital platform providers;
- Tourists (as testers of proposed itineraries and participants in feedback activities).

Indicative timeframe: Short term (6–12 months), covering pilot activation, initial testing of visitor redirection measures, and early monitoring of results.

Status of the action: Conceptual stage, currently supported by pilot data; action requires practical testing and validation before operational deployment.

Transferability potential: High. The approach is applicable to most MED destinations experiencing spatial tourism imbalances and can be adapted to local contexts.

Relevance of monitoring data collected in the pilot: Essential for dynamic visitor redirection strategies.

Existing or potential funding sources:

- EU tourism and digitalisation programmes;
- Regional tourism funds;
- Private sector co-financing.



Action title: **Real-time visitor flow management for the Blue Cave area**

Strategic area Governance / Environmental dimension

Main objective of the action To reduce congestion and waiting times at the Blue Cave while improving visitor safety and management of tourist flows during peak periods.

Description of the action: Introduce a system for monitoring visitor flows in the Blue Cave area using data collected through sensors and the ticketing system. The information would help operators better understand visitor patterns and manage arrivals throughout the day. This would allow improved planning of visits and help prevent overcrowding at the cave entrance, especially during peak tourist months.

Main stakeholder groups involved

- Nautical Centre Komiža (concessionaire)
- Regional and local public authorities
- Tourism operators and transport providers
- Visitors

Indicative timeframe: Short to medium term (1–2 tourist seasons) Status of the action Building on existing pilot activities and monitoring equipment already installed in the area.

Transferability potential High – the approach can be replicated in other coastal or island destinations experiencing visitor congestion at specific attractions.

Are the monitoring data collected in your pilot relevant for this action? Yes. Data on visitor numbers and environmental conditions are essential for understanding visitor flows and supporting real-time management.

Action title: **Visitor redistribution through the Biševo Visitor Centre**

Strategic área: Socio-economic dimension / Governance

Main objective of the action: To reduce pressure on the Blue Cave area and improve visitor experience by distributing tourist flows more evenly across the island.

Description of the action: To develop a visitor management approach that redirects part of the visitors waiting to enter the Blue Cave towards the Biševo Visitor Centre and other local attractions. Visitors would receive information about waiting times and be encouraged to explore alternative activities while waiting for their visit. This could include interpretive content, short walking routes or local tourism offers.



Main stakeholder groups involved

- Town of Komiža
- Town of Vis
- Tourist board of Komiža
- Tourist board of Vis
- Nautical Centre Komiža
- Local tourism businesses
- Local authorities and tourism organisations
- Visitors

Indicative timeframe: Short to medium term (1–2 tourist seasons)

Status of the action: Conceptual stage, to be further developed based on pilot experience and stakeholder discussions.

Transferability potential: Medium to high – similar approaches can be applied in destinations with concentrated visitor pressure at a single attraction.

Are the monitoring data collected in your pilot relevant for this action? Yes. Visitor flow data can help estimate waiting times and support better communication with visitors and redistribution strategies.

Action title: **A Smart Pilot for Sustainable Visitor Management in the Heart of Limassol**

Main objective of the action: Develop and test an integrated, data-driven system for managing visitor flows in the city centre and historic areas, while also considering climate conditions such as high temperatures during peak tourism periods

Description of the action: The action foresees the installation of five smart thermal cameras at key high-traffic locations in the centre of Limassol, where visitor concentration is typically highest. The cameras will anonymously monitor and count pedestrian flows in order to identify visitor density, peak hours, and movement patterns in the area. In addition, the system will record temperature conditions, allowing the analysis of how heat levels interact with visitor presence in public spaces, particularly during the summer season. All collected data will be connected and integrated with the SNAP4CITY platform, which will be used to process, visualize, and analyse the information in real time. Through this platform, the municipality and project partners will be able to monitor visitor flows, identify overcrowding trends, and better understand the relationship between tourism pressure and temperature conditions in the urban environment. The insights generated



through the SNAP4CITY platform will support evidence-based decision-making for sustainable visitor management, enabling the city to plan targeted actions such as visitor redistribution, improved use of public spaces, and climate-responsive measures to improve comfort and safety for both residents and tourists in the heart of Limassol.

Main stakeholder groups involved: Limassol Municipality, SNAP4CITY platform managers and data experts, Local tourism stakeholders

Indicative timeframe: 12 Months

Status of the action: Operating since December 2025

Transferability potential: The proposed action has high transferability potential, as the use of smart thermal cameras and digital platforms to monitor visitor flows and environmental conditions can be easily replicated in other urban tourism destinations.

Are the monitoring data collected in your pilot relevant for this action: Yes. The monitoring data collected in the pilot are relevant, as they provide valuable information on visitor flows, peak hours, and temperature conditions, supporting data-driven sustainable visitor management.

Existing or potential funding sources (EU Programmes, National funds, Regional funds, Private sector, Public-private partnerships, Other): EU Programmes: Interreg Euro-MED, Horizon Europe (Smart Cities and Climate Adaptation), European Regional Development Fund (ERDF), and the Digital Europe Programme. National funds: Funding from relevant national ministries in Cyprus related to tourism, digital innovation, and climate adaptation.

Action title: **Improving Evidence-Based Decision Making through Data for Sustainable Tourism Management in Limassol**

Main objective of the action: The main objective of the action is to support evidence-based decision making for sustainable tourism management in Limassol by collecting and analysing real-time data on visitor flows and environmental conditions. The action aims to provide local authorities with reliable information to better manage tourist pressure, identify peak periods, and improve visitor distribution and comfort in the city centre.

Action title: **Coordination Mechanism for Tour Group Scheduling in the Medieval Town**

Strategic area: Socio-economic dimension

Main objective of the action: To reduce congestion in the Medieval Town of Rhodes by improving the scheduling and distribution of organized tour groups throughout the day.



Description of the action: This action will establish a coordination mechanism between local authorities and tour operators to better distribute group visits within the Medieval Town. Using visitor flow information and peak-hour analysis from the monitoring system, the Municipality and tourism authorities will collaborate with tour operators to:

- Encourage staggered arrival times for organized groups
- Promote the use of different entry gates for group visits • Avoid simultaneous arrival of multiple large tour groups
- Provide recommended time slots for visiting key attractions

The mechanism may include voluntary agreements with tour operators, coordination meetings, and guidance documents for group management. The action aims to reduce crowding in narrow streets and key heritage locations, improving both visitor experience and residents' quality of life.

Main stakeholder groups involved:

- Municipality of Rhodes
- South Aegean Region
- Tour operators and cruise excursion organizers
- Tour guide associations
- Local tourism authorities

Indicative timeframe: 2026–2028

Status of the action: Planned

Transferability potential: High. Tour group scheduling systems are relevant for many heritage destinations with high visitor concentrations.

Are the monitoring data collected in your pilot relevant for this action? Yes. Visitor flow data will help identify peak hours and guide scheduling recommendations.

Existing or potential funding sources:

- Municipal budget
- Regional tourism funds
- Private sector participation (tour operators)



Action title: **Monthly Visitor Flow Monitoring Report for the Medieval Town**

Strategic area: Governance

Main objective of the action: To provide regular and accessible insights on visitor flows in the Medieval Town using data from the digital monitoring system.

Description of the action: This action will establish a monthly visitor flow monitoring report summarizing the data collected from the people-counting sensors installed at the eight gates of the Medieval Town. The report would include:

- Number of visitors entering the Medieval Town per gate
- Daily and hourly flow patterns
- Identification of peak days and peak hours
- Comparison between high season and low season
- Short operational recommendations for visitor management

The reports will be shared with key stakeholders such as the Municipality, heritage authorities, tourism organizations, and local businesses. A simplified public version could also be published online to promote transparency and awareness about tourism pressures. This action will help create a data culture in tourism management and support more coordinated decision-making among local stakeholders.

Main stakeholder groups involved:

- South Aegean Region (Directorate of Sustainable Tourism Development)
- Municipality of Rhodes (Directorate of the Medieval Town)
- Ephorate of Antiquities of the Dodecanese
- Local tourism authorities
- Chambers of commerce and business associations
- Academic partners (data analysis support)

Indicative timeframe: 2026-2028

Status of the action: Planned

Transferability potential: Very high. Any destination implementing digital visitor monitoring can replicate a simple reporting system.

Are the monitoring data collected in your pilot relevant for this action? Yes. The action directly uses the data generated by the radar-based monitoring system.



Existing or potential funding sources:

- Municipal budget
- Regional funds (South Aegean Region)
- EU Programmes (Interreg Europe follow-up activities) • Academic partnerships

Action title: **Accessible cultural and tourist environment**

Strategic area: Socio-economic dimension & Environmental dimension

Main objective of the action: To create the first professionally developed accessible tourist map with routes in Varna for people with mobility disabilities, which will demonstrate that the Varna pilot area / the Varna city is modern, inclusive and oriented towards a quality experience for all visitors.

Description of the action:

- Measuring the actual accessibility of tourist sites (ramps, entrances, slopes, pavements, elevators, etc.)
- documenting the sites with photo and/or video material
- Assessing accessibility: accessible / partially accessible / inaccessible • preparing recommendations for improvements
- Mapping

Main stakeholder groups involved: Tour guides, museum experts and NGO representatives

Indicative timeframe: until June 2026

Status of action: Initiated

Transferability potential: Yes, for other touristic regions with challenges for access by tourists with disabilities

Is the monitoring data collected in your pilot relevant for this action? Yes, there are collected data for two adapted touristic routes for people with mobility disabilities

Existing or potential funding sources: EU Programmes, National funds, regional funds, Private sector, Public-private partnerships, municipal funding.



Action title: **Tourist Satisfaction & Stakeholder Feedback Survey**

Strategic area: Strengthening governance and stakeholder coordination.

Main objective of the action: To systematically gather, analyze, and use insights from tourists and key tourism stakeholders in Varna to inform coordinated decision-making, improve service quality, and align local development priorities with visitor expectations and sector needs.

Description of the action:

- Preparation of online questionnaire in Google accessible via a QR code in Bulgarian and English languages
- Development of a colored, bilingual printed flyers for invitation potential respondents to fill the questionnaire
- Organized campaign for flyers' dissemination (i.e. via Varna Tourist Informational Center, Varna Informational Center for EU funding, during events organized by VEDA and other partners' organizations with relevant auditoria to tourism.
- Processing the results and reporting the findings.

Main stakeholder groups involved: public authorities, NGOs, SMEs in tourism, tourist guides, DMOs, service providers, business supporting organizations, media, informational centers, educational institutions and others, involved with tourism management and development as well as Varna tourists and visitors.

Indicative time frame: The end of 2026

Status of action: Currently in progress

Transferability potential: The Tourist Satisfaction & Stakeholder Feedback Survey model developed for Varna has high transferability potential to other EU coastal and urban tourist destinations because it is:

- Low-cost and scalable – based on digital tools (QR codes, online platforms) that can be easily replicated without significant infrastructure investment.
- Modular and adaptable – survey questions can be adjusted to reflect local tourism profiles (e.g., cruise tourism, cultural heritage, eco-tourism).
- Governance-oriented – designed not only for data collection but for structured stakeholder dialogue and coordinated decision-making.
- Aligned with EU policy priorities – supports evidence-based governance, sustainable tourism, and participatory planning.

The methodology (design → collect → analyze → share → act) can therefore be applied in other coastal regions, contributing to improved coordination and data-driven tourism management



across different contexts.

Is the monitoring data collected in your pilot relevant for this action? Yes, the monitoring data collected in Varna pilot is relevant for this action.

Existing or potential funding sources: Euro-MED, National funds and VEDA own sources.

Action title: **Installation of the intelligent cameras for monitoring the cruise passengers flows and saturation in main touristic sites.**

Action title: **Coordination with all the stakeholders interested in the flow management of cruise tourists in the city**

Action title: **Method of people counting and estimating beach occupancy, and the provision of live data**

Strategic area: Governance

Main objective of the action: Counting of people and traffic at a NATURA 2000 beach, provision of live occupancy data.

Description of the action: Scaling up of beach traffic counting and provision of live occupancy data to other NATURA 2000 beach hotspots.

Main stakeholder groups involved: Mellieha Local Council, Ministry for the Environment, Energy and Public Cleanliness, Malta Tourism Authority, Environment and Resources Authority.

Indicative timeframe: 2 years

Status of the action: Complete Transferability potential: Very transferable.

Are the monitoring data collected in your pilot relevant for this action? Yes

Existing or potential funding sources : EU programmes and National funds.

Action title: **GDPR and people counting at a beach.**

Strategic area: Governance

Main objective of the action: Counting of people and traffic at a NATURA 2000 beach, Management



of GDPR issues

Description of the action: Addressing GDPR in visitor counting efforts.

Main stakeholder groups involved: Mellieha Local Council, Ministry for the Environment, Energy and Public Cleanliness, Malta Tourism Authority, Environment and Resources Authority.

Indicative timeframe: 2 years

Status of the action: Complete

Transferability potential: Very transferable.

Are the monitoring data collected in your pilot relevant for this action? Yes

Existing or potential funding sources : EU programmes and National funds.

Action title: **Expansion of the Environmental Monitoring Network for Heritage Tourism**

Strategic area: Heritage and cultural assets

Main objective: To strengthen monitoring of environmental conditions in heritage buildings affected by tourism activity and support preventive conservation strategies in Valencia City Centre.

Description of the action: Expansion of the environmental monitoring network currently implemented through the TOURISMO pilot in heritage buildings of Valencia's historic centre. Monitoring systems are currently operating in sites such as La Lonja and the Museum of the City of Valencia, while other important heritage spaces already monitored through the Monitoring Heritage System (MHS) include the Almoína Archaeological Centre and the Crypt of Saint Vincent. This action proposes extending the monitoring network to additional high-traffic heritage sites (for example: Valencia Cathedral, Torres Serranos and Torres de Quart). The objective is to obtain a more comprehensive understanding of how tourism affects the indoor environmental conditions and conservation state of heritage buildings, enabling better conservation and visitor management decisions.

Main stakeholder groups involved: Municipality of Valencia (Heritage Service); cultural heritage site managers; conservation professionals; monitoring technology providers; tourism authorities.

Indicative timeframe: Medium term (2–5 years).

Status of the action: Partially implemented / expansion proposed to some building managers.

Transferability potential: Very high: environmental monitoring systems can be applied in heritage destinations across the Mediterranean region.



Are the monitoring data collected in your pilot relevant for this action?: Yes: the TOURISMO pilot provides the technological and methodological basis for expanding the monitoring network. Existing or potential funding sources: EU programmes (Interreg; Horizon Europe); national and regional heritage conservation programmes; municipal heritage budgets; public-private partnerships.

Action title: **Coordinated Smart Ticketing and Time-Slot System for Cultural Attractions**

Strategic area: Governance

Main objective of the action: To optimise visitor distribution across cultural attractions in the historic centre through coordinated ticketing and time-slot management.

Description of the action: Development of a coordinated digital ticketing system connecting several cultural attractions in Valencia's historic centre. The platform would allow visitors to book time slots for multiple sites through a single interface while providing information on visitor density and site capacity. By integrating real-time information about visitor flows, the system could help distribute demand more evenly across attractions and time periods. In the longer term, this platform could support joint ticketing schemes and integrated cultural itineraries across the historic centre.

Main stakeholder groups involved: Municipality of Valencia; Visit València Foundation; cultural heritage site managers; tourism authorities; tourism technology providers; tour operators and tourist guides.

Indicative timeframe: Medium term (3–5 years).

Status of the action: Conceptual / proposed.

Transferability potential: High: coordinated ticketing systems are increasingly used in historic cities and heritage sites facing visitor concentration.

Are the monitoring data collected in your pilot relevant for this action?: Yes: visitor flow monitoring data can support time-slot allocation and capacity management.

Existing or potential funding sources: EU programmes (Interreg; ERDF urban innovation initiatives); regional tourism development funds; municipal tourism budgets; public-private partnerships.



Action title: **Support the development of the ON-VAS smart coordination platform for tourist guides**

Strategic area: Socio-economic dimension

Main objective of the action: To improve coordination between tour operators and tourist guides in order to reduce congestion at cultural sites and optimise visitor management.

Description of the action: Support the development and potential deployment of the ON-VAS digital platform proposed by local guide Alessandro Girardi. The application would allow tour operators and independent tourist guides to visualise planned routes of other companies in advance and better coordinate visits across the historic centre. By improving communication among tourism professionals, the platform could help avoid simultaneous arrivals of multiple tour groups at the same sites and reduce congestion in sensitive heritage locations. The platform could also be complemented with occupancy and environmental monitoring data collected through the TOURISMO pilot, allowing guides to adapt their routes based on real-time occupancy data and ambient conditions inside the main attractions (temperature, humidity, co2, noise). For example, indoor visits could be prioritised during extreme heat periods, while outdoor attractions could be promoted when indoor conditions/levels of occupancy are less favourable.

Main stakeholder groups involved: Tourist guides and tour operators; tourism SMEs; Visit València Foundation; Municipality of Valencia; tourism technology developers.

Indicative timeframe: Short to medium term (1–3 years).

Status of the action: Conceptual / early development stage.

Transferability potential: High: similar coordination tools could benefit many urban destinations with a strong presence of guided tours.

Are the monitoring data collected in your pilot relevant for this action?: Yes: environmental and visitor monitoring data could support real-time route planning by guides.

Existing or potential funding sources: EU programmes (Interreg; tourism innovation programmes); regional tourism development funds; private sector investment; public-private partnerships.

Action title: **AI-based Smart Cultural Route Generator**

Strategic area: Governance

Main objective of the action: To distribute visitor flows more efficiently across cultural attractions in the historic centre while improving visitor experience through personalised digital itineraries.



Description of the action: Development of an AI-based digital tool capable of generating personalised cultural routes across Valencia's historic centre. The system would integrate visitor preferences, opening hours of heritage sites, congestion levels and environmental conditions in order to recommend optimised itineraries. By combining tourism information with real-time monitoring data collected through the TOURISMO pilot, the system could encourage visitors to explore less crowded sites while reducing pressure on highly visited attractions. The tool could be integrated into existing destination apps or tourism platforms managed by the city.

Main stakeholder groups involved: Municipality of Valencia; Visit València Foundation; cultural heritage site managers; tourism technology providers; tourist guides and tour operators; tourism SMEs.

Indicative timeframe: Medium/long term (3-5 years).

Status of the action: Conceptual / inspired by pilot insights.

Transferability potential: Medium/high: similar tools could be applied in many historic Mediterranean destinations facing visitor concentration.

Are the monitoring data collected in your pilot relevant for this action?: Yes: visitor flow and environmental monitoring data collected through the TOURISMO pilot could inform route optimisation.

Existing or potential funding sources: EU programmes (Interreg; Horizon Europe; Digital Europe); regional tourism innovation programmes; public-private partnerships with tourism technology providers.

Action title: **Scaling of "Smart Beach" IoT Network to Critical Natura 2000 Sites** (Network Expansion & National Integration)

Strategic area: Governance (Data-driven decision making), Environmental dimension (Carrying capacity monitoring)

Main objective of the action: To replicate the validated Ramla tal-Mixquqa (Golden Bay) traffic counting setup across other high-pressure coastal sites (e.g., Comino, Għajn Tuffieħa, Ramla l-Ħamra) to create a unified, island-wide system for real-time visitor flow management.

Description of the action: Building on the successful Golden Bay node and Snap4City integration achieved in the pilot, this action involves:

1. Hardware Deployment: Procuring and installing solar-powered AI counting units (pedestrian and vehicle) at identified "chokepoints" in the new target Natura 2000 beaches.



2. Platform Integration: Connecting these new remote sites to the existing centralized dashboard to correlate traffic, weather, and density data across all locations simultaneously.

3. Public Dissemination: Launching a unified "Beach Traffic Light" app/portal that uses this real-time data to warn visitors of overcrowding before they travel, effectively redistributing tourist flows to less congested areas.

Main stakeholder groups involved: o MRDDF (Technical Lead & Coordinator) o Ministry for the Environment, Energy And Public Cleanliness (MEEP) (For inter-ministerial co-ordination) o Malta Tourism Authority (MTA) (For visitor management strategy) o Environment & Resources Authority (ERA) (For permitting in protected N2K sites) o Ministry for Gozo (Specific to Ramla l-Hamra and Comino operations)

Indicative timeframe: 12–18 months (Phased installation: Mainland sites first, followed by Comino/Gozo logistics).

Status of the action: Ready for scaling (Pilot technology validated and operational as of Feb 2025).

Transferability potential: Very High. The "Maltese Node" architecture is already built to accept new data streams without significant new software development.

Are the monitoring data collected in your pilot relevant for this action? Yes. The pilot successfully provides a real-time and historical metric (open access) of people visiting Golden Bay, and notifications to the public via youtube. The trials also defined the "limitations and margins of error" and established the "personal space" calculations (e.g., 6.8 m²/pax) needed to set accurate capacity alerts for the new sites, and initiate stakeholder discussions.

Existing or potential funding sources: o EU Programmes: Interreg Euro-MED (continuation/capitalization), ERDF (digitization of natural assets). o National funds: Smart City Malta initiatives or Tourism Recovery Funds.

Action title: **Qualitative Environmental Screening & Hazard Identification via Digital Twin/CCTV**

Strategic area: Environmental dimension (Primary), Heritage and cultural assets

Main objective of the action: To systematically utilize the high-resolution CCTV and "Digital Twin" imagery to pinpoint, map, and document specific environmental hazards and degradation hotspots (invasive species, waste, safety risks) to guide physical restoration efforts.

Description of the action: This action formalizes the use of the pilot's visual data for "soft" environmental management rather than just counting. It involves a structured review of the video



feeds and aerial imagery to:

1. Identify Infrastructure Hazards: Locate and tag "redundant electricity poles," "wiring," and "dangerous and unsightly objects" currently degrading the dune landscape.
2. Coordinate cleaning services: Monitor cleaning efforts and mass events.
3. Map Invasive Flora: Use the "Aerial imagery and Digital twin" capabilities to identify and geolocate "hidden pockets of *Ailanthus altissima*" (Tree of Heaven) which are otherwise difficult to spot from the ground.
4. Monitor Light Pollution: Analyse night-time CCTV footage to identify sources of "light pollution" that disturb local fauna (e.g., shearwaters/turtles).
5. Track Physical Intrusions: Document frequency and location of "intrusions past the sand dune cordoning" to identify where physical barriers are failing or where new "overgrown access trails" are forming.

Main stakeholder groups involved: o Majjistrat Nature and History Park (To receive the "hazard map" for action). o Ministry for the Environment, Energy And Public Cleanliness (MEEP) (For inter-ministerial co-ordination) o Environment & Resources Authority (ERA) (For enforcement of "environmental permit conditions"). o MRDDF (Data analysts providing the evidence).

Indicative timeframe: Immediate & Continuous. (The pilot has already demonstrated this capability; regular reporting can start immediately).

Status of the action: Operational / Validated. The pilot has already successfully identified specific issues like "feline predation" , "light pollution" , and "traffic bottlenecks" using this method. • Transferability potential: High. Any site with the "Digital Twin" or CCTV infrastructure can adopt this protocol to transform security cameras into environmental monitoring tools.

Are the monitoring data collected in your pilot relevant for this action? Yes, essential. The action relies entirely on the "Image surveillance" , "Aerial imagery" , and "Digital twin" data already being collected.

Existing or potential funding sources: o EU Programmes: Interreg Euro-MED (TOURISMO project budget for monitoring). o National funds: ERA (monitoring compliance fines/funds), Ministry for the Environment.



3) What are the **main lessons** learned from your pilot that **could be useful for other MED destinations**?

- Integrated data ecosystems are a prerequisite for effective visitor management.
- The pilot confirms that combining heterogeneous data sources (mobility data, sensor-based monitoring, ticketing systems, open data) enables real-time situational awareness and supports adaptive governance.
- Evidence-based governance increases legitimacy and stakeholder acceptance.
- When policy measures (e.g. temporary re-routing, access regulation, communication strategies) are grounded in transparent indicators, resistance from operators, residents and other stakeholders is significantly reduced.
- Early stakeholder involvement reduces resistance and increases co-ownership of sustainability measures.
- The Quadruple, and by extension Quintuple, Helix approach enhances policy coherence and improves the feasibility of implementation, particularly in complex historic urban contexts.
- Digital tools must be embedded within institutional processes to ensure long-term operationalisation.
- Technological solutions are effective only when integrated into formal decision-making procedures, supported by clear administrative mandates, and compatible with existing digital infrastructure.
- Tourism pressure management requires a systemic perspective.
- Interventions limited to single hotspots are insufficient; a city-wide or destination-wide analytical framework is necessary to avoid displacement effects and maximise positive spillovers.
- The pilot on Biševno Island showed that reliable data on visitor numbers and environmental conditions can support better decision-making and help manage visitor flows in areas with strong seasonal pressure. It also highlighted the importance of coordination between local authorities, concessionaires and tourism operators.
- Another key lesson is that visitor pressure at a single attraction can be reduced by informing visitors about waiting times and promoting alternative activities nearby. These approaches can be relevant for many Mediterranean destinations facing similar challenges with seasonal overcrowding.
- Data-driven tourism management is essential.
- Smart technologies can support sustainable tourism
- Climate conditions must be considered in visitor management.



- Digital platforms improve decision making.
- Collaboration between stakeholders is important.
- The Rhodes Medieval City pilot demonstrates that digital monitoring tools can significantly improve the understanding and management of visitor flows in historic urban environments. The installation of radar-based people counting systems at the main gates of the Medieval Town has shown that reliable, real-time visitor flow data can be collected in a non-intrusive and GDPR-compliant way, even in sensitive heritage sites. This approach provides valuable insights into peak hours, seasonal trends, and entrance usage patterns, enabling local authorities to better assess tourism pressure and design targeted visitor management measures.
- A key lesson from the pilot is that monitoring access points in historic areas with defined entrances can offer an efficient and relatively low-cost way to collect meaningful tourism data. Another important takeaway is the value of strong collaboration between local authorities, heritage protection bodies, regional agencies, and technical partners, which is essential for the successful implementation and operational use of digital monitoring systems.
- The lessons learned referred to the need of collaboration between all the local stakeholders in tourism in order to achieve the best possible results for the benefit of all the community members and the city sustainable development.
- We need a good knowledge of the potential stakeholders interested in the cruise tourists flows management.
- Ensure that all entity applying the action counts with enough contacts with stakeholders and institutions for informing of the action and achieve the permissions.
- We need a lot of time to obtain all the permits necessary for the installation of equipment in the port and in the city.
- The technology used to measure and monitor flows is not 100% accurate. The entity deploying the technology needs to have the means to overcome with potential uncertainties.
- To be compliant with GDPR rules doesn't allow to get high accuracy in measuring tourist flows.
- The integration of AI edge cameras in a beach setting
- The low-cost solution and reliability.
- How to address GDPR (face-blur, CCTV signage and short data retention periods).
- Various dashboard outputs and different ways of looking at the data



- One of the main lessons learned from the Valencia pilot is the importance of integrating real-time monitoring technologies into heritage management and tourism planning. The use of environmental sensors and visitor counting systems provides valuable evidence for understanding how tourism activity affects both visitor experience and conservation conditions in historic buildings. At the same time, having a platform where these indoor data can be integrated and analysed together with complementary open data sources (such as traffic conditions, parking occupancy, weather data, regional event calendars and other publicly available datasets) allows for a more comprehensive analysis and a more holistic understanding of tourism dynamics.
- Data alone is not sufficient. First, it is essential to have the appropriate tools and expert capacity to analyse the collected data and extract meaningful insights about the situation. Also, effective collaboration between heritage managers, tourism authorities, technology providers and tourism professionals becomes crucial in order to translate monitoring results/analysis into practical management decisions.
- The pilot has also shown that tourist guides and tour operators are (direct) flow managers. Conversations during the local workshops highlighted that guides frequently make real-time decisions on their routes and therefore can become a powerful channel for redistributing visitor flows if they are provided with the right information. This includes not only sensor-based data but also planning information about visitor itineraries and site conditions. In this context, coordination tools such as route planning platforms (e.g. ON-VAS) and clear, trusted dashboards can be really useful.
- Finally, the pilot reinforced that data must be translated into simple, operational rules rather than remaining only in technical reports. Authorities and site managers need clear thresholds and practical guidance, as well as consistent communication mechanisms that can be applied during peak periods.
- Based on the implementation of the Ramla tal-Mixquqa (Golden Bay) pilot, here are the main lessons learned that are highly transferable to other Mediterranean destinations:
- Real-Time Data is Essential for Flow Management
- Static management plans are insufficient for beaches with high variability.
- Traffic Bottlenecks: The pilot captured severe vehicle congestion at the beach entrance, which static parking counts could not fully manage.
- Weather Correlation: Dashboards successfully correlated traffic with weather and UV indices, proving that predictive models are necessary to anticipate peaks rather than just reacting to them.
- Privacy Compliance is Achievable without Sacrificing Accuracy
- The pilot successfully navigated strict EU privacy regulations while maintaining high data quality.



- **GDPR Success:** The system utilized AI with "face-blur protection" and limited data retention (7 days), ensuring no personal data was collected while still providing accurate counts.
- **High Accuracy:** The approach provided accurate counting of pedestrians and vehicles (95%+) , validating that privacy-compliant AI is a viable alternative to manual counting.
- **AI Surveillance is a Diagnostic Tool, Not Just a Counter**
- The pilot demonstrated that IoT and AI systems offer value far beyond simple crowd counting. The continuous monitoring capabilities revealed "invisible" environmental threats that periodic human inspections missed, such as:
 - **Hidden Invasive Species:** The digital twin and aerial imagery identified hidden pockets of *Ailanthus altissima* (Tree of Heaven) that were otherwise difficult to spot.
 - **Nocturnal Disturbances:** Night-time CCTV identified light pollution affecting local fauna and instances of feline predation on protected wildlife.
 - **Erosion Risks:** The system tracked physical intrusions past cordoned dune areas, highlighting specific zones where physical barriers were failing.
- **Basic Infrastructure Influences Satisfaction More Than Crowding**
- Sentiment analysis revealed that while overcrowding is a recognised issue, it is not the primary driver of visitor dissatisfaction.
- **Hygiene is Critical:** The most negative feedback related to structural deficiencies, specifically "poor toilet facilities" (rated -0.83) and the lack of free drinking water.
- **Waste Management:** Visitors were highly sensitive to "microplastic litter" and "cigarette butts," which were frequent complaints.
- **Lesson:** Managing visitor flows must be paired with investment in basic sanitary infrastructure; reducing density alone will not solve satisfaction issues if facilities are degraded.
- **Divergent Tolerance Levels: Residents vs. Tourists**
- The data highlighted a critical risk for the tourism economy: local residents and international tourists react differently to poor conditions.
- **Retention Risk:** Maltese residents expressed a willingness to revisit despite the issues, whereas international tourists stated a lower likelihood of returning to Golden Bay.
- Destinations relying on international visitors are at higher risk of reputational damage from unmanaged beaches, as tourists are less forgiving of poor experiences than locals.



4) What are the **main barriers or limitations** that could affect the **replication of these actions in other contexts**?

- Data availability, interoperability and data protection constraints.
- Not all destinations have access to structured, real-time datasets, interoperable digital infrastructures, or the necessary legal and technical capacity to ensure compliance with data protection regulations.
- Limited administrative and technical capacity: Smaller MED destinations may lack in-house expertise for data analytics and digital governance.
- Fragmented governance frameworks: Overlapping competences between municipal, regional and port authorities may hinder coordinated implementation.
- Financial sustainability beyond project funding: Long-term operationalisation requires stable budget allocations or public-private co-financing mechanisms.
- Political sensitivity of visitor management measures: Regulatory interventions (e.g. access control, visitor redistribution) may encounter resistance in contexts where tourism is perceived primarily as an economic driver.
- One possible barrier is the availability of financial and technical resources needed to install and maintain visitor monitoring systems. In some destinations, limited coordination between stakeholders can also make it harder to implement visitor management measures.
- Weather conditions may also affect implementation, especially in coastal and island areas where strong winds or rough sea conditions can limit access. In addition, ferry connections to islands are often less frequent outside the main tourist season, which can influence visitor flows and the feasibility of certain measures.
- Financial constraints
- Data protection and privacy regulations
- Local infrastructure differences
- Several challenges may affect the replication of these actions in other contexts. These include institutional complexity in heritage areas, limited technical capacity within local administrations, financial constraints for maintaining digital systems, and potential resistance from tourism stakeholders. Moreover, monitoring approaches must be adapted to the specific spatial and governance characteristics of each destination.
- Prevalence of personal or sectoral interest over the community interest as well as the lack of proper communication between different groups of stakeholders.
- Availability of proper installation facilities to install equipment in desired sites to monitor (power and connectivity supply), without affecting the heritage infrastructure.



- Operational changes in target sites may require redeployment of equipment with additional costs.
- Stakeholder disinterest
- Budget limitations
- Increased tourism and population targets.
- Multiple access sites are harder to measure.
- One of the main barriers is the availability of financial and technical resources required to install and maintain monitoring systems or digital platforms. Smaller destinations may face difficulties in funding these technologies or ensuring long-term technical maintenance.
- Another limitation can be the complexity of coordination between multiple stakeholders, including heritage managers, tourism authorities and private sector actors such as tour operators and guides. Successful implementation often requires strong governance structures and clear institutional leadership.
- An important barrier that we have also identify is related to trust and data-sharing culture, particularly with the private sector. Local workshops underlined that guides and agencies may be willing to coordinate routes though an app, but only if the tool is perceived as fair, useful, and not punitive (e.g., not used for enforcement or commercial disadvantage). Data management and integration can also represent a challenge, particularly when combining different data sources or ensuring compatibility between monitoring systems and tourism management platforms.
- Finally, heritage conservation regulations may limit the installation of certain monitoring technologies in protected buildings. Approvals in certain context can take time. In addition, maintenance and operational continuity (sensor calibration, connectivity, data validation, staff time) can be challenging for destinations with limited technical capacity or budget.

Based on the Ramla tal-Mixquqa (Golden Bay) pilot, the following main barriers or limitations could affect the replication of these actions in other contexts:

1. Environmental & Structural Constraints

- **Infrastructure Deficiencies:** A major barrier is the condition of existing facilities. The pilot highlighted that "poor toilet facilities" , "lack of free water stations" , and "poor seawater quality" severely impact visitor satisfaction regardless of digital management. Replicating the monitoring system without fixing these physical deficits limits the effectiveness of the intervention.
- **Site-Specific Hazards:** Replicating the solution in areas with "dangerous and unsightly objects" (e.g., redundant electricity poles, wiring) or "overgrown access trails" requires physical cleanup before digital tools can be effective.
- **Space Limitations:** The "limited space" and "lack of space" at popular beaches create a hard cap



on capacity that monitoring alone cannot solve.

2. Technical & Operational Challenges

- **Connectivity & Power:** Remote or protected sites (like those in the Natura 2000 network) may lack the necessary grid power or reliable internet connectivity required for "real-time monitoring" and data transmission. The pilot utilized specific "Maltese node" architecture which might need adaptation for other regions.
- **Accuracy Margins:** There is a need to identify "limitations and margins of errors for estimates" when scaling to new environments with different topographies or crowd behaviours.
- **Hardware Durability:** Equipment must withstand harsh coastal conditions. The pilot noted issues with "abusive signage" and the need for robust installation to prevent vandalism or degradation.

3. Stakeholder & Social Barriers

- **Visitor Resistance:** While monitoring provides data, "most visitors are not willing to pay an entrance fee" to control overcrowding. This limits the financial sustainability of the system if replication relies on user fees.
- **Diverse Expectations:** There is a discrepancy between local and tourist tolerance. Residents may be "more willing to return despite the issues," while international tourists may be permanently deterred, meaning the "success" of replication depends on the target audience.
- **Conflicting Interests:** Implementing "soft measures" like restricting access or parking requires "stakeholder engagement" and consensus, which can be difficult to achieve among commercial operators, NGOs, and government bodies.

4. Environmental Impact of the Solution

- **Unintended Consequences:** The implementation of infrastructure itself must be carefully managed to avoid creating new problems, such as "light pollution" from security cameras affecting local fauna or "feline predation" attracted by human activity.



5) *Is there any additional aspect relevant for the **implementation** of the Action Plan that you would like to highlight?*

- The Action Plan should adopt a phased implementation logic (pilot testing → validation → institutional consolidation → scaling up), ensuring that each stage is informed by monitoring data and stakeholder feedback.
- Clear and measurable KPIs should be defined for each action and aligned with the project's strategic areas (governance, socio-economic, heritage and cultural assets, environmental dimension) to ensure consistency with the project methodology for identifying and transferring good practices.
- Replication guidelines should explicitly distinguish between minimum enabling conditions (data infrastructure, governance coordination, stakeholder engagement) and context-specific adaptations.
- The Action Plan should highlight coherence with existing regional and macro-regional strategies in the Mediterranean area to maximise policy uptake and sustainability, as well as European S3.
- Technologies and methodologies to be utilised should always be assessed for compliance with the GDPR, the NIS2 Directive and the AI Act.
- A key aspect is the need for continuous cooperation between local authorities, tourism operators and other stakeholders involved in destination management. It is also important that the proposed measures remain flexible and can be adjusted based on monitoring data, visitor behaviour and changing conditions in the destination.
- Continuous use and evaluation of the collected data
- This kind of projects involves several institutions and entities, therefore a good collaboration and engagement among all is required.
- Besides just providing quantitative metrics and forecasts, the Golden Bay project indicates that the qualitative analysis of footage offers other interesting opportunities for environmental and tourist management - bottlenecks, illegalities, trampling, search & rescue, feline preadition.
- Based on the Ramla tal-Mixquqa (Golden Bay) pilot documentation, there are three critical additional aspects that should frame the implementation of your Action Plan. These go beyond the physical actions to address how the strategy must be executed to succeed.
 1. The Shift from Reactive to Predictive Management
 - While the pilot successfully demonstrated real-time monitoring, the dashboards also include a capability for "predictive analysis".



- The "scaling up" phase should not just be about installing more cameras. It should focus on integrating weather and historical data to forecast peaks before they happen. The Action Plan should set a goal to transition from "telling people the beach is full" (reactive) to "warning people the beach will be full on Tuesday" (predictive), which significantly improves visitor experience and reduces traffic chaos.

2. Operational Governance: From "Counting" to "Acting"

The pilot demonstrated that having data is not enough; there must be a designated "owner" responsible for acting on it.

- Installing sensors is a technical task, but managing the beach is a governance task. The Action Plan must identify who is legally and operationally responsible for the final data (e.g., the Local Council, MTA, or a dedicated Beach Management Unit).
- The Shift Required: The system must move from passive observation (generating reports) to proactive intervention. For example, if the dashboard predicts overcrowding, the designated authority must have the mandate and resources to deploy wardens, redirect traffic, or issue alerts before the situation becomes critical. Without a committed "end-user" for the data, the technology remains a passive statistic rather than a management tool.

3. Technology is the Easy Part; Consensus is the Hard Part

The presentation repeatedly emphasises "Soft measures to improve tourist flows requiring stakeholder engagement".

- The data might clearly show that "parking stands obstruct the main entrance" or that "abusive signage" needs removal. However, acting on this data requires navigating complex interests (commercial operators, transport authorities, NGOs). The Action Plan must include a dedicated "Governance & Dialogue" work package to manage the conflicts that the objective data will inevitably expose.

4. The "No-Fee" Financial Constraint

A crucial finding from the pilot's sentiment analysis is that "most visitors are not willing to pay an entrance fee" to control overcrowding.

- You cannot rely on direct user fees (ticket sales) to fund the maintenance of the IoT network or the new facility upgrades. The Action Plan must explicitly model financial sustainability through indirect sources (e.g., eco-tax allocation, concessionaire fees, or continuous EU/National grants) rather than assuming a "user-pays" model will be accepted.



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