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The Spanish Model for Smart Tourism Destination Management

A Methodological Approach

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Methodological Framework of the Spanish Smart Tourism Destinations Model

SEGITTUR and Aurkene Alzua-Sorzabal

Abstract The Spanish Smart Tourism Destinations model (DTI Model) has established itself as an indisputable benchmark in terms of public tourism policies, providing a strategic management tool that integrates the main challenges facing tourism destinations and offers guidelines for dealing with them. It is a model developed from the smart city concept, shifting its focus from the resident to the visitor, incorporating elements that go beyond the technological application, such as governance, technology, innovation, or accessibility. The chapter includes the work carried out over the years in terms of standardization, within the CTN178 Technical Standardization Committee, led by SEGITTUR, and which has allowed the publication of a good number of standards related to the Spanish Smart Tourism Destinations model. SEGITTUR's DTI diagnostic methodology consists of 5 pillars (Governance, Innovation, Technology, Sustainability, and Accessibility), which represent the areas on which destinations must work and improve; these pillars are developed throughout 16 areas of action, explicitated into 97 requirements and 261 indicators, which allow the level of performance of the destination to be measured homogeneously and compared with other destinations. Finally, the chapter includes a mention of the relationship between the Spanish Smart Tourism Destinations model and the SDGs and presents the level of implementation of the Sustainable Development Goals (SDGs) at both national and international level.

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1 Introduction

As explained in the previous chapter, the concept of *Smart Tourism Destination* was coined in Spain in the early 2010s and represents progress toward a technological transition in tourism. The *Spanish Smart Tourism Destination, "DTI Model,"* emerges as an extension of smart city concepts applied to tourism management (Buhalis & Amaranggana, 2013; Lopez de Avila Muñoz & García Sánchez, 2013). The term refers to a destination that adopts and integrates innovative technologies and data-driven approaches to enhance the overall tourism experience, manage resources sustainably, and enhance the destination's competitiveness.

As introduced in the previous chapter, the concept of *Smart Tourism Destination* (hereinafter referred to by its Spanish acronym DTI) used for the first time as an instrument at the service of a national public tourism policy, emerged in 2012 as an initiative of the Spanish Secretary of State for Tourism, through the Sociedad Mercantil Estatal para la Gestión de la Innovación y las Tecnologías Turísticas, S.A.M.P. (SEGITTUR). SEGITTUR is the public company responsible for promoting innovation in the Spanish tourism sector, wholly owned by the Spanish Government, under the aegis of the Ministry of Industry, Energy, and Tourism of the Spanish Government, and ascribed to the Ministry of Industry, Energy, and Tourism in 2012 (MINETUR, 2012).

The initiative comes at a very specific time when the Spanish economy has just entered recession and in 2012. After several quarters of decline, GDP fell by 2.9%. This was a complex economic scenario, strongly conditioned by a series of factors such as the severe external financing crisis; the second relapse of the sovereign debt crisis in the Eurozone; the fiscal adjustment measures imposed in Spain; and the strong contraction of domestic demand, both in private and public spending. Despite this, the tourism sector had not stopped growing and contributed to counteracting the adverse conditions by supporting the good performance of foreign demand, highlighting the good performance of the tourism heading, which closed 2012 with the largest global balance of payments surplus for tourism (INE, 2013).

Tourism showed the capacity to play an essential counter-cyclical role in the economy, partially compensating for the poor performance of other economic macroeconomic variables such as the contraction of domestic demand, the traditional Spanish current account deficit or employment. In addition, Spain ranked fourth among the world's most competitive countries in tourism, according to the Travel & Tourism Competitiveness Report 2013 (World Economic Forum, 2013). In view of this evidence, the Spanish tourism administration identifies the Smart Tourism Destination as an opportunity to give a new boost to Spain's tourism competitiveness (MINETUR, 2012, p. 71). In an environment marked by large doses of uncertainty, the importance of tourist activity is recognized, both from a socio-economic perspective, considering its contribution to GDP, its capacity to generate foreign exchange and its role as a generator of employment and attractor of investment, and from the perspective of the preservation and enhancement of Spain's rich natural and cultural heritage.

The DTI program, a pioneer worldwide, in a few years has become the flagship of a new type of instruments at the service of national, regional, and local tourism policy, not only in Spain but also in other latitudes, in the American and Asian continents. At the regional level, it is necessary to mention the significant work carried out by the *Valencian Institute of Tourism Technologies* (INVAT·TUR) in the Region of Valencia, a Spanish Mediterranean region with a strong tourist tradition, located in the southeast of the peninsula. INVAT··TUR launched its Smart Tourism Destinations project in 2013. INVAT··TUR's important contribution is largely attributable to the scientific leadership provided by the *University Tourism Research Institute* [IUIT] of the University of Alicante. In the rest of Spain, regional initiatives in this field have also been identified, which were later incorporated into the project, such as those that emerged in the Basque Country, through Basquetour (the Basque Country's tourism agency), the Region of Murcia or Extremadura.

The DTI model designed in Spain assumes that a large part of the determinants for the development and progress of a country's tourism territory lie in comparative advantages (which are based on existing resources such as climate, landscape, culture, or distance from the main source countries) and competitive advantages (which refer to the capacity to add value to these resources based on service quality, productivity, connectivity, technology, and innovation), which are exploited and develop their potential on a local level (Porter, 1990; Ritchie & Crouch, 2003). The tourism destination is the space in which tourist activity takes place and develops. It is the place where its capacity to satisfy the needs of visitors is put into play, and where, on the basis of existing resources, those existing productive, social, and institutional factors that will make it more competitive must be effectively and efficiently integrated. The Spanish DTI model is a tool that intervenes directly on the physical spaces in which tourist activity takes place, with the aim of improving the overall quality of life in a destination (SEGITTUR, 2015).

It offers a common roadmap, locally applicable, through which municipalities can move and evolve to become more resilient and sustainable destinations. Although the causal relationship between the development of the Spanish Smart Tourism Destinations model and the country's tourism competitiveness has not been proven, a correlation can be seen in the last decade of DTI development, with the country's tourism competitiveness improving from 2013 to 2019. During this period, Spain rose in the World Economic Forum's global tourism competitiveness ranking, becoming the most competitive country in the world (WEF, 2015, 2017, 2019). In 2021, Spain was the European country with the highest score in the Travel & Tourism Development Index (TTDI). The index introduces a new approach to measuring progress in travel and tourism development by modifying the index to include measures of environmental and socio-cultural sustainability. This holistic approach covers 117 countries.

The DTI model incorporates the universal commitment to the 2030 Agenda for Sustainable Development (United Nations, 2015a) with a focus on economic growth and employment (SDG 8), sustainable production and consumption (SDG 12), and marine life (SDG 14). It is a model committed to the construction of tourism

destinations that take into account environmental protection, local well-being, and human development.

A model designed to accompany destination managers in the search for solutions and alternatives that respond to the challenges of the twenty-first century, in contexts of growing uncertainty.

This chapter provides in the following pages an overview of the main methodological aspects that comprise the DTI model. To this end, the chapter has been structured into eight sections that allow the reader to take a tour of the following aspects:

- In this first section, which corresponds to the introduction to the chapter, the historical context in which the model originated, the foundational bases, and the main actors involved in its definition have been described;
- In the second section, the relationship between the concepts of smart city and destination is analyzed;
- In the third section, the work carried out in terms of standardization is presented, within the framework of the work carried out by the Technical Standardization Committee of AENOR, CTN 178 "Smart Cities," which houses the subcommittee of "Smart Tourism Destinations" [AEN/CTN 178/SC5];
- In the fourth section, the operational definition of DTI is developed, which supports the strategic management methodology of tourism destinations created by SEGITTUR;
- In the fifth section, the DTI methodology itself is described, paying special attention to explaining how the initial diagnosis is made, which serves as the basis for defining the strategic action plan, specific to each destination, to become a DTI destination in the medium term. The transformative capacity of the DTI model will depend to a large extent on the quality of this initial diagnosis since it will reveal the critical areas of action on which destinations must work to achieve compliance with the requirements demanded by the model in its different strategic pillars. This section consists of seven subsections:
  - In the first subsection, the objectives pursued by the DTI methodology are addressed;
  - The second subsection analyzes the ongoing nature of a model that has been shaped over the years by the interaction with the destinations that participate in it, and the current context (post-pandemic, climatic, technological, etc.). A process through which the model has been calibrated to arrive at the current methodological version presented in this manual;
  - In the third subsection, the phases that destinations must go through when they adopt the DTI strategic management model are presented;
  - In the fourth section, the strategic pillars on which the model is structured are introduced;
  - In the fifth subsection, the areas of action defined for each of the pillars are discussed in more detail;
  - In the sixth subsection, the results of the DTI model and the calculations that support it are assessed;

  - The seventh and final subsection deals with the different territorial levels to which the model can be applied: tourism destinations that sometimes exceed the administrative limits of the municipality and reach larger territories that group small municipalities under larger administrative names, called in the case of Spain associations of municipalities, counties, islands, provinces, etc.

- The sixth section considers the relationship between the Spanish DTI methodology and its relationship and alignment with the Sustainable Development Goals set out by the United Nations, enabling destinations to meet many of them at the same time as they turn into DTIs;
- The seventh section attempts to highlight the high level of acceptance of the DTI model in Spain by presenting its level of implementation at the national level;
- Finally, the chapter concludes with a last eighth section, which introduces how the DTI methodology is being exported to contexts other than Europe, having been adopted in several Latin American countries, revealing a high potential for future use and transfer. Additional information on this issue is provided in chapter "The Spanish Smart Tourism Destination Network: A Nudge to Boost the Adoption of National Tourism Policies" of the present manual.

2 From the Smart City to the Smart Destination

As anticipated in the previous chapter, the Smart Tourism Destination is influenced by the concept of the smart city or digital city, taking as a starting point the importance of information and communication technologies in urban environments to provide efficient and unassisted public services to residents of cities with growing problems of saturation, environmental pollution, mobility, cleanliness, insecurity, coexistence, etc. The International Telecommunication Union (ITU) defines the smart and sustainable city as "*a smart sustainable city is an innovative city that uses information and communication technologies (ICTs) and other means to improve quality of life, efficiency of urban operation and services, and competitiveness, while ensuring that it meets the needs of present and future generations with respect to economic, social, environmental as well as cultural aspects*" (ITU, 2021).

However, based on this idea of a digital city, the DTI model develops its own conceptualization, expanding the geographical limits on which it operates, incorporating the visitor as a priority object of attention, without neglecting the resident, and placing technology at the service of the different spheres of action, represented by the other pillars of the DTI model: governance, sustainability, innovation, and accessibility of the destination (AENOR, 2014). In opposition to the city, the destination may or may not correspond exactly to the strict delimitation established by the municipal administrative political division. A tourism destination does not require a minimum number of people to live in it, with many examples of tourism destinations that are built around a certain natural, scenic, or cultural resource that presents a unique shape, such as a beach, a mountain, a valley of cherry trees, or a

Romanesque monastery. A destination can also be made up of a group of municipalities that make up a county, a valley, a certain coastline or that are located on the same island (Borja-Solé et al., 2002; Manente, 2008).

The difference between smart cities and destinations goes beyond their geographical, administrative, or human borders, as discussed by John Mora Williams at the box below. The focus in a smart city is on the provision of public services to citizens who receive the digitalization strategies promoted by public administrations. On the other hand, a smart destination focuses on visitors, tourists, or excursionists who have moved outside their usual residence environments for different reasons, for a specific period to enjoy various tourist services. They can spend the night or not and interact with public and private services at the destination.

2.1 Smart Cities and Smart Tourism

In the current context, cities are undergoing an unprecedented transformation aimed at improving the quality of life of their residents. To a large extent, this process of change has been achieved thanks to the technological modernisation of infrastructures, equipment and public services. The movement of "smart cities" has accelerated the adoption of digital technologies as a key factor in this development, and this has made it possible to improve transport mobility, health services, water and energy supplies, education and leisure.

Although cities and tourism destinations are related, they present different challenges. Cities are larger urban entities that host a wide variety of economic, social and cultural activities, while tourism destinations focus on attracting visitors and offering tourist experiences in an increasingly complex and competitive market.

The cities of the future are reinventing themselves to be more sustainable and efficient in their use of resources. Tourism can play a key role, since it generates income and jobs for local businesses, and provides resources to public administrations to manage infrastructure and public services. Nevertheless, we must address the challenges associated with tourism, such as proper management of natural and cultural resources, while ensuring a positive impact on local residents.

It is at this point where digital technologies, in a broad sense, and the DTI model, in particular, come into play as facilitators of change and instruments of the destination management entity. Artificial intelligence, the Internet of Things, big data and other emerging technologies can improve the tourist experience, destination management and efficiency in service provision, and enable the personalisation of the experiences of both residents and tourists, the optimisation of resources and informed decision-making. And the DTI model establishes, in its technology and innovation axes, a reference framework and a set of keys to carry out technological implementation in the destination against an environment of technical collaboration between public and private agents, essential to align objectives, plan and add resources, and implement and manage successful tourism projects for the city and its residents.

We are currently facing a digital industry committed to tourism, innovating and deploying solutions to solve the challenges that arise. Tourism can and must become a key element in the development of tomorrow's cities. Approaching the Smart Destination model from the perspective of a smart city is the best formula to accelerate the path towards the cities of the future.

John Mora Williams
VP of Smart Cities and Smart Tourism Commission
AMETIC

Regardless of the in-depth dissimilarities, it is important to briefly examine the characteristics that distinguish a smart city from a smart destination and identify the points of intersection between the two. Cities have become the epitome of the rapid urbanization of society. This trend without geographical borders shows no signs of slowing down. According to the latest United Nations reports, by 2050, 70% of the world's population, 6.3 billion people, will live in urban areas (UN, 2015b). In Spain, more than half of the population, 53%, already resides in areas with more than 50,000 inhabitants, adding up to 151 municipalities whose combined population exceeds 25.1 million people (INE, 2022).

This new reality implies multidimensional changes due to the lack of sustainability of the dominant urban model, from the environmental, social, and economic point of view (Celdrán-Bernabeu et al., 2018). However, the interaction with Information and Communication Technologies (ICTs) allows new approaches to urban planning and management such as the one offered by smart cities (Caragliu et al., 2009).

In the book "*Triumph of the City*" (Glaeser, 2011), it is stressed that the success of cities is largely due to three virtues of pre- and post-industrial cities: competence, communication, and human capital. As far as the latter factors are concerned, the author highlights the advantages of face-to-face contact and the conception of the city as a set of interconnected people, so that we should not identify the city exclusively with its buildings, its architecture, or its infrastructures. An interesting aspect is the importance of contact in the configuration of the city, which also shares the conception of the destination as a place where residents and visitors can interact, facilitating the transmission of knowledge and the creation of experiences.

The European Parliament in its study "*Mapping Smart Cities in the EU*" (European Parliament, 2014) points out that smart cities can be classified along six main dimensions: smart governance, smart economy, smart mobility, smart environment, smart people, and smart life. According to some authors, a city could be defined as "*smart*" when investments in human and social capital and in transport and ICT infrastructure contribute to sustainable economic development and improve quality of life, with rational management of natural resources, through participatory government (Villarejo, 2015).

In general terms, all smart city definitions have as a common element the use of technology as a facilitator for improving sustainability and greater efficiency of public services. The concept has been transitioning from its origins, where the technological dimension and the efficient use of municipal resources predominated almost exclusively, toward a broader concept of urban management with a holistic view of the city, considered as a complex and multidimensional functional system, which takes into consideration the role of citizens in decision-making with political and economic actors (AENOR, 2014, p. 15; Fernández Güell, 2015, p. 22).

In recent years, the literature on smart cities calls for a more complex and inclusive vision of smart cities, emphasizing citizen participation and public–private collaboration. The most avant-garde approaches to the conceptualization of smart cities are similar to those developed within the Smart Tourism Destination framework, with a vision that goes far beyond the mere incorporation of technological tools or

the development of digital capabilities. Digitalizing a destination does not automatically make it smart. This is a new understanding of tourism management that can provide new competitive advantages to destinations by adopting a "*smart*" approach (Shafiee et al., 2019; Wang et al., 2016).

In short, the Smart Tourism Destination seeks to transform current tourism management in accordance with the technological possibilities and the ability of tourism agents to act. It is about relying on the Research, Development, and Innovation (R&D&I) system with an open innovation approach that fosters collaboration, transference, and co-creation among destination stakeholders to bring more knowledge and value to the tourism system (Iglesias-Sánchez et al., 2019). Therefore, the shift toward Smart Destinations will require time, strategy, planning, and resources that will allow for the acquisition of new public and private capacities (Ivars, 2014).

The Smart Destination concept, which appears for the first time as a public policy instrument integrated into a national tourism strategy in Spain, also emerges under the umbrella of the smart cities policy and the influence of the *Digital Agenda* for Spain, in which the following six specific objectives were established: (1) Developing the digital economy; (2) Promoting digital inclusion and employability; (3) Improving e-administration; (4) Fostering the deployment of networks and services; (5) Promoting the ICT R&D&I system; (6) Strengthening confidence in the digital field; and the different action plans and public aid that developed it from 2013 onward, especially the *National Smart Cities Plan*.

Undoubtedly, the *National Smart Cities Plan* (Ministry of Economic Affairs and Digital Transformation, 2015), and subsequently, the *Spanish Urban Agenda* itself (Council of Ministers, 2019), marked a before and after in the way public policies at national level focused on cities as priority intervention sites for their programs, having become aware that Spain is one of the countries in the European Union with the highest percentage of urban population, 80% of our population, and with the aim of making our cities friendly, welcoming, healthy, and aware areas of coexistence (EURDYCE, 2022).

In 2017, the *National Plan for Smart Territories* continued the above-mentioned plan in which specific calls for Smart Tourism Destinations, Internal City Objects, and pilot projects based on 5G technologies were integrated, which have been launched in Spain over the years. It was about implementing cross-cutting policies that would make it possible to "join up" the areas of tourism, the digital agenda, and the urban agenda.

In parallel to the design and implementation of the above-mentioned plans, since 2012, intense work has been carried out to promote standardization, fostering the creation of definitions and standards in the different areas of the smart city, in an attempt to organize and structure a still emergent market of technologies related to it. As part of this process, a specific line of work is being led by SEGITTUR to develop a wide range of standards related to the Smart Tourism Destination.

Without a doubt, one of the areas in which this close relationship between the smart city and the Smart Tourism Destination is most evident is in the field of standardization. Next, in Sect. 3 of this chapter, a detailed vision of the intense regulatory work carried out in Spain in terms of Smart Destinations is presented under the

umbrella of the Technical Standardization Committee AEN/CTN 178 on smart cities, and which complement the Smart Tourism Destinations model from the field of standardization.

3 Standardization Work: The CTN 178

The starting point for the standardization work related to the DTI model was, at the initiative of the Secretary of State for Telecommunications and the Information Society (SETSI), the creation in December 2012 of the Technical Standardization Committee CTN 178 (CTN178), "*Smart Cities*" within the Spanish Association for Standardization (UNE), chaired by SEGITTUR.

This Committee, with the participation of more than 700 experts representing all public and private stakeholders, aims to develop technical standards to guide the development of smart cities. The Committee is structured in seven subcommittees (Infrastructures and City Platforms; Indicators and Semantics; Mobility and Transport Platforms; Sustainability; Tourism Destinations; Spatial Planning and Public Services; Local Entities Certification) and integrates in its 25 working groups specialized members from more than 230 entities (UNE, 2021).

Based on this work, AENOR (2014, p. 15) agrees upon and establishes its own definition within the CTN178: "A smart city is the holistic vision of a city that applies ICTs for the improvement of the quality of life and accessibility of its inhabitants and ensures a sustainable economic, social and environmental development in constant improvement. A smart city allows citizens to interact with it in a multidisciplinary way and adapts in real time to their needs, in a quality and cost efficient way. It offers open data, citizen-oriented solutions and services, both in public and private spheres, in order to solve the impacts of cities' growth through the innovative integration of infrastructures with smart management systems."

Following the definition of smart city agreed on by the Technical Standardization Committee CTN 178 on Smart Cities, the four main factors that define a smart city are the following:

- ICTs: This very cross-cutting element enables smart management of the city's services, infrastructures, and heritage, aside from being one of the cornerstones for innovation. Taking into account that ICTs are not an end in themselves, they appear as the nervous system of the smart city organism, promoting good governance. This implies that the political and administrative authorities define clear objectives in relation to their use and that ICTs guide the different actors within the Government.
- Efficiency: Smart cities are also called efficient cities, linking "*smart*" with efficiency. Efficiency extends to all the services and functionalities that underpin all the city's management areas: mobility, urban planning, services, education, economy, health, environment, etc., and, of course, governability. To achieve this, public sector managers must align themselves with businesses and citizens

and promote e-government (facilitating procedures, such as online payment of taxes and fees, access to municipal regulations, public job offers, etc.), the digitalization of information, the connectivity of their territory, and the integration and interoperability of digital services.

- Sustainable development: The efficient management of the resources of a smart city must satisfy the economic, labor, social, and aesthetic needs of its residents, as well as respect the cultural integrity, the environment, and the biological diversity of the territory. Only then can we speak of the necessary sustainable development of a smart city aligned with the frequently cited definition of sustainable development included in the report "Our Common Future" published by the Brundtland Commission in 1987 "development that meets the needs of the present without compromising the ability to future generations to satisfy their own needs" (United Nations General Assembly, 1987, p. 43).
- Infrastructure integration: The integration of a city's critical infrastructures, such as energy, telecommunications, water supply, transport, waste management, security, or health, is essential to achieve better governance and, therefore, greater citizen satisfaction. Thanks to connectivity, efficient use of ITCs, sensorization and data storage and management tools, managers receive information in real time, allowing them to be informed, with maximum immediacy, of any incident affecting the city's basic services and to react in advance and with precision.

Taking this approach to the smart city concept as a starting point, the *National Smart Cities Plan* recognized the important role of standards as an accelerator in the development of smart cities, by publishing regulatory documents with technical requirements for better smart city management. Thanks to the intense work carried out during those years, Spain is one of the European leaders in this field, along with France, Germany, Austria, Denmark, Finland, and the United Kingdom (Orejón-Sánchez et al., 2022).

Based on the work carried out by CTN178, in 2013 it was decided to create the Subcommittee on Smart Tourism Destinations (CTN 178/SC5), made up of 180 members from all levels of public administration, institutions, universities and research centers, companies, and independent experts. This committee is responsible for promoting the drafting of new regulatory documents that foster the development and promotion of Smart Tourism Destinations. As a result of this action, the smart tourism destination concept is defined as "*a destination that is capable of making intensive use of the technological infrastructures offered by the smart city to improve and personalize the visitor's tourist experience, offer them the tourist products and services available, but also make available data that is produced, directed and processed through the technological infrastructure of the destination, offering services in real time*".

Since the creation of the CTN178/SC5, and to date, several regulations have been developed and published in Spain to improve the management and tools of Smart Tourism Destinations, in search of a uniform framework for the development of DTIs aligned with the process of creating smart cities. Bearing in mind that a

regulatory document and a diagnosis are instruments that respond to different objectives, these public norms make it possible to standardize some aspects of the DTI whose scope is included in this manual. As a result of the work carried out by CTN178/SC5, the family of "*DTI standards*" published to date is listed below:

- Standard UNE 178501 "*Management system of smart tourism destinations. Requirements*": This standard specifies the requirements for establishing, implementing, maintaining, and improving a Smart Tourism Destination Management System that adequately addresses governance, innovation, the use of technologies, universal accessibility, and sustainability in such a destination. It is applicable to all types of tourism destinations, regardless of their nature (holiday, urban, rural, etc.), size (municipal or supra-municipal), and the nature of the managing body.
- Standard UNE 178502 "*Indicators and tools for Smart Tourism Destinations.*" This standard specifies a set of indicators and tools associated with governance and the pillars of a Smart Tourism Destination (governance, innovation, technology, universal accessibility, and sustainability) that must be applied to its management, so that the destination's managing body and those responsible for the processes or activities affected can use them efficiently to make decisions and, consequently, can contribute to the improvement of the destinations.
- Standard UNE 178503 *"Destinos Turísticos Inteligentes. Semantics applied to tourism."* This standard defines a semantic base that allows the representation of the relevant information that makes up the tourism destination (tourism destination, tourist resources within the destination, travel experiences), to guarantee, through the use of its tourist platforms, interoperability between the city, the territory, and third-party projects.
- Standard UNE 178504 "*Digital smart hotel (HDIC) connected to smart tourism destination or smart city platforms. Requirements and recommendations"*: This standard sets out the requirements and recommendations for converting an accommodation into a smart digital hotel connected to the tourism destination or smart city in order to share relevant information for the tourism system, improve the planning of both the accommodation and the tourism destination, adapt to the needs of tourists, reduce the negative impact on residents and offer more efficient and personalized services.
- Standard UNE 178505 *"Framework for the creation of tourism destination websites"*: This standard specifies a method that includes a set of processes, procedures, and guidelines for the creation and design of a tourist promotion website for a destination, providing tourism with a structure that makes it easier for developers to work (development and maintenance). This methodology allows all stakeholders to take full advantage of current technological potential and makes it easier for tourists who use destination tourist promotion websites to access relevant information in an orderly, intuitive, and agile manner throughout all phases of the tourist journey cycle.
- Standard UNE 178506 *"Methodology for the optimisation of search engine positioning (SEO) of tourism destination websites"*: This standard establishes a

series of good practices for all those websites that promote tourism destinations, in order to optimize their crawling, indexing, positioning, user experience, and the performance of organic traffic in search engines.

- Standard UNE 178507 *"Applications of Wi-Fi connection on beaches"*: This standard sets out the general considerations that make it possible to specify the features that a Wi-Fi service must have in a destination's beach area in order to be in accordance with the purpose for which they are intended, as well as to obtain data for the destination's managing body to improve its decision-making process.
- Standard UNE 178508 *"Tourism Destination applications (apps) model for mobile devices"*: This standard establishes a set of requirements and recommendations about the general characteristics, development, design, and content of mobile apps for tourism destinations. This standard includes aspects on data management and the functionalities of the apps, so that they adopt an inclusive vision and take advantage of the technical and ergonomic characteristics that differentiate them from the rest of the elements of the destination platforms.
- Standard UNE 178511 *"Guide for the implementation of the Smart Destination Platform layer model"*: This guide serves as a benchmark for tourism destinations (cities and councils) to steer the acquisition of ICT services toward an interoperable and open online digital platform with the scope of the so-called smart destination platform; and which is compatible, in future developments, with other domains of action related to smart city or territory services (water management, energy, waste, security, etc.).

Additionally, and still as draft standards, two new standards are under development: the Standard UNE 178509 on the "*Model for the collection, exploitation and analysis of tourist data*" and the Draft Standard UNE 178510 on "*Smart Tourism Company.*"

Work related to standardization, for the development and promotion of new standards related to the field of Smart Tourism Destinations and their technological infrastructures, has been a constant feature of the work carried out by SEGITTUR over the years. However, this work has been carried out within the framework of groups of experts in close collaboration with the Spanish Association for Standardization (UNE) and in continuous interaction with the ecosystem of actors and agencies, organizations, associations and companies, both public or private, relevant in terms of existing tourism certifications in Spain, as well as the promotion of these at an international level (see the text box below).

3.1 Standards to Promote the Development of Smart Tourism Destinations

The excellent collaboration between the Spanish Association for Standardisation (UNE) and SEGITTUR has resulted in a total of 40 UNE Standards that promote the development of Smart Cities, eleven of which fall within the specific field of Smart Tourist Destinations.

Prepared by consensus in an open and transparent process, the UNE Standards are tools that support the double digital and sustainable transition of destinations and guide their

managers with the best practices in issues such as governance (UNE 178501), the measurement of progress (UNE 178502), semantics (UNE 178503), the connection between hotels and the destination (UNE 178504), the creation of websites and their positioning (UNE 178505 and UNE 178506), Wi-Fi connection applications on beaches (UNE 178507), destination mobile applications (UNE 178508), the collection, use and analysis of tourist data (UNE 178509), the integration of the intelligent tourism company in the DTI ecosystem (PNE 178510) and the layer model of the Intelligent Destination Platform (UNE 178511).

To export this model to other countries and consolidate Spanish leadership in terms of innovation and tourism quality, the UNE-SEGITTUR collaboration has taken another step forward, raising these standards to the international sphere, leading this process through of the ISO/TC 228 Tourism Committee and related services.

Javier García,
General Manager of UNE and Technical Vice President of ISO.

Finally, it is important to point out that there is a will to raise three national standards to ISO (International Organization for Standardization): UNE 178501, UNE 178502, and UNE 178503 (in the case of the latter semantics standard, the *ISO/TC 228 WG 21 Semantics in tourism destinations has already been set up*). This is the first step to begin the work of transforming a national standard into an international one.

The standardization work linked to the DTI model that was undertaken at the end of 2012, and the discussions held in the different working groups, allowed for laying the foundations for SEGITTUR's subsequent formalization of the Smart Tourism Destination concept, and which is presented in the following Sect. 4 dedicated to the concept of DTI.

4 The Concept of Smart Tourism Destination

In September 2015, also within the scope of the work related to the development of the *National Smart Cities Plan*, at the initiative of the Spanish Secretary of State for Tourism and the Spanish Secretary of State for Telecommunications and the Information Society, through SEGITTUR, the "*Smart destinations report: building the future*" was published as a white paper on smart destinations. This report introduced the Smart Tourism Destinations program as a public instrument at the service of improving the competitiveness of tourism destinations, a document which would lay the foundations for the new model.

As defined by the above-mentioned report, a Smart Tourism Destination is "an innovative tourism destination based on a state-of-the-art technological infrastructure which guarantees the sustainable development of universally accessible tourist areas, enabling visitors to integrate and interact with their surroundings, raising the quality of their experience at the destination, and improving residents' quality of life" (SEGITTUR, 2015).

From that initial definition, the work carried out in these years by SEGITTUR has made it possible to highlight, once again, the key role played by the leadership of public management at the local level to promote sustainable and smart development of tourist activity. The Smart Tourism Destinations program provides a valuable tool for this leadership by first identifying and prioritizing the main challenges

of a destination, and then guiding and directing the decision-making and resource allocation of its managers.

This program is designed as a process of continuous improvement designed to enable destinations to successfully face the challenges and constant transformations posed by the global economic, social, and technological environment. It is an initiative to promote the transformation of territories with the aim of favoring the transition to a new, more innovative, digital, and sustainable model. This process culminates with the distinction as a Smart Tourism Destination after applying the planning and management methodology developed by SEGITTUR, which provides a homogeneous framework with which to promote and steer the sustainable and digital transformation of destinations and innovate in their management.

The DTI model arising from academic advances in the theories of tourism destination development and competitiveness (Crouch & Ritchie, 2003; WEF, 2008, 2009, 2011, 2013) defines tourism system management as a complex system that affects the social and economic activity of the entire territory in which it operates, made up of different sectors and actors (public and private), which are directly or indirectly related, until they form a complete and interrelated ecosystem at the service of tourism. Therefore, the creation of a DTI inevitably transcends the field of tourism management in the strict sense of the word. This is a qualitative and quantitative leap over traditional tourism management.

According to this definition, the Spanish Smart Tourism Destination model, at the national level, is based on five pillars: governance, sustainability, technology, innovation, and accessibility. Its implementation requires the joint action of the private sector, public administrations, academies, and organizations at the service of research and knowledge management.

The definition of the DTI concept necessarily implies talking about the DTI methodology promoted by SEGITTUR in destinations, whose core objectives, aligned with the *General Guidelines for the Spanish Sustainable Tourism Strategy 2030*, are as follows:

- Improving the governance of tourism destinations.
- Fostering the economic, social, and environmental sustainability of tourism.
- Promoting the digital transformation of tourism companies and destinations.
- Promoting accessible tourism for all.
- Improving the tourist experience (related to universal accessibility but also to the higher quality of the experience at the destination, thanks to digitalization and sustainability).

The DTI concept aims to promote the transformation of the traditional tourism model into a smarter model, which also means more responsible, aligned with the principles of the new knowledge society and digital economy, but without neglecting sustainability, innovation, and accessibility in the process. This transformation will represent the revaluation of that destination through innovation and technology, leading to:

- Increased competitiveness, thanks to a better use of existing tourism resources, and the identification and creation of new ones.

- An improvement in the efficiency of production and marketing processes.
- A boost to the sustainable development of the destination in its four areas: environmental, economic, socio-cultural, and institutional.
- An improvement of the visitor experience and the residents' quality of life.
- Making the tourism strategy the basis for the economic dynamization of the territory, guaranteeing its positive impacts in the long term.
- Getting a distinctive seal that guarantees commitment to the DTI's five structural pillars.
- Being part of a project at national level, with international projection and promotion, and allowing destinations to benefit from the synergies produced by working in a network.
- Becoming a member of the Smart Tourism Destinations Network and benefiting from its advantages, sharing experiences and resources with other members, and taking advantage of the visibility and projection that this network offers.

The World Tourism Organization itself has recognized that "Smart Tourism Destinations are key to sustainable development and contribute not only to improvements for the tourism sector, but also for society as a whole" and that "the use of technological solutions proposed by the smart destination model helps to improve the process of informed decision-making, prioritization of measures and anticipation of future scenarios, which is essential for the responsible management of tourism and its impact." In short, this is what the UNWTO itself has included as a priority in its new work program: "make tourism smarter" (UNWTO, 2017).

Undoubtedly, the pandemic caused by COVID-19 worldwide, and its particular impact on tourism, has allowed to test the usefulness and validity of the DTI concept, before, during, and after the pandemic. The usefulness of a methodology that allows destinations to face environments of growing uncertainty such as the current ones, in which the diversity of elements they have to consider is very large, and where disruption can come from areas outside the tourism industry itself, such as in the case of the pandemic, has thus been demonstrated as highlighted a representer of the Spanish Federation of Municipalities and Provinces of Municipalities and Provinces (FEMP) at the box below.

4.1 The DTI Network: An Opportunity for Municipalities to Improve Their Resilience When Facing Potential Crisis

Tourism continues to be a strategic pillar for the Spanish economy and, fortunately, the data continues to be very positive. For a large number of Spanish local entities, tourism is a basic sector. In many, it is the activity that generates the most employment and income and represents a very important part of their GDP. For the tourism sector, municipalities are also essential, since they are the setting for the tourist experience and where tourists stay, enjoy, socialise with the residents and demand a series of services that local entities are responsible for facilitating.

We are seeing a paradigm shift partly created by the digital transformation of the economy, and the tourism sector must not remain outside this trend. For this reason, local cor-

porations are firmly committed to programmes and tools that allow them to continue improving management, mobility, urban planning, service quality, education, the environment and, in short, to achieve greater territorial governance.

Those responsible for public management have to collaborate and cooperate with the business and social fabric, and with the rest of the institutions to achieve these objectives. Only if we all work together will we be able to be more efficient and face all the challenges and latent issues such as seasonality, load capacity, security, and a long etcetera, to maintain the competitiveness that has made Spain the long-standing world leader in this sector. For this reason, we believe it is important to have the Smart Destination network in Spain.

Tourism has been one of the sectors most affected by the effects of the pandemic and is now one of the drivers of economic reactivation and an important bastion for the recovery of employment. Both the work done since the network was created, and the calls for the digital transformation and modernisation of the local entities in the DTI Network are an opportunity for municipalities to advance in their transformation and modernisation, with a triple goal based on environmental, socio-economic and territorial sustainability through digitalisation.

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Among the structural barriers that have been identified in the application of the DTI model, some can be mentioned, such as the lack of a defined tourism strategy, the inability to adapt to changes, the short-term view of tourism policy, insufficient coordination between departments, and the deficit of economic resources (Ivars-Baidal et al., 2017). Although the development of the *"smart"* paradigm in tourism destinations is not a simple task, mainly due to the complexity involved in its effective implementation, the DTI model is an unprecedented advance and support for the management of tourism destinations.

Based on this methodology, the starting point is defined as the DTI Diagnosis, the cornerstone around which the Smart Tourism Destination methodology is applied, developed, and built.

After analyzing the Smart Tourism Destination concept, its international recognition and relevance in the current context, Sect. 5 introduces the core of this chapter: the DTI methodology, its evolution over time, cycles and phases, areas, requirements, and indicators that are subject to assessment, and finally, the particular approach that has been made to the supra-municipal level.

5 The DTI Model Implementation Methodology

This section offers the reader the possibility to go deeper into the DTI model implementation methodology, a central section not only of this chapter but also of the manual as a whole. The DTI model implementation methodology and the five strategic areas around which it is structured are described: governance, sustainability,

Table 1 Structure of this section dedicated to the Smart Tourism Destination methodology

5.1 The objectives of the DTI methodology
5.2 The evolutionary nature of the DTI methodology
5.3 The DTI model implementation phases
5.3.1 First cycle: Diagnosis and planning
5.3.2 Second cycle: Execution and monitoring
5.3.3 Acknowledgment of membership and DTI distinction
5.4 The strategic pillars of the Smart Tourism Destination model
5.5 Areas of action of the DTI model
5.5.1 Governance pillar
5.5.2 Innovation pillar
5.5.3 Technology pillar
5.5.4 Sustainability pillar
5.5.5 Accessibility pillar
5.6 Assessment of results in the DTI model
5.7 The different territorial scales of application of the DTI model

technology, innovation, and accessibility. Each one of those five areas will be analyzed in detail later in the respective chapters of section II of the manual, and with regard to good practices related to each of them in section III.

In order to facilitate the reading of this Sect. 5, given its length and wide scope, its structure has been anticipated in Table 1, presented below, where the reader may see the structure of each of the sections and subsections. As shown, Sect. 5 contains seven subsections, and two of them, the section on DTI model implementation phases (5.3) and the section on DTI model action areas (5.5), contain three and five subsections, respectively.

5.1 The Objectives of the DTI Methodology

The Smart Tourism Destination management and planning methodology is developed by express mandate to SEGITTUR from the Spanish Secretary of State for Tourism, as set out in the 2012–2015 National Integrated Tourism Plan (PNIT), in order to provide a single homogeneous framework for Spanish tourism destinations.

This is a methodology in which, based on the identification of their weaknesses and strengths, destination managers can define their own strategy for the future development of the destination, based on improving the competitiveness and sustainability of the destination, and taking advantage of the intelligent use of existing resources and new tools available to improve the tourist experience and the quality of life of the resident.

The overall objective of the DTI methodology is to provide a tool for the internal review of destinations, their management and strategic planning, and their level of performance in different areas, based on a set of requirements and indicators, whose degree of compliance will indicate which are the priority actions to be carried out to ensure more efficient management and sustainable development.

Specifically, the diagnostic methodology in its current version, the latest available and included in this manual, includes 97 requirements, grouped into 16 assessment areas, which make up the five strategic pillars of a DTI. However, it is necessary to point out that it is a "*live*" diagnostic and monitoring methodology, in constant evolution, which will continue to undergo modifications and improvements in the future, in order to meet the rapid changes that today impose in all areas of local management.

The specific objectives of the DTI methodology that could be highlighted, without claiming to be exhaustive, are the following:

- To evaluate the level of performance of the tourism management of a destination based on a set of common requirements and indicators for all of Spain.
- To provide a roadmap, a guide for the destination manager in the search for higher levels of tourism competitiveness in the medium and long term;
- To prescribe recommendations for improvement in those areas, requirements and indicators in which the destinations show a worse level of performance;
- To promote the design and implementation of a DTI Action Plan in the destination that allows it to improve its management in those areas with the greatest deficiencies;
- To facilitate the monitoring of the degree of implementation of the DTI Action Plan by the destination;
- To promote interaction between the tourism area and the rest of the areas of the town hall or the administrative body that manages the destination with powers other than those specifically for tourism;
- To incorporate new areas of work and elements for reflection on the destination manager's agenda beyond its traditional marketing and tourism promotion functions;
- To facilitate the transition from traditional Destination Tourism Promotion Organizations to more complex Destination Management and Promotion Organizations.
- To contribute to the mobilization of resources from other areas to the tourism sector and to influence their strategic agendas for smart cities, security, mobility, training, the environment, and others.
- To demonstrate the need to incorporate new skills in destination managers.
- To offer the Spanish tourism administration, at the national, regional, and provincial levels, a single tool for monitoring the evolution of tourism competitiveness in Spain at the local level over time.

Among the great assets of the Smart Tourism Destinations program stands out the capacity of the model to have developed a methodology of some complexity, but easy to apply, which is homogeneous for all those destinations that use it, guaranteeing the comparability of its results regardless of the type and size of the destination that implements it.

The following section is an overview of how the DTI methodology has evolved over time.

5.2 The Evolving Nature of the DTI Methodology

One of the most outstanding characteristics of the DTI model is its ability to evolve over time, adapting to the changing context on which it acts. This evolving process, through which the DTI model has been calibrated until reaching the methodological version presented in this manual, began with the first version of the DTI methodology developed by SEGITTUR in 2013: a set of requirements and indicators resulting from analyzing and taking advantage of the work on different indicator systems developed by different international organizations in the field of tourism destinations, such as the UNWTO, the European Commission, the OECD, the International Telecommunication Union (ITU), and the Inter-American Development Bank (IDB).

From that moment on, and with the implementation of the model in the territory and with the learning generated, a methodology has been developed with its own physiognomy, in an ongoing evolving and enriching process, whose originality and value stand out from previous approaches or models.

The design of the methodology introduced here has been the result of a double process: The continuous comparison with the reality of the destinations, based on its application and testing in a multitude of places. A consensus process with an enormous diversity of stakeholders, including the Spanish Secretary of State for Tourism, through the technicians of the General Sub-Directorate for Tourism Development and Sustainability, the specialists of the regional ministries and general directorates of the Spanish regions, destination managers, representatives of tourism and technology associations, certifiers and standardization agencies, and the Spanish Federation of Municipalities and Provinces (FEMP), and many others. It is also necessary to highlight the way in which the methodology has benefited from the continuous contrast to which it has been subjected, thanks to the interaction also maintained with tourism destinations on the American continent (Mexico, Colombia, Uruguay, Paraguay, Cuba or Brazil, and others) that have been willing to participate in the process during the last 5 years.

The Smart Tourism Destination model and the diagnostic methodology that supports it are the result of an in-depth review process carried out by SEGITTUR between 2020 and 2021. This section aims to explain some of the critical aspects of the methodological change made, and the advantages it presents over previous versions, which met four objectives:

1. Firstly, the aim was to highlight the knowledge and experience accumulated at SEGITTUR over a decade of uninterrupted work in carrying out DTI diagnoses, while responding to a changing reality, highly conditioned by the effects of the pandemic on tourist activity, by updating the methodology and reviewing those elements that required some modification or updating.

   The evolution of the main challenges facing the tourism sector in terms of digitalization and ecological transition, the impact of the pandemic caused by COVID-19, the new recommendations, voluntary standards and mandatory regulations that have arisen at international and national level, the difficulties

detected in the model to be able to respond to some questions, or the limited relevance and explanatory capacity of others, made it essential to undertake the updating and revision process carried out.

2. Secondly, and given the growing demand of destinations interested in carrying out the DTI Diagnosis, and the finite capacity of SEGITTUR and its human resources to be able to attend to them, it was considered essential to proceed with a process of simplification, explanatory clarity, and greater agility of the assessment procedures, but without having to renounce their precision or their diagnostic capacity.

   In this simplification process, the number of areas is reduced from 20 to 16; the distinction between requirements and sub-requirements is eliminated, going from 476 (235 requirements and 241 sub-requirements) to 97 requirements, within which 261 Indicators are designed, prioritizing relevance over quantity; and quality and clarity over quantity.
3. Thirdly, the need to establish a base of requirements and indicators that are objectively quantifiable is taken into account, trying to avoid or limit any type of subjective or interpretive assessment of compliance or not with a certain requirement by the technical team. From the new methodological version onward, each requirement will be linked to quantifiable items through dichotomous valuations or through valuation ranges according to different ranges of possible values, homogenizing the assessment processes.
4. Lastly, the change has strengthened the model's capacity to assess based on evidence, so that it will no longer be enough for the destination to state that it has something or that it plans to undertake a certain action, but it will have to provide documentary evidence for each indicator that supports and accredits the statement made, supported or validated with sufficient and objective documentation or evidence, similar for all destinations. The diagnosis thus resembles audit processes based on documentary evidence of which the destinations are provided with examples and benchmarks.

   In the methodological update process of the DTI Diagnoses, the weights assigned to each pillar have also been revised, giving greater weight to the sustainability and technology pillars, which we could assimilate, in the terminology of the European Union, to the processes that imply the double ecological and digital transition in which we are immersed (the two of them explain 60% of the total score obtained by the destination), but also the weights of each requirement, as well as its degree of obligation.

   In relation to those most outstanding aspects of the new methodology from the point of view of its content and implicit philosophy of the DTI model, for each of the pillars the following can be mentioned:

- Governance pillar: Destination governance is presented as a critical element of the DTI model, so all its requirements are mandatory, a collaborative, public–private governance that knows how to take advantage of the opportunities of new technologies and that acts on the basis of less intuition and more evidence.

With the new methodology, the role of governance is reinforced, expressed as the level of commitment of the Local Entity that manages the destination with tourism development, the existence of management skills in the area of tourism that go beyond tourism promotion and marketing, the availability of a strategic and action plan, the capacity for dialogue with the private sector and the residents themselves, the measurement of the level of performance and return of the public policies developed (e.g., promotional actions), the promotion of the electronic office, the implementation of portals of transparency, and lastly the ability to measure what will finally have to be managed (in matters such as the economic contribution of tourism or the assessment of tourist satisfaction).

- Sustainability pillar: The new methodological version addresses sustainability from all its perspectives, incorporating as prominent elements, and for the first time explicitly, aspects such as the fight against climate change or the monitoring of *United Nations Sustainable Development Goals* (SDGs) as a mandatory requirement, the support to tourism SMEs, or the monitoring of the health care system and specifically of COVID-19.

  Additionally, new elements appear such as: the recognition of the important role played by certifications; the development of sustainable urban mobility plans (including pedestrianization, support for public transport, cycling, electric cars); the consideration of ecosystems and natural habitats among the destination's tourism resources; the obligation to carry out environmental impact studies of tourist activity and carrying capacity; the existence of compensation mechanisms (such as the tourist tax in those destinations that have opted for it); the conservation of historical and artistic heritage; water cycle management plans; waste, noise, and odor management procedures; climate change adaptation and mitigation strategies and measures; greater energy efficiency; giving priority to local products and services; quality of employment; seasonality, and others.
- Technology pillar: Technology with purpose, at the service of a goal, highlighting the capacity of tourism sector to relate to existing technological structures in the form of Smart City projects, integrated city platforms or open data platforms, in which tourism is seen as another stakeholder. Innovative aspects also in relation to the incorporation of cybersecurity and blockchain elements at the service of the same, conversational systems, the application of the General Data Protection Regulation in the processing of personal data or different management systems in the context of COVID-19 (contactless payment systems, booking systems, flow management, capacity control, etc.).

  New elements are also being developed, such as: Systems that promote more efficient two-way communication between the government and residents and non-residents, the different types of connectivity to fixed and mobile networks, the use of cloud computing solutions by the destination, the tourist card, destination mobile apps, sensorized signage, all that technological infrastructure related to the tourist information office and others.
- Innovation pillar: Innovation has traditionally been a difficult element to apply in the traditional DTI diagnostic model, being one of the pillars with the lowest scores and the greatest lack of data. A vision of innovation closer to the latest

Oslo Manual 2018 for measuring innovation published by the OECD is incorporated in the DTI model as a novelty, which points out for the first time that innovation is not exclusively a market-oriented process, but that people and public administrations also innovate, and, in general, it occurs in all economic and social domains with the aim of facing future challenges. In the new version of the DTI model, aspects such as innovative public purchasing, open innovation, or social innovation applied to the destination stand out. Two other novel elements have to do with the measurement of the perception of innovation in the destination (an aspect that the Cotec Foundation expressly recommended SEGITTUR to incorporate), and the introduction of the concept of innovation ecosystem within the destination itself and its promotion as a desirable objective.

Aspects related to innovation in tourism products, innovations in processes (marketing and sales, information systems, administration and management), measuring the level of innovation of the destination's tourism enterprises, and finally plans, capacities, and budgets directly related to innovation functions are also included.

- Accessibility pillar: With regard to accessibility, in the new version of the methodology, references to some indicators that were not significant or whose scope exceeded the objective of the DTI Diagnosis work have been eliminated. In addition, in some cases, it has been decided to group some criteria, either because they were not significant enough or because of their scant relevance.

  The main pillar requirements include: the inclusion of accessibility in tourism planning, the allocation of human and material resources specifically dedicated to actions in this area, the development of inventories of accessible resources, the incorporation of the concept of accessibility related to the tourism value chain, the implementation of promotion and advertising campaigns, the adaptation of infrastructures and mobility vehicles, and, quite exhaustively, the assessment of accessibility throughout the different elements of the destination (natural spaces, beaches, recreational areas, tourist information offices, points of tourist interest, events, etc.).

Finally, with regard to the DTI methodology review process, it should be noted that throughout the work carried out, numerous selected bibliographies have been consulted and meetings have been held with destinations, companies, institutions, international organizations, universities, associations, experts, and specialists from each of the pillars, developing glossaries of terms and cross-references to different scientific authors on the subject.

Throughout the process, the SEGITTUR DTI team, authors of each of the chapters of this manual, has been a key element in lending itself to converting all that tacit knowledge resulting from the experience accumulated with destinations over the last 10 years into explicit knowledge, all through an iterative process of internal review, external review, internal discussion, and modification based on the consensus reached. At the present time, the SEGITTUR DTI team is immersed in a process of migrating those DTI diagnoses carried out with a previous DTI methodology to the new version, so that the comparability of results between the destinations that have implemented the model can continue to be guaranteed.

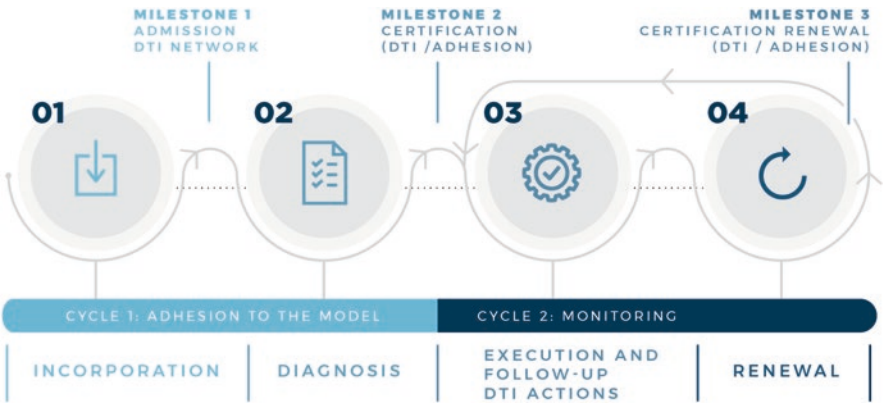

Fig. 1 Cycles and phases of the Smart Tourism Destinations methodology

5.3 The DTI Model Implementation Phases

The adoption of the DTI model implies the implementation of a process, with the joint and concerted action of the public administrations and other relevant stakeholders of the tourism sector in the destination, as well as the private sector, the academic sector, and R&D&I organizations. The process calls for undertaking the complex network of challenges that are the responsibility of different areas at the local, regional, and national level, multidisciplinary and inclusive approaches that can simultaneously consider the dimensions of good governance, economic, social, and environmental sustainability, accessibility, and technology.

With the aim of facilitating the implementation process of the DTI model by the Spanish destinations, a methodology has been developed that is structured in two cycles and five phases (Fig. 1). Based on a diagnosis, the initial cycle allows the situation of each destination to be contrasted with the reference variables of the model in each of its five pillars. From this review, those areas for improvement can be deduced to advance on the smart destination roadmap.

5.3.1 The First Cycle: Adhesion to the DTI Model

The methodological process starts upon receiving an incorporation request to the Smart Tourism Destinations Network from the destination, which undertakes to implement the DTI model (Phase 1—Incorporation).

Upon acceptance of the application, the Diagnosis Phase (Phase 2) begins, the outcome of which sets the baseline or starting point for the entire conversion process to reach the Smart Destination status. A set of 97 requirements and 261 indicators, spread across the five pillars, are utilized to evaluate the level of maturity of a destination concerning the Smart Tourism Destination methodology. Based on the

evaluation, a list of recommendations is generated to improve the destination's performance.

After completing both phases, a destination can become a Smart Tourism Destination or Smart Tourism Destination Associate by achieving a minimum of 20% compliance with diagnostic requirements. The distinction that the destination will obtain may be as "Smart Tourism Destination" if the degree of compliance is equal to or greater than 80% of the required requirements, or "Smart Tourism Destinations Associated," if it does not reach 80% but does obtain at least 20%. In all cases, we proceed to cycle 2, Monitoring. Nevertheless, before addressing cycle 2, the phases of the first cycle are presented with a greater level of detail.

- Phase 1: Incorporation

The process of incorporating a destination into the Smart Tourism Destinations program starts by expressly requesting it to the Secretariat of the Smart Tourism Destination network, whose management has been entrusted to SEGITTUR, by the Secretary of State for Tourism. To become a part of the Smart Tourism Destinations Network, the destination's legal representative or the person delegated with the authority must complete and sign the instrument of adhesion and the commitment to accept the Code of Ethics (Annexes I and IX of the Regulations for the operation of the management bodies of the DTI Network). This is the first step toward formalizing the process. Once the Network Secretariat verifies the request, it will be approved by the DTI Network Executive Commission on a quarterly basis.

During the incorporation phase, the destination's highest representative level of the Local Entity expresses its commitment to the model, which is aimed at promoting sustainable and smart tourism development in the area. Destinations have a period of 2 years to request the DTI diagnosis and proceed to Phase 2.

- Phase 2: Diagnosis

The DTI diagnosis helps to assess the situation of a destination by analyzing different areas of the model. Firstly, it characterizes the basic data related to tourism activity in the territory, the main tourism resources and products, the relevant actors in the territory, and their competencies. Secondly, it assesses the ongoing actions at the destination and the conditions related to the five pillars of the model based on the requirements of the DTI methodology.

To do this, data is collected on the destination's location, sociodemographic characteristics, tourism organizations and skills, tourism industry in the area (in terms of economy and employment), and characteristics of its supply and demand.

In order to make this phase more effective, a project manager is assigned to create a map of relevant actors and implement all necessary actions.

During the process of collecting data in the field, the following actions are performed:

– The DTI diagnostic questionnaire, consisting of five sections for each of the five strategic pillars, has been sent to its destination.
– The manager is required to complete the questionnaire accurately and provide supporting evidence for each response.

- The form is completed by interacting with the destination manager and relevant personnel from different areas to clarify any doubts.
- Visits to the destination may be necessary, particularly to assist with the collection of evidence related to the accessibility strategic pillar. These visits involve assessing the conditions of the destination on-site.
- After collecting the information from the questionnaires and the evidence provided by the destination managers, we will analyze and validate each document at the indicator and requirement level. If the information provided does not match what was requested in the questionnaire or if the evidence provided is not strong enough to support the answer, then the evidence will be considered null and void, and the answer will not be taken into account.
- In the validation process, we maintain open communication with destination managers to allow for modifications or additional evidence.
- After completing the validation of the questionnaire responses, they are loaded into the calculation tool to obtain overall results by strategic pillars, areas, and requirements.

To expedite these actions, it is recommended that the destination establish an Interdepartmental Commission comprising technical personnel from various departments. This will ensure consistency across the organization when implementing the DTI Model.

The analysis of the requirements leads to a set of recommendations and actions that enable the destination to progress toward becoming a Smart Destination. A roadmap will be developed in the coming years.

We include the assessment result in a diagnostic report that characterizes the destination and analyzes DTI requirements and recommendations by pillars. Additionally, we provide the destination with an action plan template that they can use as a model to gather the necessary improvement actions.

It is expected that the destination's current tourism strategy will be unified with the strategy defined by DTI methodology.

Once the diagnosis report has been delivered to the destination, a recognition is granted for the initial effort and work carried out to become a DTI. The destination is then classified as either a Smart Tourism Destination (if it meets 80% or more of the DTI requirements) or a Smart Tourism Destination Associate (if it meets between 20% and 80% of the requirements). This marks the official start of the conversion process, which will culminate in cycle 2 and the destination's entry into the continuous improvement process.

5.3.2 The Second Cycle: Monitoring

In this second cycle, the action plan is implemented by the destination and progress is regularly monitored for renewal of the badge earned in the previous cycle by SEGITTUR.

All destinations will be required to move to Phase 3 and implement the proposed actions. For those destinations that scored above 80% in the diagnosis phase, the

implementation will be voluntary. Destinations must renew their status every 2 years by updating their diagnosis and demonstrating progress in phase 4, Renewal.

All destinations are currently in cycle 2 and are undergoing continuous monitoring to ensure that they maintain the standards set by the DTI methodology. This guarantees that the objectives pursued by the program are met, which is based on a new tourism governance model that leverages knowledge, technology, and innovation. The renewal process takes place every 2 years to validate compliance with all the Smart Destinations requirements and indicators.

The key to success is to continuously improve by identifying specific actions or measures to deal with new challenges or problems within a reasonable timeframe. The DTI initiative's strength lies in its ability to continuously monitor the implementation of recommended actions in the diagnosis report.

The phases of the second cycle are presented below with a greater level of detail:

- Phase 3: Execution and follow-up of DTI actions

After the diagnosis report, the destination will enter a new phase that will focus on implementing the proposed DTI actions. This phase will last for a maximum of 2 years. It is recommended to implement the suggested actions if the destination has already been recognized as a Smart Tourism Destination. However, it is mandatory to implement them if the destination has not yet achieved an 80% degree of compliance.

The distinction of "Smart Tourism Destination" or "Smart Tourism Destination Associate" is valid for 2 years from the date of grant. During this period, the destination is expected to continue working on all proposed actions.

Over the next 2 years, the destination is expected to make progress in its DTI strategy by implementing at least 10% of the actions outlined in the report delivered at the end of Phase 2. All changes must be reported and periodically validated by SEGITTUR under the same terms and conditions as during the initial diagnosis. Evidence must be provided to certify compliance with the corresponding indicator. This will ensure a continuous update of the destination's progress and the degree of compliance achieved.

In order to effectively implement actions toward the DTI and lead the destination in a coordinated manner, the Interdepartmental Commission created in Phase 2 will be transformed into a Monitoring Commission or Smart Office. The objective of this Commission is to execute the DTI actions through participatory and coordinated management of all areas of the Local Entity, ensuring transparency and communication both within and outside the organization. Any changes in the Commission's name, members, and purpose will be recorded in the minutes, and from that moment onward, SEGITTUR will work with the Monitoring Commission to continue advancing the DTI model with the destination.

After 2 years from the initial diagnosis report or its latest update, any destination that has implemented at least 10% of the recommended actions can proceed to Phase 4. However, those that fail to meet this requirement will have to restart the methodological process from Phase 1.

On the other hand, any destination that considers itself ready to move forward may request assessment from SEGITTUR at any time.

- Phase 4: Renovation

In this phase, SEGITTUR conducts assessments to verify DTI implementation and update the diagnosis, ensuring project objectives are met.

During a 4-month review process, SEGITTUR ensures that all requirements and indicators are up to date. The certification is then renewed or granted according to the new level of compliance. Additionally, a new proposal of recommended actions is provided.

The requirements for obtaining the badge remain the same. If a destination achieves a degree of compliance of 80% or higher, it will either continue to be recognized as a "Smart Tourist Destination" or become one. If the degree of compliance is between 20% and 80%, the destination will either remain or become a "Smart Tourist Destination Associate." Destinations that fail to reach 20% compliance after completing Phase 4 and do not have a "Smart Tourism Destination Associate" certification will need to complete all the procedures required from Phase 1 to continue in the program. If a destination has dropped below 20% compliance after achieving an Associate certification, it will have 2 more years to recover that percentage of compliance.

All destinations with a badge will move to Phase 3 again, thus completing the permanent circle that defines this second methodological cycle and drives continuous improvement.

5.3.3 Acknowledgment of Membership and DTI Distinction

SEGITTUR awards two types of distinctions to destinations that have made efforts to improve their competitiveness in the main pillars of Smart Tourism Destinations—governance, accessibility, innovation, technology, and sustainability. These distinctions are awarded based on the destination's level of performance. The aim is to enhance the quality of services provided to tourists and residents by promoting transparency and participation.

The initial distinction in the process of becoming a Smart Tourism Destination is the "Smart Tourism Destination Joined" (Fig. 2). This distinction is valid for 2 years, after which the diagnosis needs to be updated for renewal. It is awarded to recognize the work started and provide a first recognition. The destination receives this

Fig. 2 Distinction of affiliation with *Smart Tourism Destinations*

Fig. 3 *Smart Tourism Destination* distinction

distinction when the degree of compliance is between 20% and 80%. It is called the "Participating Smart Tourism Destination" distinction, and the destination is in the process of obtaining the "Smart Tourism Destination" distinction by carrying out the necessary actions to improve compliance with the requirements of each of the DTI pillars set out in its Diagnosis Report.

The "Participating Smart Tourism Destination" recognition acknowledges a destination's participation in the DTI model through an initial diagnosis, regardless of its level of compliance. As long as the destination can meet the minimum requirements to continue with the process, it will be eligible for the recognition.

The second distinction granted is that of "*Smart Tourism Destination*" (Fig. 3), which recognizes the culmination of the transformation process undertaken by destinations using the DTI methodology and is tied to the fulfillment of its requirements. This distinction is only awarded if the destination obtains a degree of compliance equal to or higher than 80%, which is rarely achieved and requires several interactions with the model over several years.

This recognition is valid for 2 years and is subject to a renewal process. Therefore, it is expected that the destination will remain committed to the distinction—and what it implies—over the years, renewing its objectives and strategies and adapting to the needs of the future environment.

At the time of producing this manual, the following destinations have obtained a score of over 80% in the DTI Diagnosis Report and Action Plan in Spain: Gijón, Santander, Tenerife Island, Benidorm, San Sebastián, and Malaga and, therefore, are considered Smart Tourism Destinations (in Latin America, Tequila, Medellín, and Bogotá have achieved this distinction).

The DTI model is reviewed biennially to ensure commitment to governance, sustainability, technology, innovation, and accessibility. This work is carried out by SEGITTUR, within the framework of the Smart Tourism Destinations program, by mandate of the Secretary of State for Tourism and covered by its budget, with additional contributions from the destinations.

5.4 The Strategic Pillars of the Smart Tourism Destination Model

The DTI diagnosis and planning methodology is based on a set of requirements defined on the basis of various national and international benchmark methodologies and recommendations, and validated with the different actors, as explained in the previous sections.

Table 2 Key areas and scope of the DTI model

GOVERNANCE	Strategic vision and implementation Efficient management Responsibility and control Transparency and participation
INNOVATION	Innovative management/governance Innovation activities Innovation ecosystem
TECHNOLOGY	Technologies applied to governance Technological infrastructures and connectivity Technologies for smart tourism management
SUSTAINABILITY	Tourism sustainability management Conservation, improvement, and recovery of cultural heritage Socio-economic development and circular economy Conservation and improvement of the environment
ACCESSIBILITY	Management of accessibility in the destination Implementation of accessibility in the smart tourism destination

The DTI diagnostic methodology consists of five pillars of action: Governance, Innovation, Technology, Sustainability, and Accessibility (Table 2). These pillars are further divided into 16 areas, 97 requirements, and 261 indicators for measurement, each with its corresponding assessment criteria. The following pages provide an overview of the basic elements of each pillar, so that the reader can gain a comprehensive understanding of the model as a whole. For a more detailed explanation, please refer to the rest of the chapters in this section of the manual.

5.5 Areas of Action of the DTI Model

Next, the areas of action in which each of the pillars of the DTI model is structured, and some of their most relevant aspects will be discussed.

5.5.1 Governance Pillar

The governance pillar is analyzed on the basis of four areas of action that cover the mechanisms for planning and implementation, from a participatory perspective and with the maximum guarantees of transparency and control. These four areas are broken down into 12 requirements and 26 indicators.

The objectives of implementing DTI governance define the following areas of analysis of the methodology:

- Strategic vision and implementation: guarantees the future development of tourist activity by providing managers with the necessary planning tools and resources (budgetary, regulatory, and organizational) to ensure implementation.

Smart Tourism Destination requirements are assessed in terms of the structures and institutions responsible for tourism, as well as the planning and strategic instruments that these structures and institutions have at their disposal, and those they use before (diagnosis) and after in the application of these requirements (budget, regulations, etc.).

- Efficient management: Achieves the objectives set with the resources available. The requirements in this area analyze the structure of the entity responsible for tourism management, its organization, processes, the functions that give it the capacity to achieve the proposed objectives and adapt to the changing and increasingly demanding scenario, optimizing the efforts and resources used for it.
- Transparent, open, and participatory management: strengthens the participation of citizens and the sector in tourism-related decisions, as well as coordinating with other departments, agencies, and administrations, and doing so with due transparency. Beyond good planning, in order to guarantee the quality of services and infrastructures offered, it is necessary for the managing body to act in coordination with other areas of the city council and other administrations. The requirements in this section focus on this and on the negotiation policy that guarantees consensus with citizens and the tourism sector. In addition, the public disclosure of all this process and results is a social requirement that must be integrated into any Smart Tourism Destination.
- Responsible and controlled management: Validates the knowledge necessary for planning and risk management at the destination, as well as the measurement of the results of the actions carried out and their coherence with the objectives set. Knowledge management, tools, and measurement of the results of the objectives are valued in this area. The technical analysis of the systems as such is discussed in the technology section.

Chapter "The Pillar of Governance in the Spanish Smart Tourism Destinations (DTI) Model" addresses this pillar, offering a detailed vision of its structure, requirements, indicators, recommendations that are usually made to destinations, as well as a reflection of the SEGITTUR team responsible for it on the main challenges that destinations must face when addressing this pillar.

5.5.2 Innovation Pillar

The innovation pillar is analyzed based on three areas of action that aim to assess the innovative performance of the destination in terms of internal management processes and innovative governance, innovation activities, and, finally, the innovation ecosystem. The objective is to integrate the concept of innovation in all processes to contribute to a more sustainable development that includes citizens and the territory in which the tourist activity takes place. These three areas are broken down into 9 requirements and 14 indicators.

- Innovation in the management processes and innovative governance of the destination: The first step in bringing innovation to a destination's entire tourism value

chain is to apply innovation in the day-to-day management processes of the destination itself, and that of the local authority, to ensure that there is a culture of innovation throughout the organization. To this end, it is necessary to have a body to promote and foster this new organizational culture that proposes the tools with which to achieve the introduction of innovation in the forms of governance.

- Innovation activities: The requirements of this area aim to search for resources for new or improved tourism products, the detection of other market segments and the search for new solutions to social or mobility problems. This area includes the application of innovation to the marketing and commercialization of the destination. Thus, it is considered necessary that the managing body and, gradually, the sector as a whole apply innovative formulas for the management of its clientele.
- Innovation ecosystem: When designing a Smart Tourism Destination, it is essential for the local manager to be able to take advantage of all the benefits offered by the environment comprising companies, technology centers, universities and, in general, their capacity for innovation, with which the manager can create synergies.

5.5.3 Technology Pillar

The technology pillar is analyzed based on three areas of action that aim to assess the current state of information technologies applied in the destination, analyzing both the current implementation and the near future of new technologically advanced innovative projects. All this is done from different perspectives coinciding with the areas in which the requirements are grouped: technologies applied to governance, technologies applied to tourism marketing, technological infrastructures, and the implemented tourism knowledge system. These three areas are broken down into 21 requirements and 62 indicators.

- Technologies applied to governance: A smart destination must make intensive use of technology, foster and promote the use and development of technological tools, and make them available to all the actors involved, in addition to creating training programs that enable and improve training in technological matters. The requirements in this area focus on these aspects and on actions to promote and encourage digital participation, offering citizens access to information and effective communication, thanks to the use of technological tools.
- Technological infrastructures and connectivity: The technological infrastructures implemented in a destination and the quality of connectivity are the basis for the optimal use of new technologies in the development of Smart Tourism Destinations. Tourists require connectivity, so connectivity-related infrastructures are crucial. It is also important to implement any technological infrastructures that allow for a more efficient management of services and enable destination managers to have a better understanding of their reality, as well as to improve the process of making informed and therefore smarter decisions.

- Technologies for smart tourism management: The management of tourism knowledge and intelligence generated in a destination is a key factor in the decision-making process. The requirements for a smart tourism destination need individualized knowledge of the tourist, of the tourist attractions and services, and a transparent and public management of the system's data.

Chapter "The Technology Pillar of the Spanish Smart Tourism Destination (DTI) Model" is dedicated to this pillar, offering a detailed vision of its structure, requirements, indicators, recommendations that are usually made to destinations, as well as a reflection of the SEGITTUR team responsible for it on the main challenges that destinations must face when implementing this pillar.

5.5.4 Sustainability Pillar

The sustainability pillar is analyzed based on four areas of action that aim to promote sustainability through the destination adopting cross-cutting, interdisciplinary, and inclusive approaches. These four areas are broken down into 38 requirements and 116 indicators. It is therefore the pillar of the DTI model with the greatest number of requirements and indicators, and consequently it has a greater weight in the model than the rest.

- Tourism sustainability management: The planning and management of tourism sustainability according to the SDGs, urban planning and management, the promotion of a more orderly and sustainable mobility, the sustainable management of tourism resources, the measurement of capacity, the application of a system of sustainability indicators at the destination, the management of seasonality, the involvement of the private sector, residents, and visitors themselves in actions to support sustainability with greater awareness on the part of all of them, and greater interaction are all elements that fall within this area.
- Conservation, improvement, and recovery of cultural heritage: Object of analysis in this area are the elements of protection of tangible and intangible cultural heritage, as well as the promotion and use of related resources, through legislative and regulatory instruments, the inventorying of resources, or the implementation of programs for the recovery, promotion, and protection of heritage.
- Conservation and improvement of the environment: The requirements in this area cover everything related to the physical space of the destination and the natural environment and its biodiversity. In short, these all are aspects that guarantee environmental protection ranging from water cycle management, air quality management, noise minimization, promotion of energy efficiency, selective waste collection, and treatment and adaptation to climate change.
- Socio-economic development and circular economy: This area includes all aspects related to the protection and promotion of the economy and local products, responsible shopping, local suppliers, diversification, education and training, fair employment, crisis management, regulations on health, hygiene and food safety, and monitoring and health care for visitors.

Chapter "The Pillar of Sustainability in the Spanish Smart Tourism Destination (DTI) Model" presents this pillar in depth, describing its structure, requirements, and indicators by areas of action, together with the recommendations that are usually made to destinations with a view to its implementation. This chapter also shares the reflection of the SEGITTUR team, responsible for the pillar, on the challenges that destinations must solve when implementing this pillar.

5.5.5 Accessibility Pillar

The accessibility pillar is analyzed based on two areas of action that aim to promote universal accessibility in the tourism destination, enabling access to all kinds of products, services and cultural, nature or leisure activities, regardless of the characteristics, abilities, or conditions of the potential visitor. For this purpose, management and regulatory elements must be taken into account in this area, as well as their applicability in spaces, infrastructures and in the technology used in the destination for tourists. These two areas are broken down into 17 requirements and 43 indicators.

- Management of accessibility in the destination: This section analyzes compliance with the different legislation related to accessibility that impacts the territory in which the destination is located and the training required by those responsible for its application. It also analyzes matters related to strategic planning instruments or communication on the accessibility conditions of the destination with the aim of determining policies and action strategies aimed at applying measures for their improvement.
- Promotion of accessibility in the destination: Accessibility conditions are analyzed in different physical spaces of the territory that are essential for visitors, from tourist offices to beaches, parks or their management in events and in spaces managed by the private sector. Existing technological tools are also analyzed, especially within the field of communication and marketing, and their degree of accessibility.

Chapter "The Pillar of Accessibility in the Spanish Smart Tourism Destinations (DTI) Model" develops this pillar, presenting in detail its structure, requirements, and indicators, as well as a set of recommendations that are usually made to destinations to assist them in their implementation. It also offers a reflection from the SEGITTUR team responsible for the pillar about the main challenges that destinations must face when addressing the accessibility pillar.

5.6 Assessment of Results in the DTI Model

This section illustrates, through a specific example, the way in which the results are assigned to a destination based on the answers collected by the questionnaires that SEGITTUR uses to transfer the DTI diagnosis to the destination.

The basis for obtaining the results of the destinations is provided by the answers to a series of questionnaires, for each of the pillars, which make it possible to measure each of the indicators. These questionnaires are filled in by the destination, with the support of SEGITTUR and/or third parties, and validated by SEGITTUR on the basis of the supporting documentation provided by the destination.

From these responses, the assessments of all the indicators are obtained directly for each pillar, and by aggregation, the assessments of the requirements to which they correspond are obtained.

To illustrate the described process, as an example, Table 3 presents the questions, answers, and assessments for the first area of work, "Strategic vision and implementation," contemplated in the pillar of Governance (Requirement GOB01_01), which consists of 3 requirements, as shown below.

Thus, in accordance with the above formula, the value of each requirement is calculated as the sum of the scores for each indicator based on their weights.

For each pillar, weights have been given to the requirements according to their relevance on a scale from 1 to 3, so there are three different weights. To obtain the assessment of each pillar, the corresponding weight is applied to the direct assessment of the requirements obtained from the answers to its questionnaire.

This way, adding up the assessments of all the requirements, 12 in the case of the governance pillar corresponding to the four areas of action described on subsection 5.5.1, the individualized assessment of each pillar is obtained. The assessment score ranges from 1% to 100%, enabling the destination to know its percentage of compliance out of 100 in each of the pillars. Table 4 illustrates how is calculated for the exampled destination its current score on the governnace pillar. As shown the final score on the governance pillar for this destination (45,6% = 0,456) was gotten by aggregating the weighted scores of the different governance requirements (0,75* 0,136+0,5*0,136+0*0,06+...+0,5*0,136) illustrates how is calculated for the exampled destination the score it gets on the governance pillar by aggregating the scores of all the governance requirements.

In the example (Table 4), the percentage of compliance with the Governance pillar is 45.6%.

To determine the degree of compliance at the level of the area of action, the weights of each requirement for the area in question are applied to the direct results of the requirements obtained from the questionnaire, thus achieving an individualized assessment of each area, on a scale from 1% to 100%. This allows the destination to clearly visualize the result obtained by the requirements of that area over the total of the area itself (Table 5).

To calculate the total score, i.e. the degree of compliance of the destination in all the pillars, and following DTI methodology, each pillar is given a weight according to the number of requirements it has out of the total. The assigned weights are as follows: Governance: 12.4%, Innovation: 9.3%, Technology: 21.6%, Sustainability: 39.2%, and Accessibility: 17.5%. Thus, to obtain the final result, the result of each pillar is weighted according to its relevance within the model corresponding to the number of requirements.

Table 3 Questions, answers, and ratings for the indicators of Requirement GOB01_01

Questionnaire question code	Questions	Answers	Indicator code	Indicator + Answers	Indicator assessment
1.1	Does the destination have a public document of commitment to tourism development? (if not, go to question 1.2)	Yes	GOB01_01_01	Degree of commitment of the local entity to tourism development, reflected in the form of a public document (0–20%)	10%
1.1.1	Is the commitment document published online?	No	GOB01_01_01_01	The document is published on the local entity's website (10%)	0%
1.1.2	Does the document expressly mention the involvement of all areas of the local entity in tourism development?	Yes	GOB01_01_01_02	The document expressly mentions the involvement of all areas of the local entity in tourism development (10%)	10%
1.2	Does the Tourism Area have assigned destination management skills beyond tourism promotion and/or marketing skills?	Yes	GOB01_01_02	Existence of management skills in the Tourism Area, beyond tourism promotion and/or marketing skills (20%: Yes // 0%: No)	20%
1.3.	Does the destination have an Annual Tourism Action Plan? (if not, go to question 2.1)	Yes	GOB01_01_03	Adoption of an annual tourism action plan (0–60%)	45%
1.3.1	Does the Annual Tourism Action Plan set out in detail the actions for which a budget has been allocated?	Yes	GOB01_01_03_01	The Annual Tourism Action Plan sets out the actions for which a budget has been allocated (30%)	30%
1.3.2	Has the Annual Tourism Action Plan been drawn up in consultation with the private sector and citizens?	No	GOB01_01_03_02	The Annual Tourism Action Plan has been drawn up in consultation with the private sector and citizens (15%)	0%
1.3.3	Does the Annual Tourism Action Plan have expenses and investments directly linked to the Smart Tourism Destination project, dependent on both the Tourism Area and other Areas?	Yes	GOB01_01_03_03	The Annual Tourism Action Plan has expenses and investments directly linked to the Smart Tourism Destination project, dependent on both the Tourism Area and other Areas (15%)	15%

NB: Value requirement GOB01_01 = Value GOB01_01_01 (10%) + Value GOB01_01_02 (20%) + Value GOB01_01_03 (45%) = 75%

Table 4 Direct and weighted assessments of the requirements of the Governance pillar

GOVERNANCE		Direct assessment of requirement	Requirement weight in pillar	Weighted assessment of requirement
GOB01	Relevance of tourism as part of the organization	75%	13.6%	10%
GOB02	Strategic planning tools	50%	13.6%	7%
GOB03	Promotion and marketing planning tools	0%	6.8%	0%
GOB04	Creation of tourism product	0%	6.8%	0%
GOB05	Training program at the local entity and in companies	0%	4.5%	0%
GOB06	Coordination structures at the Local Entity for the development of tourist activity	25%	6.8%	2%
GOB07	Public–private and public–public collaboration structures	75%	13.6%	10%
GOB08	Communication channels in place with visitors, residents, and the sector	30%	4.5%	1%
GOB09	Promotion of transparency and e-administration	20%	4.5%	1%
GOB10	Tourism quality	60%	6.8%	4%
GOB11	Monitoring of actions to promote tourism	75%	4.5%	3%
GOB12	Observatory/process for measuring tourist activity	50%	13.6%	7%
	TOTALS	460.0%	100.0%	45.6%

Table 5 Assessment of the destination by areas

Assessment of the destination by areas	
GOB. 1. Strategic vision and implementation	41.7%
GOB. 2. Efficient management	15.0%
GOB. 3. Transparency and participation	55.0%
GOB. 4. Responsibility and control	57.3%

Table 6 Assessment of the destination by pillars

Overall assessment of the destination	38.9%
GOB. Governance	45.6%
INN. Innovation	23.0%
TEC. Technology	24.2%
SOS. Sustainability	46.7%
ACC. Accessibility	43.4%

The following Table 6 illustrates the results of the destination used as an example, exactly as it is presented to the destination, with the individual scores for each pillar of action and the total score, applying the corresponding weight to the result of each pillar based on its contribution to the model.

5.7 *The Different Territorial Scales of Application of the DTI Model*

The different scales to which the DTI model can be applied: tourism destinations at municipal level, groupings of small destinations such as associations of municipalities and counties, destinations integrating regions, etc. is essentially the result of the work carried since 2021.

The application of the DTI diagnostic methodology at the supra-municipal level is a relatively recent phenomenon that has been particularly driven by the willingness of several regions in Spain to promote the implementation of the model at the county level. This is the case of the Basque Country, through Basquetour, which has been promoting the implementation of the DTI model in different Basque counties (see the text box below), the Region of Murcia, and more recently the Barcelona provincial government.

5.7.1 Basque Model of Territorial Tourism Development

In 2018, Basquetour, together with SEGITTUR and in collaboration with Donostia Tourism, launched the first ever pilot project in the Basque Country to start applying the DTI model in the Donostia / San Sebastián destination to turn it into a municipal destination.

After this first pilot, and with the aim of continuing with the progress made with the DTI project, in 2019, Basquetour, together with SEGITTUR and in collaboration with the Vitoria-Gasteiz City Council, applied the same DTI model in the Vitoria-Gasteiz destination to turn it into a municipal destination.

Following these two positive experiences, and in order to be able to offer the same opportunity to the rest of the Basque destinations, Basquetour informed SEGITTUR of its need for the existing DTI model to be applicable to the regional level, thus moving beyond the PTI (Smart Tourism Product Master Plan), given that, based on the current Basque Model of Territorial Tourism Development, the destinations of the Basque Country are to a greater extent at the regional level compared to the municipal level.

Therefore, SEGITTUR asked/allowed Basquetour to adapt the existing model to the regional area. As such, Basquetour carried out a first theoretical exercise of adapting the DTI model to six Basque destinations (Bidasoa, Debagoiena, Goierri, Rioja Alavesa, Uribe and Valles Alaveses) and then piloted the adapted DTI model in three of them (Goierri, Uribe and Rioja Alavesa), which set them apart in August 2022.

Now that they have reached this point, Basquetour continues to apply the DTI model in its destinations, both in the renewal process and in the first diagnosis process, at municipal and regional levels; five new destinations are currently participating in 2023 (Bidasoa, Bilbao, Debagoiena, Getxo and Valles Alaveses) with the spirit of gradually extending the model to more Basque destinations that require it.

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The Region of Valencia, through INVAT·TUR, has been reflecting on the difficulty involved in applying its DTI self-diagnosis model (described at the text box below) at the supra-municipal level, identifying some problems associated with it: The difficulty of coordinating departments belonging to different municipalities, the lack

of powers at the supra-municipal level (limited by law or by interpretation regarding promotion), the different rhythms, interests or priorities regarding tourism management or other related matters. From the point of view of Valencia, as they indicate in the "*Study on the adaptation of the methodology and indicators of the DTI-CV model to the supra-municipal level*" (2021), it is not viable to apply the model at territorial levels higher than the municipal level, and the option they offer destinations of this type is the implementation of what has been called the *Smart Tourism Product Master Plan* (PTI).

5.7.2 Principles of the Development of the Smart Tourism Destinations Model of the Region of Valencia (DTI-CV)

The Region of Valencia has maintained a clear commitment to its transformation on the basis of the Smart Tourist Destination model since its design and implementation in 2014 by Turisme Comunitat Valenciana, through the Valencian Institute of Tourism Technologies (Invat·tur). Since then, the Region of Valencia has developed a legislative, strategic and operational framework that guarantees the deployment of the DTI-CV model (Fig. 4) and technical support to the Valencian tourist area.

Law 15/2018 on tourism, leisure and hospitality, whose articles make clear references to smart management and tourism governance, promoting the implementation of the DTI-CV model, is worth mentioning in this regard. The Tourist Municipality Statute regulates the criteria that municipalities must fulfil and the obligations they must undertake in order to obtain and maintain their tourist status, including the adaptation of the DTI-CV model, while the Region of Valencia's Strategic Tourism Plan 2020–2025 places transformation into a smart territory at the center of the region's vision for the future of tourism, and it also sets out specific lines and programs in terms of smart planning and management.

Finally, the Smart Tourist Destinations Network of the Region of Valencia represents the governance tool between destinations that, since its creation in 2019, has allowed for the transfer of knowledge, exchange of good practices and testing of management tools. The only regional network of its kind in Spain, the DTI-CV Network encompasses destinations of all kinds under a common model, adapted to both municipal and supra-municipal levels.

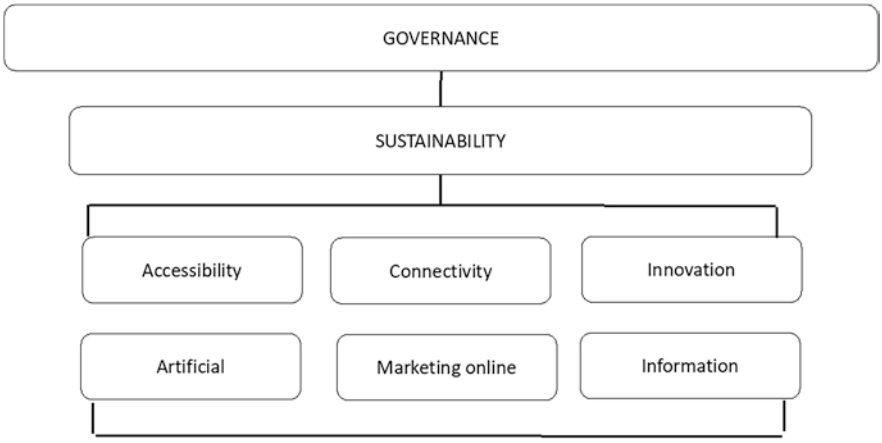

Fig. 4 DTI-CV model (axes)

The vision under which the DTI-CV model is designed and developed is characterised by two basic principles:

- Smart Tourist Destinations model as a management model in itself, focused on the changing reality of tourist destinations, which implies its permeability to changes, challenges, requirements, and indicators and, therefore, its consideration as a model for the continuous improvement and progress of tourist destinations.
- Smart Tourist Destinations as a model based on governance, the pillar on which its implementation hinges and from which the transformation of destinations towards this new management model must be carried out, from a technical cross-cutting nature, public–private collaboration, and social participation.

Ph.D. David Giner, Universidad de Alicante, Spain.
Invat·tur technician and coordinator of the DTI-CV strategy.

The concept of "county" in Spain corresponds to a group of small, relatively close municipalities in a relatively homogeneous territory. This is a territorial level of enormous importance in Spain, perhaps one of the most suitable instruments to try to correct the intra-regional spatial imbalances that have developed over the last 30 years. These are local entities formed from the grouping of several small bordering municipalities, with common geographical, economic, social, or historical characteristics, and belonging to the same province for the management of local authorities and services, as defined in article 3.2.b of Law 7/1985, of April 2, regulating the Bases of the Local Governance.

The county, considered as an institutionalized territorial entity, with full legal personality and endowed with technical, administrative, and financial means, beyond the specifically tourism field, has a key role as a special framework suitable for identifying and resolving regional imbalances. This is an instrument that allows for working on the preservation and management of natural resources, the adequate planning of infrastructures and, of course, the planning of the tourism activity that takes place there, promoting intra-regional policies that allow for overcoming the imbalances of the urban network. For this reason, the role they can play in the development and implementation of the DTI model in Spain is important.

SEGITTUR's commitment to the development of a county-based DTI model responds to the idea that the county, as a local entity, could be one of the primary instruments for the structuring of the territory in the Spanish regions. This is especially true of an activity such as tourism, which takes place in a territory through which the tourist moves without being aware of its administrative delimitations, and in which proper tourism management depends enormously on the necessary supramunicipal cooperation.

The county-based DTI model that has been developed by SEGITTUR takes into account the fact that the territorial base of the county rests on municipalities that share common interests that need their own management or require the provision of common services. Therefore, any DTI diagnosis that is carried out on the provision of tourist services of municipalities whose management is shared, in any of the five pillars of the model, will require a specific approach for it. In the same way, the recommendations made as a result of the diagnosis cannot be defined for a specific municipality but for the sum of all the municipalities in the same county.

In the case of the model developed by SEGITTUR, it was considered preferable to maintain at the county level an approximation similar to that normally used at the municipal level, without overlooking the above-mentioned difficulties, which were confirmed in the fieldwork carried out. SEGITTUR carried out a study in 2021 and 2022, in collaboration with the tourism professionals of the Basque Government's Department of Tourism, Trade and Consumer Affairs, through Basquetour. This study, carried out on the basis of the pilot projects in the counties of Goierri, Uribe, and Rioja Alavesa, sought to adapt the DTI diagnostic methodology to the Basque counties, with the idea of being able to transfer the results to other territories in the national level.

The adaptation of the DTI diagnostic methodology to the supra-municipal level, for the sake of comparability and methodological homogeneity with other destinations, respecting the essence of the DTI model, did not entail major changes with respect to the general methodology. As a result of the learning process, the methodology adapted in the Basque Country, which we could call the *Eskualdea DTI model*, has been successfully used in other Spanish counties, such as Sierra Espuña in the Region of Murcia.

At a county level as well, the smart tourism destination methodology is based on five lines of action, governance, innovation, technology, accessibility, and sustainability, which involve the assessment of 261 indicators and 97 requirements. In the case of a county destination, the requirements must be met at the county level, as this is the territory being diagnosed, bearing in mind that the source of information on each requirement does not always have to be the managing body—it must be whoever has the data or is competent in the matter.

The big difference between a municipal methodology and a county-based one, more than the requirements themselves, which are generally the same, lies in the entity or institution that has jurisdiction over public policy and is the source of the data to justify each requirement.

Another difference when applying the DTI model to a county or supra-municipal entity lies in the launch or implementation of the action plan resulting from the DTI diagnosis due to who has the competencies to undertake each action. There are also cases in which the powers are not identified at the level of counties or associations of municipalities but are located at the province or regional level. This reflects the need and the fundamental role of the councils and general tourism directorates of the regions of Spain, such as Basquetour in the Basque Country, as catalyst agents of the DTI model, especially when it comes to promoting the application of action plans so that a tourism destination comprised of counties can become a DTI.

In order to adapt the DTI methodology, some of the indicators have had to be adjusted, changing, for example, from assessing whether the destination has a municipal urban development plan to whether there is a territorial development plan in the county, or analyzing public transport between the municipalities of the county and outside it, instead of assessing its urban municipal transport—i.e., the focus is placed on the destination at the "supra-municipal" level (county or association of municipalities). These changes imply that, in the process of gathering information in the field to carry out the diagnosis and its subsequent validation, involvement is

needed from each municipality independently, the body that coordinates tourism at the county level and the autonomous region, provincial council or entity with specific competences in each matter.

In areas with small towns and sparse populations, one of the advantages of the county-based DTI analysis compared to the municipal one, among the smallest municipalities, is the possibility of having official and comparable statistical information on different variables at the county level to feed the diagnosis, which would otherwise be very difficult to obtain.

In some regions of Spain, the county DTI model developed will also be applied to the scope of the associations of municipalities, which, although there are some differences with the counties (from the point of view of their greater legal flexibility), they share the practice of managing the common interests of several municipalities in an integrated manner.

In short, there has been an effort to defend the role that the county level can play, from a smart tourism perspective, as an opportunity to promote greater inter-territorial integration, to address the effects of depopulation, to build arguments around the tourism narrative and to provide county managers with a diagnostic tool to anticipate and respond to the tourism challenges that Spain, with its different administrative and jurisdictional structures, has ahead of it.

In any case, regardless of the territorial scale at which the DTI methodology is applied, all of them will be interested in highlighting how these destinations' adoption of the DTI model contributes to the fulfillment of the United Nations 2030 Agenda for Sustainable Development. Some of these relationships will be discussed below.

6 The Link Between the DTI Model and the Sustainable Development Goals

In September 2015, the United Nations General Assembly adopted the *2030 Agenda for Sustainable Development*, an action plan for people, the planet, and prosperity, which also seeks to strengthen universal peace and access to justice. The Member States of the United Nations approved a resolution in which they recognize that the greatest challenge in the world today is the eradication of poverty and affirm that, without achieving this, there can be no sustainable development.

To the extent that tourism is one of the driving forces of global economic growth, currently provides 1 in 11 jobs worldwide and is one of the leading industries in Spain, it was essential to link the DTI methodology with the achievement of these objectives, not only in larger destinations and cities, but especially among rural territories and much smaller-scale destinations.

Thus, in the current DTI methodology, it is possible to establish an explicit relationship between compliance with the requirements of a DTI and its direct or indirect contribution to achieving many of the 17 Sustainable Development Goals (SDGs). Specific examples include *Goal 4 "Quality education"* and its target *4.7*

"Acquire the knowledge necessary to promote sustainable development," which corresponds directly to a requirement of the DTI methodology, "*to promote training programs on sustainable tourism development in the destination, its managing body and the private sector*" (For further details, check chapter "The Pillar of Sustainability in the Spanish Smart Tourism Destination (DTI) Model," sustainability pillar, requirement 33).

Another good example can be found in relation to *Objective 5 "Gender equality"* in terms of requirements aimed at maximizing the inclusion of women in the tourism sector and equal working conditions, both of which have been taken into account within the DTI methodology. Other objectives, such as *6 "Clean water and sanitation," 7 "Affordable and clean energy,"* or *11 "Sustainable cities and communities,"* are precisely the basis of the sustainability pillar of the Spanish Smart Tourism Destinations model. Others, such as *13 "Climate action," 14 "Life below water,"* or *15 "Life on land,"* have been at the heart of sustainable tourism development models for decades and are also at the heart of the DTI model. Readers will realize all these multiple connections between the DTI methodology and the SDGs on the following chapters, where the DTI pillars, with their respective areas of action and requirements, are presented in detail.

As mentioned, the aim is to offer a working methodology to destinations that can adapt to the changes and challenges brought about by the development of the global agenda, promoting action at the local level without losing sight of the global horizon, acting in the short term to preserve resources in the long term. This is without neglecting these principles, more relevant than ever, that were established more than 25 years ago by Agenda 21 during the United Nations Conference on Environment and Development or "*Earth Summit*" held in Rio de Janeiro in 1992—this is a methodology that looks to the future without losing sight of the values, principles, and guidelines that are more valid than ever in today's context.

The following Sect. 7 will give an overview of the degree of implementation of the DTI model by Spanish tourism destinations of different types and sizes. This is a process which has particularly accelerated over the last 2 years as Spain has been emerging from the impact that the COVID-19 pandemic has had on the tourism sector and its actors.

7 The Implementation of the DTI Model in Spain

In the year 2023, the national program for smart destinations in Spain will have completed 10 years since its launch in 2013. During this period of time, the DTI model has evolved based on accumulated experience, interaction with the work carried out by the DTI-CV program in the Region of Valencia developed by INVAT·TUR, the testing carried out with public and private experts in the different areas of the model, and at all times, striving to adapt to a changing reality, such as the one brought about by the pandemic, the crisis caused by the war in Ukraine, or the rise in inflation levels throughout Europe.

To date, more than 100 destinations in Spain have gone through the DTI diagnostic process, in its different methodological versions. Most of them are already working with the latest methodological version available and included in this manual, and others are in the process of migrating to it. This is a number more than large enough to reaffirm the validity of the model and the growing interest that the concept of Smart Tourism Destination continues to arouse among Spanish tourism destinations, especially in the last 2 years.

The destinations that have implemented the DTI model in the last 10 years include very different types and sizes, which has made it possible to compare the success of the DTI model in territories with very diverse characteristics, and which provide a very representative sample of tourism in Spain. Without attempting to list them exhaustively, it is possible to highlight some consolidated destinations considered to be among the great benchmarks of sun and beach tourism in Spain, such as Benidorm, Salou, Arona, Lloret de Mar, Castelldefels, Calvià, Torremolinos, Conil, Sitges, Peñíscola, or Marbella; tourism cities par excellence on the Spanish coast such as Malaga, Valencia, Palma de Mallorca, Santa Cruz de Tenerife, Las Palmas de Gran Canaria, Almeria, Santander, San Sebastian, or Gijón; inland tourism destinations that are representative of Spain's artistic and cultural heritage, such as Seville, León, Salamanca, Cuenca, Valladolid, Logroño, Vitoria, Burgos, Cáceres, Mérida, or Granada; and finally, we should also mention small rural coastal or inland towns with unique tourist attractions, such as Castropol, Cangas de Narcea, Cuellar, Hellín, Santa Margalida, Noja, or La Adrada.

All this accumulated experience has enabled the creation of a database of recommendations and good practices which, linked to each of the requirements and indicators of the DTI model, allows for offering destinations guidance, practical references, and successful experiences in other destinations when designing their action plans and identifying policies, measures and instruments to implement. This is perhaps one of the greatest appeals that the DTI model currently offers. In this manual, specific examples of these recommendations are included in the chapters on each of the DTI model's pillars. Additionally, a collection of good practices is provided in chapter "The DTI Model Experience: Best Practices on Smart Destination Management," illustrating how different destinations have adapted the different DTI pillars to their realities, introducing a wide range of solutions which may serve as example for other similar destinations.

Ten years of learning, development, and transformation of a model that must continue to evolve with the times, constantly updating in order to continue to respond to the new challenges that arise and the needs of the destinations that implement the model. The challenge is twofold: first, to continue offering the possibility of carrying out the DTI diagnosis for new interested destinations and to migrate to the new methodological version to all those who have not yet done so, and second, to be able to monitor the progress of those who have already carried it out, offering them support and recommendations throughout the implementation of the DTI action plan.

At the same time that the level of implementation of the model in Spain has been spreading, it is important to note that the DTI methodology has also been well

received internationally, mainly on the American continent. The last section of the chapter deals with this process of extending the model at international level, which has been aided by the constant references to the Spanish DTI model by some of the main international organizations that have been acting in the field of tourism as prescribers of public tourism policies.

8 Presence of the SEGITTUR DTI Model at an International Level

It is also necessary to highlight here, as an achievement of the last 2 years, the strong boost to the internationalization process that the DTI model developed by SEGITTUR in Spain is experiencing—especially in Latin America, although not exclusively, and more and more European and Asian countries are becoming interested in the methodology that has been developed in Spain. Through this process, Spain consolidates its international leadership as a benchmark in public tourism policies, while at the same time promoting the internationalization of Spanish tourism companies that provide innovative services and solutions related to the new model.

In the international sphere, the great influence of large multilateral organizations on the global political agenda cannot be overlooked, both from the perspective of identifying major challenges, as well as from the point of view of promoting certain policies and instruments that serve countries and their territories. It is therefore very relevant to mention the fact that in recent years some of these organizations have included smart destinations for the first time in their collection of recommendations and good practices in tourism. Examples of this presence include:

During the UNWTO Executive Council held in San Sebastian in 2018, the Vision and priorities of its 2018–2019 Work Program were approved, including Priority 1 "*Making tourism smarter: Innovation and digital transformation*," which expressly mentions the desire to "*Promote smart tourism destinations*"—the first time that the UNWTO mentioned them in its Work Program.

A year later, in 2019, during the UNWTO World Urban Tourism Summit in which more than 80 countries participated, the *Nur-Sultan Declaration on Smart Cities* was developed, where countries are encouraged to adopt the holistic concept of the smart destination in the development of urban tourism based on the same five pillars of the Spanish model.

The same year, the UNWTO published its "UNWTO Guidelines for Institutional Strengthening of Destination Management Organizations (DMOs): Preparing DMOs for new challenges" in which the concept of a smart destination supported by the five pillars of the Spanish model is expressly mentioned, and where Destination Management Organizations (DMOs) are recommended to transform the destination into a smart destination.

The OECD report "OECD Tourism Trends and Policies 2018" included the Spanish Smart Tourism Destinations initiative as a best practice for tourism and mentions the role of SEGITTUR in its development. During the session of the *OECD Tourism Committee* that took place in Paris on 27 March 2018, special attention was devoted to Spanish initiatives in the field of Smart Tourism Destinations with SEGITTUR's participation. Additionally, among the megatrends identified by the OECD as being chiefly responsible for redefining the tourism sector in the coming years, Smart Tourism Destinations are specifically mentioned.

The Inter-American Development Bank (IDB), in its *Tourism Sector Framework of July 2017*, includes within its Lines of Action and Activities planned in the Ibero-American region the need for the "Analysis of the feasibility of implementing smart destinations based on the use of ICTs to promote innovation and to interconnect the tourism value chain." Again, this is the first time that the IDB mentions smart destinations in a tourism sector framework.

In 2022, the IDB published its new *Tourism Sector Framework*, drawn up by the Environment, Rural Development and Disaster Risk Management Division, which defines the IDB roadmap for the coming years in terms of tourism. The report identifies the main challenges facing the American region in relation to tourism activity, and one of the five challenges it identifies refers to the "need to improve tourism governance" by strengthening the capacities of Destination Management Organizations, mentioning as an example the Smart Tourism Destinations developed by Spain. The SEGITTUR definition of Smart Tourism Destinations as a strategic and operational framework for the transition of destinations toward digitalization is also mentioned when it refers to the use of new technologies in the service of better tourism governance.

The European Commission, in its "*Digital Government Factsheet 2019*," highlights for the second consecutive year the role played by SEGITTUR, and the Smart Tourism Destinations and Tourism Intelligence Systems projects, as relevant elements of Spanish public policies, and as a reference in the field at international level.

Meanwhile, since 2018, the European Commission has also been running an open process to select the *European Capital of Smart Tourism*, which once again highlights the enormous interest in a concept in which Spain has been a pioneer.

Finally, it is worth mentioning the recognition that Spain received, for the first time, just a few months ago in Seville from the World Travel and Tourism Council (WTTC)—the only international organization that brings together the main players in the travel and tourism sector (airlines, hotels, cruises, car rental, travel agencies, tour operators, global distribution systems, and technology companies)—for its contribution in the field of technological innovation, with specific mention of initiatives such as Smart Tourism Destinations.

It is important for the Spanish DTI model to be recognized as a benchmark in terms of public tourism policies in the areas of technology and innovation applied to destination management and digitalization, especially by organizations that define the global tourism agenda, its priorities, as well as the availability and destination of available multilateral funds, such as the UNWTO, the OECD, the IDB, and the European Commission itself.

Among the American countries with destinations that have implemented the Spanish DTI model with the assistance of SEGITTUR, Colombia stands out as the first country in the American region to include in its Tourism Law an express reference to the concept of Smart Tourism Destinations, in Article 11. The Spanish DTI model has been implemented in Medellin (Department of Antioquia), Bogota (Bogota Capital District within the Department of Cundinamarca), Santiago de Cali (Department of Valle del Cauca), and Bucaramanga (Department of Santander).

Secondly, we should highlight Mexico, where a first pilot DTI diagnosis was carried out on the island of Cozumel, which unfortunately did not continue over time, and the successful project in Tequila (State of Jalisco), where the DTI model has been implemented and been developing for over 4 years until becoming recognized as a Smart Tourism Destination in 2022.

Two other recent successful implementations of the DTI model in the Americas are the capitals of Uruguay, in Montevideo, and Paraguay, in Asunción. In both cases, a very strong commitment has been made to the model, which in the case of Paraguay has been directly promoted by the Ministry of Tourism of Paraguay. The case of Cuba is also worth mentioning, where the Ministry of Tourism of Cuba has undertaken to implement a pilot of the DTI model in Cayo Largo del Sur and at the same time adapt the methodology to the specific situation of Cuba.

Apart from the aforementioned initiatives that have made a commitment to the implementation of the Spanish DTI model and have had the direct support of SEGITTUR in the process, there are other initiatives in Latin America that, based on an adaptation of their own model, are also developing their own DTI model. This is the case of Brazil, which has adapted the UNE 178501 and 178,502 standards to the Brazilian context in an initiative led by the Brazilian Ministry of Tourism itself. The main destinations in Brazil where the model is being implemented include Rio Branco and Palmas in the North, Recife and Salvador in the Northeast, Campo Grande and Brasilia in the Midwest, Florianópolis and Curitiba in the South, and Rio de Janeiro in the Southeast. Argentina has also developed its own network of smart destinations, as well as a standard equivalent to UNE 178501. Finally, it should be mentioned that in 2022, the first Ibero-American Network of Smart Tourism Destinations was created with the support of tourism destinations in Mexico, Brazil, Argentina, Colombia, and Uruguay. They are currently in the process of consolidating the Network.

Proof of the interest and enthusiasm that the DTI initiative has aroused among Latin American countries can be seen in the fact that many of them have attended the three international conferences on smart destinations that have been held to date in Spain in conjunction with the UNWTO: in Murcia in 2017, in Oviedo in 2018, and the most recent one held in Valencia in November 2022.

Appendix

John Mora has been shaping sectoral solutions and policies for the competitive development of tourism and its social and territorial impact for more than 25 years. His main focus is the design of sectoral models for accelerating digital and green transitions, integrating stakeholders to project scenarios and defining operational frameworks. He is an expert in the tourism domain in the combined aspects of strategy, technology and innovation. He has developed his expertise for governments and corporations in more than 11 countries and international organisations. As CEO of Globaldit he leads teams in the development of business lines and promotes active collaboration scenarios with public and business stakeholders. As VP of the Smart Cities Commission of Ametic, he promotes the approach of the digital industry to the tourism industry with large tractor and specialised companies for the creation of strategic spaces for innovation in tourism.

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