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INNOVATION
IN TOURISM SECTOR

Strategic Projects and
Technological Transfer Processes
for the Competitiveness
of the European Market

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ECONOMIA - *Ricerche*

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SUMMARY

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ABBREVIATIONS

AI	Artificial Intelligence
AR	Augmented Reality
B2B	Business to Business
B2B2C	Business to Business to Consumer
B2C	Business to Customer
BOS	Booking Online System
CDP	Cassa Depositi e Prestiti
CIR&S	Research and Development tax credit
CMS	Content Management System
CRM	Customer Relationship Management
CRS	Central Reservation System
DL	Decree Law
DLT	Distributed Ledger Technology
DMC	Destination Management Company
DMO	Destination Management Organization
EC	European Commission
EEA	European Economic Agreement
EFSI	European Fund for Strategic Investments
EIB	European Investment Bank
EIF	European Investment Fund
EIS	European Innovation Scoreboard
ERDF	European Regional Development Fund
ESIF	European Structural and Investment Funds
EU	European Union
FNI	Fondo Nazionale Innovazione
GPS	Global Positioning System
ICT	Information and Communication Technology
IoT	Internet of Things
ISA	Italian Startup Act

KPI	Key Performance Indicator
LBS	Location-Based Services
MSME	Micro-Small and Medium Enterprises
NFT	Non-Fungible Token
NGO	Non-Governmental Organization
NLP	Natural Language Processing
OECD	Organization for Economic Cooperation and Development
OTA	Online Travel Agency
PMI	Piccole & Medie Imprese
PMS	Property Management System
PNRR	Piano Nazionale di Ripresa e Resilienza
PON	Programma Operativo Nazionale
SaaS	Software as a Service
SBA	European Small Business Act
SDG	Sustainable Development Goals
SME	Small and Medium Enterprise
SPIN	Scaleup Program Invitalia Network
UNWTO	United Nations World Tourism Organization
USP	Unique Selling Proposition
VC	Venture Capital
VR	Virtual Reality
WP	Work Package
XAI	Explainable Artificial Intelligence
XR	Extended Reality

EXECUTIVE SUMMARY

The present document aims to achieve the objectives of *Spoke 02 – Innovation and Sustainability for the Competitiveness of Tourism and Heritage SMEs in Marginal Markets*. It is included in Milestone 3 and, in particular, in the *WP3 Start-up & Spin-off Programme, Training, Monitoring the Impact of Innovation Actions on Affected SMEs*. It provides a research project to fulfill Task 3.4, which undertakes a global scouting mission to identify and analyze innovative projects related to tourism and cultural heritage across the European Union, in order to identify and exploit emerging trends, opportunities, talents or information that can be strategically applied to improve tourism and cultural heritage management in Sardinia.

In Table 1, it can be observed the alignment with tasks and objectives required by WP3, and the intersection with tasks and objectives of the previously provided deliverable.

This research work also lays the groundwork for a link with what was analyzed in Deriverables related to WP1, task 1.1, entitled: *e.INS – Ecosystem of Innovation for Next Generation Sardinia – Spoke 2 PNRR Innovation Project for Communication of Touristic destinations* (*Authors: M. Iesu, A. Usai, F. Morandi*) about communication models and innovative solutions to improve the gaps in communication models currently used in Sardinia.

This study entitled: *Scouting innovation projects of tourism and culture in the European landscape. Mapping and analysis of European projects and study of possible applications in the regional context*, aims to answer the research question: how can the innovative approaches and technologies employed by successful European startups in the tourism and hospitality sectors be adapted to enhance cultural heritage, tourism engagement, and economic development in the Sardinian regional context?

With this perspective then, the paper aims to identify and analyse innovative start-ups or projects in the tourism and cultural heritage sectors in Europe, focusing on the key factors that have contributed to their success.

Table 1. Alignement with SPoke 2 (WP3) Objectives and tasks. Authors Elaboration

MILESTONE	WPS	TASK	TARGET
DELIVERABLE 14 – Scouting of new and innovative projects (22/08/2024)			
M 3.2 Completion of the program "Establishment and support of start-up and spin off"	**WP3:** Start-up and Spin-off Programme. Training. Monitoring the impact of innovation actions on relevant SMEs.	**3.4** Scouting of new and innovative projects	**21:** Organization of (2) brokerage events with the aim of sharing benchmarks/best practices among SMEs and the search for new innovative projects
INTERSECTION WITH DELIVERABLE 1/3 - Recognition of the elements that need to be strengthened in relation to firms operating in tourism and cultural heritage (31/12/2023)			
M11-2 - Analysis of the entrepreneurial landscape. Baselines definition Constant monitoring and feedback activities	**WP1** Contest Analysis Technological laboratory & Development of a multidimensional platform	**1.1** - Recognition of the elements that need to be strengthened concerning firms operating in tourism and cultural heritage/implementation of scientific investigations related to the enhancement of the BBCC/Data collection, mapping and clustering of all firms operating in Sardinia in the area related to tourism and cultural heritage	**026** Analysis of the territorial scenario and definition of the baseline in reference to the themes of Digitization, innovation and competitiveness in the regional production system

Using qualitative research methods, the operations, strengths and main strategies of the selected start-ups were examined and their potential application in the regional context will be assessed. The main objectives are as follows:

1. Identification and analysis of successful european startups.
2. Identification of key success factors.
3. Assessment of applicability of Sardinia.

Methodology: The research methodology based mainly on qualitative methods involved the scouting of 68 European projects, from which a representative sample of 27 projects was drawn, one per European country according to the following criteria:

• *Geographical criteria*. Selection of at least one innovative project per EU Member State to ensure complete geographical coverage.

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- *Thematic criteria*. Selection of projects belonging to the macro-category of tourism and cultural heritage, with diversified sub-categories (e.g. communication, services, nautical, information management), to meet the needs of the regional context.
- *Types of innovation*. Inclusion of projects demonstrating different types of innovation, not necessarily through advanced technologies but through tangible improvements in the tourism/cultural heritage sector, responding to the specific needs of Sardinia.

The study revealed numerous innovation opportunities for businesses in the tourism and cultural heritage sectors, highlighting the importance of adopting advanced technologies, such as artificial intelligence, to improve customer experience, optimise operations and promote sustainability. These technologies have proven to be crucial in addressing industry challenges and enhancing the value of cultural heritage. Future perspectives of the study include the practical application of innovative projects, such as Hubcore.AI (on which a focus was essential), and the organisation of brokerage events to facilitate and encourage cross-fertilisation, enabling SMEs to actively participate in an innovation ecosystem that provides the tools to translate and implement the trends identified in the research.

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INTRODUCTION

In an increasingly globalized world, tourism and cultural heritage play a fundamental role in supporting economic growth while preserving historical patrimony and encouraging cross-cultural exchange. This is especially true for the Sardinian economy, where they serve as major economic drivers. The island's distinctive combination of stunning landscapes, historical venues, archaeological sites, and rich cultural traditions attracts a significant number of visitors every year, considerably contributing to regional revenue. Besides supporting the tourism sector, the preservation and promotion of Sardinia's cultural heritage stimulates related industries, such as hospitality, yachting, and crafts, fostering employment opportunities and territorial development. In such a scenario, innovation becomes crucial for the generation of new solutions to address contemporary challenges within these industries. In fact, innovative projects can enhance visitor engagement through digital technologies, promote sustainability through eco-friendly practices, and foster inclusivity by making culture and tradition more accessible.

The bibliographical review will provide a comprehensive theoretical and contextual framework for research, focusing on several key areas. The first step in this direction is to develop a new approach to innovation based on its general definition and its application in the tourism sector, including an overview of the importance of innovative projects. The review will explore their fulfillment in innovative SMEs and start-ups, delve into the definition of these kinds of enterprises, their national and European regulatory frameworks, including institutional support projects and funding options, and the main gaps and challenges. Finally, the review will take into account international rankings and trends in innovative start-ups. This structured approach will help to define research questions, identify strengths and provide a reference point for evaluating results.

The methodology involves examining at least one innovative project from each of the 27 EU Member States on the basis of a number of identified criteria, focusing in particular on the strengths of each to highlight best practices and innovative approaches. The results reveal a wide range of initiatives, from digital heritage preservation and immersive cultural experiences to sustainable tourism models. Furthermore, in a second phase of analysis for each project, the application in the Sardinian context was investigated to highlight tangible benefits. These positive impacts underline the importance of adopting innovative approaches to tourism and cultural heritage management. The objective is to provide useful insights for adopting and adapting innovative solutions throughout the Sardinian business fabric, enhancing the region's tourism offer, and preserving its cultural heritage for future generations.

1.1. Research question & research objectives

RQ: "How can the innovative approaches and technologies employed by successful European innovative projects in the tourism and hospitality sectors be adapted to enhance cultural heritage, tourism engagement, and economic development in the Sardinian regional context?".

Starting from this question, this study aims to identify and analyze innovative startups or projects in the tourism and cultural heritage sectors in Europe, focusing on key factors that have contributed to their success. Using qualitative research methods, the operations, strengths, and main strategies of the selected startups will be examined and their potential application in the regional context will be assessed.

A thorough thematic analysis of the collected data has been conducted to identify recurring themes and success determinants. Subsequently, the study assesses the compatibility of these innovative approaches with the tourist and cultural context of Sardinia through an analysis of its specific characteristics. Additionally, the research evaluates the potential benefits that such projects could bring to the regional ecosystem. The key objectives that correspond with the three main research steps are:

1. *Identification and analysis of innovative European startups*. A detailed analysis of remarkable startups demonstrating significant success.
2. *Identification of key success factors*. Examination of factors that have enabled these startups to achieve and sustain success in a competitive market through thematic analysis.
3. *Assessment of applicability to Sardinia*. Evaluation of the relevance and

potential impact of these innovative approaches within Sardinia's unique tourism and cultural landscape and the benefits they could bring to the region.

1.2. Methodological criteria

The research methodology incorporates a qualitative approach to ensure a comprehensive analysis. The rationale behind using a mixed approach is to exploit the strengths of qualitative data, providing an in-depth understanding of the research topic. Qualitative methods will be employed as they allow a thorough exploration of complex phenomena, producing a detailed and nuanced view of the activities and strengths of innovative projects. In practice, this approach involves the detailed examination of at least one relevant innovative project in each of the EU Member States in the tourism and cultural heritage macro-category that was launched no more than 10 years ago, with priority given to younger projects.

- *Geographical criteria*. The choice of selecting at least one project per country is intended to favor widespread coverage and to have an overview of the innovation culture in all European countries for better contamination and application in the regional context.
- *Thematic criteria*. Selected projects belong to the macro category of tourism and cultural heritage and fall into different subcategories (e.g., communication, services, nautical, information management) with a perspective of a possible application of projects in the regional context. The projects selected are in line with the needs of the Sardinia region.
- *Types of innovation*. The selected projects demonstrate different types of innovation, not necessarily through the implementation of advanced technologies but through tangible improvement concerning the tourism sector. Responding to the unique needs and characteristics of Sardinia, these projects promise to increase the attractiveness of the region as a tourist destination, promote economic growth, and preserve culture. The selected initiatives aim to bridge the gap between modern technological advances and traditional tourism, ensuring a balanced and sustainable development trajectory for the region.

In a second step, after selecting the projects, the strengths of each one and the main benefits of their possible application in the Sardinian regional context are analysed.

1.3. Data collection

To gain a comprehensive understanding of innovative tourism projects in Europe and their applicability to the Sardinian context, a systematic approach to data collection and analysis is implemented. The methodology includes a first phase of scouting according to the methodological criteria seen above (geographical, thematic criteria, and type of innovation), followed by a second phase on the construction of a representative sample of the relevant projects and their strengths. A third phase provides the comparative analysis with the impact assessment. This structured approach ensures an in-depth examination of the various factors that contribute to the success of innovative projects and their potential adaptation to Sardinia.

1.3.1. Scouting

The scouting strategy involved 69 European start-ups/projects in the fields of tourism and culture. The above-mentioned selection criteria include factors such as geographical diversity, age, theme, and type of innovation to ensure the heterogeneity of projects within the macro-theme tourism and cultural heritage and their potential impact on the Sardinian market. All projects initially mapped and evaluated for analysis are reported in Annex 1.

The data search was carried out through the Google search engine and with the fundamental help of the database provided by the *www.eu-startups.com/directory/* and *www.f6s.com/* sites. This made it possible to collect the personal data sheets and then choose among the 69 projects those valid for the representative sample introduced in Table 2.

1.3.2. Sampling

This collection approach led to the construction of a representative sample, taking into account the possible consistency with the Sardinian socio-economic fabric and the geographical coverage of at least one project per European state. The strengths of the selected projects were also studied, thus providing a diversified basis for subsequent benchmarking. In addition, the construction of the sample provided for the elimination of start-ups that are no longer active or with information that cannot be reached.

In Table 2, the shortlist of the 28 projects taken into consideration for presenting innovative practices and contextual factors considered relevant for their potential applicability in the regional context can be observed.

1.3.3. Benchmarking and impact assessment

An impact analysis was then carried out to assess the potential benefits deriving from the implementation of these innovative approaches in Sardinia. Key advantages include economic, social, and cultural impact aimed at determining the overall added value for the Sardinian regional ecosystem.

By integrating scouting, sampling, and benchmarking methods, the research seeks to provide a nuanced understanding of how innovative strategies can be adapted and implemented to improve Sardinia's tourism and cultural sectors.

1.4. Expected results and Analysis

The expected results of the research go in a twofold direction. First, to compile a substantial dataset to support the present investigation and establish a robust foundation for potential future research. Second, to analyze innovative projects in the fields of tourism and cultural heritage that can serve to enrich the regional entrepreneurial ecosystem by integrating initiatives with an international perspective.

In the phase of analysis, the representative sample was divided into clusters revolving around general themes to facilitate the research objectives. A summary table for each cluster will be presented, highlighting emergent traits, most successful achievements, and potential for implementation in Sardinia given the current context. Key thematic focuses emerged across clusters. Enhancement of the tourism experience as well as convenience and accessibility impact were recurring themes, with numerous projects prioritizing user-centric practices. Technological advancement, particularly in hospitality and guided tours, was another prominent theme, reflecting efforts to improve customer engagement and quality through innovative approaches. Finally, sustainability and environmental attention were likewise widespread among the clusters. These findings offer valuable insights for potential adaptation in Sardinia. The emphasis on sustainability and digital transformation aligns well with Sardinia's strategic goals. The successful models from other EU member states provide a roadmap for Sardinia to enhance its innovation ecosystem, focusing on areas such as digital infrastructure, user-centric design, and mobility service innovation. By leveraging these insights, Sardinia can drive meaningful improvements in its socio-economic landscape, fostering sustainable and inclusive growth.

Table 2. Reappresentative Sample, 28 Innovative Project. Authors elaboration

STATE	NAME	YEAR	SECTOR	TAGS	TOPIC / INNOVATION
Austria	Aeroficial Intelligence	2018	Aviation	**Software Development //** Surveillance Data, Analytics, Air Traffic Performance, Emission Saving, Air Traffic Procedures	Advanced data analysis and insight generation for the aviation industry (airports and in airspaces).
Belgium	Explore-Share	2015	Outdoor activities	**Travel Arrangements //** Booking platform, Outdoor community, climbing, adventure sports, Hiking, Trekking, Canyoning, Alpinism	Aa platform that connects adventure seekers with professional guides for unique outdoor activities (climbing, skiing, and hiking) worldwide.
Bulgaria	Local food	2020	Food & beverage	**Food supply chain //** Blockchain, food tracking, sustainability	A trading platform built on Corda that uses Blockchain DLT (Distributed Ledgers Technology) to trace food from farms to restaurants, promoting sustainability and transparency. The platform connects users with local, sustainable food options and offers activities like tastings and pub crawls.
Croatia	Sebastus Sailing	2019	Nautical	**Travel Arrangements //** Sailboats, tourist agency, yacht charter, nautical tourism	Online rental platform for boats and yachts and worldwide yacht charter agency for tailored sailing vacation.
Republic of Cyprus	Travelnaut	2023	Travel	**Travel, Artificial Intelligence, and Tech //** Hospitality, booking, online platform, itinerary	AI-driven travel information platform, offering extensive content and resources for planning single or multiple destination trips, road trips, and special journeys, eg. detailed itineraries and up-to-date guides.
Czech Republic	Wordee	2019	Travel	**Travel Arrangements //** Booking platform, itinerary, tourism services	A cloud-based travel platform that provides automated travel planning and booking services, utilizing advanced algorithms to optimize and customize travel itineraries. Additionally, users can store and share their trips in the marketplace and monetize them.
Denmark	EXPLOY	2016	Travel	**Marketing Services //** Digital marketing, travel, tourism, media	Exploy is a travel technology company that utilizes data-driven solutions to offer personalized travel recommendations and optimize itinerary planning for users.
Estonia	Pointship OÜ	2021	Aviation	**ICT //** Travel, Loyalty Platforms, , Blockchain, NFT, Token, Fintech.	A digital platform that offers innovative solutions for managing and optimizing frequent flyer points and travel rewards, aiming to maximize value and streamline the redemption process for users.
Finland	Vreal	2019	Guided tours	**Software Development //** Cultural Heritage , Tourism, VR, XR	Vreal is a company focused on developing advanced virtual reality solutions by leveraging Extended Reality (XR) to create engaging virtual experiences.
France	Fairlyne	2021	Aviation	**Airlines and Aviation //** SaaS, revenue management	Fairlyne.com provides a white-label SaaS solution for airlines to optimize revenue by integrating ticket resale into existing channels and managing no-shows efficiently.
Germany	Omio	2013	Travel	**Software Development //** Booking platform, Tourism, Hospitality	A comprehensive travel booking platform that aggregates options for trains, buses, and flights, enabling users to compare and book multi-modal transportation seamlessly.
Greece	Clio Muse Tours	2014	Guided tours	**Travel Arrangements //** Cultural Content Creation and Curation, Audio Tours, Tour App	The World's #1 Self-Guided Audio Tours. Clio Muse Tours specializes in the creation and curation of audio and virtual tours as well as the development of state-of-the-art technologies for cultural institutions.
Hungary	CLICKnCRUISE	2021	Nautical	**Travel Arrangements //** Cruise, nautical tourism	Travel platform specializing in cruise bookings, offering a streamlined experience for selecting, comparing, and reserving various cruise options.
Ireland	Cultural Roadmapp	2017	Guided tours	**Travel Arrangements //** Cultural Content Creation, Audio Tours, local tourism	GPS-guided audio app for planning and navigating self-guided road trips across Ireland, featuring itineraries, maps, and local attractions.

STATE	NAME	YEAR	SECTOR	TAGS	TOPIC / INNOVATION
Italy	Takyon	2022	Travel	**Travel Arrangements //** Hospitality, booking, online platform, itinerary, blockchain, NFT	Platform for managing and optimizing travel experiences, focusing on enhancing efficiency and personalization in booking and itinerary management. It enables individuals to convert their hotel reservations into resellable digital assets (NFTs)
Italy	Destination Italia s.p.a.	2016	Travel	**Travel Arrangements //** Hospitality, booking, online platform, itinerary, AI, experiences, virtual concierge	The company leverages an advanced technological approach through the HubCore platform, integrating AI and automation to optimize tourism service management and enhance booking interactions.
Latvia	Apgrieztā māja • The Upside-Down House	2022	Guided tours	**Travel Arrangements //** Entertainment, tourism services	Architectural installation that inverts traditional design elements to create a visually unique experience. This project integrates innovative spatial design with interactive engagement, offering both a novel tourist attraction and an educational exploration of perceptual dynamics.
Lithuania	SEARADAR	2017	Nautical	**Travel Arrangements //** Charte, yacht rentals, nautical tourism	A unique concierge service for booking yachts powered by AI
Luxembourg	Travelsify	2016	Hospitality	**Information Technology & Services //** Marketing, branding	Explainable AI (XAI) platform that creates Hotel Brand DNA®
Malta	Maria by Visit Malta	2023	Guided tours	**Travel Arrangements //** Cultural Content Creation, Audio Tours, local tourism	"Maria by Visit Malta" is a digital platform or campaign by Visit Malta designed to provide comprehensive information and personalized recommendations for travelers exploring Malta's rich cultural heritage, attractions, and experiences.
Netherlands	Runnr.ai	2022	Hospitality	**Information Technology & Services //** Hospitality, Artificial Intelligence , Guest Communication	RUNNR.ai automes your first-line support by using A.I. and integrations.
Polands	Findbed	2015	Hospitality	**Travel Arrangements //** Hospitality, booking, online platform, itinerary	Booking platform that allows users to book accommodations by proposing their preferred rate
Portugal	Luggit	2019	Tourism-Services	**Travel Arrangements //** Luggage storage, tourism services, logistics	Luggit is a mobile app that offers luggage storage and delivery services, allowing travelers to securely store or transport their bags during trips, enhancing convenience and flexibility.
Romania	Questo	2017	Guided tours	**Information Technology & Services //** Hospitality , Artificial Intelligence , Gamification, local tours	Questo is a mobile app that offers interactive city tours and adventure games, allowing users to explore new destinations through immersive, self-guided experiences and challenges.
Slovakia	Travellities	2021	Travel	**Information Technology & Services //** Hospitality, bookings, turism serivices	AI travel agent for personalized trips on demand
Slovenia	Nexto	2016	Guided tours	**Information Technology & Services //** Hospitality , Artificial Intelligence , Gamification, local tours	A cultural engagement platform that uses augmented reality and gamification to create interactive, location-based storytelling experiences, enhancing the visitor experience at cultural tourism destinations like museums, historic cities, and nature parks.
Spain	Beder	2020	Travel	**Information Technology & Services //** Hospitality , Artificial Intelligence , Gamification, local tours	Travel app that connects users with tourism and leisure experiences through user-generated video content.
Sweden	Be Here Then	2019	Guided tours	**Information Technology & Services //** Hospitality , Artificial Intelligence , Gamification, local tours	BeHereThen is a platform that offers immersive, location-based storytelling and guided tours through augmented reality, enhancing the visitor experience at various cultural and historical sites.

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LITERATURE REVIEW

The aim of the research is represented by the scouting mission to identify and analyze innovative projects related to tourism and cultural heritage, which necessitates a systematic and multi-faceted approach encompassing a qualitative methodology. This process involves the exploration of emerging trends and technological advancements that can enhance the preservation and promotion of cultural heritage while simultaneously boosting tourism (Richards, 2018). Key areas of interest include the application of digital technologies such as artificial intelligence (AI), augmented reality (AR) and virtual reality (VR), which offer immersive experiences and new ways to engage with historical sites and artifacts (Tom Dieck & Jung, 2017). Additionally, sustainable tourism practices that prioritize the conservation of cultural resources and the involvement of local communities are crucial components of such innovative projects (Timothy, 2011). By conducting thorough evaluations of these initiatives, researchers can identify best practices and scalable solutions that contribute to the dual objectives of preserving cultural heritage and fostering sustainable tourism development (UNWTO, 2018). However, to fully analyze innovative projects within the tourism sector, it is essential to proceed with a comprehensive overview of the concept of innovation itself. This foundational understanding enables a contextual appreciation of how innovation drives progress across various industries. Following this, the analysis should narrow its focus to the application of innovation specifically within the tourism industry, which has distinct characteristics and dynamics. Finally, attention must be given to identifying and examining the principal innovations that have significantly influenced the tourism sector in recent years. These innovations include advancements in technology, sustainable tourism practices, and novel service delivery methods, all of which have reshaped the industry's landscape (Hjalager, 2010; Pikkemaat & Peters, 2013). By adopting this structured approach, a nuanced understanding of how innovative projects emerge and succeed in the tourism context can be attained.

2.1. Innovation in Tourism Industry: An Academic Overview

The concept of innovation, first articulated by Schumpeter in his seminal work Theory of Economic Development (1934), describes it as a mechanism capable of transforming the old economic structure into a new one, thereby acting as "the driving force of development" (Tuzunkan, 2017). The most relevant contemporary definitions of innovation are found in the various editions of the Oslo Manual by the OECD (2005-2018), where innovation is generally characterized as "the implementation of a new idea or new application of an existing idea that results either in a new kind of product or a new and better process for producing an existing product" (Divisekera & Nguyen, 2018; Ratten, 2019). More comprehensively, innovation is also described as "the implementation of a new or significantly improved product, process, marketing method, or organizational method in business practices, workplace organization, or external relations" (OECD and Eurostat, 2005, cited in Divisekera & Nguyen, 2018).

Building on Schumpeter's foundational work and the OECD definitions, Hjalager (2010) identifies five categories of innovations, though noting the difficulty in distinguishing them due to their frequent interdependencies. For example, service innovations often encompass both goods and processes simultaneously, reflecting the intertwined nature of production processes and service delivery (Jernsand *et al*., 2015). As a result, one innovation can catalyze another; for instance, technological advancements may influence marketing practices, and investments in technology often lead to service improvements (Divisekera & Nguyen, 2018). Innovation in tourism encompasses the development and implementation of novel ideas, products, services, or processes designed to enrich the tourism experience and enhance the competitive edge of tourism enterprises. This concept covers a broad spectrum of activities, which can be categorized into several forms (Alsos *et al*., 2014):

- *Product and service innovation*. This involves the creation of new tourism offerings or the enhancement of existing ones, including unique travel experiences, distinctive accommodations, or attractions tailored to evolving consumer preferences.
- *Process innovation*. This pertains to advancements in the delivery methods of tourism services, such as the introduction of more efficient booking systems, optimized check-in procedures, or improved customer service methodologies.
- *Market innovation*. This relates to the identification and penetration of new markets or customer segments, enabling firms to broaden their reach and attract diverse types of travelers.

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- *Organizational innovation*. This includes modifications in management practices or organizational structures aimed at boosting operational efficiency and effectiveness within tourism organizations.
- *Technological innovation*. The integration of new technologies, such as mobile applications, online platforms, and digital marketing techniques, is crucial for transforming the marketing and delivery of tourism products.
- *Sustainability innovations*. These are innovations focused on advancing sustainable practices in tourism, such as eco-friendly accommodations or responsible travel initiatives, responding to the growing consumer demand for environmental consciousness.
- *Institutional innovations*. These involve creating networks or alliances to enhance business operations, the introduction of franchising and licensing, and the establishment of labelling and certification bodies. Rønningen and Lien (2014) refer to this type of innovation as cooperation (Jernsand *et al*., 2015).

Furthermore, according to Azmi *et al*. (2023), innovation types can also be identified in new product introductions, novel production techniques, new market openings, new sources of raw materials, and new industrial organizational forms. The drivers of innovation in tourism, as highlighted by Divisekera & Nguyen (2018), include collaboration capabilities, human capital, ICT, and funding. These drivers are influenced by firm size, ownership, competition, and environmental conditions, with barriers including resistance to an innovative culture, ineffective project management, and resource constraints (Tuzunkan, 2017). Azmi *et al*. (2023) further classify innovation drivers into supply-driven (e.g., new skills, materials), demand-driven (e.g., demographic trends, customization), and competition-driven factors resulting from globalization. Finally, Ratten (2019) emphasizes that creativity and problem-solving are essential elements of innovation in tourism, requiring critical thinking to consider the multiple stakeholders involved. As a consequence, businesses can pursue innovation for growth, market power, economies of scale, and customer satisfaction (Azmi *et al*., 2023), by choosing strategies based on these drivers (Tuzunkan, 2017). For what concerns tourism, innovations can be analyzed in terms of destination dimensions, including infrastructure and services, and strategic dimensions, based on enterprise size, scope, and nature (Ratten, 2019); while the impact of tourism innovation can be measured by factors such as the extent of the change, market share, learning curve thresholds, time to market, and value of benefits achieved (Ratten, 2019). All in all, innovation in travel and tourism can take many forms. However, a definition of innovation in this area remains vague and not universally agreed upon. Although there is no specific and

shared definition of innovation in tourism, there is some acceptance, at least in empirical studies, that it is the introduction of new elements. According to Alsos, Eide and Madsen (2014), innovation refers to the process of applying new ideas to solve problems, which may include reorganization, cost reduction, introduction of new budgeting systems, improvement of communication, or assembly of products in a team. Innovation is therefore the generation, acceptance, and implementation of new ideas, processes, products, or services, with particular emphasis on acceptance and implementation, which imply the ability to change and adapt. The lack of precise definitions of innovation in tourism has been highlighted as a difficulty in comparing innovation levels between different industries and/ or between different tourism contexts at the international level (Hall, 2009). However, in this industry, innovation is vital for adapting to market dynamics, enhancing customer satisfaction, and securing the long-term success of tourism enterprises. It represents a continual process of improvement that necessitates responsiveness to emerging trends and evolving consumer demands. According to the United Nations World Tourism Organization (UNWTO), as for any other sector, innovation thrives through collaboration between a wide range of stakeholders, including national governments, academic institutions, small and medium-sized enterprises (SMEs), startups, investors, and support organizations such as accelerators and incubators.

Figure 1. Innovation and Entrepreneurship Ecosystem. Source: UN Tourism
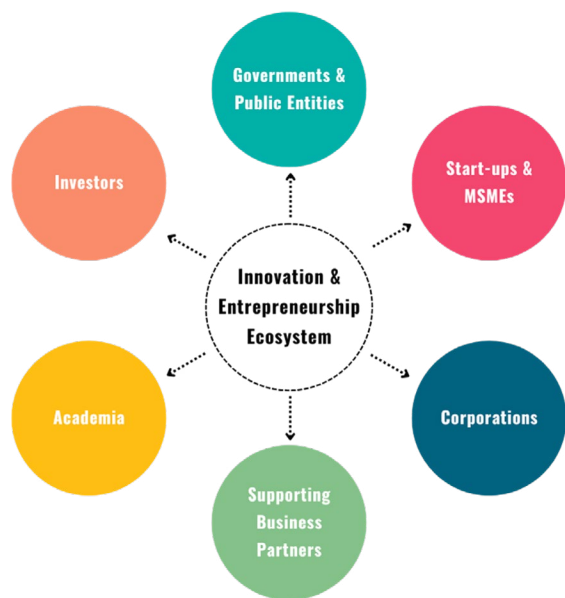
It is essential to create and maintain channels of collaboration between these parties to create a successful ecosystem in tourism, with the necessary capacity for building and adapting to technology:

- *Governments and public entities*: establish policies promoting innovation, trade, and adoption of emerging technologies, which significantly advance the tourism sector's development.
- *Academia*: develops frameworks and models for sustainable tourism innovation and smart destinations, providing critical knowledge to governments, startups, MSMEs, and business partners.
- *Corporations*: create and deploy new technologies, foster internal innovation, establish organizational structures and visions for technology, and invest in open innovation initiatives.
- *Startups and SMEs*: pioneer disruptive technologies in tourism, address travelers' evolving needs, and devise innovative solutions aligned with Sustainable Development Goals (SDGs).
- *Investors*: channel funds into sustainable tourism and technology projects, facilitate the growth and international expansion of corporations, destinations, and startups, and support SMEs.
- *Supporting business partners*: assist startups impacting the tourism value chain by providing essential support and resources.

Beside describing the entities involved in the process, it is as well important to define how innovation contributes to the competitiveness of tourism SMEs. Consequently, an analysis of some of the major functions that innovation plays in this sector follows.

- *Elevated customer experience*: the introduction of novel products and services enables tourism firms to offer unique and memorable experiences, distinguishing themselves from competitors and fostering customer attraction and retention.
- *Adaptability to market dynamics*: the tourism sector is marked by swift shifts in consumer preferences and market conditions. Firms that embrace innovation are better positioned to navigate these changes, effectively responding to emerging trends and evolving demands.
- *Operational efficiency*: innovation often leads to more streamlined processes and operations, resulting in cost reductions. This may involve the integration of advanced technologies or enhancements in service delivery methods, which contribute to improved profitability and competitive advantage.
- *Strategic collaborations and networking*: innovative tourism enterprises

frequently collaborate with other businesses and stakeholders, leading to the creation of comprehensive product offerings that enrich the tourist experience. Such partnerships can reinforce market positioning.

- *Expanded market reach*: by employing cutting-edge marketing strategies and technologies, tourism firms can access a wider audience, including international markets. This broader reach can drive increased bookings and revenue.
- *Sustainability integration*: the adoption of sustainable practices through innovation is increasingly important, as a growing number of travelers prioritize eco-friendly options. Firms that integrate sustainability into their operations can attract environmentally conscious consumers and stand out in the market.

In conclusion, Schumpeter's foundational economic theories and the industry's present practical applications demonstrate that innovation is an essential, multifaceted component for the expansion and competitiveness of tourism enterprises. In the tourism industry, it manifests itself in a variety of forms, including new products and services, process improvements, advanced marketing strategies and sustainable practices, all aimed at responding to market dynamics and changing consumer preferences. For this purpose, a collaborative approach between different stakeholders, including governments, academic institutions, SMEs, start-ups, investors and support organisations, is essential to creating an innovation ecosystem that promotes the development and adoption of emerging technologies. This type of collaboration facilitates the implementation of new ideas and processes, improving operational efficiency, expanding market reach and integrating sustainable practices, resulting in a significant competitive advantage for tourism businesses. To conclude, innovation is not only the engine of economic development but also a strategic necessity to meet the challenges of the tourism sector, ensuring the long-term success of businesses through constant adaptation and improvement of their offerings and operations.

2.1.1. *Innovations that have significantly influenced the tourism sector in recent years*

In recent years, the tourism sector has experienced profound transformations driven by various innovations. Tourism 4.0, for instance, represents a transformative paradigm leveraging advanced digital technologies to enhance both the efficiency and personalization of tourism services. This concept integrates elements of the Fourth Industrial Revolution (Industry 4.0), such

as the Internet of Things (IoT), artificial intelligence (AI), big data analytics, and blockchain, to create interconnected and intelligent tourism ecosystems. These innovations facilitate seamless and immersive experiences for travelers while enabling service providers to optimize operations and tailor offerings to individual preferences (Gretzel *et al.*, 2015; Pencarelli, 2019; Hamzah *et al.*, 2022). As a consequence, a brief overview of some of these technologies seems necessary to better understand the opportunities that can arise for the tourism sector.

• *Big Data*: emerging from the exponential increase in data generation across various formats driven by innovations and globalization since the late 20th century, refers to vast, dynamic datasets collected from diverse sources that require advanced computing systems for analysis (Liberato *et al.*, 2018; Hamzah *et al.*, 2022). Defined by characteristics such as volume, velocity, variety, and veracity, Big Data provides insights into consumer behavior, market trends, and competitive landscapes, forming the backbone of Artificial Intelligence (AI) by enabling systems to learn and identify patterns (Bulchand-Gidumal, 2020). Through cloud computing and interconnected sensors, Big Data continuously flows from both physical and human activities, offering valuable information for industries, including tourism (Dal Vecchio *et al.*, 2018).
• *Internet of Things (IoT)*: it connects physical objects and digital devices to the internet using sensors and information technology. Essentially, it serves as the network linking all smart devices in our daily lives (Liberato *et al.*, 2018; Hamzah *et al.*, 2022). In the tourism industry, IoT applications enhance operational efficiency and customer satisfaction through smart technologies in personal, ambient, and environmental scopes (Car *et al.*, 2019).
• *Location-Based Services (LBS)*: they utilize GPS and proximity technologies to offer navigation, traffic management, and targeted marketing. In tourism, LBS can inform guests about nearby deals, transport updates, or events, enhancing their travel experience (Liberato *et al.*, 2018; Car *et al.*, 2019).
• *Artificial Intelligence (AI)*: AI encompasses technologies that mimic human intelligence for problem-solving, such as ambient intelligence, natural language processing, and machine learning (Bulchand-Gidumal, 2020). In tourism, AI applications include personalized recommendations, chatbots, voice assistants, and smart destination management, improving both operational efficiency and customer experiences (Pencarelli, 2019).
• *Virtual Reality (VR) and Augmented Reality (AR)*: VR and AR technologies offer immersive and augmented experiences by creating

virtual environments or overlaying digital information on the real world. These technologies are used in tourism for virtual tours, museum and site enhancements, and previews of accommodations and services, significantly enriching the visitor experience (Car *et al.*, 2019; Gretzel *et al.*, 2020; Gursoy, 2022).

- *Blockchain and NFT*: blockchain is a decentralized digital ledger that securely records transactions across a network, ensuring transparency and immutability (Nakamoto, 2008). NFTs (non-fungible tokens) leverage blockchain to create unique digital assets representing ownership of specific items, such as art or collectibles (Tapscott & Tapscott, 2018). In tourism, blockchain can streamline booking processes and enhance security, while NFTs enable the creation of unique digital souvenirs and tickets, adding new dimensions to travel experiences (Burtch *et al.*, 2021).
- *New Payment Technologies*: new payment technologies, such as contactless payments and mobile wallets, streamline transactions, enhance security, and provide greater convenience for tourists (Pencarelli, 2019). These innovations reduce the need for physical currency, thereby minimizing transaction times and potential fraud.
- *Real-Time Multilingual Tools*: real-time multilingual tools, including AI-powered translation apps, facilitate instant communication across different languages, significantly improving the travel experience (Car *et al.*, 2019). These tools enable seamless interaction between tourists and locals, enhancing accessibility and cultural exchange.

Overall, tourism 4.0 represents a major transition towards more adaptable, data-driven, and customer-focused strategies within the sector. By grasping these technological advancements, enterprises can gain a clearer understanding of emerging trends and their potential impact on the future of tourism (Hamzah *et al.*, 2022). In fact, technological advancements have furthermore profoundly reshaped modern behaviors related to communication, interaction, and the search for products and information, thereby revolutionizing the use of both tangible and intangible resources (Liberato *et al.*, 2018). The internet, with its vast network of interconnected systems, has transformed how travelers gather information, plan vacations, make reservations, and share feedback. Social media, for instance, enhances this by allowing tourists to connect with friends, strangers, and local businesses, thus enabling the co-creation of personalized experiences at their destinations (Liberato *et al.*, 2018; Casais *et al.*, 2020). The emergence of numerous innovative business models based on information services is another example of the noteworthy advancement of information and communication technologies (ICT). In fact, the online travel service industry has successfully implemented these business model

innovations by providing information, booking, and payment services for tourism products, thereby creating more autonomous customers, simplifying information flow, and reducing transaction costs and barriers (Li, 2018). An example of an innovative online business model is peer-to-peer platforms like Airbnb, which exemplify the Sharing Economy where users share, exchange, rent, or donate personal resources. Initially a niche market, the Sharing Economy has grown to compete with formal businesses, fostering a new paradigm of trust between hosts/providers and guests through reciprocal reviews (Casais *et al*., 2020). An additional example of the transformative impact of ICT is that of aggregative business models, often utilized by online marketplaces, that integrate services across various providers to streamline the consumer experience (Mason & Spring, 2011; Zott *et al*., 2011).

The integration of emerging digital tools and platforms illustrates how innovation drives sector evolution, from streamlined booking systems to interactive travel apps. These advancements exemplify how tourism enterprises are adopting cutting-edge solutions to improve service efficiency, personalize customer interactions, and create new business opportunities. Innovative projects, such as the development of real-time multilingual tools and advanced mobile travel assistants, showcase the sector's response to evolving consumer expectations and technological trends (Liberato *et al*., 2018; Casais *et al*., 2020). By embracing these innovations, tourism businesses can better address the needs of modern travelers and maintain a competitive edge in an increasingly dynamic market.

2.2. Innovative projects

Innovation is intrinsically linked to the execution and success of innovative projects, as it embodies the creative process that drives the conception and implementation of novel ideas and solutions. These projects serve as practical manifestations of innovation, where theoretical insights are transformed into tangible outcomes that address specific problems or opportunities (Fagerberg, 2005). This relationship is evident in the technology sector, where continuous innovation leads to the development of groundbreaking products and services, such as smartphones and cloud computing, which in turn catalyze further innovative projects across various industries (Schilling, 2013). Moreover, the collaborative nature of innovative projects often harnesses diverse expertise and perspectives, fostering an environment conducive to breakthrough innovations (Chesbrough, 2003). By facilitating a structured yet flexible framework for experimentation and iteration, innovative projects enable organizations to systematically explore and exploit new ideas,

thereby reinforcing the cyclical and symbiotic nature of innovation and project implementation (Davila *et al*., 2006). Innovative projects also play a crucial role in driving technological advancements and societal progress by fostering creativity, collaboration, and the practical application of theoretical knowledge. These initiatives often leverage cutting-edge technologies and interdisciplinary approaches to address complex global challenges, ranging from climate change to public health crises. For instance, the development of renewable energy solutions, such as solar and wind power, exemplifies how innovative projects can contribute to sustainable development and environmental preservation (Luthra *et al*., 2015). Furthermore, the integration of artificial intelligence and machine learning in healthcare has revolutionized diagnostics and personalized medicine, demonstrating the transformative potential of innovative endeavors (Topol, 2019). By prioritizing innovation, organizations and researchers can cultivate a dynamic environment that not only solves current problems but also anticipates future needs, thereby ensuring continuous improvement and adaptation (Drucker, 1985). In the tourism sector, innovative projects are pivotal in enhancing destination appeal and visitor experience by integrating advanced technologies to provide immersive and personalized experiences. For instance, the implementation of augmented reality (AR) and virtual reality (VR) applications allows tourists to engage with cultural and historical sites in unprecedented ways, thereby enriching their understanding and appreciation of local heritage (Guttentag, 2010). Additionally, smart tourism initiatives, which leverage big data and AI, enable real-time information dissemination and tailored service offerings, improving both efficiency and satisfaction in tourist services (Buhalis & Amaranggana, 2015). These advancements not only boost the competitiveness of tourist destinations but also contribute to sustainable tourism development by optimizing resource use and minimizing environmental impacts.

2.3. Startup origin and main features

The research has revealed that innovative projects are fundamentally linked to the success and growth of startups, as they serve as the primary vehicle through which novel ideas are transformed into viable business ventures. Startups, characterized by their agility and propensity for risk-taking, are particularly well-positioned to spearhead innovative projects that disrupt traditional markets and introduce groundbreaking products and services (Ries, 2011). The iterative process of developing, testing, and refining these innovations is central to the startup methodology, often encapsulated in the lean startup framework, which emphasizes rapid prototyping and customer

feedback (Blank, 2013). Furthermore, the entrepreneurial ecosystem, including incubators and accelerators, provides critical support for innovative projects by offering resources, mentorship, and access to networks that can significantly enhance a startup's capacity to innovate (Cohen & Hochberg, 2014). Thus, the symbiotic relationship between innovative projects and startups not only fosters entrepreneurial success but also drives broader economic and technological advancements (Nambisan, 2017).

The history of startups traces back to Silicon Valley in San Francisco, known during the 70s for its innovative environment: a network of private and public stakeholders supporting young enterprises, which turned the area into a major technology center. Initially, the ecosystem thrived due to the advent of semiconductor companies, which collaborated with Stanford University, and attracted venture capital funds. Subsequently, in consequence of the "dot-com era". In fact, the late 1990s and early 2000s were characterized by the rise and fall of internet-related startups, with up to 50,000 dot-com startups established in the US, marking another significant milestone. Recently, the Silicon Valley has solidified its reputation as an iconic hub of revolutionary business ideas, thanks to the success stories of prominent ITC firms and social media companies (e.g., Apple, Facebook, Twitter, Instagram) that started there as startups (Sestino & Guido, 2021). All in all, the history of Silicon Valley greatly explains the degree of synergy necessary to pursue the innovation scope, constituted by a multitude of different entities, such as technological fabric, knowledge representatives (e.g. universities and research hubs), and capital to be invested (Sestino & Guido, 2021), which were often referred to as "startup ecosystem" (European Commission). Nevertheless, the research has showed that a univocal and comprehensive definition of "innovative start-up," as well as their set of elements, is lacking at both the global and European levels, creating the primary challenge for comparisons and rankings among countries and regions. As a consequence, institutional and other reliable reports taking into consideration different elements in number and nature (such as age, revenue, number of employees, or innovative character) led to alternative outputs of classification (European Commission). Two of the most widely acknowledged definitions of "start-up" were provided by Steve Blank and Eric Ries, who pointed out some of the main features of this type of enterprise, namely innovation, scalability, and repeatability (Sestino & Guido, 2021), alongside uncertainty. These new companies were able to introduce radical breakthroughs thanks to a new approach derived from entrepreneurial talent associated to knowledge spill-overs, in contrast with the liner process of internal R&D typical of incumbent and established firms, mostly capable of achieving incremental innovativeness only. Therefore, it comes with no surprise how startups have often been recognized as engines of innovation

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(European Commission). The scalable aspect of a startup refers to its capacity to grow exponentially in terms of customers and revenues without requiring a proportional increase in resources. The repeatability lies in the characteristics of their business models, which should be replicated in various contexts and timeframes without significant alterations to its core nature. Lastly, the uncertainty derives from the greater risk of pursuing innovation, whose initial success is unknown, in contrast with conventional enterprises, even in their early development phase (Sestino & Guido, 2021). For this reason, startups resort to external investors such as incubators, business angels, or venture capital funds, which provide financial support or take on business risk in exchange for equity participation and expected returns on investment. Once rapid growth and scalability are achieved, startups often aim to sell the business, especially during its early stages or initial growth phase, to create a larger company or be listed on the stock exchange (Sestino & Guido, 2021). In the latter case, startups take the name of "exits". Furthemore, due to other additional features ancillaries to startup reverting to the timing growth stage ("Early stage startups"), employees and/or revenue growth ("Scale-ups", "Unicorns"), scope ("Deep-tech", "Spin-offs"), or share of women ("Women-led ventures"), have been created over time.

2.4. European definitions of innovative companies and start-ups

At the administrative level, a significant degree of heterogeneity exist among countries, including amid EU member states. In fact, although a startup can also be identified as a SME (expressly regulated within European law) due to their small size, the innovation-driven component turns start-ups into a particular sub-category of SMEs not uniformly regulated (European Commission).

In regard to innovative enterprises at the general level, different European institutions contributed overtime to creating a more narrow – despite non unified – picture of their characteristics. The European Commission (2022) describes an innovation-active firm as either introducing innovations or engaging in innovation activities; Eurostat as one that is either developing new products, services, and processes that carry a risk of failure or where at least 10% of costs are allocated to R&D (Eurostat, 2022); the European Investment Bank (2019) as those having a significant R&D program and have introduced or developed products, processes, or services that are new to the country or global market; while the European Startups Dashboard often emphasizes their tech-enabling feature and potential for scalability (European Startups Dashboard, 2016). Moreover, the EIB defines a startup as a business seeking

to expand its market access, revenues, and workforce, although it continues to search for a scalable business model. As per the legal aspects, the European Commission added some specificities in this sense in the Annual Report on European SMEs (2021/2022), such as being active for-profit companies with fewer than 250 employees and less than five years of operation, completing the study of the European Parliamentary Research Service (2017) which indicates that the enterprise should not derive from a merger, restructuring, or break-up (European Commission). Moreover, once a startup reaches exponential growth within a limited time-frame, it is frequently referred to as "scale-up" (European Parliamentary Research Service, 2017), while "unicorn" defines the startup as one that achieves a valuation of $1 billion with fewer than 250 employees (European Commission, 2022B, 2023).Besides the definitions innovative companies identified by European institutions, have been found a total of 16 interpretations from 10 Member States, including 6 integrated into Member States' legal systems (Bulgaria, Cyprus, Greece, Italy, Latvia, Luxembourg) and 10 additional operational definitions outside legal frameworks (among which Denmark, France, Estonia, Poland, and Sweden). In regard of legal notions of startup, EU member states proposing their alternative are: Bulgaria, Denmark, Estonia; Greece, Hungary, Italy, Latvia, Lithuania, Portugal, Slovenia, and Spain; albeit taking in consideration different aspects (e.g. age, yearly turnover, number of employees, headquarter location, innovativeness and scalability of the business model, risk capital and type of investment).

Table 3. Institutional Eu definition of innovation. Authors elaboration

Instutution	Year	Feature
European Commission	2022	• introducing innovations or engaging in innovation activities • active for-profit companies • fewer than 250 employees • less than five years of operation
Eurostat	2022	• developing new products, services, and processes that carry a risk of failure • at least 10% of costs are allocated to R&D
European Investment Bank (EIB)	2019	• significant R&D program • introduced or developed products, processes, or services that are new to the country or global market • seeking to expand its market access, revenues, and workforce • continues to search for a scalable business model
European Startups Dashboard	2016	• tech-enabling • potential for scalability
European Parliamentary Research Service	2017	• not derive from a merger, restructuring or break-up

Among these EU member state, the Italian law provides a clear and structured regulation of both themes analyzed above, namely innovative SMEs ("PMI innovative") and start-ups.

The concept of an innovative SME was established through Article 4 of Legislative Decree 3/2015 and is subject to meeting the criteria outlined in the Commission Recommendation dated 6th May 2003 (2003/361/EC) concerning the definition of micro, small, and medium-sized enterprises (SMEs). According to this Recommendation, SMEs are defined as companies with fewer than 250 employees and annual turnovers not exceeding 50 million euros, or annual balance sheet totals not surpassing 43 million euros. Innovative SMEs in Italy are capital companies meeting specific criteria:

1. They are headquartered in Italy, another EU member state, or the European Economic Area, with a presence in Italy.
2. They hold certification of their latest financial statement, prepared by a registered chartered accountant or auditing company.
3. Their shares are not listed on a regulated market.
4. They are not already registered in the special section of the Business Register for innovative startups and certified incubators.

Additionally, they must demonstrate innovation through at least two of the following indicators, and provide annual confirmation to maintain the SME's innovative status:

1. Spending on research, development, and innovation equivalent to at least 3% of the higher value between cost and total production value.
2. Employment of at least 1/5 of the workforce with a doctoral degree or substantial research experience, or at least 1/3 with a master's degree.
3. Ownership of at least one industrial property right related to innovation.

Finally, innovative SMEs in Italy are required to be registered in a special section of the Business Register established by Article 4, paragraph 2 of DL 3/2015 at the Chambers of Commerce. However, since the innovative SME may already be registered in the section of the Business Register dedicated to innovative startups, a deregistration from the latter will be mandatory to meet the above-mentioned requirements (namely not being registered in the section for innovative startups).

For what concerns the definition of innovative startup, its legal notion is set out in art. 25 of Decree-Law no. 179/2012, paragraph 2. The regime of innovative startups, introduced for the first time in Italy, formally regulates unlisted limited companies, including those in cooperative form, whose

shares are not publicly traded and whose innovativeness is reflected in their corporate purpose, that fulfill the following criteria:

- They are either newly established or have been incorporated for less than 5 years.
- They are headquartered in Italy or another EU/EEA Member State, provided they have a production facility or branch in Italy.
- Their annual turnover does not exceed €5 million.
- They do not distribute profits.
- Their mission statement primarily or exclusively focuses on developing, producing, and commercializing innovative products or services with a distinct technological component.
- They are not the result of a merger, split-up, or business transfer.
- They meet at least one of the following innovation-related indicators:
  ◦ Research and development expenditure accounts for at least 15% of the higher value between turnover and annual costs.
  ◦ At least 1/3 of their total workforce comprises PhDs, PhD students, or researchers, or at least 2/3 hold a master's degree.
  ◦ The company owns or holds a license for a registered patent or original registered software.

Innovative startups meeting the criteria can attain the innovative startup status by enrolling in a designated section of the Business Register (art. 25, paragraph 8), and annually confirming their eligibility to avoid the risk of being removed from the register. Legal benefits commence upon registration and may be retained for up to five years since incorporation, provided all conditions are met.

2.5. European institutional support projects and financing

Startup ecosystems have gradually drawn the attention of policymakers, since their contribution in innovation and entrepreneurship became clear. In fact, policies can boost the positive effects of entrepreneurship, such as the creation of knowledge spillovers, as well as mitigate difficulties, such as obtaining fundings. Since startups are part of an ecosystem, regulations can have an impact on specific targeted businesses as well as work to enhance the ecosystem's overall functioning. As a consequence, industrial and social policies, aside from those strictly related to innovation and entrepreneurship, started to be taken into consideration as a whole by policymakers at both the national and supranational levels. In particular, during the last decade, the

European Union has especially focused on creating the framework conditions necessary to help innovative, new, and small businesses get past their initial financial obstacles through the introduction of *ad hoc* institutions, funds, and programs. In Table 4, are summarized some of the most prominent initiatives.

Table 4. Eu Funding programmes. Authors elaboration

Initiative	Year	Type	Content
European Investment Fund (EIF)	1994-2014	Fund	The EIF, part of the European Investment Bank Group, provides financing and guarantees to financial intermediaries such as venture capital funds, banks, and angel investors to support startups and SMEs. It offers a range of financial instruments, including equity investments, loans, and guarantees, to facilitate access to finance for innovative businesses.
European Small Business Act (SBA)	2008	Framework of policies	The SBA is a framework for SME policy development in the EU, promoting entrepreneurship, innovation, and competitiveness. It sets out principles and measures to support SMEs, including startups, such as access to finance, skills development, and regulatory simplification.
COSME Program	2014	Fund	The COSME Program aims to improve access to finance and support the competitiveness of SMEs in Europe. It provides financial instruments, including loan guarantees and venture capital, to help startups and SMEs access funding for innovation, growth, and internationalization.
European Fund for Strategic Investments (EFSI):	2015	Fund	Also known as the "Juncker Plan," EFSI was launched in 2015 to mobilize investment in strategic projects across the EU, with a focus on infrastructure, innovation, and SMEs. It provides financing through the European Investment Bank (EIB) and the European Investment Fund (EIF) to support startups, scale-ups, and other innovative ventures.
European Innovation Scoreboard (EIS)	2001-2024	Assessment	The EIS provides a comparative assessment of innovation performance across EU countries and regions, helping policymakers identify strengths and weaknesses in their innovation ecosystems. It informs policy decisions and strategic investments to enhance the competitiveness of startups and SMEs in Europe.
Horizon 2020	2014-2020	Fund	Horizon 2020 was the European Union's research and innovation funding program for the period 2014-2020. It provided substantial funding for innovative projects across various sectors, including technology, healthcare, energy, and the environment. Startups and SMEs could participate in Horizon 2020 through dedicated funding schemes such as the SME Instrument and Fast Track to Innovation.
European Regional Development Fund (ERDF)	2014-2020	Fund	The ERDF provides funding to support regional development projects, including those focused on innovation, research, technology transfer, and entrepreneurship. Startups and SMEs can access ERDF funding through regional programs aimed at boosting innovation and competitiveness.

Initiative	Year	Type	Content
European Structural and Investment Funds (ESIF)	2014-2020	Fund	ESIF provides financial support to EU member states and regions to address regional disparities, boost economic development, and enhance innovation capacity. Startups and SMEs can access funding for innovation, entrepreneurship, research, and development projects through ESIF programs. ESIF are the main financial instruments for implementing EU cohesion policy, aiming to reduce economic and social disparities between regions. They support a wide range of activities, including innovation, research and development, entrepreneurship, and SME competitiveness.
Horizon Europe	2021-2027	Fund	EU's research and innovation funding program for 2021–2027. It provides financial support to startups and SMEs through grants, loans, and equity investments to develop innovative products, services, and solutions.

2.6. Italian Institutional support

The Italian legislature implemented regulations aimed at promoting the growth of innovative companies with a technological impact, referred to as innovative startups. This initiative focuses on stimulating sustainable growth, technological advancement, new entrepreneurship, youth employment, and social mobility, while fostering a culture of innovation and creating a more conducive environment for innovation.

The concept of startups and their legal framework was officially acknowledged in 2012 through the "Decreto Crescita 2.0" (Growth Decree 2.0). This decree, converted into Law 221/2012, introduced various incentives, both operational and fiscal, to encourage collaboration with universities, research institutes, or incubators aimed at fostering entrepreneurship. In the same year, the Italian Startup Act (ISA) was introduced as an additional support measure implemented by the Italian government through the Decree-Law n. 179. Besides introducing a novel definition of "innovative startup" (Article 25 of d.l. 179/2012), the ISA promotes sustainable growth and social mobility. In 2013, the "Decreto del Fare" (Law 98/2013) initiated a supportive policy for innovative companies, providing significant economic assistance. These regulations, which underpin the "Investment Compact" (Decree Law 2015, art. No. 3), established a set of tax breaks for start-ups, subsequently introduced by the 2015 Budget Law and amended several times over the years. All in all, these measures aimed at supporting innovative projects through red-tape simplification and costs reduction, as shown in the Table 5. Over the years, the Italian Startup Act was constantly implemented with provisions which have enhanced the incentives available to innovative startups, such

as the already-mentioned Decree-Law no. 3 of 2015, which additionally extends the scope of the ISA to all innovative companies including SMEs; the Law no. 232 of 2016 (2017 Budget Law), and the Law no. 145 of 2018 (2019 Budget Law). For instance, the 2015 Budget Law introduced the CIR&S (Italian acronym for Research and Development tax credit), then updated with the 2019 Budget Law, art. 1, paragraphs 70 and 72, which is a 50% rate tax incentive for incremental expenses in research and development activities commissioned (extra-muros) and labour costs for permanent or temporary staff employed in intra-muros research activities. Moreover, the Budget Law for 2017-2019 expanded and reinforced incentives for investments and refinancing for self-employment and innovative companies, enabling access to third-party equity in addition to capital investments.

Table 5. Italian legal framework. Authors elaboration

Decree-Law	Statement	Benefit
D.L. 179/2012, art. 26	Stamp duties and other fees exemption	Cost-reduction
D.L. 179/2012, art. 26	Rules for s.r.l companies more similar to the s.p.a	Flexibility
D.L. 179/2012, art. 26	Extension of the deadline to cover losses	Flexibility
D.L. 179/2012, art. 26	Exemption from the tax penalties	Cost-reduction
D.L. 179/2012, art. 27/28	Autonomy in fixed and variable components of remuneration	Cost-reduction
D.L. 179/2012, art. 29	Tax incentives for equity investors	Cost-reduction
D.L. 179/2012, art. 30	Authorized equity crowdfunding campaigns	Cost-reduction
D.L. 179/2012, art. 30	Public guarantees on bank loans	Cost-reduction
D.L. 179/2012, art. 30	30% discount on standard costs	Cost-reduction
D.L. 179/2012, art. 30	Less burdensome procedures for bankruptcy	Cost-reduction
D.L. 3/2015, art. 4	Online procedures for establishment and amendments	Simplification
D.L. 3/2015, art. 4	Exemption from conformity visa for VAT credits	Cost-reduction
D.L. 3/2015, art. 4	Conversion into an innovative SME	Flexibility
D.L. 81/2015, art. 21/23	Tailor-made labour regulations	Cost-reduction

In more recent years, the National Plan for Industry 4.0 launched in 2017, and the Relaunch Decree (Law no. 77, 17th July 2020) have been particularly significant for the startup ecosystem. A key component of Italy's National Plan for Industry 4.0 is the "hyper-depreciation"

initiative, which aims to accelerate the digital transformation of the country's industrial sector. It involves enhancing the annual depreciation deduction for specific assets and technologies related to Industry 4.0, including industrial robots, additive manufacturing, Internet of Things, augmented reality, cloud services, cybersecurity, and integration solutions across supply chains.

Besides the legislative framework, numerous programs are available from the Italian Ministry of Economic Development and other agencies to assist new innovative businesses and creative entrepreneurship in general. In 2014 was launched the Smart&Start Italia managed by Invitalia, which offers subsidized loans ranging from €100,000 to €1.5 million to cover investment plans and operating costs. The program provides interest-free loans covering up to 70% of the expenditure, with higher coverage rates for startups led by women, individuals under 35, or researchers returning from abroad; whereas startups based in Southern Italy may receive 20% of the funding as a non-repayable grant. Preference is given to startups that commit to financing at least 30% of their investment plan with capital from qualified investors. Applications are processed on a first-come, first-served basis without rankings, and loans are disbursed upon presentation of paid invoices or through a restricted bank account. However, in accordance with the art. 29 of D.L. 34/2019, the Ministry of Economic Development is implementing simplification measures to streamline the program's governance and reimbursement procedures.

In the same year, the Italian Minister of Economic Development (in collaboration with the Ministry of Foreign Affairs and International Cooperation, and the Ministry of the Interior) developed the Italia Startup Visa and Italia Startup Hub in an effort to foster the expansion of the local startup ecosystem and draw in international entrepreneurs and firms to Italy. While Italia Startup Visa facilitates the granting of entry visas, enabling non-EU entrepreneurs to receive a visa in order to develop and operate creative enterprises in Italy; Italia Startup Hub intervenes in the conversion of residence permits, offering resources, networking opportunities, and support services to startups and entrepreneurs already functioning in Italy. These programs are meant to encourage economic growth, innovation, and entrepreneurship in Italy.

The 2017 Budget Law incorporated into Italian immigration legislation a novel entry visa category, valid for two years, designated for non-EU nationals looking to invest a significant sum in assets deemed crucial for the Italian economy and society. The Investor Visa for Italy offers various investment options, including a minimum investment of €500,000 in an innovative startup's share capital, €2 million in government bonds, or

€1 million for acquiring shares in Italian limited companies or making philanthropic donations in designated sectors like culture and education.

The Italian government has continued to support startups and innovative entrepreneurship with initiatives such as the "Resto al Sud" program, which aims to revitalize productivity in Southern Italy and foster the establishment of new startups, encouraging entrepreneurs to propose business ideas in the region by providing tax benefits and funding. Additionally, initiatives like the SPIN roadshow, part of the PON Enterprises and Competitiveness 2014-2020 program, are being promoted by institutions and government bodies in collaboration with Invitalia. This initiative, managed by Invitalia (the national business development agency) in partnership with ELITE, aims to facilitate connections between small innovative companies in Southern Italy and larger national and international firms.

Finally, other measures not exclusively for innovative startups and SMEs were introduced throughout the years to enhance innovation in the entrepreneurial fabric. The "Patent Box" initiative, introduced by the 2015 Budget Law, incentivizes investment in intangible assets, brands, and industrial models by enabling companies to exclude 50% of their income from taxation if derived from the commercial use of copyrighted software, industrial patents, designs, models, and protected industrial, commercial, or scientific expertise. The "innovation manager vouchers", instituted under the 2019 Budget Law, offer SMEs non-repayable grants to procure specialized consultancy services for digital transformation, including the acquisition of "4.0" technologies. The National Innovation Fund (Fondo Nazionale Innovazione, FNI) was introduced in March 2019 to bolster Italy's venture capital market and support innovative companies. Administered by Cassa Depositi e Prestiti (CDP), it aims to provide funding directly to firms through acquiring minority shares or indirectly by investing in other venture capital funds. The fund is anticipated to reach a total endowment of about €1 billion, making it the largest public venture capital initiative in Italy. Initial steps included authorizing CDP to acquire Invitalia Ventures, a matching fund owned by Invitalia, with a budget of around €230 million.

The main supporting initiative implemented by the national government, are summarized in Table 6.

Table 6. Italian support initiatives. Authors elaboration

Initiative	Year	Type	Content
CIR&S	2015	Tax incentive	It offsets some of the costs associated with their R&D activities. It is available to all companies in Italy, without sectoral, size, legal form, or accounting regime limitations, for expenses incurred between 2015 and 2020.
National Plan for Industry 4.0	2017	Initiative	It is a strategic initiative aimed at advancing the industrial sector through enhancing the annual depreciation deduction for specific assets and technologies related to Industry 4.0.
Smart&Start Italia	2014	Funds (managed by Invitalia)	It provides grants and zero-interest loans for projects focused on technological innovation and digitalization. The program is targeted at both new enterprises and startups that are less than five years old, helping them to cover expenses related to the acquisition of tangible and intangible assets, as well as operational costs.
Italia Startup Visa	2014	Programme	It simplifies the visa application process for non-EU entrepreneurs who wish to establish innovative startups in Italy.
Italia Startup Hub	2014	Programme	It allows non-EU entrepreneurs who have already established an innovative startup in Italy to convert their existing residence permit into a "startup" residence permit. The initiative aims to retain entrepreneurial talent within Italy.
Investor Visa for Italy	2017	Programme	It allows non-EU nationals to obtain a visa and residence permit in Italy by making a significant investment in the country.
Resto al Sud	2017	Funds	It supports southern Italy by providing funding and mentoring for young entrepreneurs to start businesses in the region.
National Innovation Fund	2015	Funds	It provides funding and strategic guidance to early-stage companies in sectors like technology, green energy, and life sciences.
CDP venture capital Part of Cassa Depositi e Prestiti (CDP)	2019	Funds	It provides financial backing and strategic resources to innovative startups and scale-ups in Italy.
Startup Act	2012	Legislative Framework	It provides incentives such as tax breaks, simplified bureaucratic procedures, and funding opportunities for innovative startups.
National Innovation Fund (Fondo Nazionale Innovazione, FNI)	2019	Funds	It provides financial support to high-potential startups and scale-ups across various sectors by investing in venture capital funds and directly in companies.

2.7. European Startup positioning in the Global landscape

The research has highlighted how the comparative analysis of innovative enterprises and startups is hindered by the absence of a globally accepted, univocal definition of these terms, which complicates the establishment of consistent evaluative criteria (Peters & Freeman, 2019). This definitional ambiguity leads to significant variability in how these entities are measured and compared, thereby affecting the reliability and validity of comparative studies. Consequently, the lack of a standardized definition impedes rigorous academic analysis and the development of universally applicable metrics (O'Reilly & Tushman, 2013). However, in order to get a sense of the Europe's competitiveness, the Startup Ecosystem Report 2023 by StartupBlink, which ranks the top 1000 cities and 100 nations worldwide, was taken into account. The overall score of each ecosystem is determined by adding the three subscores that assess the quantity (number of startups, investors, cowering spaces, accelerators, and startup-related Meetups – which outlines how supporting an ecosystem is), quality (e.g., number of employees, number and size of unicorns and exists, number and size of global startups events and conferences, presence and impact of Global startup Influencers, etc.), and business environment (national infrastructure, policies, and legislation such as internet speed, R&D investment, availability of startup or nomad visas, corporate tax rate, startup-related labor laws, top university index, etc.). Moreover, the report utilizes data from StartupBlink's Global Map, which samples startup ecosystem data, covering approximately 10-15% of entities in the global startup ecosystem, only after a manual evaluation of each one registering, in order to overcome qualitative differences (product or service, process, or business model) and ensure their innovative traits.

The report shows that Europe is positioned as a key player in the global economy, possessing significant research and innovation capabilities and a large workforce of researchers. However, compared to countries such as the United States and China, the European Union remain behind in R&D investment levels and number of leading-edge companies. Despite increased R&D spending in recent decades, Europe remains below its target of investing 3% of gross domestic product (GDP) in R&D by 2020.Besides the low level of investment, the risk aversion among European investors results in a scarcity of innovative ventures and disruptive businesses. In 2020, venture capital funding in the EU market was seven times lower than in the United States, leading to a significantly smaller number of unicorns in the European Union. This situation not only affects Europe's competitiveness but also delays its transition into a green and digital economy. As can be noted in Figure 2, ten countries of the top 20 are EU members, namely Sweden, Germany,

France, The Netherlands, Finland, Estonia, Spain, Ireland, Lithuania and Denmark; however, the US continues to hold a commanding lead, about four times greater than that of the UK in second place. Moreover, Sweden, France, Germany, and the Netherlands join the UK in the regional top 5 at the country level, similarly to the previous year. From the city ranking point of view, the European region (EU and non-EU members) accounts for a total of 410 startup economies within the global top 1,000, a slight decrease from 426 in 2022.

Another interesting perspective of the report is represented by a regional examination of startup investment, which goes beyond the quantity of ranking nations and cities within each region. Results show that despite Europe (as a region) boasting a diverse array of active and successful startup ecosystems, with 41% of the top 1000 cities being European, investors still perceive greater potential in North America and the Asia Pacific region, with only 19.7% of startup funding flowing into Europe. However, an improvement can be noticed in the + 1.4% increase of Europe's share from the previous year.

Figure 2. International Start up ecosystem index, 2023. Source: Startup Blink
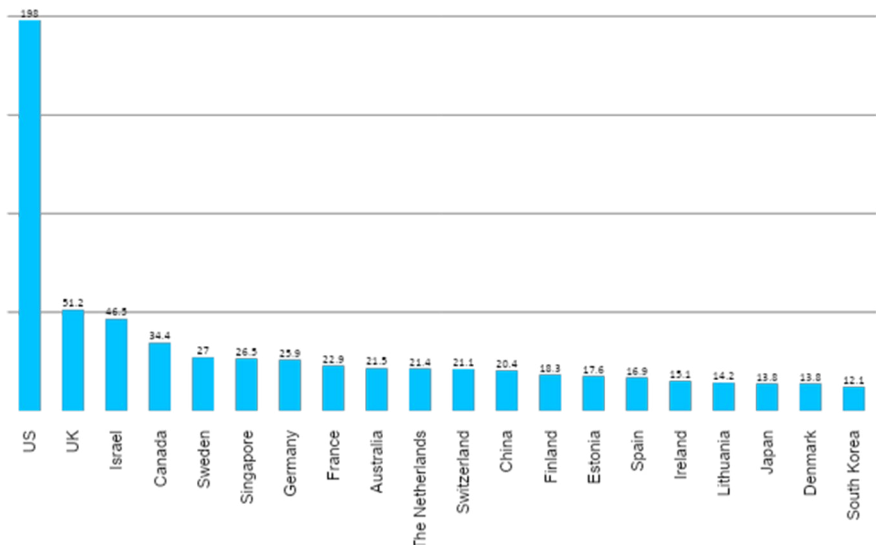
As regards Italy, in 2023 it has been globally ranked 30th and 18th at the Europe level, while the number of Italian cities decreased from 34 to 26. In fact, Milan with its rank of 66th, is the only Italian city in the top

100, and the 13th in the EU. Moreover, in Milan are based three notable startups, namely Scalapay (a payment instalments provider, evalevaluated for more than US$1 billion in 2022), Satispay (a mobile payment solution), and Prima (an insurance startup), which have already obtained the status of unicorns. At the worldwide industry level instead, Milan, Rome, and Turin are ranked in the top 100 worldwide respectively in Fintech, Energy & Environment, and Edtech, despite not reaching the top 25 in any of the 11 sectors considered.

3

SCOUTING & MAPPING INNOVATIVE PROJECTS IN EUROPE

3.1. AUSTRIA, Aeroficial Intelligence

State: Austria
Sector: Aviation
Name: Aeroficial intelligence
Year: 2018

Topic/Innovation. Aeroficial Intelligence, founded in Austria in 2018, is an innovative company in the aviation sector, focusing on enhancing airport infrastructure efficiency through advanced data analytics and artificial intelligence (AI). The platform developed by Aeroficial Intelligence provides real-time monitoring of Key Performance Indicators (KPIs) related to airport operations, optimizing air traffic flow, and generating detailed emissions reports. This technology not only predicts and manages traffic situations and delays but also improves the overall operational efficiency of airports. In fact, Aeroficial Intelligence leverages AI algorithms to analyze and optimize airport and airspace operations, providing critical insights into air traffic flow, taxi times, and pushback procedures. The platform's ability to deliver real-time data and predictive analytics enables airports to mitigate operational risks, reduce unnecessary fuel consumption, and enhance situational awareness. A key feature of their platform, is instrumental in increasing the robustness of flight planning and reducing delays, thereby cutting costs and emissions.

Business model. Aeroficial Intelligence generates revenue through a subscription-based model, offering its advanced data analytics and AI-driven solutions to airports and airlines. By providing access to real-time insights, predictive analytics, and operational optimization tools, the company charges clients ongoing fees for the use of its software platform and services. Aeroficial Intelligence also diversifies its revenue streams by offering

customized consulting services and tailored solutions for specific operational challenges faced by airports and airlines. Additionally, the company may provide training programs and technical support, further enhancing the value proposition for its clients and creating additional income avenues.

Strengths
- *Real-time operational insights*. Aeroficial Intelligence's platform offers real-time monitoring of Key Performance Indicators (KPIs) for airport operations, significantly enhancing situational awareness. This real-time data provision allows airport authorities to make informed, timely decisions, thereby improving the efficiency and reliability of airport operations. The immediacy of these insights is critical to managing dynamic environments and responding swiftly to operational changes.
- *AI-driven optimization and predictive analytics*. The platform utilizes advanced AI algorithms to analyze and optimize various aspects of airport and airspace operations, such as air traffic flow, taxi times, and pushback procedures. By predicting traffic situations and potential delays, the AI-driven system helps in preemptively manage operational challenges, thus minimizing disruptions. This predictive capability not only optimizes resource allocation but also enhances the overall operational efficiency of airports.
- *Emissions reporting*. Aeroficial Intelligence provides comprehensive emissions reporting, which is instrumental for airports in tracking and managing their environmental impact. These detailed reports support airports in their sustainability initiatives by identifying areas for reducing greenhouse gas emissions. The focus on environmental sustainability aligns with global efforts to reduce the aviation industry's carbon footprint, making the platform a valuable tool for achieving environmental compliance and corporate social responsibility goals.
- *Operational efficiency*. The platform's ability to reduce taxi times and unnecessary fuel consumption through predictive analytics and optimization directly contributes to enhanced operational efficiency. By streamlining ground operations and minimizing delays, airports can achieve significant cost savings and improve the passenger experience. The reduction in fuel consumption not only lowers operational costs but also contributes to environmental sustainability by reducing emissions
- *Scalability and adaptability*. Aeroficial Intelligence's technology is designed to scale effectively with the increasing demands of growing air traffic and expanding fleet sizes. Its scalable architecture ensures that the platform can handle larger volumes of data and more complex operational scenarios as airport traffic grows. This scalability makes

it a robust solution for both the current and future needs of airports, ensuring long-term viability and adaptability in an evolving industry landscape.

Website: *www.aeroficial.com*

3.2. BELGIUM, Explore-share

State: Belgium
Sector: Guided tours
Name: Explore share
Year: 2014

Topic/Innovation. Explore-Share, established in Belgium in 2014, is an innovative platform in the tourism sector that connects travelers with certified local guides for a variety of outdoor adventures. The company has in its portfolio over 11,000 trip listings in more than 70 countries all over the world, from Belgium to the UK and from Argentina to the US. The platform's primary goal is to enhance travel experiences by providing unique, safe, and enriching adventures in nature. By directly booking with professional guides, users gain access to personalized itineraries that offer deeper cultural immersion and more authentic experiences compared to traditional travel agencies.

Business model. Explore-Share obtains earnings from a commission-based model, connecting adventure seekers with certified guides for outdoor activities. By facilitating bookings and providing a platform for discovering and arranging guided tours, the company earns a commission on each transaction completed through its site. Explore-Share enhances its revenue model by offering premium listing services for guides, enabling them to increase their visibility and attract more clients. Additionally, the platform may charge fees for additional services such as insurance, equipment rental, and personalized travel planning, further diversifying its income streams.

Strengths
- *Direct connection with local guides.* Explore-Share eliminates the middleman by allowing travelers to book directly with professional guides, ensuring more tailored and authentic experiences.

- *Comprehensive adventure options*. With a vast selection of activities ranging from hiking and climbing to skiing and kayaking, the platform caters to diverse interests and skill levels.
- *User-friendly interface*. The website offers a seamless booking process, enhanced by detailed reviews and ratings, providing users with confidence in their choices.
- *Community and support.* The platform fosters a community of adventure enthusiasts, offering additional features like travelogues, event participation, and the ability to create personal travel profiles.
- *Global reach.* Operating in numerous countries, Explore-Share ensures that travelers have access to top-notch adventures wherever they go, supported by guides with extensive local knowledge.

Website: *www.explore-share.com*

3.3. BULGARIA, Localfood

State: Bulgaria
Sector: Food & beverage
Name: Localfood
Year: 2021

Topic/Innovation. Localfood is a trading platform that uses Distributed Ledger Technology (DLT) to track the origin of local food from farms to restaurants and advance sustainability along the food supply chain. It is a startup operating in the niche market of food tourism, particularly emphasizing local culinary experiences. This venture aims to bridge the gap between food enthusiasts and authentic local food experiences, offering a platform where users can discover, book, and enjoy gastronomic adventures hosted by locals. The startup is anchored on the premise that food is a critical cultural element, and experiencing it authentically can significantly enhance travel experiences.

Business model. The business model of LocalFood.fun is primarily commission-based, where the platform takes a percentage of the fee charged by local hosts for their services. This model incentivizes high-quality, diverse offerings while ensuring that hosts are fairly compensated. Additionally, Local Food collaborates with local vendors and artisans, charging them for promotional services and premium listings to enhance their visibility and reach within the gastronomic community.

Strengths

- *Authenticity and local expertise*. The platform's focus on local hosts ensures that the culinary experiences are genuine and deeply rooted in the local culture, which is highly appealing to food enthusiasts seeking authentic experiences.
- *Curated experiences*. The startup emphasizes quality over quantity, with a rigorous vetting process for hosts to ensure high standards of hospitality and culinary expertise, thereby building trust and a strong reputation among users.
- *Cultural exchange*. By facilitating direct interactions between locals and travelers, the platform promotes cultural exchange and understanding, which enhances the travel experience and fosters a sense of community.
- *Scalability*. The business model allows for scalability across different regions and cuisines, providing opportunities for expansion into new markets while maintaining the core values of authenticity and local engagement.
- *Strategic partnerships*. Collaborations with local businesses, tourism boards, and culinary institutions can enhance the platform's offerings and credibility, opening avenues for growth and diversification.

Website: *www.localfood.fun*

3.4. CROATIA, Sebastus

State: Zlatar, Croatia
Sector: Nautical tourism
Name: Sebastus
Year: 2016

Topic/Innovation. Sebastus is a premier online platform for the rental of boats and yachts, catering to a discerning clientele seeking bespoke sailing vacations. Founded in 2016 and headquartered in Zlatar, Croatia, Sebastus operates in several countries, including Croatia, Greece, Turkey, Spain, and France. Sebastus has established itself as a leader in the niche market of guided adventure charters, with a Tracxn Score of 33/100 and ranking first among its seven competitors. In summary, Sebastus combines a personalized service approach with a commitment to quality and comprehensive support, positioning itself as a leader in the luxury boat and yacht rental market. This

ensures that clients receive a sailing vacation that is not only exceptional but also perfectly aligned with their personal preferences and needs.

Business model. Sebastus realizes revenue through a commission-based model, connecting customers with yacht charter services worldwide. By facilitating bookings and providing a comprehensive platform for discovering and arranging yacht rentals, the company earns a commission on each transaction. Additionally, Sebastus may offer premium services such as trip planning, concierge services, and insurance options, further diversifying its income streams.

Strengths
- *Personalized approach.* A pop-up window titled "Plan your vacation" greets users as soon as they land on the homepage. A form asking for information to create a personalized sailing plan (such as destination, boat type, period, number of guests, budget, occasion, etc.) follows. Afterwards, Sebastus agents take care of designing sailing itineraries that encompass a blend of adventurous exploration and restful leisure in accordance with the form. This bespoke service ensures that each voyage is a true reflection of the client's desires, resulting in an unforgettable experience that engages all the senses.
- *Seamless experience.* The platform interface appears intuitive and comprehensive. In fact, besides the "Plan your vacation" option, it offers a wide range of filter sections to allow the customer to choose the solution that better fits his needs: a variety of customizable pre-designed packages, several destination options, and a marketplace of available charter boats for the place and period selected.
- *Finest fleet and crew selection.* The commitment to excellence is evident in the rigorous selection of only the highest quality fleets and crews, ensuring top-tier service, as displayed on the website. Consequently, clients can expect to enjoy every aspect of their sailing vacation with meticulous attention to detail.
- *Comprehensive support during sailing.* Ongoing support and guidance are assured throughout the sailing journey, with agents readily available to assist with any challenges that may arise, ensuring a smooth and enjoyable experience.

Website: *www.sebastus.com*

3.5. REPUBLIC OF CYPRUS, Travelnaut

State: Republic of Cyprus
Sector: Travel
Name: Travelnaut
Year: 2023

Topic/Innovation. Travelnaut, established in 2023 in the Republic of Cyprus, is an AI-driven travel information hub and an innovative travel technology company dedicated to transforming the global travel industry by integrating advanced artificial intelligence (AI) with human expertise. This combination aims to deliver highly personalized, immersive, and enriching travel experiences to users worldwide. Travelnaut's mission is to make travel more accessible and enriching by connecting cultures and promoting empathy through well-informed, immersive travel experiences. The platform offers meticulously crafted itineraries for single or multiple-day trips, including a wide array of attractions, culinary recommendations, local language guidance, weather forecasts, transportation options, and packing tips, all accessible in one comprehensive location.

Business model. Travelnaut utilises a commission-based model, partnering with various travel service providers to offer tailored travel packages for families with children. By facilitating bookings for accommodations, transportation, and activities, the company earns a commission on each transaction. Moreover, it may offer premium planning services, personalized itineraries, and exclusive travel deals, enhancing their value proposition and diversifying their revenue streams.

Strengths
- *Advanced personalization*. Travelnaut leverages sophisticated AI algorithms to customize travel experiences according to individual preferences, significantly enhancing the relevance and enjoyment of each trip. By analyzing user behavior, preferences, and historical travel data, the platform can offer highly tailored itineraries that align with the unique interests and needs of each traveler. This level of personalization ensures a more engaging and satisfying travel experience, setting Travelnaut apart from generic travel planning services
- *Comprehensive and integrated travel resources*. The platform provides an extensive range of meticulously crafted itineraries and travel information, encompassing attractions, culinary recommendations, local language guidance, weather forecasts, transportation options,

and packing tips. This comprehensive approach ensures that travelers have all the necessary tools and information at their fingertips, making travel planning seamless and efficient. The integration of diverse travel resources into a single platform enhances user convenience and supports well-informed decision-making.

- *Intuitive and user-friendly interface*. Travelnaut features an intuitive and visually appealing interface that facilitates efficient navigation on both desktop and mobile devices. The user-friendly design enhances the overall user experience, making it easy for travelers to access and utilize the platform's rich array of features. This accessibility is crucial for attracting and retaining users in a competitive digital landscape.
- *Accurate and timely information*. The robust integration with external data sources ensures that all provided information is current and accurate. The platform enhances the reliability and trustworthiness of travel planning by continuously updating travel-related data such as weather forecasts, transportation schedules, and local events. This commitment to accuracy ensures that travelers can make well-informed decisions, reducing the risk of disruptions and enhancing the overall travel experience.

Website: *www.travelnaut.com*

3.6. CZECH REPUBLIC, Worldee

State: Czech Republic
Sector: Travel
Name: Worldee
Year: 2020

Topic/Innovation. Worldee is a cloud-based travel platform and marketplace established in 2020, designed to revolutionize the way users store, share, and monetize their travel experiences. By leveraging advanced technology, it allows travelers to document their trips comprehensively, including photos, travel routes, and personal notes, creating a detailed travel log that can be shared with others or kept private. The platform also offers features for planning new trips by exploring shared itineraries and insights from a global community of travelers. By combining innovative features and a user-centric design, Worldee aims to become a leading platform in the travel industry, catering to the needs of modern travelers who seek to document, share, and monetize their travel journeys.

Business model. Worldee generates revenue through a multi-faceted business model that includes commission-based earnings from travel bookings and partnerships with travel service providers. By offering a platform where users can plan, document, and share their travel experiences, Worldee attracts a community of travelers and travel enthusiasts. The company further diversifies its income through premium membership subscriptions, advertising, and collaboration with brands for targeted promotions and exclusive travel deals.

Strengths
- *User-friendly interface*. Worldee provides an intuitive, user-friendly interface that simplifies the process of documenting and sharing travel experiences. Users can easily navigate through the platform, adding photos, routes, and notes to create comprehensive travel logs.
- *Monetization opportunities*. The platform offers a unique opportunity for users to monetize their travel experiences. By sharing their detailed itineraries and travel logs, users can attract followers and potentially earn revenue from their content.
- *Comprehensive trip planning tools*. Worldee integrates robust trip planning tools that allow users to create detailed itineraries, explore popular destinations, and access a wealth of travel insights from other users. This feature helps in planning trips efficiently and discovering new travel ideas.
- *Community engagement.* The platform fosters a strong community of travelers who share their experiences, tips, and recommendations. This engagement not only enriches the travel content available on Worldee but also creates a supportive network for travelers seeking advice and inspiration.
- *Technological integration.* Worldee utilizes cloud technology to ensure that all travel data is securely stored and easily accessible from any device. This integration enhances the user experience by providing seamless access to travel logs and planning tools.

Website: *www.worldee.com*

3.7. DENMARK, Exploy

State: Denmark
Sector: Travel
Name: Exploy
Year: 2016

Topic/Innovation. Exploy is a full-service travel marketing and public relations agency that focuses on multimedia strategy. Operating globally across six continents, Exploy carries out the mission of inspiring people with its celebration of the world's natural beauty and unique travel experiences. The company specializes in creating "social first" content for premier lifestyle brands, hotels, governments, and NGOs, utilizing predictive visual analytics and storytelling. Their expertise includes photography, drones, and video content tailored for a mobile millennial audience. Exploy connects sophisticated travelers with exclusive destinations, offering one-of-a-kind luxurious and unique experiences. Exploy combines cutting-edge content creation with strategic marketing and a robust social media presence, making it well-positioned to transform how travel experiences are shared and marketed in the digital age.

Business model. The company's business model is centered on partnering with tourism boards, hotels, lifestyle brands, and NGOs to develop and execute marketing strategies that leverage social media and digital platforms. By producing high-quality visual content, including photography, drone footage, and videos, Exploy helps its clients enhance their online presence and engage with a mobile millennial audience. Additionally, Exploy provides consulting services to help clients craft compelling brand stories and optimize their digital marketing efforts.

Strengths
- *Innovative content creation*. Exploy specializes in creating premium, tailored content for various platforms, ensuring high engagement and reach. Their expertise in producing high-quality photography and videography sets them apart in the travel industry.
- *Comprehensive marketing solutions*. As a full-service creative and media agency, Exploy offers strategic marketing solutions that integrate digital, social, mobile, print, and experiential channels. This holistic approach helps travel brands and tourism organizations effectively market to modern travelers.
- *Strong social media presence*. Exploy boasts one of the most influential

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travel communities on social media platforms like Instagram, Facebook, YouTube, and TikTok. This extensive reach enables them to effectively promote destinations and experiences, driving engagement and awareness.
- *Global network*. The platform collaborates with a global network of content creators, ensuring diverse and authentic travel experiences are showcased. This international perspective enriches the content and appeals to a wide audience.
- *Focus on sustainability*. Exploy's commitment to promoting meaningful and sustainable travel experiences resonates with today's conscientious travelers, aligning with broader industry trends towards responsible tourism.

Website: *www.exploy.com*

3.8. ESTONIA, Pointship OÜ

State: Estonia
Sector: Aviation
Name: Pointship OÜ
Year: 2021

Topic/Innovation. Pointship OÜ, founded in 2021 and based in Estonia, is a pioneering digital asset marketplace designed to revolutionize the way loyalty rewards, game credits, and event tickets are managed and exchanged. Pointship leverages the latest in blockchain technology to transform these digital assets into NFTs, enabling seamless and secure exchanges through tokens. The platform allows users to list, share, and trade their unused digital assets, ensuring they derive maximum value from their accumulated rewards. By addressing the common issue of expiring loyalty rewards and unused digital credits, Pointship not only enhances value for its users but also drives innovation in the digital asset space.

Business model. Pointship generates revenue through a commission-based model by facilitating the sharing and trading of travel loyalty points and miles. The platform connects users looking to maximize their travel rewards, charging a commission on each transaction completed. Additionally, Pointship may offer premium membership options, providing users with enhanced features and exclusive deals, further diversifying its income streams.

Strengths
- *Innovative digital asset conversion.* Pointship's unique approach to converting digital assets into NFTs facilitates secure and transparent exchanges, ensuring users can trade their loyalty rewards, game credits, and event tickets with confidence.
- *User-friendly platform.* The platform boasts an intuitive interface that simplifies the process of listing and exchanging digital assets, making it accessible for all users, regardless of technical expertise.
- *Secure transactions.* With a strong emphasis on security, Pointship ensures all financial transactions are conducted via reputable payment services, safeguarding users' personal and financial information.
- *Community-driven exchange.* Pointship operates on a peer-to-peer model, fostering a community where users can interact directly to share and trade their rewards, thus enhancing user engagement and satisfaction.
- *Comprehensive ecosystem integration.* The platform integrates seamlessly with a variety of external data sources and loyalty programs, providing users with up-to-date and accurate information on the value and availability of their digital assets.
- *Agile and innovative development.* Pointship's agile methodology allows it to quickly adapt to market trends and user needs, ensuring the platform remains at the forefront of digital asset management.

Website: *www.pointship.net*

3.9. FINLAND, Vreal

State: Finland
Sector: Guided tours
Name: Vreal
Year: 2019

Topic/Innovation. VReal is an innovative technology company that leverages Extended Reality (XR) to create immersive and interactive virtual experiences aimed at preserving, revitalizing, and disseminating rich cultural heritage and local history. By combining cutting-edge technology with authentic content curation, VReal transforms traditional storytelling into a dynamic and engaging medium, fostering a deeper understanding and appreciation of diverse cultures and historical narratives.

Business model. VReal generates revenue through a subscription-based model, offering virtual reality (VR) solutions for real estate marketing and property visualization. By providing access to immersive VR tours and customized property showcases, the company charges real estate professionals ongoing subscription fees. Additionally, VReal may offer premium services such as bespoke VR content creation, technical support, and analytics, further diversifying its revenue streams.

Strengths
- *Immersive technology.* VReal employs state-of-the-art XR and Virtual Reality (VR) technologies to build high-definition digital replicas of historical sites and artifacts, enabling users to experience history as if they were physically present.
- *Interactive storytelling.* The platform enhances user engagement by allowing active participation in virtual tours, where users can interact with characters and environments, influencing the direction of the narrative and making the experience more personal and memorable.
- *Expert-led content.* Historians, curators of art, and other specialists lead VReal excursions, offering in-depth analysis and establishing significant ties to the past via meticulous and genuine narration.
- *Educational impact.* The platform is designed to be an educational tool, offering students and learners a chance to step into historical reenactments, thus creating a lasting emotional connection and a profound impact on their understanding of history.
- *Cultural empathy.* By presenting authentic stories from different cultures, VReal promotes empathy and respect for diverse perspectives, helping to break down stereotypes and foster global understanding.

Website: *www.vreal.fi*

3.10. FRANCE, Fairlyne

State: France
Sector: Aviation
Name: Fairlyne
Year: 2021

Topic/Innovation. Founded in 2021, Fairlyne is a pioneering Parisian startup that has introduced a Resale-as-a-Service platform tailored specifically for

the travel industry. This innovative platform empowers travel operators to enhance their revenue streams through optimized resale experiences, thereby improving overall profitability and elevating customer satisfaction. Fairlyne's solution not only facilitates incremental revenue generation but also plays a pivotal role in strengthening brand loyalty among customers. Fairlyne stands at the forefront of innovation in the travel industry, offering a sophisticated Resale-as-a-Service platform that not only drives revenue growth but also enhances customer loyalty and satisfaction through strategic resale strategies.

Business model. The company generates income through a commission-based model by providing a platform for businesses to offer and manage resale and return services. By facilitating the resale of returned and second-hand items, Fairlyne charges a commission on each transaction, diversifying its income streams.

Strengths
- *Specialized resale platform.* Fairlyne offers a dedicated platform specifically designed for the travel industry. This specialization allows it to focus on the unique challenges and opportunities within this sector, optimizing resale strategies that maximize revenue and profitability for travel operators.
- *Incremental revenue generation.* The platform enables travel operators to create additional revenue streams by facilitating the resale of non-refundable bookings. This capability allows businesses to capitalize on previously lost sales opportunities, thereby enhancing overall profitability.
- *Enhanced customer satisfaction.* Fairlyne's platform is structured to improve customer satisfaction by providing flexible resale options. Customers can resell their non-refundable tickets, which not only alleviates the frustration of losing money on unused bookings but also fosters a positive relationship with the brand, encouraging repeat business.
- *Brand loyalty boost.* By empowering customers with the ability to resell their bookings, Fairlyne reinforces brand loyalty. This innovative approach helps travel operators build stronger connections with their customers, which is crucial for sustained growth in a competitive market.
- *Strategic innovation.* Fairlyne is built on innovative principles, leveraging advanced technology to offer scalable solutions that meet the evolving needs of travel operators. This commitment to innovation ensures that the platform remains relevant and effective in addressing market demands.

- *Market adaptability.* Located in Paris, one of Europe's major travel hubs, Fairlyne benefits from its strategic position, allowing it to access a diverse market and foster partnerships within the travel industry. This adaptability enhances its ability to respond to changing market conditions and customer needs.
- *Customer-centric approach.* Fairlyne prioritizes customer satisfaction by tailoring its services to meet the specific demands of the travel industry. This customer-centric approach ensures that the platform aligns with the expectations and preferences of its users, enhancing overall engagement and loyalty.
- *Technological integration.* The integration of cutting-edge technology into Fairlyne's platform ensures operational efficiency and effectiveness. This technological backbone provides seamless resale solutions, making it easier for travel operators to manage their offerings and for customers to navigate the resale process.

Website: *www.fairlyne.com*

3.11. GERMANY, Omio

State: Germany
Sector: Travel
Name: Omio
Year: 2013

Topic/Innovation. Omio, founded in 2013 in Germany, is a leading travel technology company that offers a comprehensive online platform for comparing and booking various modes of transport, including trains, buses, flights, and ferries. As one of Europe's prominent travel-tech unicorns, Omio integrates travel options from over 1,000 transport operators, enabling users to find the best travel combinations for cities, towns, and villages globally. The platform simplifies travel planning by aggregating global prices and offering direct booking capabilities from third-party agencies.

Business model. By facilitating bookings and providing a seamless user experience, Omio earns commissions on each transaction made through its platform. Additionally, the company may offer premium services such as travel insurance, exclusive deals, and personalized travel recommendations, further diversifying its revenue streams.

Strengths

- *Extensive network.* Omio's collaboration with over 1,000 transport operators across 37 countries significantly enhances its platform's comprehensiveness. This extensive network allows users to access a vast array of travel options, ranging from trains and buses to flights and ferries. Such a wide range ensures that travelers can find the most convenient and cost-effective routes, even to less commonly serviced destinations. This extensive reach is crucial for users who seek flexibility and variety in their travel plans.

- *User-friendly interface.* The platform's design prioritizes ease of use, featuring an intuitive and seamless interface that simplifies the process of comparing and booking various travel modes. This user-centric approach minimizes the complexities often associated with travel planning. By providing a straightforward booking experience, Omio ensures high user satisfaction and repeat usage, which are critical for sustained platform growth.

- *Comprehensive data integration.* Omio aggregates travel prices and schedules from a global perspective, ensuring that users receive the most accurate and up-to-date information available. This comprehensive data integration not only helps users make well-informed decisions but also enhances the reliability and trustworthiness of the platform. By presenting a holistic view of travel options and costs, Omio empowers users to optimize their travel itineraries efficiently.

- *Robust investment and growth*. The company's ability to secure substantial funding, including €84 million in August 2020, reflects strong investor confidence and provides the financial resources needed for continuous development and innovation. This investment supports the enhancement of the platform's features, expansion into new markets, the integration of additional transport options, and the underlying strategic vision and market potential.

- *Innovative travel solutions*. As a pioneer in combining multiple transport modes into a single search, Omio offers unique travel solutions that are tailored to individual user needs. This innovative approach addresses the complexity of modern travel by providing seamless connections between different types of transport. Such innovation not only differentiates Omio from its competitors but also significantly enhances the convenience and efficiency of travel planning for its users. By continually evolving and adapting to meet the changing demands of travelers, Omio maintains its competitive edge in the travel technology sector.

Website: *www.omio.com*

3.12. GREECE, Clio Muse

State: Greece
Sector: Guided tours
Name: Clio Muse
Year: 2014

Topic/Innovation. Founded in 2014, Clio Muse Tours has pioneered an innovative approach to enhancing cultural and tourism experiences through scalable, high-quality audio and virtual tours that can be easily downloaded on mobile phones. This platform facilitates the creation of self-guided digital tours by tourism and culture professionals, targeting top attractions and city walks. These tours are subsequently distributed globally through leading Online Travel Agencies (OTAs) such as Expedia, booking.com, and Viator, enabling travelers to access them via a dedicated mobile app or web browser.

Business model. Clio Muse Tours generates revenue through a multi-faceted model that includes sales of self-guided audio tours and partnerships with museums, cultural institutions, and tourism agencies. By offering a platform for purchasing and downloading audio tours, the company earns revenue from each tour sold. Additionally, Clio Muse Tours collaborates with cultural partners to create custom tours, charging fees for these bespoke services, and may also offer subscription models for frequent travelers or educational institutions, increasing the variety of its sources of income. All in all, Clio Muse operates primarily under a B2B2C model.

Strengths
- *Award-winning storytelling methodology*. Clio Muse Tours employs a unique storytelling approach that integrates multifaceted narratives. Each point of interest in a tour is presented through several standalone stories, crafted using an award-winning methodology. This enriches the user experience by providing comprehensive and engaging cultural insights.
- *Global distribution network*. The company has established a robust global distribution network through partnerships with major OTAs and marketplaces. This network ensures extensive reach and accessibility, allowing Clio Muse Tours to offer its products to millions of customers worldwide without significant marketing expenditure.
- *Comprehensive and high-quality content*. The platform provides meticulously crafted audio tours that combine contemporary, traditional, and archival music with exclusive performances. Narration by internationally

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known native performers, along with professional sound design, ensures a high-quality auditory experience.

- *Technological integration and scalability.* Clio Muse Tours utilizes geofencing technology to enhance the user experience by providing seamless and interactive tour accessibility. The platform's scalability allows for the creation and distribution of tours across various destinations globally, supporting the needs of both individual travelers and cultural institutions.
- *Collaborations with cultural experts.* The company collaborates with local cultural experts, including ethnographers and notable figures, to produce content that is both authentic and academically rigorous. This collaboration ensures the depth and emotional resonance of the narratives, providing users with profound cultural immersion.
- *Sustainable tourism practices.* Recognized for its contribution to sustainable tourism, Clio Muse Tours has been awarded for its efforts to promote economic growth and decent work in the tourism sector. The company's business model supports sustainability by offering unlimited availability of self-guided tours, thus reducing the need for physical resources and promoting environmental consciousness.

Website: *www.cliomusetours.com*

3.13. HUNGARY, CLICKnCRUISE

State: Hungary
Sector: Nautical tourism
Name: CLICKnCRUISE
Year: 2021

Topic/Innovation. Founded in 2021, CLICKnCRUISE is a Hungarian startup revolutionizing the cruise booking process. The company addresses the traditionally time-consuming and outdated cruise booking methods by offering a state-of-the-art meta-search site and a seamless online booking experience. By leveraging a proprietary database, CLICKnCRUISE provides users with live pricing and a superior user experience, enabling them to book cruises within three minutes. The platform caters to singles, families, and groups of friends, offering various add-ons for a comprehensive vacation package. The company generates revenue through commissions paid by cruise lines and has successfully tested its technology and business model

in Hungary and Romania, with plans to expand to the UAE and a projected global annual revenue of 1.5 billion USD by 2026.

Business model. ClicknCruise generates revenue through a commission-based model by offering a platform for booking cruise vacations. By facilitating the booking process for various cruise lines and packages, the company earns a commission on each booking made through its site. Additionally, ClicknCruise may offer premium services such as personalized travel planning, exclusive deals, and travel insurance options, further enhancing its revenue streams.

Strengths
- *Efficient booking process*. CLICKnCRUISE significantly reduces the time required to book a cruise, allowing users to complete their bookings online within three minutes.
- *Live pricing*. The platform offers real-time pricing, ensuring transparency and eliminating the frustration of price discrepancies or sold-out cruises.
- *User experience*. With a focus on delivering the best user experience in the market, CLICKnCRUISE features a modern, intuitive interface tailored to the preferences of Millennials and Gen Z.
- *Comprehensive search filters*. The advanced search filters enable customers to find cruises that meet their specific needs without long wait times for price checks.
- *Targeted market.* By addressing the unique preferences of younger generations, ClicknCruse taps into a growing demographic of potential cruisers.
- *Global expansion.* Having proven its business model in Hungary and Romania, the company is poised for international growth, with imminent expansion plans for the UAE.
- *Scalable revenue model.* The commission-based revenue model is scalable and has the potential to generate substantial income as the company expands globally.

Website: *www.clickncruise.hu*

3.14. IRELAND, Road Trip: Ireland

State: Ireland
Sector: Guided tours
Name: Cultural Roadmapp/ Road Trip: Ireland
Year: 2017

Topic/Innovation. Cultural Roadmapp, founded in 2017, is an Irish startup that creates GPS-guided audio documentaries to enrich road trips with cultural and heritage experiences. The company highlights local culture along driving routes, covering diverse topics like cattle farming, dance history, ecotourism, and fairy forts. Collaborating with local experts, Road Trip: Ireland's ethnographers conduct in-depth audio interviews to craft authentic narratives. These are refined by professional scriptwriters and vetted by subject-matter experts for accuracy. The final audio guides feature a blend of contemporary, traditional, and archival music with exclusive performances narrated by internationally known native performers. The high-quality audio files are integrated with geofencing technology for a seamless user experience, tested on the road, and then made available on app stores.

Business model. Road Trip Ireland achieves revenue through a combination of app purchases and in-app transactions. By offering a comprehensive travel planning app that includes detailed itineraries, maps, and local recommendations, the company charges users a one-time download fee or subscription for access. Additionally, Road Trip Ireland may generate income through partnerships with local businesses, offering exclusive deals and promotions, and through premium features such as personalized trip planning and offline access.

Strengths
- *Broad cultural scope*. Cultural Roadmapp defines culture broadly, including topics as diverse as cattle breeding, dance history, ecotourism and fairy fortresses. This broad scope makes it possible to create rich and varied content that appeals to a wide audience, offering users a complete cultural experience. It also does this by collaborating with a multitude of local and external cultural experts, significantly enhancing the depth and authenticity of the content.
- *Academic standards and professional scriptwriting*. High-quality information is ensured by the use of qualified ethnographers who conduct interviews in accordance with academic standards. In addition, scripts are crafted by professional writers and then screened by subject matter experts to ensure the accuracy and relevance of the content.

- *High quality audio and production experience.* The audio guides are enriched with a mixture of contemporary, traditional, and archival music, as well as exclusive performances. This integration of different musical elements enriches the narrative experience, making it more engaging and immersive for users. The narration is also performed by internationally recognized native interpreters, and the audio files are mixed and mastered by professional sound designers. This commitment to high production standards guarantees a polished and professional final product.
- *Geofencing technology.* The use of geofencing technology allows for a seamless and interactive user experience. This technology ensures that audio content is automatically triggered at the appropriate geographical locations, enhancing the contextual relevance of the information provided.
- *Real-world testing.* Each app undergoes extensive road testing to ensure its functionality and user satisfaction. This thorough testing process helps identify and rectify any issues before the app is made available to the public, ensuring a reliable and user-friendly product.
- *Innovative approach.* By combining cultural heritage with advanced technology, Cultural Roadmapp offers a unique and engaging way to explore local culture during road trips. This innovative approach sets it apart from traditional audio guides and enhances the overall travel experience for users.

Website: *www.roadtripirelandapp.com*

3.15. ITALY, Taykon

State: Italy
Sector: Travel
Name: Taykon
Year: 2022

Topic/Innovation. Takyon, founded in 2022 and headquartered in Milan, has pioneered a transformative innovation within the travel industry. The company introduces a novel paradigm by enabling individuals to convert their hotel reservations into tradable digital assets known as Non-Fungible Tokens (NFTs). This groundbreaking concept, termed the "Resellable Rate," revolutionizes conventional booking practices by facilitating direct booking on hotel platforms, subsequently allowing customers to resell their reservations on Takyon's dedicated marketplace. Takyon represents a

pioneering force within the travel industry, harnessing blockchain and NFT technologies to redefine how hotel reservations are managed and traded. By addressing inherent inefficiencies and introducing unprecedented flexibility, Takyon not only enhances consumer empowerment but also sets a precedent for future innovations in travel and hospitality.

Business model. Takyon uses a commission-based model by offering a platform for buying, selling, and trading hotel reservations and travel packages. By facilitating these transactions, the company earns a commission on each sale made through its platform. Additionally, Takyon may offer premium services such as priority listings, advanced search options, and personalized customer support, further diversifying its income streams.

Strengths
- *Pioneering technology integration.* Takyon integrates blockchain and NFT technology into the hotel reservation process, thereby establishing the first-ever digital marketplace for travel accommodations. This integration enhances transparency, security, and efficiency in booking and reselling accommodations.
- *Market disruption.* By introducing the concept of resellable hotel reservations, Takyon disrupts traditional booking practices and establishes a new market dynamic. This innovation appeals to a broad spectrum of consumers seeking flexibility and investment opportunities within the travel sector.
- *Enhanced consumer flexibility.* Takyon empowers consumers by offering them the flexibility to resell their reservations, thereby transforming a typically non-transferable service into a tradable asset. This flexibility not only meets evolving consumer preferences but also opens avenues for secondary market transactions.
- *Support for sustainability.* Through the optimization of reservation utilization and reduced booking cancellations, Takyon promotes sustainability within the hospitality sector. By incentivizing responsible booking behavior through resale capabilities, Takyon contributes to a more sustainable travel ecosystem.
- *Strategic market positioning.* Located in Milan, a hub renowned for innovation and technological advancement, Takyon benefits from strategic geographical positioning, as it facilitates access to a vibrant ecosystem of tech-savvy talent, industry partnerships, and supportive infrastructure crucial for scaling operations.

Website: *www.takyon.io*

3.16. ITALY, Destination Italia S.p.A

State: Italy
Sector / Framework: Travel
Name: Destination Italia S.p.A.
Year: 2016

Topic/Innovation. Destination Italia S.p.A. is an Italian TravelTech, founded in 2016 and today a "market maker" leader in the incoming tourism sector in Italy. It is capable of competing internationally thanks to the synergy between its skills and technological know-how. Since its inception, the company has embarked on a path of technological innovation that is still in continuous evolution. In fact, it has recently decided to focus on artificial intelligence, automation and control to optimize the interaction between tourism supply and demand through the integration of the Hubcore.AI platform, which represents the reference point for all-in-one booking in Italy. This platform, supported by a development team experienced in CRM and marketing automation, facilitates the management of machine-to-machine reservations and the interpretation of email requests, improving the relationship with customers through advanced technologies such as chatbots and marketing automation. Thanks to the ability of Hubcore.AI to analyze proprietary data relating to the geographical origin of bookings and to a specific business model based on advanced technologies, the company is also taking a careful look at new international markets. With this wave of expansion in other markets and the acquisition of several companies specialized in specific segments, Destination Italia can be defined as a Glocal specialist. The company, through its brands, offers local travel experiences on a global scale thanks to a network of local experts with a deep knowledge of the culture and traditions of the territory[1].

Business model. Destination Italia has developed an aggregative and scalable business model that integrates local tourism systems through technological and strategic investments. The model is characterised by innovative technological integration, strategic national and international expansion, scalable aggregation of local tourism systems, and the promotion of unique and immersive travel experiences. This not only ensures competitive differentiation but also promotes sustainable growth and strengthens Italy's global positioning as a tourism destination.

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1. *destinationitaliagroup.com/brand/destination-local-expert/*.

Strengths

- *Leadership in the experiential incoming tourism.* Destination Italia is the leading Italian Travel Tech specializing in experiential incoming tourism.
- *Technological innovation.* The company has always had an approach oriented towards technological innovation over the years. HubCore.AI is an advanced technological platform based on Artificial Intelligence for the end-to-end management of tourist services that can cover all operational processes with maximum efficiency, both for internal business activities and for customer use (B2B2C).
- *Global presence and strategic investments.* Destination Italia operates internationally, with a strong presence on all continents. This allows it to attract a large global clientele and diversify its revenue sources. The company has introduced an innovative expansion model that is soon to be replicated in other destinations through strategic investments.
- *Proprietary data analysis.* The ability to analyze proprietary booking data allows the company to identify market trends and quickly adapt its offer to the needs of tourists, improving the customer experience and increasing loyalty. Quickly identify market trends, allowing proactive adaptation of marketing and product development strategies. It also gives the possibility to direct marketing campaigns, identifying effective channels and engaging messages, leading to a more efficient use of resources and a greater return on investment.
- *Collaborations and networking.* The company has a very strong network and collaborations. Destination Italia actively collaborates with regional and national tourism institutions and bodies, local operators, travel agencies and tourism service providers to develop and promote innovative and high-quality tourist packages. In addition, through initiatives such as the MEET Forum, Destination Italia facilitates collaboration between institutions and operators in the sector, promoting sustainable tourism and enhancing local destinations. The company's participation in international trade fairs and conferences in the sector contributes to the sharing of best practices and the creation of strategic networks.
- *Performance of the subsidiaries.* An example is the subsidiary Welcomely, specialising in property management, founded and controlled by Portale Sardegna (merged from 2023 by Destination Italia) to develop the non-hotel sector in the destination Italy with the aim of increasing sales of the tourism product Italy, which has recorded excellent results, a total transacted value of EUR 2.8 million in the first half of 2024, contributing to the overall success of the group.

- *Focus on sustainability.* The company integrates sustainable practices into its operations, responding to the growing demand for eco-friendly tourism and strengthening its reputation for sustainability. In addition, through initiatives such as the MEET Forum, Destination Italia promotes sustainable tourism enhance local destinations and facilitates collaboration between institutions and operators in the sector,
- *Enhancement of local territories.* Its global vocation does not preclude the company in its commitment to the enhancement of the territories, the company presents an offer of products and services that tell the stories of the places, supported by local experts (a project born in Sardinia in 2019). In fact, in particular, through its brand Destination Local Expert, the group offers authentic Italian engaging experiences to foreign markets. Projects such as Italy Masterplace demonstrate Destination Italia's commitment to enhancing the uniqueness of Italian territories and transforming them into internationally competitive tourism products

Website: *www.destinationitaliagroup.com*

3.17. LATVIA, Apgrieztā māja (Upside-Down House)

State: Latvia
Sector: Guided tours
Name: Apgrieztā māja (Upside-Down House)
Year: 2022

Topic/Innovation. The "Apgrieztā māja" (Upside-Down House) in Latvia is a standout tourism innovation due to its unique inverted design. This tourist attraction invites visitors to explore an ordinary house with an extraordinary twist: everything from the furniture to the fixtures is positioned upside down. This unconventional setup challenges visitors' perceptions and provides countless photo opportunities, making it a popular destination for both locals and tourists. The attraction is designed to be family-friendly and appeals to a broad audience, including children, adults, and social media enthusiasts looking for unique content. This unconventional orientation creates a striking visual effect and offers a playful, disorienting experience for visitors, who explore a furnished interior that appears to defy gravity. By blending creative architecture with interactive elements, it not only captures attention but also engages visitors in a novel way, making it a memorable and educational attraction that pushes the boundaries of traditional tourist experiences. This

project integrates innovative spatial design with interactive engagement, offering both a novel tourist attraction and an educational exploration of perceptual dynamics.

Business model. Apgrieztā Māja generates revenue through ticket sales by offering visitors a unique and interactive experience at its upside-down house attraction. The company charges an admission fee for entry, capitalizing on the novelty and entertainment value of the attraction. Additionally, Apgrieztā Māja may generate income through the sale of merchandise, hosting special events, and offering group discounts or exclusive packages for schools, corporate events, and tourists.

Strengths
- *Unique design.* Its inverted structure immediately sets it apart from conventional buildings, capturing attention with its visually striking and unconventional orientation. This originality is a key draw for visitors seeking novel experiences.
- *Interactive experience.* The upside-down interior allows visitors to explore a space that challenges their perception of gravity and normalcy, creating an engaging and immersive experience. The playful disorientation adds to its appeal.
- *Tourism appeal.* Its innovative design not only attracts tourists but also stimulates curiosity and social media sharing, enhancing its popularity as a must-see attraction. It offers a memorable experience that stands out in the crowded landscape of tourist destinations.
- *Educational value.* Beyond its entertainment factor, the Upside-Down House provides an educational experience, sparking discussions about architecture, design principles, and physics. It serves as a practical example of creative engineering and unconventional design.
- *Versatility.* The structure's design can be adapted for various uses, from being a tourist attraction to hosting events or exhibitions. Its flexibility in application further amplifies its value and relevance in different contexts.

Website: *www.apgrieztamaja.lv*

3.18. LITHUANIA, Searadar

State: Lithuania
Sector: Nautical tourism
Name: Searadar
Year: 2017

Topic/Innovation. founded in 2017 and has since evolved from a small charter agency into a modern, technology-driven startup. Today, the platform offers a seamless and user-friendly interface that facilitates the booking and management of yacht charters worldwide by providing tailored solutions that meet the diverse needs of its clientele. On the website homepage, the user is welcomed with an interactive form of 8 questions to profile his requests, and an online chatbot to answer the most common questions. Then, the platform combines sophisticated search algorithms with a comprehensive database of yachts and charters, and employs machine learning and artificial intelligence to match users with the best available options based on their preferences and requirements. The solutions found are eventually sent to the potential customer via email or WhatsApp. In the event that the reservation does not take place, Searadar's commitment to attentive service is exemplified by a direct phone call from one of its agents. This proactive approach aims to identify any potential misunderstandings or concerns, ensuring that clients receive the support they need.

Business model. Searadar generates revenue through a commission-based model by offering a platform for booking yacht charters and sailing vacations. By facilitating transactions between yacht owners and customers, the company earns a commission on each booking. Additionally, Searadar may offer premium services such as crew hiring, provisioning, trip planning assistance, personalized itineraries, and travel insurance options, further diversifying its revenue streams.

Strengths
- *Strategic partnerships*. Searadar's robust network of partnerships is crucial in providing users with a diverse selection of yachts and sailing routes. These partnerships enhance the platform's ability to offer unique and exclusive options to its clientele, thereby ensuring a wide range of choices and superior service quality.
- *User-friendly interface.* The platform's intuitive design significantly simplifies the process of searching for and booking yacht charters. This user-centric approach ensures a smooth and efficient experience, reducing

the complexities often associated with nautical tourism and making it accessible to a broader audience.

- *Immediacy and efficiency.* Searadar's service is immediate and efficient, as demonstrated by the fact that a quotation request is instantly acknowledged with a message on WhatsApp. If the customer does not confirm, a staff member promptly calls to assist in finding a suitable deal. This rapid response not only enhances customer satisfaction but also ensures that clients receive personalized and timely support, facilitating a seamless booking experience. This level of responsiveness underscores Searadar's commitment to providing exceptional service and fostering strong customer relationships.
- *Comprehensive service offering.* Searadar adopts a holistic approach by offering a range of ancillary services, including crew hiring, route planning, and provisioning. This comprehensive service model ensures that users have all the necessary support for a seamless sailing experience, catering to both novice sailors and seasoned mariners.
- *Advanced technology integration.* By employing advanced AI and machine learning algorithms, Searadar enhances its ability to match users with optimal yacht options based on specific preferences and requirements. This technology-driven approach ensures personalized and efficient service, setting Searadar apart in the nautical tourism sector.
- *Scalability.* The platform is designed for scalability, capable of expanding its market reach and adapting to various industry demands. This scalability ensures that Searadar can continuously grow and adapt, meeting the increasing demands of the global nautical tourism market and maintaining its competitive edge.

Website: *www.searadar.com*

3.19. LUXEMBOURG, Travelsify

State: Luxembourg
Sector: Hospitality
Name: Travelsify
Year: 2016

Topic/Innovation. Travelsify, established in 2016, is a leader in Explainable Artificial Intelligence (XAI) for the hospitality and tourism sectors. Its platform generates detailed data and decision intelligence through

Hotel Brand DNA®, Hotel DNA®, Restaurant DNA®, and Destination DNA®. These products provide data-driven insights for brand strategists, developers, owners, and investors, encapsulating customer experiences worldwide. Using proprietary XAI algorithms, Travelsify analyzes over 1 billion reviews to extract more than 200 experience-defining DNA attributes, enabling true comparison and performance assessment of hotels, restaurants, and destinations. Travelsify operates from Luxembourg and Cambridge, offering subscription-based access to its data platform, customized analytics, and consultancy services.

Business model. Travelsify generates revenue through a B2B subscription-based model by providing data-driven insights and content solutions to hospitality and travel industry clients. By leveraging its extensive database of property attributes and customer preferences, the company offers tailored recommendations and marketing tools, charging subscription fees for access to its platform and services. Additionally, Travelsify may generate income through partnerships, premium analytics services, and consulting fees, further diversifying its revenue streams.

Strengths
- *XAI technology.* It is the opposite of an AI blackbox, and Travelsify's platform emphasizes data transparency, explainability, and trustworthiness. This approach ensures that the data provided is not only accurate but also meaningful and actionable for business stakeholders.
- *Data analysis.* By processing over one billion reviews, Travelsify offers a depth of analysis that allows the extraction of highly relevant attributes that genuinely reflect customer experiences.
- *Unicity.* The identification of more than 200 product DNA attributes, each associated with a relevancy score, enables precise comparisons and performance assessments. These attributes cover a wide range of experiential factors such as "foodie," "stylish," "luxury," etc.
- *Scalability.* XAI technology is easily scalable across various geographic and market segments.
- *Strategic support.* It supports brand strategists, developers, owners, and investors in making informed and sound business decisions, enhancing their strategic and financial planning processes.

Website: *www.travelsify.com*

3.20. MALTA, Marija By Visit Malta

State: Malta
Sector: Guided tours
Name: Marija by Visit Malta
Year: 2020

Topic/Innovation. Marija, an AI-driven initiative by VisitMalta, enhances the tourism experience in Malta by integrating AI with cultural heritage. As the world's first Virtual Citizen, Marija offers a unique way for tourists to explore and learn about Malta through a mobile app, providing real-time, multilingual assistance and information on Malta's heritage, history, and events. This initiative supports Malta's strategy to become a leading digital tourism destination and aims to foster partnerships with local businesses and cultural institutions. Developed with Reimagine AI, Marija uses AI-generated models and a neural synthesized voice to offer authentic, accurate interactions, making it a highly innovative tool in the tourism sector. Marija represents a fusion of artificial intelligence and augmented reality, offering an immersive and interactive way for tourists to explore Malta. Developed in collaboration with Reimagine AI, Marija incorporates AI-generated models and a neural synthesized voice based on local recordings to provide authentic interactions. The platform integrates advanced language processing to understand and respond accurately to user inquiries, making it a highly innovative tool in the tourism sector.

Business model. The "Marija" chatbot launched by Visit Malta enhances the country's tourism sector by providing real-time assistance and personalized recommendations to travelers. This AI-driven platform supports the tourism ecosystem by improving visitor engagement and satisfaction, potentially leading to increased tourist spending and longer stays. Additionally, Marija offers valuable data insights to tourism stakeholders, helping to refine marketing strategies and improve service offerings.

Strengths
- *AI-driven interaction*. Marija utilizes advanced artificial intelligence to provide personalized, real-time interactions, greatly enhancing the tourist experience by offering comprehensive and accurate information about Malta's cultural heritage and current events.
- *Cultural authenticity.* Designed and voiced to reflect Maltese heritage, Marija offers an authentic cultural experience, engaging tourists with a genuine Maltese accent and local nuances.

- *Multilingual support.* The application supports multiple languages, making it accessible to a diverse global audience and accommodating the needs of international visitors.
- *Easy accessibility.* Available via a mobile app, Marija ensures tourists can easily access information and assistance on the go, enhancing their overall convenience and engagement.
- *Strategic partnerships.* Collaborations with local businesses, cultural institutions, and tourism services enrich the content and services offered, providing a more comprehensive and immersive visitor experience.

Website: *www.visitmalta.com/en/malta-launches-marija/*

3.21. NETHERLANDS, Runnr.ai

State: Netherlands
Sector: Hospitality
Name: Runnr.ai
Year: 2022

Topic/Innovation. Runnr.ai is a generative AI tool for guest communication in hospitality via WhatsApp, automating interactions to boost engagement, save operational time, and increase turnover through upselling. It offers automatic translations for convenient multilingual communication, replacing outdated chatbots with sophisticated, self-learning AI. Leveraging natural language processing (NLP) and machine learning, Runnr.ai provides accurate, efficient responses, continuously improving through user interactions. In response to rising guest expectations and staff shortages, Runnr.ai helps hotels by automating up to 95% of guest inquiries, saving costs, and reducing staff workload. It can generate up to €65 extra profit per room per month through upselling, with seamless integration into Hotel Property Management Systems (PMS) for easy service additions such as breakfast, restaurant reservations, late check-out, and room upgrades. Items are then added instantly to the bill because of a direct integration with the current Hotel Property Management Systems (PMS), streamlining all activities.

Business model. Runnr.ai's business model revolves around offering a subscription-based service to hospitality providers such as hotels, resorts, and vacation rentals. The platform provides different pricing tiers based

on the volume of interactions and the complexity of the services required. Revenue streams include subscription fees, customization fees for bespoke solutions, and potential transaction-based fees for handling bookings or other services through the platform. Additionally, Runnr.ai may generate revenue through partnerships with other hospitality technology providers and through upselling advanced features such as detailed analytics and multilingual support.

Strengths
- *Advanced generative AI and natural language processing (NLP).* Runnr.ai leverages cutting-edge generative AI and NLP technologies to significantly enhance the quality of guest communication. These technologies ensure that guests receive timely, accurate, and contextually appropriate responses, thereby improving overall guest satisfaction and engagement.
- *Utilization of WhatsApp.* The platform utilizes WhatsApp, a widely used and familiar communication channel for guests. This strategic choice makes it easy for guests to interact with hotel services, enhancing convenience and accessibility. The familiarity of WhatsApp helps reduce communication barriers and increase guest engagement.
- *Immediacy and efficiency.* A quotation request is instantly acknowledged with a WhatsApp message, and a staff member promptly calls if the customer does not confirm, ensuring personalized and timely support.
- *Automation of routine inquiries.* By automating up to 95% of guest inquiries, Runnr.ai allows hotel staff to focus on more complex and high-value tasks. This automation not only enhances operational efficiency but also reduces the workload on staff, thereby saving costs and improving service quality
- *Multilingual capabilities.* Runnr.ai's automatic translation feature supports multilingual communication, allowing hotels to cater to a diverse international clientele. This capability ensures that language barriers do not impede guest satisfaction and facilitates smoother interactions across different languages.
- *Scalability and customizability.* The platform is designed to be scalable, making it suitable for a wide range of hospitality providers, from small boutique hotels to large international chains. Its customizable nature allows hotels to tailor the solution to meet specific operational requirements, ensuring flexibility and adaptability.
- *Integration with Hotel Property Management Systems (PMS).* Runnr.ai seamlessly integrates with existing Hotel Property Management Systems, enabling the automatic addition of services such as breakfast, restaurant

reservations, late check-out, and room upgrades to guests' bills. This integration streamlines the booking process, enhances operational efficiency, and ensures accurate billing.
- *Enhanced upselling capabilities.* By facilitating upselling through automated guest communication, Runnr.ai can generate additional revenue for hotels. It is reported that the platform can increase profit by up to €65 per room per month, showcasing its significant impact on a hotel's bottom line.
- *Data-driven insights and analytics*. Runnr.ai provides hotels with valuable analytics and insights into guest interactions and preferences. These data-driven insights enable hotels to continuously refine their customer service strategies and develop new ancillary revenue streams through targeted marketing and personalized offers.

Website: *www.runnr.ai*

3.22. POLANDS, Findbed

State: Polands
Sector: Hospitality
Name: Findbed
Year: 2015

Topic/Innovation. Founded in 2015 and headquartered in Poland, Findbed has carved a distinctive niche within the tourism and hospitality sectors through its innovative online platform. This platform enables users to submit booking requests for accommodations at their desired rates to all relevant hospitality establishments within a specified region in Poland. Within a 24-hour timeframe, hoteliers respond with acceptance or rejection of the proposed rate, thus offering a dynamic and responsive booking experience for travelers. Findbed represents a pioneering endeavor in the Polish tourism and hospitality sector, offering a unique blend of user-driven pricing flexibility and comprehensive business solutions. Through its innovative approach to booking and revenue generation, Findbed continues to redefine standards within the online travel marketplace, enhancing accessibility, affordability, and efficiency for travelers and hospitality businesses alike.

Business model. FindBed generates revenue through a commission-based model by offering a platform for booking accommodations, including hotels,

hostels, and private rentals. By facilitating transactions between property owners and travelers, the company earns a commission on each booking made through its site. Additionally, FindBed may offer premium services such as featured listings, personalized recommendations, and travel insurance options, further diversifying its revenue streams.

Strengths
- *Efficient price negotiation*. By allowing users to propose their preferred rates directly to hotels, Findbed facilitates transparent price negotiation in real-time. This feature enhances user control over booking costs and fosters competitive pricing among hospitality providers.
- *Cost-effective booking process*. Findbed operates without charging booking fees to users, positioning itself as a cost-effective alternative to traditional online booking platforms. This fee structure enhances affordability for travelers while potentially increasing the attractiveness of the platform to budget-conscious consumers.
- *Comprehensive marketing and sales solutions*. Beyond facilitating direct bookings, Findbed offers a range of additional services, such as comprehensive marketing and sales solutions for hospitality businesses. These solutions include promotional activities and enhanced visibility options on the platform for a fee, thereby diversifying revenue streams beyond booking commissions.
- *Regional focus and specialization*. With a specific focus on the Polish market, Findbed leverages localized expertise and understanding of regional tourism dynamics. This specialization allows the platform to cater specifically to the needs and preferences of travelers within Poland, potentially offering tailored experiences and insights.
- *Streamlined user experience*. Findbed prioritizes user experience by providing a streamlined and intuitive booking process. The platform's interface is designed to be user-friendly, facilitating ease of navigation and efficient booking management for both travelers and hospitality providers alike.

Website: *www.findbed.pl*

3.23. PORTUGAL, Luggit

State: Portugal
Sector: Tourism-services
Name: Luggit
Year: 2019

Topic/Innovation. Luggit, established in 2019 and headquartered in Portugal, is a pioneering company within the tourism services sector, specializing in the seamless management of luggage. Recognized for its innovation by the World Tourism Organization in 2020, Luggit revolutionizes travel logistics by offering personalized pickup, storage, and delivery services for luggage at any chosen time and location. Originally focused on direct consumer services, Luggit transitioned to B2B integration in 2021 and expanded internationally by 2022, aiming to redefine conventional travel practices and enhance the overall value chain in the tourism industry. Luggit stands at the forefront of transforming travel logistics through its innovative approach to luggage management. With a commitment to enhancing convenience, efficiency, and customer satisfaction, Luggit not only redefines conventional travel practices but also fosters industry-wide innovation and collaboration. As it continues to expand its global footprint and evolve its service offerings, Luggit remains poised to shape the future of travel logistics, setting new standards for excellence within the tourism services sector.

Business model. Luggit generates revenue through a service fee model by providing on-demand luggage collection, storage, and delivery services for travelers. By charging customers a fee for each luggage service booked through its app, the company ensures convenience and security for travelers' belongings. Additionally, Luggit may offer premium services such as priority delivery, extended storage options, and insurance coverage, further diversifying its income streams.

Strengths
- *Innovative service model*. Luggit introduces a novel approach to luggage management, departing from traditional methods by providing flexible pickup, storage, and delivery options tailored to individual user preferences. This innovative service model enhances convenience and efficiency for travelers, optimizing the travel experience.
- *Recognition and endorsement*. Acknowledged as the second most innovative idea by the World Tourism Organization, Luggit has garnered international recognition for its contributions to enhancing travel logistics.

This endorsement enhances brand credibility and fosters trust among stakeholders, including consumers and industry partners.

- *Strategic evolution to B2B integration*. In response to market dynamics, Luggit strategically shifted its focus to integrate with business-to-business operations in 2021. This transition not only expands its market reach but also establishes collaborative partnerships within the tourism ecosystem, thereby strengthening its service offering and revenue streams.
- *Global expansion and market penetration*. By expanding internationally as of 2022, Luggit demonstrates proactive market penetration strategies, tapping into new geographical markets, and catering to diverse traveler demographics. This expansion broadens its customer base while reinforcing its position as a leader in innovative travel logistics solutions.
- *Strategic investment and financial support*. Luggit secured a significant 1.8 million Euro seed round led by prominent investors such as GED Ventures Capital and Caixa Capital. This strategic investment provides financial stability and supports further technological development, infrastructure enhancement, and market expansion initiatives.

Website: *www.luggit.app*

3.24. ROMANIA, Questo

State: Romania
Sector: Guided tours
Name: Questo
Year: 2017

Topic/Innovation. Founded in 2017 and based in Romania, Questo innovates within the travel and tourism sector by offering a gamified mobile application designed for city exploration. This platform introduces a novel form of urban entertainment, merging elements of gamification with real-world city discovery. Questo's games transform cities into immersive playgrounds where participants, whether tourists or locals, engage in interactive quests using their smartphones. These quests combine aspects of escape rooms, scavenger hunts, role-playing, and storytelling, providing a unique and engaging way to explore and interact with urban environments. Questo stands as a pioneering force in the travel and tourism industry, leveraging gamification to redefine how cities are experienced

and explored. By combining innovative technology with storytelling and cultural immersion, Questo not only enhances visitor satisfaction but also promotes deeper connections between people and the cities they visit. As it continues to innovate and expand its portfolio of city exploration games, Questo remains committed to shaping the future of urban tourism through engaging, interactive, and educational experiences.

Business model. Questo generates revenue through a combination of sales and partnerships by offering interactive, self-guided city exploration games. By charging users for access to these gamified tours, the company earns revenue from each purchase. Additionally, Questo collaborates with tourism boards, travel agencies, and local businesses, offering them promotional opportunities and custom tour creation services, further diversifying its income streams.

Strengths

Questo exhibits several key strengths that distinguish it within the realm of travel and gamification:

- *Innovative gamification concept*. Questo pioneers the integration of gamification principles into city exploration, offering participants an interactive and dynamic way to engage with local culture and history. By blending fiction with reality through themed quests, Questo enhances visitor experiences and encourages deeper exploration of cities.
- *Diverse game offerings*. The platform features a diverse range of games set in both outdoor urban environments and indoor venues such as castles, museums, and villas. Each game is meticulously crafted around specific themes, drawing inspiration from movies, books, historical events, and local legends. This variety ensures that participants can choose experiences tailored to their interests and preferences.
- *Enhanced visitor engagement*. Questo's games foster high levels of visitor engagement by encouraging active participation and interaction with urban landscapes. Participants not only explore iconic landmarks but also uncover hidden gems and lesser-known historical sites, enriching their understanding and appreciation of the cities they visit.
- *Educational and cultural value*. Beyond entertainment, Questo provides educational and cultural value by weaving local history, folklore, and heritage into its gameplay narratives. This approach not only entertains but also educates participants about the cultural significance and historical context of the places they explore.
- *Scalable and flexible platform*. With a scalable technology infrastructure, Questo is positioned to expand its reach across multiple cities and regions

globally. This scalability enhances accessibility for a broad audience of travelers and locals seeking unique, interactive experiences.

Website: *www.questoapp.com*

3.25. SLOVAKIA, Travelities

State: Slovakia
Sector: Travel
Name: Travelities
Year: 2021

Topic/Innovation. An AI trip planner that generates trips with travel, places to stay, and activities based on your travel style and budget. After selecting a destination, a set of questions will lead to a customized itinerary, as well as the possibility of booking transportation. Travelities uses generative AI algorithms to curate personalized itineraries encompassing travel arrangements, accommodation options, and activities tailored to individual travel styles and budget constraints. Upon selecting a destination, users engage with a series of interactive questions designed to refine preferences and requirements, ultimately generating a bespoke itinerary that includes the option to book transportation services seamlessly. Travelities functions as a centralized hub for travel enthusiasts seeking detailed and reliable information on various destinations, including Sardinia. The platform provides comprehensive listings of hotels, vacation rentals, restaurants, and local attractions, facilitating seamless booking and itinerary planning. By integrating user reviews, personalized recommendations, and interactive maps, Travelities enhances user engagement and satisfaction throughout the travel journey.

Business model. Travelities employs a mixed business model that includes revenue streams from advertising and commission-based bookings, coming from travel-related businesses, and premium membership services for users, such as exclusive travel deals, advanced itinerary customization tools, and ad-free browsing.

Strengths
Travelities boasts several strategic strengths that underscore its leadership in AI-powered trip planning within the travel and tourism sector:

- *Comprehensive information*. Travelities provides extensive and up-to-date information on accommodations, dining options, attractions, and activities in Sardinia, catering to diverse traveler preferences.
- *User-friendly design*. the platform's intuitive interface and personalized recommendations enhance the user experience, facilitating efficient travel planning and booking.
- *Advanced AI technology*. Leveraging generative AI capabilities, Travelities excels in dynamically generating trip plans that optimize travel experiences based on user preferences, budgetary constraints, and destination specifics. This technology enhances itinerary customization and personalization, catering to diverse traveler profiles and enhancing overall satisfaction.
- *Personalized itinerary generation*. By incorporating user-inputted preferences and parameters, Travelities delivers personalized itineraries that encompass comprehensive travel arrangements, accommodation selections, and curated activities. This personalized approach ensures alignment with individual travel styles and enhances the relevance and enjoyment of travel experiences.
- *Seamless booking integration*. Travelities integrates seamlessly with booking functionalities, allowing users not only to plan their trips but also to directly book transportation services. This streamlined process enhances user convenience and operational efficiency, facilitating end-to-end trip management on a single platform.
- *User-centric design and experience*. With a focus on user experience, Travelities prioritizes intuitive interface design and interactive features that guide users through the trip planning process. This user-centric approach promotes accessibility and ease of use, encouraging broader adoption among travelers seeking hassle-free travel planning solutions.
- *Innovation in travel technology*. Positioned at the forefront of innovation, Travelities exemplifies advancements in travel technology by harnessing AI and generative AI algorithms to redefine trip planning paradigms. This innovation not only enhances competitiveness but also drives industry evolution toward more intelligent and responsive travel services.
- *Partnership opportunities*. Collaborations with local businesses and tourism providers in Sardinia expand the platform's offerings and enhance its credibility among travelers.
- *Global reach*. By showcasing Sardinia's unique cultural and natural heritage, Travelities contributes to promoting the region as a prominent global travel destination, attracting a diverse audience of international travelers.

Website: *www.travelities.com*

3.26. SLOVENIA, Nexto

State: Slovenia
Sector: Guided tours
Name: Nexto
Year: 2016

Topic/Innovation. *Nexto* is an innovative startup that specializes in creating immersive digital experiences for the tourism and cultural heritage sectors. The platform offers a cutting-edge solution for enhancing visitor engagement through augmented reality (AR), 3D models, audio guides, and interactive storytelling elements to bring cultural and historical content to life. Then, through location-based services and user data, Nexto personalizes the visitor experience. By leveraging advanced technology, Nexto transforms traditional tours and museum visits into interactive, educational, and entertaining experiences, providing users with a deeper understanding and appreciation of cultural sites and historical landmarks. Visitors can also compete in solving thematic puzzles, riddles, and other mini-games and thereby win neat virtual rewards. The app is integrated with the most popular social media platforms, providing photo filters as well.

Business model. The platform generates revenue through several streams, including subscription fees for access to its AR and multimedia tools, project-based fees for custom content creation, and partnerships with cultural and tourism organizations. Additionally, Nexto may monetize through licensing its technology to other entities in the tourism and education sectors, as well as through targeted advertising and sponsorships within the app.

Strengths
- *Pioneering use of new technologies*. Nexto harnesses the power of augmented reality (AR), 3D models, and interactive storytelling, creating a cutting-edge platform that transforms traditional tours and museum visits. This technological integration provides users with immersive and engaging experiences, setting Nexto apart in the tourism and cultural heritage sectors.
- *Enhanced visitor experience*. The platform significantly enhances the customer experience by offering interactive, educational, and entertaining elements. Through thematic puzzles, riddles, mini-games, and virtual rewards, Nexto not only educates visitors but also makes the learning process enjoyable and memorable.
- *Personalization and customization*. Leveraging location-based services

and user data, Nexto personalizes the visitor experience, tailoring content to individual preferences and enhancing engagement. This customization ensures that each user has a unique and meaningful interaction with the cultural and historical content.

- *Scalability and versatility*. Nexto's platform is highly scalable, capable of being deployed across diverse cultural sites and historical landmarks throughout Europe. Its adaptability makes it suitable for a wide range of locations, from museums and heritage sites to entire cities and regions, facilitating broader market penetration.
- *Multiple revenue streams*. The business model of Nexto is robust, with revenue generated from subscription fees, project-based fees for custom content creation, partnerships with cultural and tourism organizations, technology licensing, and targeted advertising. This diversified approach ensures financial stability and growth potential.
- *Recognition and awards*. Nexto's credibility is bolstered by its accolades, including first prize in the category of sustainable tourism solutions by Booking.com and recognition as a best practice in digitalization by the European Capital of Smart Tourism 2019. These accolades underscore the platform's excellence and innovation in the sector.
- *Integration with social media*. The app's integration with popular social media platforms, including features like photo filters, allows users to share their experiences easily, thereby enhancing word-of-mouth marketing and expanding the platform's reach.
- *Data and analytics*. Nexto provides cultural sites and museums with valuable data and analytics about visitor interactions and preferences. This information can be used to further enhance the visitor experience, optimize exhibits, and tailor marketing strategies.

Website: *www.nexto.io*

3.27. SPAIN, BederState: Spain

Sector: Travel
Name: Beder
Year: 2020

Topic/Innovation. An innovative social and video-driven travel application that bridges the worlds of Tripadvisor and TikTok, facilitating the discovery and booking of tourism and leisure experiences by leveraging the power of short,

engaging videos created by other travelers. These videos serve as immersive travel guides, offering visually rich alternatives and recommendations that go beyond conventional travel tools, such as traditional text-based reviews. Users can explore destinations through authentic video content, gaining a more vivid and personal perspective on potential travel experiences. Over 80% of social media users get inspiration for plans, getaways, and trips from social platforms, since they consider traditional travel tools obsolete and experience providers in reaching this audience. Beder's user-generated content is seamlessly integrated with booking options, allowing users to easily plan and reserve their trips directly through the app.

Business model. Beder employs a mixed business model that includes revenue streams from advertising, affiliate marketing, and commission-based bookings. Specifically, it attracts travel-related businesses, brands, and service providers that want to capitalize on its highly engaged user base for advertising. Moreover, Beder likely charges a commission on bookings for activities, tours, and accommodations facilitated through its platform. Additionally, it offers premium features, additional functionalities, or subscription plans to users. Finally, since most of the contents are created by users, Beder uses an aggregation strategy, which reduces its production costs.

Strengths
- *Innovative market approach*. Beder addresses a significant gap in the travel market by combining the visual appeal of video content with the functionality of a travel booking platform. This novel approach distinguishes Beder from traditional travel tools and caters to modern consumer preferences.
- *Engaging user-generated content*. The use of short, user-generated videos enhances user engagement by providing a dynamic and immersive way to explore travel destinations. This content format is particularly appealing to younger audiences who prefer visual content over text-based reviews.
- *Authenticity and relatability*. Videos created by fellow travelers offer a level of authenticity and relatability that is often lacking in traditional travel reviews. This authenticity helps build trust and inspires confidence in potential travelers, making the platform more effective in influencing travel decisions.
- *Integrated discovery and booking*. Beder simplifies the travel planning process by integrating destination discovery and booking into a single platform. This seamless experience allows users to find and reserve their travel experiences directly through the app, enhancing user convenience and satisfaction.

- *Targeted marketing strategy*. Beder effectively targets a specific demographic – social media-savvy travelers – by leveraging the popularity of video content and social platforms for travel inspiration. This strategic focus helps attract a highly engaged user base that is likely to use the app regularly.
- *Community building*. The platform fosters a community of travelers who share their experiences, tips, and recommendations. This network creation not only increases user engagement but also enhances the reliability and value of the content, as users are more likely to trust recommendations from fellow travelers.
- *Cost efficiency*. By relying on user-generated content, Beder significantly reduces its production costs. This aggregation strategy allows the platform to offer a wide range of content without the need for substantial investment in content creation.
- *Diverse revenue streams*. Beder's mixed business model, which includes advertising, affiliate marketing, commission-based bookings, and premium features, ensures a robust and diversified revenue stream. This financial strategy enhances the platform's sustainability and growth potential.
- *Effective crowdfunding*. The successful equity crowdfunding campaign, raising US$ 336.7K, demonstrates strong investor confidence and provides a solid financial foundation for further development and expansion.
- *Supplementary business ventures*. The side business advertisements on the Beder website, such as bstudio for multimedia creators, adds an additional revenue stream and leverages the platform's multimedia capabilities, further enhancing its market position.

Website. *www.beder.app*

3.28. SWEDEN, Be Here Then

State: Sweden
Sector: Guided tours
Name: Be Here Then
Year: 2019

Topic/Innovation. Be Here Then is a free app designed to transform smartphones into historical lenses, providing users with a unique way to explore and interact with the world around them. By utilizing augmented

reality (AR) and location-based technology, it provides immersive historical experiences. Through Be Here Then, users can access historical information, view past events, and see reconstructions of historical sites as they move through various locations. Once the location is reached, the app shows photos, videos, and/or text, revealing how it used to look and/or explaining its historical or cultural significance. It hosts tours of galleries, museums, public art, graveyards, and interactive adventures for exploring the surrounding area using gamification. Moreover, Be Here Then can host up-to-date details about museums, theatres, restaurants, and shops by utilizing location-based technology. The platform integrates AR overlays, historical timelines, and multimedia content to create an interactive and educational experience for users. By leveraging GPS technology, the app provides relevant historical information based on the user's location, offering a contextual and engaging way to learn about the past and the present. So far, content has been created for Sweden and Denmark.

Business model. The platform operates on a freemium model, offering its core app for free to users while generating revenue through premium features, in-app purchases, and partnerships with cultural and historical institutions. Additional revenue streams include advertising, sponsored content, and collaborations with tourism boards and educational organizations.

Strengths
- *Advanced technological integration*. Be Here Then utilizes cutting-edge technology, particularly augmented reality (AR) and location-based services, to create a dynamic and immersive historical experience. This technological sophistication enhances user engagement and provides an innovative way to interact with cultural heritage.
- *Location-based customization*. The app's use of GPS technology enables it to deliver content tailored to the user's precise location. This real-time, location-specific information enhances the relevance and immediacy of the historical narratives, making the learning experience more impactful and engaging.
- *Educational value*. Be Here Then offers substantial educational benefits by providing detailed historical information and context. This feature is invaluable for students, educators, and history enthusiasts, facilitating an interactive and engaging approach to learning about historical events and cultural sites.
- *Strategic partnerships*. The app has the potential to form valuable partnerships with cultural institutions such as museums, galleries, and historical sites. These collaborations can generate revenue opportunities

and enhance the app's content through curated tours and exclusive insights.

- *User-friendly interface*. The intuitive design of Be Here Then ensures a seamless user experience. The app's interface is designed to be accessible to a wide audience, including those who may not be tech-savvy, thereby broadening its user base.
- *Freemium model*. By adopting a freemium business model, Be Here Then can attract a large user base. Offering basic features for free while providing premium content or functionalities for a fee ensures widespread accessibility while also generating revenue.
- *Scalability*. The app is designed to be scalable, allowing for the expansion of its content and features to new locations and historical contexts. This flexibility ensures that Be Here Then can grow and adapt to include a broader range of historical and cultural information, potentially expanding its user base and market reach.

Website: *www.beherethen.se*

Benchmarking & Impact Assessment Analysis

Application of European projects to Sardinian Context

Following the analysis of innovative European projects in the macro-category tourism, cultural heritage, and related sub-sectors, the impact that the application of these projects can have on the economic and socio-cultural fabric of Sardinia was studied. The analysis was carried out individually for each project, taking into account the general characteristics and strengths of each. At the beginning of each paragraph, summary data sheets are provided.

4.1. AUSTRIA, Aeroficial Intelligence

Table 7. Intelligence's data sheets. Authors elaboration

STATE	Austria
SECTOR	Aviation
NAME	Aeroficial Intelligence
YEAR	2018
TOPIC/INNOVATION	Focusing on enhancing airport infrastructure efficiency through advanced data analytics and artificial intelligence (AI), the platform developed by Aeroficial Intelligence provides real-time monitoring of Key Performance Indicators (KPIs) related to airport operations, optimizing air traffic flow, and generating detailed emissions reports. This technology not only predicts and manages traffic situations and delays but also improves the overall operational efficiency of airports.
WEBSITE	*www.aeroficial.com*
STRENGTHS	• Real-Time Operational Insights • AI-Driven Optimization and Predictive Analytics • Emissions Reporting • Operational Efficiency • Scalability and Adaptability

4.1.1. Potential benefits of applying AI-driven platform for airport operation in Sardinia context

The implementation of advanced data analytics and AI-driven platforms like Aeroficial Intelligence, could significantly enhance the efficiency and sustainability of airport operations in Sardinia. By leveraging real-time monitoring and predictive analytics, Sardinian airports could optimize their air traffic flow, reduce operational delays, and minimize environmental impacts. The following outlines the potential benefits within this regional context. By harnessing the power of advanced data analytics and AI, Sardinia can enhance its airport infrastructure, support economic growth, and contribute to global sustainability efforts.

1. *Enhanced operational efficiency*
   ◦ *Real-time data utilization*. The ability to monitor Key Performance Indicators (KPIs) in real-time allows for immediate adjustments in airport operations, ensuring optimal performance and responsiveness to dynamic conditions. This could lead to smoother operations at Sardinia's key airports, such as Cagliari Elmas, Olbia Costa Smeralda, and Alghero's airport.
   ◦ *Reduction in taxi times*. AI algorithms can predict and manage aircraft taxi times more efficiently, thereby reducing ground congestion and improving turnaround times. This can enhance the overall throughput of Sardinian airports, facilitating better management of increasing passenger volumes, particularly during peak tourist seasons.
2. *Environmental sustainability*
   ◦ *Emissions reporting and reduction*. Detailed emissions reports generated by the platform can aid Sardinian airports in tracking and reducing their carbon footprint. By optimizing air traffic flow and reducing unnecessary fuel consumption, the platform supports the island's commitment to environmental sustainability and aligns with broader European Union environmental regulations.
   ◦ *Support for green initiatives*. The data provided can be instrumental in designing and implementing green initiatives and policies aimed at making Sardinian airports more eco-friendly. This aligns with global aviation trends towards greater environmental responsibility.
3. *Cost savings and economic benefits*
   ◦ *Operational cost reduction*. Predictive analytics can identify potential delays and operational inefficiencies, allowing airports to mitigate these issues proactively. This results in significant cost savings related to fuel consumption, maintenance, and staff allocation.

- *Economic growth*. Enhanced airport efficiency can improve the overall travel experience, making Sardinia a more attractive destination for tourists and business travelers. This could stimulate economic growth through increased tourism and business activity, benefiting the local economy.
4. *Scalability and future-proofing*
    - *Handling increased traffic*. The platform's scalability ensures that Sardinian airports can effectively manage growing air traffic and fleet sizes. This is particularly relevant as the region seeks to expand its connectivity and attract more international flights.
    - *Adaptability to future demands*. By integrating advanced AI technologies, Sardinian airports can stay ahead of industry trends and be better prepared for future technological advancements and regulatory changes.
5. *Enhanced safety and security*
    - Real-time data and predictive insights enhance situational awareness for airport operators, leading to better decision-making and heightened safety standards. This can reduce the likelihood of accidents and improve overall airport security.

4.2. BELGIUM, Explore-Share

Table 8. Explore-share's data sheets. Authors elaboration

STATE	Belgium
SECTOR	Outdoor activities
NAME	Explore-Share
YEAR	2015
TOPIC/INNOVATION	A platform that connects adventure seekers with professional guides for unique outdoor activities (climbing, skiing, and hiking) worldwide.
WEBSITE	*www.explore-share.com/*
STRENGTHS	• Direct Connection with Local Guides • Comprehensive Adventure Options • User-Friendly Interface • Community and Support • Global Reach

4.2.1. Potential benefits of implementing a booking platform for outdoor experiences in Sardinia

According to Italian Law No. 190 of 13 December 2023, as amended, which aims to restore order and establish uniform criteria and conditions throughout the country, The introduction of a platform that connects travelers with certified local guides for various outdoor adventures could give substantial benefits to the regional context of Sardinia. This platform aims to improve travel experiences by offering unique adventures based on nature, traditions, and history while respecting the specificities of the territories. The application of this model in Sardinia can have several positive impacts on the local tourism sector, the environment, and the regional economy in general. Especially since a platform displaying guided tours, offering the possibility of seamless booking and contacts of certified guides for the whole territory, is not yet available. This lack of service offerings, besides the economic loss for the island, likely generates difficulties and frustrations not only among tourists who want to organize their activities autonomously but also among the ever-growing luxury segment that is served by the multitude of service providers and intermediation companies working with hotels, villas, and yachts. At the moment, the few cultural tours presented online can be found on generic booking portals such as Airbnb, yet without guarantee of being able to rely on certified guides only. Starting from these motives, the consequent benefits of implementing this kind of platform in Sardinia are hereby better highlighted.

1. *Development of local tourism and diversification of the offer*: by drawing a variety of tourist demographics and stimulating economic activity, the provision of cultural excursions in a destination promotes the growth of local tourism. Moreover, this diversification of the tourism offer enhances the destination's appeal, encouraging the growth of related businesses and enriching the overall visitor experience.
2. *Experience and reputation enhancement*: the availability of cultural tours in a tourism destination significantly enhances the visitor experience by providing immersive insights into local traditions, history, and art. This engagement not only enriches tourists' understanding but also elevates the destination's reputation as a culturally vibrant and authentic place to explore.
3. *Economics benefits*: direct bookings with local guides ensure that more revenue remains in the local community for the benefit of guides and their service providers. This can lead to supporting the local economy and creating jobs in the tourism sector.

4. *Cultural and environmental conservation*: the implementation of this platform in Sardinia would allow travelers to engage deeply with the cultural heritage of the region through local experts, improving appreciation for Sardinian traditions, language, and customs, and supporting and spreading the preservation of cultural identity. In addition, professional guides can promote environmentally friendly practices and educate tourists on the conservation of natural habitats, mitigating the environmental impact of tourism and supporting conservation efforts in the landscapes of Sardinia. This aligns with global trends towards responsible travel and can improve Sardinia's reputation as a sustainable destination.

5. *Low season performance improvement*: the platform's features promote a network of adventure enthusiasts who might be interested in visiting an area at a different time of the year when temperatures are milder. Thus, by leveraging the platform's capabilities, local businesses can attract these adventure seekers during the low season, offering tailored experiences that highlight the region's unique attractions. This strategy not only boosts off-peak tourism but also helps to stabilize revenue streams throughout the year, ensuring that local economies benefit from a more consistent flow of visitors. Additionally, targeted marketing campaigns can be developed to showcase seasonal activities, further enticing travelers to explore the area when it is less crowded.

6. *Resident tourism fostering*: the approach of a rich and userfriendly tour platform will also improve domestic tourism by encouraging local residents to engage with their own region's offerings, fostering a sense of pride and connection to their cultural and natural heritage. Furthermore, it generates a positive form of entertainment, whose scarcity is a sore spot for the island. As more residents participate in these cultural tours and activities, it enhances community involvement and supports the sustainability of local tourism initiatives.

7. *Marketing and global reach*: the platform's international presence can significantly boost Sardinia's visibility, attracting tourists seeking unique experiences in remote locations as well. Leveraging local guides' expertise enhances Sardinia's appeal as a premier adventure tourism destination.

4.3. BULGARIA, Localfood

Table 9. Local food's data sheets. Authors elaboration

STATE	Bulgaria
SECTOR	Food & beverage
NAME	Local food
YEAR	2020
TOPIC/INNOVATION	A trading platform built on Corda that uses Blockchain DLT (Distributed Ledgers Technology) to trace food from farms to restaurants, promoting sustainability and transparency. The platform connects users with local, sustainable food options and offers activities like tastings and pub crawls.
WEBSITE	*www.localfood.fun*
STRENGTHS	• Authenticity and Local Expertise • Curated Experiences • User-Centric Platform • Cultural Exchange • Scalability • Strategic Partnerships

4.3.1. Potential benefits of implementing a food-tracking app in Sardinia

The introduction of a platform such as LocalFood.fun in Sardinia offers considerable advantages in the fields of tourism, sustainability and local food. Using Distributed Ledger Technology (DLT) or similar technologies to trace the origins of food from farms to restaurants can guarantee an higher quality of service and meet the contemporary needs of a considerable slice of the population. In fact, today's growing interest in food quality and origin reflects consumers' increasing demand for transparency and sustainability in their food choices. This trend is driven by a desire to prioritize health, freshness, and the authenticity of flavors while supporting local economies and promoting environmentally friendly practices in food production. Tourists are now seeking out locally sourced, minimally processed foods that offer both nutritional benefits and a true taste of the region's culinary heritage. For these reasons, the following benefits can arise from implementing a food-tracking app in Sardinia.

1. *Cultural and gastronomic enhancement*
   ◦ The platform's focus on local hosts should ensure that culinary experiences are genuine and rooted in Sardinian culture. This can attract food lovers looking for authentic and culturally engaging experiences, enhancing the charm of Sardinia as a gastronomic destination.

- Facilitating direct interactions between locals and travelers promotes cultural exchange and understanding, enriches the travel experience, and promotes, through food, a sense of community.
2. *Economic benefits*
   - *Boost the local economy*. By connecting tourists directly with local food producers and hosts, the platform can generate more revenue for local farmers, chefs, and food artisans. This direct economic impact can help support and grow local small businesses by creating jobs and promoting economic resilience in rural communities.
   - *Commission-based revenue model*. Following the fee-based model of LocalFood.fun, adequate compensation for hosts is ensured while generating revenue for the platform, thereby creating a sustainable business ecosystem that benefits all stakeholders.
   - *Scalability and regional expansion*. The platform's scalable business model allows for expansion across different areas and cuisines within Sardinia, providing opportunities to showcase the island's diverse culinary heritage and attract tourists to lesser-known areas.
3. *Promoting sustainability*
   - *Sustainable food supply chain*. By using this technology (DLT) to track the origin of food, the platform promotes transparency and accountability in the food supply chain. This can encourage sustainable farming practices, reduce food waste, and enhance the overall sustainability of the food system in Sardinia.
   - *Carbon footprint reduction*. Highlighting and supporting local food sources can reduce the carbon footprint associated with importing food, contributing to environmental conservation efforts in Sardinia.
4. *Strategic partnerships*
   - Strategic partnerships with local companies, tourist agencies, and culinary institutions can be implemented through the platform to enhance its credibility and offerings. These collaborations can also create opportunities for growth and diversification, further integrating the platform into Sardinia's tourism and food sectors.

4.4. CROATIA, Sebastus

Table 10. Sebastus's data sheets. Authors elaboration

STATE	Croatia
SECTOR	Nautical tourism
NAME	Sebastus
YEAR	2016
TOPIC/INNOVATION	Online rental platform for boats and yachts and worldwide yacht charter agency for tailored sailing vacation.
WEBSITE	*www.sebastus.com*
STRENGTHS	• Personalized Approach • Finest Fleet and Crew Selection • Comprehensive Support During Sailing

4.4.1. Potential benefits of implementing a tailored luxury boat rental online platform in Sardinia

Sardinia's strategic location in the Mediterranean, combined with its rich maritime heritage and stunning coastal landscapes, make it an attractive destination for both luxury yacht charters and sailing enthusiasts. As a consequence, both the shipbuilding industry and naval tourism are currently experiencing expansion and innovation, and the region is positioning itself as a premier destination for luxury sailing holidays. The island is also hosting major nautical events, such as the Nautic Event Sardinia 2024, which showcases Sardinia as the capital of nautical tourism, and the Sardinia Boat Show, an annual event dedicated to expositions and talks about market trends and novelties. Given the context, the introduction of a platform similar to that of Sebastus in Sardinia could bring significant benefits in promoting tourism, economic growth, and sustainable maritime practices. In fact, despite other international or regional companies (as Yachting in Sardinia S.r.l.) already using online booking websites, implementing a more user-friendly, comprehensive, and tailored platform on the model of Sebastus could have much more resonance and lead to the following benefits.

1. *Economic growth*: the platform can stimulate the local economy by attracting high-spending tourists, leading to increased revenue for local businesses, marinas, and service providers. By establishing a reputation as a luxury sailing destination through a user-centric and technologically advanced platform, Sardinia can attract investment from both local and

international stakeholders, including investors interested in developing port facilities, luxury accommodation, and complementary tourism services. The influx of tourists can also create jobs in the hospitality, maritime, and service sectors, contributing to economic resilience and growth.

2. *Development of tourism and all-year-round tourism*: the platform can diversify the tourist offer of Sardinia by proposing packages connected with sport and adventure and reaching a broader audience due to digitalization. This diversification can attract a wider range of tourists, including adventure seekers, enhancing Sardinia as a versatile travel destination. In this way, nautical tourism can promote year-round travel, mitigating the seasonal nature of the regional tourism sector and reducing economic fluctuations associated with seasonal tourism peaks and depressions.

3. *Promotion of sustainable maritime practices*: with a growing emphasis on eco-friendly practices in the luxury sector, the platform can promote sustainable boating options, such as hybrid vessels and eco-conscious itineraries. Moreover, through the professionalism of the crews, it is possible to promote environmentally friendly navigation practices during the journey for the preservation of the island's unique maritime environment. This commitment to sustainability can resonate with environmentally aware consumers, further enhancing the brand's reputation and appeal.

4. *Defferentiation*: a tailored luxury boat-rental online platform in Sardinia can generate a competitive advantage by differentiating itself from existing competitors, namely by offering customized services, enhancing user-experience, promoting sustainability, leveraging local attributes, implementing competitive pricing strategies, and building a strong community. These elements, combined, can position the platform as a leader in the luxury nautical tourism market.

4.5. REPUBLIC OF CYPRUS, Travelnaut

Table 11. Travelnaut's data sheets. Authors elaboration

STATE	Republic of Cyprus
SECTOR	Travel
NAME	Travelnaut
YEAR	2023
TOPIC/INNOVATION	AI-driven travel information platform, offering extensive content and resources for planning single or multiple destination trips, road trips, and special journeys, e.g., detailed itineraries and up-to-date guides.
WEBSITE	*www.travelnaut.com*
STRENGTHS	• Advanced Personalization • Comprehensive and Integrated Travel Resources • Intuitive and User-Friendly Interface • Accurate and Timely Information

4.5.1. Potential benefits of implementing an AI-driven travel information hub in Sardinia

The introduction in Sardinia of a travel information hub based on artificial intelligence similar to Travelnaut, could produce numerous benefits in the tourism and cultural sectors. This innovative platform, which leverages advanced artificial intelligence and comprehensive travel resources, has the potential to transform Sardinia into a complete travel destination by offering personalized travel experiences involving a high level of information in a region where the destination communication and related activities are still fragmented.

1. *Enhanced tourism experience*
   ◦ *Improved tourism experience*. Platform AI features allow you to customize travel experiences to individual preferences, ensuring that the journey of each visitor is unique and suitable for their interests, significantly improving visitor satisfaction and engagement.
   ◦ *Diversification of the offer*. Providing detailed itineraries that include attractions, culinary advice, a local language guide, a weather forecast, transportation options, and packaging advice ensures that travelers have all the information they need for a seamless and enriching experience. This comprehensive approach can make Sardinia more attractive for tourists looking for well-organized and hassle-free holidays.

2. *Economic growth*
   ◦ *Increased tourist influx*. Offering a sophisticated and user-friendly travel planning tool, Sardinia can attract more tourists, including tech-savvy travelers who value convenience and personalized experiences. An increase in tourism can stimulate local businesses, from restaurants and hotels to tour operators and cultural sites, stimulating the local economy.
   ◦ *Job creation*. The growth of tourism can lead to the creation of new jobs in various sectors, including hospitality, transport and entertainment.
3. *Cultural and environmental sustainability*
   ◦ *Promotion of local culture*. The platform's ability to provide immersive cultural experiences can promote greater appreciation for Sardinia's rich heritage. By highlighting local traditions, languages, and customs, the platform can contribute to cultural preservation and foster a deeper connection between tourists and the local community.
   ◦ *Sustainable tourism practices*. Accurate and timely information on sustainable travel options, such as eco-friendly accommodations and activities, can encourage environmentally responsible tourism. This can help mitigate the environmental impact of increased tourism and support conservation efforts in Sardinia's natural landscapes.
4. *Improved accessibility and inclusiveness*
   ◦ By offering a range of travel information, the platform can make travel planning easier for a diverse audience, including individuals with different levels of travel experience and those with specific needs. This inclusiveness can broaden the charm of Sardinia as a travel destination. In addition, integration with external data sources is necessary for travelers to receive updated and accurate information. This can improve the reliability of travel plans, reduce the likelihood of disruptions, and improve overall travel satisfaction.
5. *Competitive advantage*
   ◦ *Technological innovation*. Implementing an AI-driven travel platform can position Sardinia at the forefront of travel technology innovation. This can differentiate the region from other destinations, attracting tourists who value advanced and modern travel solutions.
   ◦ *Enhanced marketing and promotion*. The platform can serve as a powerful marketing tool, showcasing Sardinia's attractions and experiences to a global audience. By leveraging AI for targeted marketing, the region can attract specific traveler segments, further boosting tourism numbers.

4.6. CZECH REPUBLIC, Worldee

Table 12. Worldee's data sheets. Authors elaboration

STATE	Czech Republic
SECTOR	Travel
NAME	Worldee
YEAR	2020
TOPIC/INNOVATION	A cloud-based travel platform, AI-driven, that provides automated travel planning and booking services, utilizing advanced algorithms to optimize and customize travel itineraries. Additionally, users can store and share their trips in the marketplace and monetize them.
WEBSITE	*www.worldee.com*
STRENGTHS	• User-Friendly Interface • Monetization Opportunities • Comprehensive Trip Planning Tools • Community Engagement • Technological Integration

4.6.1. Potential benefits of implementing a cloud-based travel platform in Sardinia

The implementation of a cloud-based travel platform like Worldee, which allows users to document, share, and monetize their travel experiences, could significantly impact the region's tourism sector by leveraging advanced technology and fostering a strong community of travelers. This type of innovative platform could offer a multitude of benefits, particularly in enhancing the tourism experience, promoting local culture, and fostering economic growth, as hereafter described.

1. *Valorization of tourist experiences*
   - *Comprehensive travel documentation*. The platform enables tourists to document their trips in detail, including photos, routes, and personal notes. This feature can enhance the overall travel experience by allowing visitors to create lasting memories and share their journeys with friends, family, and the broader travel community.
   - *Efficient trip planning*. By exploring shared itineraries and insights from other users, tourists can efficiently plan their trips to Sardinia. Access to detailed travel logs and recommendations can help visitors discover popular destinations, hidden gems, and local attractions, making their travel experience more enriching and personalized.

2. *Economic growth*
   - *Monetization opportunities for locals*. The platform provides an opportunity for local hosts, guides, and businesses to monetize their services by sharing their knowledge and experiences. By attracting followers and earning revenue from their content, locals can benefit economically from increased tourist engagement.
   - *Increased tourism*. By offering a user-friendly and technologically advanced platform, Sardinia can attract more tourists, including tech-savvy travelers who value detailed and well-documented travel experiences. This influx of visitors can boost the local economy, benefiting hotels, restaurants, tour operators, and other businesses.
3. *Promotion of local culture*
   - *Cultural exchange and community engagement*. The platform fosters a strong community of travelers who share their experiences, tips, and recommendations. This engagement promotes cultural exchange and understanding, enriches the travel experience, and creates a supportive network for travelers seeking advice and inspiration. By highlighting Sardinia's unique cultural heritage, traditions, and local customs, the platform can enhance the region's cultural visibility.
   - *Authentic travel experiences*. By providing detailed travel logs and personal recommendations from other travelers, the platform can promote more authentic and immersive travel experiences. Tourists can gain deeper insights into local culture, cuisine, and traditions, fostering a greater appreciation for Sardinia's unique identity.
4. *Technological integration and accessibility*
   - *Access to travel data*. Utilizing cloud technology ensures that all travel data is securely stored and easily accessible from any device. This technological integration enhances the user experience by providing seamless access to travel logs, planning tools, and other features, making it convenient for tourists to document and plan their trips.
   - *User-friendly interface*. The intuitive design of the platform simplifies the process of documenting and sharing travel experiences. This ease of use can attract a broad audience, including those who may be less familiar with technology, ensuring that the benefits of the platform are accessible to a wide range of users.
5. *Environmental and sustainable tourism*
   - *Promote sustainable practices*. The platform may include awareness-raising activities for sustainable tourism, such as eco-friendly travel advice and recommendations for sustainable accommodation and activities. This focus on sustainability can help mitigate the

environmental impact of increased tourism and support conservation efforts in Sardinia's natural landscapes.
◦ *Distribution of tourist flows*. Access to current and accurate travel information can help tourists make informed decisions that align with sustainable practices, such as choosing less crowded destinations or off-peak travel times. This can help distribute tourist traffic more evenly throughout the region, reducing tension at popular sites and preserving the natural environment.

4.7. DENMARK, Exploy

Table 13. Exploy's data sheets. Authors elaboration

STATE	Denmark
SECTOR	Travel
NAME	Exploy
YEAR	2016
TOPIC/INNOVATION	Exploy is a travel technology company that utilizes data-driven solutions to offer personalized travel recommendations and optimize itinerary planning for users.
WEBSITE	*www.exploy.com*
STRENGTHS	• Innovative Content Creation • Comprehensive Marketing Solutions • Strong Social Media Presence • Global Network • Focus on Sustainability

4.7.1. Potential benefits of implementing a travel community platform in Sardinia

The introduction of a platform for travel communities such as Exploy in Sardinia offers numerous potential benefits, in particular to improve the region's tourism sector, promote sustainable travel practices, and increase global visibility. Specifically, Exploy is a Danish travel platform that focuses on creating high-quality social media content to enhance travel experiences. Its strong point could be replicated in a new innovative project, where exploiting the power of photography and videography tailored to the millennial audience and more would have a significant impact on tourism in Sardinia, promoting a vibrant community of like-minded travelers and promoting the region's unique attractions. In a region in which, thanks to the research carried out

for WP1, task 1,1 *e.INS – Ecosystem of Innovation for Next Generation Sardinia – Spoke 2 PNRR Innovation Project for Communication of Touristic destinations* (*Authors: M. Iesu, A. Usai, F. Morandi*) it is clear the lack of quality management of the destination's social networks intended as a chain and therefore including the Sardinian entrepreneurial fabric.

1. *Marketing and communication strategies*
   ◦ *Creation of innovative content*. Exploy's experience in producing high-quality photography and videography can suggest interesting visual narratives of Sardinia's landscapes, cultural heritage, and local experiences. This premium content can attract a global audience, enhancing the region's attractiveness as a travel destination.
   ◦ *Comprehensive marketing solutions*. By integrating digital, social, mobile, printed, and experiential marketing channels, a project like this could help deliver strategic marketing solutions that effectively target modern travelers. This holistic approach can help Sardinian tourist brands and SMEs market their offers more effectively, leading to an increase in visitor numbers and tourist revenue.
2. *Improve social media presence*
   ◦ *Influential travel community*. It is necessary to build a strong presence of the platform/project on social media such as Instagram, Facebook, YouTube, and TikTok in order to significantly increase the visibility of Sardinia and its SMEs. The platform's ability to guide engagement and awareness through its wide reach can promote Sardinian destinations and experiences to a wider audience, encouraging more tourists to visit the region.
   ◦ *Global network of content creators*. Collaborating with a diverse and international network of content creators and influencers can show the rich and varied travel experiences of Sardinia. This global perspective can attract a wide range of travelers, highlighting the region's unique attractions and cultural heritage.
3. *Promotion of sustainable travel practices*
   ◦ A focus on meaningful and eco-friendly travel experiences aligns with the growing trend toward responsible tourism. By highlighting sustainable practices and options, a platform can attract travelers committed to environmental and cultural preservation. Additionally, through engaging and informative content, such a platform can educate tourists on sustainable travel practices and the importance of preserving Sardinia's natural and cultural resources. This approach fosters a greater sense of responsibility among visitors, contributing to the long-term sustainability of the region's tourism sector.

4. *Economic and community benefits*
   ◦ *Increased tourist revenue*. by increasing the visibility and attractiveness of Sardinia, the platform can attract more tourists, leading to increased spending in local businesses such as hotels, restaurants and tour operators. This economic boost can support the overall development and prosperity of the region.
   ◦ *Community involvement and development*. The project promotes and encourages direct interactions between tourists and local residents. This commitment can promote cultural exchange, enhance the travel experience and support the local community by creating opportunities for local guides, artisans and entrepreneurs.
5. *Technological and strategic advances*
   ◦ *Use of advanced technologies*. Using cutting-edge content creation tools and strategic marketing techniques, the platform can modernize Sardinia's tourism marketing strategies. This technological progress can ensure that the region remains competitive in the global travel market.
   ◦ *Strategic partnerships*. Partnerships with local tourism authorities, companies, and cultural institutions can improve the platform's offer and credibility. These collaborations can facilitate the promotion of the different attractions of Sardinia and support the tourism strategy of the region.

4.8. ESTONIA, Pointship OÜ

Table 14. Pointship OU's data sheets. Authors elaboration

STATE	Estonia
SECTOR	Aviation
NAME	Pointship OÜ
YEAR	2021
TOPIC/INNOVATION	Digital Assets Marketplace offers loyalty rewards, game credits and event tickets. The vision is to turn all kinds of digital assets into NFTs and enable the exchange of tokens.
WEBSITE	*www.pointship.net*
STRENGTHS	• Innovative Digital Asset Conversion. • User-Friendly Platform • Secure Transactions • Community-Driven Exchange • Comprehensive Ecosystem Integration. • Agile and Innovative Development

4.8.1. *Potential benefits of implementing a digital market asset marketplace with blockchain technology in Sardinia*

The implementation of a digital asset market that uses blockchain technology to convert loyalty rewards, game credits, and event tickets into NFT can play an innovative role in Sardinia's digital economy. In particular, it could offer significant advantages, such as addressing the technological gaps of the regional context, improving its digital infrastructure, enhancing transparency, and fostering community engagement. By leveraging these benefits, Sardinia can position itself as an innovative leader in the digital economy, particularly in the tourism sector.

1. *Approaching the digital economy and tourism*: the adoption of an innovative platform based on this blockchain technology could help bridge the technological gap in Sardinia, thus modernizing its digital ecosystem. This integration not only improves the efficiency of digital transactions, but also promotes the adoption of cutting-edge technologies in the region. The user-friendly interface of the platform should be accessible to a wide demographic, thus facilitating wider digital literacy and engagement among the Sardinian population.
2. *Promoting sustainable economic practices*: by enabling the exchange of unused digital goods, a sustainable approach to asset management is promoted. This can reduce the waste of resources, such as expiring loyalty rewards and unused event tickets, thus fostering a more sustainable economic model. In addition, the peer-to-peer model encourages community-led exchanges, which can improve local engagement and promote a collaborative economic environment. The tourism sector can leverage blockchain to create unique experiences, such as NFT-based tickets for local events or attractions, which not only enhance visitor engagement but also provides a new revenue stream for local businesses, promoting sustainable tourism practices.
3. *Attracting tourists*: a similar innovative project can make Sardinia a more attractive destination for tech-savvy tourists who are accustomed to using digital assets and blockchain technology. By offering a modern, tech-friendly environment, Sardinia can differentiate itself from other tourist destinations, potentially increasing tourism revenue.
4. *Global accessibility*: the digital nature of NFTs means that Sardinian businesses can reach a global audience. This can attract international tourists and investors interested in unique local offerings, further enhancing the region's economic landscape.

5. *Competitive advantages:*
   - ◦ *Advantage of the first mover*. As far as the online research shows, at the moment in Sardinia, there are no active tourism projects using blockchain technology. Thus, its early adoption can position Sardinia as a leader in digital innovation, attracting investment and partnerships from companies and technology startups in tourism.
   - ◦ *Insights based on data*. The platform's analysis can provide valuable data on consumer behavior, enabling local businesses and tourism authorities to improve their offerings and make informed strategic decisions.
   - ◦ *Strengthened regional label*. The implementation of advanced digital technologies can improve Sardinia's reputation as an innovative region, attracting technology enthusiasts, digital nomads, and investors, thus stimulating the regional economy and competitiveness.
6. *Increased transparency and trust*: by utilizing NFTs, businesses can create transparent loyalty programs where customers can easily track their rewards and how they can be used. This transparency can lead to increased customer satisfaction and loyalty.

4.9. FINLAND, Vreal

Table 15. Vreal's data sheets. Authors elaboration

STATE	Finland
SECTOR	Guided tours
NAME	Vreal
YEAR	2019
TOPIC/INNOVATION	Vreal is a company focused on developing advanced virtual reality solutions by leveraging Extended Reality (XR) to create engaging virtual experiences.
WEBSITE	*www.vreal.fi*
STRENGTHS	• Immersive Technology • Interactive Storytelling • Expert-Led Content • Educational Impact • Cultural Empathy

4.9.1. Potential benefits of implementing an XR and VR asset app in Sardinia

The integration of a project such as VReal in Sardinia has many potential advantages, in particular in the fields of cultural conservation, tourism enhancement, and technological progress. Exploiting the Extended Reality (XR) and Virtual Reality (VR) technologies, it is possible to contribute significantly to the regional development of Sardinia in several key areas.

1. *Economic growth*: by integrating advanced VR experiences into the tourism sector, Sardinia can attract more visitors, both physically and virtually. This influx can significantly boost local economies, increase spending in hospitality, retail, and other sectors. As well, developing and maintaining VR experiences requires skilled labor, leading to job creation in the technology, design, tourism, and customer service sectors.
2. *Tech ecosystem development*: establishing VR projects positions Sardinia as a leader in innovative tourism solutions, fostering a tech ecosystem that can attract startups, investors, and tech enthusiasts. Additionally, collaboration with local universities and educational institutions to develop VR technology can enhance educational programs, providing students with cutting-edge skills and knowledge.
3. *Reduced environmental impact*: VR experiences can offer an alternative to traditional tourism, allowing visitors to experience Sardinia's natural and cultural heritage virtually. VR can be used to document and preserve sites and traditions, offering educational and interactive experiences without physical wear and tear on historic locations. This can help reduce the environmental impact associated with high tourist traffic.
4. *Brand differentiation*: implementing cutting-edge VR experiences can differentiate Sardinia from other tourist destinations, positioning it as a forward-thinking and innovative location. Moreover, VR makes Sardinia's attractions accessible to people with mobility issues or those unable to travel, broadening the potential visitor base, and building a brand devoted to social inclusion.

4.10. FRANCE, Fairlyne

Table 16. Fayrline's data sheets. Authors elaboration

STATE	France
SECTOR	Aviation
NAME	Fairlyne
YEAR	2021
TOPIC/INNOVATION	Fairlyne.com provides a white-label SaaS solution for airlines to optimize revenue by integrating ticket resale into existing channels and managing no-shows efficiently.
WEBSITE	*www.fairlyne.com*
STRENGTHS	• Specialized Resale Platform • Incremental Revenue Generation • Enhanced Customer Satisfaction • Brand Loyalty Boost • Strategic Innovation • Market Adaptability • Customer-Centric Approach • Technological Integration

4.10.1. Potential benefits of implementing a SaaS platform Sardinia

The implementation of a platform that uses the model Resale-as-a-Service and resale strategies, could offer several advantages, including improving the profitability of the sector and customer satisfaction. A SaaS platform enables businesses to resell software applications, generating additional revenue streams beyond their core offerings. By becoming resellers, Sardinian companies can tap into the growing demand for SaaS solutions and diversify their income sources.

1. *Enhanced revenue and profitability*: integrating an advanced resale platform can enable travel operators in Sardinia to generate additional revenue streams beyond traditional sales models. This incremental revenue can boost the profitability of local travel businesses, facilitating reinvestment in service and infrastructure improvements.
2. *Improved customer satisfaction and brand loyalty*: a streamlined resale process can lead to higher customer satisfaction, increasing the likelihood of repeat visits and positive recommendations. Enhanced customer satisfaction and strategic resale strategies can also strengthen brand loyalty, fostering long-term growth and competitiveness in Sardinia's travel industry.

3. *Technological advancement and market positioning*: adopting cutting-edge technology can position Sardinia as a leader in digital innovation within the travel sector. This can attract tech-savvy tourists and investors, promoting a dynamic and modern tourism industry while enabling local travel operators to expand their market reach through strategic partnerships.
4. *Economic growth and development*: the combined effects of increased revenue, improved customer satisfaction, and stronger brand loyalty can substantially contribute to Sardinia's economic growth. Profitable and efficient travel operators can stimulate the local economy through job creation, increased spending, and higher tax revenues, positioning Sardinia as a competitive and innovative travel destination.

4.11. GERMANY, Omio

Table 17. Omio's data sheets. Authors elaboration

STATE	Germany
SECTOR	Travel
NAME	Omio
YEAR	2013
TOPIC/INNOVATION	A comprehensive travel booking platform that aggregates options for trains, buses, and flights, enabling users to compare and book multi-modal transportation seamlessly.
WEBSITE	*www.omio.com*
STRENGTHS	• Extensive Network • User-Friendly Interface • Comprehensive Data Integration • Robust Investment and Growth • Innovative Travel Solutions

4.11.1. Potential benefits of implementing a comprehensive travel platform in Sardinia

The implementation of a complete travel platform similar to Omio in Sardinia can offer several significant advantages, such as improving the tourist infrastructure of the region and the general economic development, through an integrated offer of travel services that can contribute to solving the fragmentation related to internal transport in Sardinia. In fact, public transport

in Sardinia primarily consists of buses and trains, offering limited schedules and longer travel times due to the many stops on the line itineraries. Private bus lines supplement this system by offering extra routes. In both cases, however, timetables and ticket information can sometimes be difficult to access. As an alternative, the only available transport options are traditional taxis and NCC (Noleggio con Conducente), while ride-hailing services like Uber and Cabify are not operational due to strict Italian regulations, asacerbating the information availability problem. This lack of easily accessible information can make it challenging for travelers to plan their journeys effectively and may lead to confusion or frustration when navigating the transport system. Improving the availability and clarity of timetables, tickets, and contact information could enhance the overall experience for those relying on non-autonomous transport to explore Sardinia, and it is to evaluate the possible implementation of travel services from the island to the rest of Europe and the world.

1. *Promote travel connectivity and convenience*: by aggregating and integrating different modes of transport, this platform can significantly improve travel connectivity throughout Sardinia. This can simplify travel planning for tourists by providing continuous access to trains, buses, flights, and ferries. Better connectivity will make it easier for tourists to explore different parts of the island, thereby increasing tourist traffic and promoting regional economic growth.
2. *Economic growth and increased tourist revenue*: the platform's ability to compare and book multiple transport options can attract more tourists by offering competitive travel solutions. The increase in tourist arrivals can lead to higher expenditure on local businesses, such as hotels, restaurants, and cultural sites, contributing to the economic growth of Sardinia. Ease of access to comprehensive travel information can also encourage longer stays and repeated visits.
3. *Data-driven insights and strategic planning*: a platform that aggregates travel data can provide valuable insights into tourist behaviour and preferences. This data can help local authorities and businesses in Sardinia make informed decisions, tailor marketing strategies, and improve service offerings. Understanding travel patterns and demand can also aid in infrastructure development and resource allocation, enhancing the overall tourism experience
4. *Promotion of sustainable tourism*: offering integrated travel options and clear information (currently there is a gap in this regard), the platform can promote sustainable tourism practices. Tourists can be encouraged to use more environmentally friendly modes of transport, such as trains and buses, reducing the carbon footprint associated with travel, especially cars,

which are the most used means of transport in the region by both locals and tourists. Additionally, optimized travel routes and efficient transport options can alleviate congestion in popular areas, distributing tourist traffic more evenly across the region and minimizing environmental impact.

4.12. GREECE, Clio Muse

Table 18. Clio Muse's data sheets. Authors elaboration

STATE	Greece
SECTOR	Guided tours
NAME	Clio Muse
YEAR	2014
TOPIC/INNOVATION	The World's #1 Self-Guided Audio Tours. Clio Muse Tours specializes in the creation and curation of audio and virtual tours as well as the development of state-of-the-art technologies for cultural institutions.
WEBSITE	*www.cliomusetours.com*
STRENGTHS	• Award-Winning Storytelling Methodology • Global Distribution Network • Comprehensive and High-Quality Content • Technological Integration and Scalability • Collaborations with Cultural Experts • Sustainable Tourism Practices

4.12.1. Potential benefits of implementing a digital tour platform in Sardinia

The application of a digital tour platform in Sardinia can enhance cultural tourism, increase global reach and tourist inflows, generate significant revenue, provide customization and flexibility for cultural institutions, and position the region as an innovative cultural destination. Especially since audio guides are not available in Sardinia, even in the most important cultural sites such as the Archeological Museum of Cagliari, the National Archaeological and Ethnographic Museum G.A. Sanna in Sassari, and the Sardinian Ethnographic Museum in Nuoro. These benefits collectively contribute to the economic and cultural development of Sardinia, making it a more competitive and attractive destination for global travelers.

1. *Promotion of cultural tourism*: a digital tour platform can provide high-quality audio and virtual tours of the cultural and historical sites of

Sardinia, even the most remote. By offering self-guided tours created by local experts, the platform can enrich the tourist experience, attract more interested tourists, and increase the visibility and appreciation of Sardinia's cultural heritage.

2. *Global reach and increased tourist inflows*: the implementation of partnerships with leading online travel agencies (OTAs) can ensure a wide global distribution of Sardinia's digital tours. This increased visibility can attract a wider audience, increasing the influx of tourists in the region. The availability of these tours through popular platforms and app stores also makes it convenient for travelers to access and plan their visits, potentially increasing the length of stay and spending in the region.

3. *Inclusive cultural offering*: audio guides provide an essential resource for blind or visually impaired visitors, allowing them to engage with cultural sites through descriptive audio content. This multisensory approach ensures that they can fully experience the historical and cultural significance of the sites, fostering a more inclusive environment. By offering detailed descriptions of exhibits and surroundings, audio guides empower visually impaired individuals to participate in cultural tourism, breaking down barriers that often exclude them from such experiences.

4. *Language accessibility*: in addition to supporting inclusivity for visually impaired visitors, audio guides can be made available in multiple languages, catering to the diverse backgrounds of tourists. This accessibility ensures that non-native speakers can appreciate and understand the cultural heritage of Sardinia, enhancing their overall experience. By providing information in various languages, audio guides can help bridge communication gaps, making cultural sites more welcoming and accessible to a global audience.

5. *Customization and flexibility for cultural institutions*: the ability of the platform to offer the creation of tailor-made digital tours allows museums and cultural institutions in Sardinia to develop tailor-made tours that meet the needs of different targets by attracting diverse audiences and promoting greater knowledge of Sardinian cultural heritage

6. *Economic growth and revenue generation*: the platform can generate significant revenue through direct sales and partnerships with OTAs. By providing digital tour packages such as premium and skip-the-line combos (tickets & audio), local tour operators can diversify their income streams and improve profitability.

7. *Technological advancement and innovation*: the adoption of an advanced digital tour platform can position Sardinia as an innovative cultural destination. This can attract tech-savvy tourists and culture enthusiasts, further increasing the attractiveness of the region. Furthermore, the

integration of cutting-edge technology in tourism can stimulate further innovation and investment in the local technology sector, promoting a more dynamic and modern tourism industry.

4.13. HUNGARY, CLICKnCRUISE

Table 19. CLICKnCRUISE's data sheets. Authors elaboration

STATE	Hungary
SECTOR	Nautical tourism
NAME	CLICKnCRUISE
YEAR	2021
TOPIC/INNOVATION	Travel platform specializing in cruise bookings, offering a streamlined experience for selecting, comparing, and reserving various cruise options.
WEBSITE	*www.clickncruise.hu*
STRENGTHS	• Efficient Booking Process • Live Pricing • User Experience • Comprehensive Search Filters • Targeted Market • Global Expansion • Scalable Revenue Model

4.13.1. Potential benefits of implementing an advanced cruise booking platform in Sardinia

Implementing a cruise booking platform similar to CLICKnCRUISE in Sardinia can enhance the efficiency of the booking process, improve the user experience, generate significant economic growth, expand market reach, and engage a targeted demographic. These benefits collectively contribute to positioning Sardinia as a competitive and attractive destination in the global cruise tourism market, especially since some important ports across the island (eg. Olbia) have already approved some expansion projects to enhance the cruise tourism traffic[2]. Notably, Sardinia has experienced a remarkable increase in cruise traffic, with a reported 284.5% growth in 2022 compared to the previous year, reaching over 220,595 passengers[3]. This surge indicates

2. *www.shippingitaly.it/2024/02/29/il-porto-di-olbia-vede-dragaggio-e-nuovi-moli/*.
3. *www.informare.it/m/?lang=uk&n=%2Fnews%2Fgennews%2F2024%2F20240092-porti-sardi-2024-atteso-traffico-crocieristico-recorduk.asp*.

a strong demand for cruise tourism, and the implementation of an advanced booking platform could further capitalize on this trend. With MSC Cruises planning significantly more landings in Cagliari and Olbia in 2024, the potential for increased visitor numbers is substantial[4]. By streamlining the booking process and enhancing user engagement, the platform can help attract even more cruise lines and passengers, solidifying Sardinia's position as a premier cruise destination in the Mediterranean.

1. *Enhanced user experience and customer satisfaction*: an efficient booking process, akin to that offered by CLICKnCRUISE, can significantly streamline cruise planning, attract tech-savvy tourists, and boost visitor numbers to Sardinia. This influx can enhance the local economy through increased spending on accommodations, dining, and other activities. Furthermore, a user-centric design with comprehensive search filters can cater to diverse tourist segments, improving customer satisfaction. This tailored experience not only encourages repeat visits and positive word-of-mouth but also differentiates Sardinia from other destinations, providing a competitive advantage in the tourism market.
2. *Economic growth and revenue generation*: a scalable and successful fee-based income model can generate substantial income for local businesses and the regional economy. As the platform expands and attracts a wider clientele, the increase in revenue from commissions paid by cruise lines can support further investment in infrastructure and tourism services. In addition, the influx of tourists can create job opportunities and stimulate local businesses, contributing to global economic growth.
3. *Global market expansion and increased market reach*: adopting the model of a platform of proven success in other regions and plans for total expansion, Sardinia could position itself as a key actor in the international crocieristico market. This strategic positioning can attract partnerships with major cruise companies and travel agencies, improving the visibility and appeal of Sardinia on a global scale. The ability to exploit great market potential, with significant annual revenue projections, underlines the economic feasibility and growth prospects of this platform.
4. *Economic diversification and support for local businesses*: by attracting such a specific audience to Sardinia, a project like this can stimulate demand for a wider range of services and local products beyond the traditional tourist offerings. This can lead to the growth of new

4. *www.agenzianova.com/en/news/Sardinia-passenger-traffic-in-ports-grew-by-22-percent-in-2022/*.

businesses and services tailored to the preferences of these travelers. This diversification can improve the resilience of Sardinia's tourism sector, making it less dependent on seasonal fluctuations.

4.14. IRELAND, Road Trip: Ireland

Table 20. Road trip: Ireland/Cultural Roadmapp's data sheets. Authors elaboration

STATE	Ireland
SECTOR	Guided tours
NAME	Road Trip: Ireland
YEAR	2017
TOPIC/INNOVATION	GPS-guided audio app for planning and navigating self-guided road trips across Ireland, featuring itineraries, maps, and local attractions.
WEBSITE	*www.roadtripirelandapp.com*
STRENGTHS	Broad Cultural Scope: • Academic standards and professional scriptwriting • High quality audio and production experience • Geofencing Technology • Real-World Testing • Innovative Approach

4.14.1. Potential benefits of implementing a Cultural Roadmap app in Sardinia

The development and adoption of a project such as Road Trip: Ireland in Sardinia would offer significant advantages, including the promotion of local heritage, enhanced visitor experiences, technological innovation, and a positive economic impact. This project can play a crucial role in positioning Sardinia as a cultural tourist destination, attracting culturally minded tourists with a consequent contribution to the local economy. Moreover, the implementation of a GPS-guided audio app can facilitate deeper engagement with Sardinia's rich history and cultural narratives, allowing users to explore at their own pace while receiving contextually relevant information based on their location. This personalized approach not only enriches the visitor experience but also encourages longer stays and increased spending at local businesses. Additionally, the app can serve as a platform for local storytellers, artists, and historians to share their insights and narratives, fostering a sense of community and ownership over cultural heritage. By integrating user-generated content and feedback, the app can continuously evolve, ensuring

that it remains relevant and engaging for both new and returning visitors. Ultimately, a Cultural Roadmap project could position Sardinia as a leader in innovative cultural tourism, enhancing its appeal to a global audience while preserving and celebrating its unique heritage.

1. *Promotion of local heritage and traditions*: the implementation of a project such as Cultural Roadmapp in Sardinia can significantly improve the cultural tourism of the region by offering audio documentaries guided by GPS that deepen the rich cultural heritage of the island. By collaborating with local cultural experts and prominent figures, the project can create authentic and engaging narratives that highlight the unique elements of Sardinia, such as traditional music, crafts, and historical monuments. This not only preserves and spreads local knowledge but also fosters deeper appreciation and understanding among visitors.
2. *Economic impact*: a project like this stimulated local economies by attracting more tourists and encouraging them to explore lesser-known areas of Sardinia. By increasing the number of visitors and extending the tourist season beyond traditional peak periods, the project supports small businesses and cultural institutions. This can lead to job creation and increased investment in the preservation and promotion of Sardinia's cultural heritage.
3. *High-quality and engaging content*: the involvement of qualified ethnographers, professional screenwriters, and storytelling artists ensures that audio guides are of the highest level. The integration of contemporary, traditional and archival music enhances the storytelling experience, making it more engaging and memorable for users while also involving local professionals in the narrative of cultural heritage.
4. *Inclusive cultural offerings*: through rich, informative audio content, audio guides are an essential tool for blind or visually impaired tourists, allowing them to interact with cultural places. By using a multimodal approach, the areas' historical and cultural significance can be fully appreciated by these individuals, fostering a more inclusive environment. Audio guides enable guests with visual impairments to engage in cultural tourism by offering comprehensive explanations of the exhibits and surrounding areas. This efficiently removes obstacles that frequently impede their enjoyment of these experiences.
5. *Language accessibility*: beyond promoting inclusivity for visually impaired visitors, audio guides can also be offered in multiple languages, accommodating the diverse backgrounds of tourists. This feature ensures that non-native speakers can fully appreciate and understand

Sardinia's cultural heritage, enhancing their overall experience. By delivering information in various languages, audio guides help bridge communication gaps, making cultural sites more inviting and accessible to a global audience.

6. *Technological innovation*: the above project leverages advanced technology, such as geofencing, to provide a seamless and interactive experience for tourists. In the Sardinian regional context, this technology could guide users to various points of interest with precise audio signals, ensuring that they receive relevant information simultaneously during the trip.

4.15. ITALY, Taykon

Table 21. Takyon's data sheets. Authors elaboration

STATE	Italy
SECTOR	Travel
NAME	Takyon
YEAR	2022
TOPIC/INNOVATION	Platform for managing and optimizing travel experiences, focusing on enhancing efficiency and personalization in booking and itinerary management. It enables individuals to convert their hotel reservations into resellable digital assets (NFTs)
WEBSITE	*www.takyon.io*
STRENGTHS	• Pioneering Technology Integration • Market Disruption • Enhanced Consumer Flexibility • Support for Sustainability • Strategic Market Positioning

4.15.1. Potential benefits of implementing blockchain and NFT technologies in Sardinia

The adoption of a project such as Takyon in Sardinia would offer substantial advantages, including the introduction of innovative technologies, market disruption, greater consumer flexibility, support for sustainable tourism, and a strategic advantage through technological progress. This initiative can give a significant boost to the tourism sector of Sardinia, offering technologically advanced and sustainable travel experiences.

1. *Introduction of innovative technology in tourism*: the implementation of Takyon or similar projects in Sardinia could introduce pioneering blockchain and NFT technologies to the regional tourism industry. By converting hotel reservations into digital marketable goods, Takyon can improve the transparency, security, and efficiency of reservation and resale processes. This integration can place Sardinia at the forefront of technological innovation in travel and hospitality, attracting tourists and technology-savvy investors.
2. *Market disruption and economic impact*: the resellable hotel booking concept of the Takyon model has the potential to disrupt traditional booking practices, creating a new market dynamic within the tourism industry. This innovation can attract a wider range of consumers to Sardinia, including those seeking greater flexibility and investment opportunities. The consequent increase in tourist influx and spending can significantly increase the local economy, to the benefit of the destination in a global sense as a supply chain
3. *Greater flexibility and consumer satisfaction*: offering the flexibility to resell hotel reservations, the platform empowers consumers, turning a typically non-transferable service into a marketable resource. This flexibility dedicated to evolving consumer preferences improves satisfaction and increases tourist loyalty and repeat visits as consumers find more value and convenience in their travel modes.
4. *Support for sustainable tourism*: a platform like Taykon could promote sustainability in the Sardinian hotel sector by optimising the use of reservations and reducing cancellations of reservations. The ability to resell bookings also encourages responsible booking behaviour. This contributes to a more sustainable travel ecosystem, aligning with global trends towards ethical, ecological, and responsible tourism.

4.16. ITALY, Destination Italia S.p.A.

Table 22. Destination Italia's data sheet. Authors elaboration

STATE	Italy
SECTOR	Travel
NAME	Destination Italia s.p.a.
YEAR	2016
TOPIC/INNOVATION	The company's core business is based on an advanced and transversal technological approach, integrating artificial intelligence and automation through the HubCore platform. This platform enables the complete management of tourism services, optimising the booking and interaction processes between supply and demand. The company adopts a multi-destination and multi-channel model, enabling it to offer unique local experiences on a global scale. Thanks to the use of technological solutions such as CRM and Marketing Automation, Destination Italia is able to customise the offer and improve operational efficiency, positioning itself as a 'glocal specialist' in the international market. Its innovative approach includes the collection and analysis of proprietary data for an in-depth understanding of market trends, enabling a rapid and targeted response to customer needs
WEBSITE	*www.destinationitaliagroup.com*
STRENGTHS	• Leadership in the Incoming Luxury Market • Technological Innovation • Global Presence and Strategic Investments • Proprietary Data Analysis • Collaborations and Networking • Performance of the Subsidiaries • Focus on Sustainability • Enhancement of Local Territories • Experienced team

4.16.1. Potential benefits of implementing Destination Italia innovative project in Sardinia

Destination Italia has established a significant relationship with Sardinia through the acquisition of Portale Sardegna, a well-known entity that, for over 20 years, has been a cornerstone for those seeking to explore and immerse themselves in the Sardinian culture and territory. This strategic acquisition highlights the potential for further innovations in the tourism sector in Sardinia. Combining their technological prowess and market experience with the deep knowledge of the territory and the consolidated presence of Portale Sardegna and other brands of the group (e.g., Hubcore.AI), Destination Italia is creating a promising path to foster economic growth, improve the quality of services, and promote Sardinia as an important world tourist destination.

1. *Economic growth and investment opportunities*: the innovative project Destination Italia has considerable potential for economic growth and investment in Sardinia and will continue to open the island to the United States market and other potential markets. With the help of strategic investments, the region can develop sound infrastructure, improve technological capacities, and promote a sustainable tourism market. The integration of advanced AI-based platforms and comprehensive service models could help attract tourism, thereby contributing to sustainable economic growth and enhancing not only communities but also local small and medium-sized enterprises.
2. *Enhancement of tourism and hospitality services*: a project like Destination Italia could significantly raise the quality and efficiency of tourism and hospitality services in Sardinia. By leveraging artificial intelligence and machine learning, the platform can streamline the booking process, automate guest communications, and personalize travel experiences. This technological innovation would streamline operations for local tourism businesses, improve guest satisfaction, and create a competitive advantage in the market.
3. *Promotion of luxury and experiential tourism*: Sardinia's rich cultural heritage, natural beauty and exclusive destinations could align perfectly with the luxury and experiential tourism segments that Destination Italia is aimed at. Implementing a similar project can help Sardinia capitalize on the growing demand for high-end travel experiences. By offering tailored services and unique local experiences, the region can attract wealthy tourists, thereby increasing tourism revenue and promoting local culture.
4. *Data-driven market insights*: the use of proprietary data analytics can provide valuable insights into tourist behaviors, preferences, and trends. This information allows for more informed decision-making and strategic planning, ensuring that Sardinia's tourism offer is closely aligned with market demands. Advanced data analytics capabilities can help local businesses quickly adapt to changes in tourist behavior, optimize their marketing strategies, and improve overall service delivery.
5. *Global reach and market diversification*: the Destination Italia project can facilitate Sardinia's expansion into new international markets. By using advanced marketing techniques and forming strategic partnerships, Sardinia can attract a diverse global clientele. This diversification can mitigate the risks associated with dependence on a single market and provide a more stable revenue stream for the regional tourism industry.
6. *Supporting sustainable tourism*: integrating sustainable practices into tourism operations is increasingly important. A project like Destination Italia places the emphasis on sustainable tourism, which aligns with the

global shift towards ecological travel. Implementing similar practices in Sardinia can improve the region's reputation as a responsible tourist destination, attract environmentally conscious travelers, and ensure the long-term viability of the tourism industry.

7. *Empowerment of local experts*: a project that focuses on enhancing local skills, as Destination Italia does with its network of local destination experts, can empower Sardinia's local tourism professionals. By providing training, resources, and a platform to showcase their knowledge, local experts can deliver authentic and enriched travel experiences. This not only adds value to the tourism experience but also promotes local employment and skill development.

8. *Synergy with existing tourism initiatives*: Destination Italia creates synergies with existing tourism initiatives by collaborating with local and regional authorities to promote destinations and create integrated tourism packages, enhancing the cultural and natural specificities of territories. Collaboration with accommodation facilities and tour operators makes it possible to create special offers and combined packages, increasing the perceived value and encouraging longer stays. It does this mainly through Portale Sardegna, a company set up in Sardinia 20 years ago. Using advanced technologies, Destinazione Italia can integrate its platform with digital services and booking systems, improving access to tourism services in Sardinia. Promoting local events and activities through partnerships with event organisers attracts tourists interested in unique experiences. Furthermore, offering training programs for local tour operators could improve the quality of services and professionalise the sector.

9. *Experienced teams*: Destination Italia's team is composed of experienced professionals with a wide range of skills in the tourism and technology sectors. Their experience extends from the management of large international tourism projects to the implementation of advanced technological solutions, such as the HubCore platform. This interdisciplinary approach enables the company to offer high-quality, customised services, ensuring a timely and innovative response to market needs. The synergy between the teams' skills fosters process optimisation and the company's global expansion, consolidating its position as an industry leader.

These strategies create a more integrated and cooperative tourism ecosystem, bringing mutual benefits to Destination Italia and local tourism initiatives. The implementation of a project such as Destination Italia in Sardinia is in fact very promising for advancing the region's tourism sector through technological innovation, market diversification, and sustainable

practices. This approach can drive economic growth, improve service quality, and promote Sardinia as a top-notch travel destination on the global stage.

4.17. LATVIA, Apgrieztā māja – The Upside-Down House

Table 23. Apgrieztā māja (Upside-Down House)'s data sheet. Authors elaboration

STATE	Latvia
SECTOR	Guided tours
NAME	Apgrieztā māja (Upside-Down House)
YEAR	2022
TOPIC/INNOVATION	Architectural installation that inverts traditional design elements to create a visually unique experience. This project integrates innovative spatial design with interactive engagement, offering both a novel tourist attraction and an educational exploration of perceptual dynamics.
WEBSITE	*www.apgrieztamaja.lv*
STRENGTHS	• Unique Design • Interactive Experience • Tourism Appeal • Educational ValueVersatility

4.17.1. Potential benefits of implementing whimsical architectural constructions in Sardinia

Sardinia faces a notable scarcity of entertainment options, particularly in its more rural and inland areas. While the island is renowned for its stunning natural landscapes and rich cultural heritage, the availability of recreational activities and entertainment venues is limited. In urban centers like Cagliari, Sassari, and Olbia, visitors may find more options, such as restaurants, bars, and cultural events. However, outside these areas, options become sparse, leading to a reliance on the natural environment for leisure activities such as hiking, beach outings, and exploring historical sites. Thus, this situation can make it challenging for residents and tourists alike to find engaging activities, particularly during the off-peak seasons when tourism declines or on rainy days. Addressing this gap could enhance the island's attractiveness as a year-round destination and improve the quality of life for its residents. As a consequence, implementing a whimsical architectural construction like The Upside-Down House in Sardinia could be a solution that yields numerous benefits, such as enhancing its tourism

appeal, attracting diverse visitor demographics, and overcoming weather-related constraints.

1. *Increase the year-round appeal*: unlike some attractions that are seasonal, an indoor, weather-independent attraction can draw visitors throughout the year and offer an alternative for rainy days. Moreover, the novelty of a new, aestethic building would attract both local residents and tourists, adding a unique attraction to Sardinia's tourism portfolio. In particular, some areas with little entertainment could become a family-friendly destination that appeals to local families with children.
2. *Leverage Social Media and marketing*: the visual appeal of these kinds of buildings, with their quirky and photogenic setup, is ideal for social media sharing. Visitors are likely to post photos and videos, providing free advertising and increasing the attraction's visibility. Therefore, their interactiveness will encourage visitors to spend more time at the attraction, leading to higher levels of engagement and positive word-of-mouth recommendations.
3. *Create diversification of tourist attractions*: a whimsical-architecture construction would complement Sardinia's existing attractions, such as its beaches, historical sites, and natural beauty, by offering a different type of entertainment. As a consequence, it will cater to tourists looking for unique experiences, broadening the island's appeal to different segments of the tourist market.
4. *Promote local culture and creativity*: the attraction could feature work by local artists and craftsmen, incorporating elements of Sardinian culture and craftsmanship into the design and decor. As well, it can incorporate educational elements about physics, architecture, and perception, providing an engaging way for children and adults to learn while having fun. In this way, the attraction would host school trips and group tours, bridging educational and economic benefits.
5. *Spread sustainability and environmental awareness*: implementing sustainable building practices and materials can highlight Sardinia's commitment to environmental responsibility, appealing to eco-conscious tourists. The attraction could also include educational displays about sustainability and environmental protection, aligning with global trends in responsible tourism.

4.18. LITHUANIA, Searadar

Table 24. Searadar's data sheet. Authors elaboration

STATE	Lithuania
SECTOR	Nautical tourism
NAME	Searadar
YEAR	2017
TOPIC/INNOVATION	A unique concierge service for booking yachts powered by AI
WEBSITE	*www.searadar.com*
STRENGTHS	• Strategic Partnerships • User-Friendly Interface • Comprehensive Service Offering • Advanced Technology Integration • Scalability

4.18.1. Potential benefits of implementing an AI-concierge yacht booking service in Sardinia

By leveraging advanced artificial intelligence (AI), machine learning, and a comprehensive database of yachts and charters, the Searadar model can significantly enhance the nautical tourism sector in Sardinia, promoting economic growth, improving service quality, and providing unique tourism experiences.

1. *Technological integration and enhancement of nautical tourism*: implementing a platform like Searadar in Sardinia would introduce a sophisticated search algorithm combined with AI and machine learning capabilities. This technology enables the matching of tourists needs with optimal yacht options based on specific preferences and requirements. The result is a highly personalized and efficient service that can attract a broader range of tourists, including high-end clientele seeking bespoke sailing experiences.
2. *Economic impact*: the adoption of a technology-driven platform can boost Sardinia's economy by attracting more tourists and increasing the occupancy rates of yachts. The platform's revenue model, which includes commission-based fees, subscription services for premium features, and ancillary services such as crew hiring and route planning, can generate substantial economic benefits. Additionally, monetizing through targeted advertising and exclusive deals can further enhance revenue streams.

3. *Strategic partnerships*: Searadar's model emphasizes strategic partnerships with yacht operators and other service providers, crucial for offering a diverse selection of yachts and sailing routes. In the Sardinian context, this could mean collaboration with local charter companies and service providers, fostering a more integrated and cooperative tourism ecosystem. Such partnerships would enhance service offerings and ensure a wide range of choices for tourists, improving the overall competitiveness of Sardinia as a nautical tourism destination.

4. *User experience and service quality*: a user-friendly interface and comprehensive service offerings, including crew hiring, route planning, and provisioning, can significantly enhance the user experience. This holistic approach ensures that tourists receive all necessary support for a seamless sailing experience, catering to both novice sailors and experienced mariners. The platform can increase customer satisfaction and loyalty by simplifying the booking process and providing tailored solutions.

4.19. LUXEMBOURG, Travelsify

Table 25. Travelsify's data sheet. Authors elaboration

STATE	Luxembourg
SECTOR	Hospitality
NAME	Travelsify
YEAR	2016
TOPIC/INNOVATION	Explainable AI (XAI) platform that creates Hotel Brand DNA®
WEBSITE	*www.travelsify.com*
STRENGTHS	• XAI Technology • Data Analysis • Unicity • Scalability • Strategic support

4.19.1. Potential benefits of implementing an XAI technology platform in Sardinia

The implementation of Travelsify in Sardinia or a similar project could offer numerous potential benefits, including data-based decision-making, improved competitive positioning and customer experience, and support for

sustainable tourism. By leveraging advanced XAI technology, Sardinia and its SMEs could optimize their offer of hospitality and tourism, attract more visitors, and ensure long-term growth and sustainability in the tourism sector of the region.

1. *Data-drivendecision making*: an AI platform such as Travelsify (XAI) can significantly improve data-driven decision-making processes in the hospitality and tourism sectors in Sardinia. In the specific case of the analyzed project, the platform provides complex information based on data through its products: *Hotel Brand DNA, Hotel DNA, Restaurant DNA,* and *Destination DNA*. Through this platform and its specialized products, it is possible to understand, analyze, and optimize customer experiences. Thanks to this ability, business decisions can be based on accurate, transparent, and meaningful data, leading to better strategic and financial planning.
2. *Competitive positioning*: the application of Travelsify's XAI technology enables accurate comparisons and performance assessments against competitors. Analyzing over a billion guest and expert reviews and identifying more than 200 attributes of the product's DNA. Travelsify or a similar project could help Sardinian hotels and tourist facilities compare their performance with regional and global competitors. Attributes such as "foodie," "elegant," "luxury," and "good service" can highlight areas of strength and opportunities for improvement, allowing local companies to improve their competitive positioning and attract more visitors.
3. *Scalability between market segments*: the scalability of Travelsify's XAI technology ensures that it can be applied to various geographic and market segments within Sardinia. This flexibility allows companies of different sizes and types, from luxury resorts to small boutique hotels and local restaurants, to benefit from the platform's insights. By leveraging scalable technology, Sardinian companies can achieve consistent improvements in customer satisfaction and operational efficiency across the region.
4. *Support for sustainable tourism*: Travelsify's data analysis capabilities can support sustainable tourism practices in Sardinia. The platform can help companies optimize resource use and minimize their environmental impact by providing information about customer preferences and behaviors. Understanding the attributes related to sustainability and responsible tourism can allow Sardinian companies to develop and promote environmentally friendly practices that attract environmentally conscious travelers, contributing to the long-term sustainability of the region's tourism industry.

5. *Strategic development of brands*: Travelsify supports brand strategists and developers by providing detailed information on how brands deliver experiences through their values. This information can be used to refine and develop brand strategies that align more closely with customer desires and market trends. For Sardinia, this means building stronger and more attractive brands that can stand out in the crowded tourist market. Effective brand development based on reliable data can drive long-term growth and sustainability in the tourism sector.

4.20. MALTA, Marija By Visit Malta

Table 26. Marija's data sheet. Authors elaboration

STATE	Malta
SECTOR	Guided tours
NAME	Marija by Visit Malta
YEAR	2020
TOPIC/INNOVATION	"Maria by Visit Malta" is a digital platform or campaign by Visit Malta designed to provide comprehensive information and personalized recommendations for travelers exploring Malta's rich cultural heritage, attractions, and experiences.
WEBSITE	*www.visitmalta.com/en/malta-launches-marija/*
STRENGTHS	• AI-Driven Interaction • Cultural Authenticity • Multilingual Support • Easy Accessibility • Strategic Partnerships

4.20.1. Potential benefits of implementing an AI-driven virtual assistant for tourism in Sardinia

The integration of an AI-led virtual assistant in the tourism sector of Sardinia could offer many advantages, including increased engagement and experience in tourism, promotion of cultural heritage, greater accessibility and inclusivity, strengthening local partnerships and hence economic opportunities, strategic positioning in the digital age, and scalability. By adopting such innovative technology, Sardinia could significantly improve its tourist offer, attract a diversified audience, and strengthen its status as a modern and culturally rich destination.

1. *Tourism commitment and experience*: the implementation in Sardinia of a virtual assistant guided by AI similar to Marija can significantly improve the tourist experience by providing personalized interactions in real time. This virtual assistant, accessible via a mobile application, would provide visitors with detailed and context-specific information on Sardinia's cultural heritage, historical sites and local events. Through tailor-made content and interactive functionality, the visitor experience could be enriched, increasing satisfaction and prolonging the stay

2. *Promotion of cultural heritage*: a virtual assistant based on AI can facilitate a deeper understanding of Sardinia's unique cultural and historical heritage. In this specific case analyzed, thanks to the integration of advanced linguistic processing and authentic local accents, the virtual assistant gives tourists the opportunity to enjoy an immersive experience that reflects the rich heritage of Sardinia. This approach not only educates visitors about the history and traditions of the region but also fosters a greater appreciation for local culture, potentially driving interest in the preservation and promotion of Sardinian heritage.

3. *Increasing linguistic accessibility and inclusivity*: the multilingual support provided by the virtual assistant ensures that the tourist offers of Sardinia are accessible to a diverse international audience. The platform, responding to different linguistic needs, can attract tourists from different linguistic backgrounds, making Sardinia a more inclusive destination. This increased accessibility can improve the attractiveness and competitiveness of the region's SMEs in the global tourism market.

4. *Strategic positioning in the digital age*: the implementation of an innovative digital tool such as a virtual assistant AI aligns with the declared strategies of the Sardinia region in wanting to position itself as a forward-looking destination, especially in the digital age, and could be consistent with a series of proposals recently declared by the institutional and political decision-makers. Such technological progress could distinguish Sardinia as an enlarged tourist destination from other destinations, while also facilitating the progress of the entrepreneurial fabric of the sector.

5. *Strengthened local partnerships and economic opportunities*: the virtual assistant can act as a motivator for collaboration between local businesses, cultural institutions and tourism services. With sponsored content and any premium services provided within the app, new business opportunities could be created. Partnerships with local authorities, which are fundamental, can also enhance the content and functionality of the app, promoting Sardinian businesses and promoting economic growth in the tourism sector.

6. *Scalability and adaptability*: the scalable nature of the AI virtual assistant enables continuous updates and adaptations based on user feedback and evolving tourism trends This modulation ensures that the platform remains consistent and effective, in the long term, responding to the changing needs of tourists and tourism enterprises.

4.21. NETHERLANDS, Runnr.ai

Table 27. Runnr.ai's data sheet. Authors elaboration

STATE	Netherlands
SECTOR	Hospitality
NAME	*Runnr.ai*
YEAR	2021
TOPIC/INNOVATION	Virtual concierge through AI. Direct communication and boost consumer satisfaction
WEBSITE	*www.runnr.ai*
STRENGTHS	• Advanced Generative AI and Natural Language Processing (NLP) • Utilization of WhatsApp • Automation of Routine Inquiries Multilingual Capabilities • Scalability and Customizability • Integration with Hotel Property Management Systems (PMS) • Enhanced Upselling Capabilities • Data-Driven Insights and Analytics

4.21.1. Potential benefits of implementing AI-driven guest communication technology in Sardinia's hospitality sector

The implementation of Runnr.ai's AI-driven communication technology in the hospitality sector in Sardinia offers numerous advantages, including better guest experience, operational efficiency, increased revenue through upselling, multilingual support, data-driven insights, scalability and strategic positioning. These benefits can significantly improve the quality of hospitality services and contribute to spreading the brand image of Sardinia as an advanced and convenient destination. Moreover, it could enhance the average level of digitalization of regional SMEs, and serve as a driving force for the whole entrepreneurial fabric, regardless of the economic sector.

1. *Operational efficiency and staff optimization*: Runnr.ai technology automates up to 95% of guest requests, significantly reducing the workload

of hotel staff. This automation, if also used in the regional context, would allow staff to focus on more complex and high-value tasks, thus improving overall operational efficiency. Given the continuing shortage of staff that affects the tourism industry in Sardinia, this technology can be particularly useful in maintaining good standards of service without incurring additional personnel costs.

2. *Increased revenue thanks to upselling*: the platform's ability to manage upselling efficiently can generate additional revenue for Sardinian hotels. A model like Runnr.ai that integrates well with hotel management systems can offer guests the opportunity to purchase additional services such as breakfasts, restaurant reservations, late check-out and room upgrades directly via WhatsApp, leading to a consequent increase in sales and increased profitability per room.

3. *Multilingual support and accessibility*: Runnr.ai's multilingual capabilities make it an ideal solution to support the communication of the international tourist audience visiting Sardinia. Through real-time responses in guest native languages, the platform ensures effective communication and improves the inclusivity and accessibility of hospitality services.

4. *Data-driven insights and customization*: through advanced analytics and insights into the interactions and preferences of guests, offered by this type of technology, hotels are empowered to personalize their services and marketing strategies more effectively. By understanding the behavior and preferences of guests, Sardinian hospitality SMEs can personalize their offerings, improving guest satisfaction and loyalty. In addition, this information can identify trends and areas for improvement, driving the continuous improvement of guest services.

5. *Scalability and customization*: Runnr.ai's technology is scalable and customizable, making it suitable for various hospitality providers in Sardinia, from small boutique hotels to large international chains. This flexibility allows each structure of the supply chain to implement a solution that meets its specific operational needs and improves the overall guest experience. Scalability ensures that, with the growth of the tourism sector in Sardinia, technology can adapt to the growing needs.

6. *Guest experience and strategic positioning*: the implementation of Runnr.ai's guest-driven communication technology in the hospitality industry in Sardinia can significantly improve the guest experience by providing timely and personalized responses. The use of generative AI and natural language processing ensures sophisticated and context-aware communication, leading to increased guest satisfaction, positive reviews and repeated visits.

4.22. POLANDS, Findbed

Table 28. Findbed's data sheet. Authors elaboration

STATE	Poland
SECTOR	Hospitality
NAME	Findbed
YEAR	2015
TOPIC/INNOVATION	Booking platform that allows users to book accommodations by proposing their preferred rate
WEBSITE	*www.findbed.pl*
STRENGTHS	• Efficient Price Negotiation • Cost-Effective Booking Process • Comprehensive Marketing and Sales Solutions • Regional Focus and Specialization • Streamlined User Experience

4.22.1. Potential benefits of implementing a dynamic-pricing booking platform in Sardinia

Implementing a booking platform in Sardinia that allows users to propose prices for accommodations could foster a more flexible and user-centric market, optimizing pricing strategies based on demand fluctuations, thereby potentially increasing occupancy rates and maximizing seasonal profitability. This approach can also provide valuable data insights for better resource allocation and strategic planning in the hospitality sector. Therefore, this innovative pricing model may also enhance customer satisfaction and engagement, driving competitive advantages for local hospitality providers.

1. *Customized tourist experience*: a platform that allows travelers to propose their preferred rates directly to accommodations would offer a more personalized and flexible booking experience. This feature can enhance user satisfaction by allowing visitors to negotiate rates that fit their budget, potentially attracting more tourists who seek cost-effective options.
2. *Economic benefits*: by facilitating direct bookings and offering competitive pricing, the platform can boost occupancy rates and overall revenue for Sardinian accommodations. This increased revenue helps support local businesses and contributes to the region's economic growth. Besides, a similar platform that does not charge booking fees could provide a more affordable solution for local accommodations compared to traditional online booking platforms.

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3. *Regional flux distribution*: by providing a platform that allows for direct rate negotiation and eliminates booking fees, the system makes travel more accessible to a wider range of visitors. This approach can help attract a diverse demographic of travelers, including those who might otherwise be deterred by the renowned high costs of Sardinia, and direct them to less renowned venues. Therefore, by offering competitive rates and tailored recommendations, the platform can encourage travel during off-peak seasons, helping to balance tourist activity throughout the year and reduce congestion at popular sites.
4. *Tourism management and data insights*: the platform's ability to gather data on booking trends and traveler preferences provides valuable insights for tourism authorities. This data can be used to better manage tourist flow, target marketing efforts, and make informed decisions about infrastructure and services.
5. *Positive community impact*: the platform can foster partnerships with local businesses and tourism operators, creating a network of supporters who are invested in promoting and enhancing Sardinia's tourism industry.

4.23. PORTUGAL, Luggit

Table 29. Luggit's data sheet. Authors elaboration

STATE	Portugal
SECTOR	Tourism-services
NAME	Luggit
YEAR	2019
TOPIC/INNOVATION	Luggit is a mobile app that offers luggage storage and delivery services, allowing travelers to securely store or transport their bags during trips, enhancing convenience and flexibility.
WEBSITE	*www.luggit.app*
STRENGTHS	• Innovative Service Model • Recognition and Endorsement • Strategic Evolution to B2B Integration. • Global Expansion and Market Penetration • Strategic Investment and Financial Support

4.23.1. Potential benefits of implementing a luggage management service in Sardinia

The application of Luggit's innovative baggage management services in Sardinia can offer significant advantages, including greater convenience for travelers, support for tourism stakeholders, greater attractiveness and competitiveness, and operational efficiency. Sardinia attracts millions of tourists every year, however, logistical challenges associated with baggage handling often detract from the overall travel experience. The introduction of Luggit services can turn these challenges into opportunities to improve customer satisfaction and increase tourism revenues. By simplifying travel logistics through customised luggage collection, storage and delivery services, Luggit can improve the overall tourism experience, support local businesses and contribute to the sustainable development of the region's tourism industry.

1. *Enhancing the visitor experience*: implementing Luggit's innovative luggage management services would greatly enhance the visitor experience in Sardinia. By providing flexible pickup, storage, and delivery options, travelers can explore the region without the burden of carrying their luggage. This convenience is particularly beneficial in tourist hotspots where mobility is crucial, allowing visitors to maximize their time engaging with local attractions and experiences.
2. *Supporting local businesses*: Luggit's B2B integration model allows for partnerships with local hotels, restaurants, and attractions, creating a network of services that supports the local economy. By collaborating with these businesses, Luggit can provide additional exposure and increased foot traffic, benefiting local service providers while offering tourists seamless logistics. This collaborative approach can stimulate growth in the local economy, create jobs and enhance community engagement.
3. *Economic growth and investment opportunities*: the potential for economic growth is significant with the implementation of a project similar to Luggit in Sardinia. Drawing parallels from Luggit's success, which secured a strategic investment of €1.8 million, similar financial backing could enable further development and the establishment of a robust infrastructure within Sardinia. Introducing innovative luggage management services can attract additional investors interested in contributing to a progressive tourism ecosystem. This can foster sustainable growth within the region by providing several key benefits.

4.24. ROMANIA, Questo

Table 30. Questo's data sheet. Authors elaboration

STATE	Romania
SECTOR	Guided tours
NAME	Questo
YEAR	2017
TOPIC/INNOVATION	Questo is a mobile app that offers interactive city tours and adventure games, allowing users to explore new destinations through immersive, self-guided experiences and challenges.
WEBSITE	*www.questoapp.com*
STRENGTHS	• Innovative Gamification Concept • Diverse Game Offerings • Enhanced Visitor Engagement • Educational and Cultural Value • Scalable and Flexible Platform

4.24.1. Potential benefits of implementing a gamified travel app in Sardinia

Implementing a gamified travel app in Sardinia could significantly enhance tourist engagement by providing interactive and immersive experiences, incentivizing exploration through rewards, challenges, and social sharing features. This approach may increase visitor satisfaction and retention, promote local attractions, and stimulate economic growth in the region. Moreover, gamification can facilitate the collection of valuable data on tourist behavior and preferences, enabling more targeted marketing strategies and improved resource allocation for sustainable tourism development.

1. *Increased commitment and experience in tourism*: the integration of a gamified travel app similar to Questo in Sardinia could significantly improve the engagement and experience of tourists. Through the interaction and virtual exploration of the city that combine elements of escape, treasure hunt, role-playing games and storytelling, the app transforms the urban and rural landscapes of Sardinia into immersive playgrounds. The interactive approach not only makes exploration more enjoyable, but also encourages tourists to engage more deeply in discovering local culture and history. Contributing to greater visitor satisfaction and memorable experiences, which can result in positive reviews and repeated visits.

2. *Promotion of local culture and history*: a platform like Questo provides educational and cultural value by incorporating local history, folklore and heritage into its game narratives. Tourists and locals can gain a deeper understanding and appreciate the unique cultural identity of Sardinia through engaging and history-based games. This approach can help preserve and spread local traditions and stories, fostering a greater sense of pride and connection between residents, improving the cultural experience for visitors.

3. *Greater economic impact*: implementing a gaming app in Sardinia can have a positive economic impact by attracting more tourists and encouraging them to spend more time and money in the region. The gamified experiences can drive traffic by walking to various attractions, restaurants, shops and other local businesses. In addition, the platform can be monetized through partnerships with local businesses, providing promotional opportunities and increased visibility. By encouraging tourists to explore lesser-known sites, the app/platform can help distribute tourism more evenly across the region, benefiting a wider range of businesses and communities.

4. *Innovation and competitive advantage*: the adoption of innovative gamification technology can position Sardinia as a forward-looking and technology-savvy tourist destination. This differentiation can attract a new segment of travelers looking for unique and interactive travel experiences, as well as communicate with the target audience of travelers and game enthusiasts. By exploiting cutting-edge solutions to enhance the tourist offer, Sardinia can gain a competitive advantage over other destinations that rely on more traditional approaches to tourism. This innovation can help make Sardinia a leader in the use of technology to enhance cultural and historical tourism

5. *Scalable and adaptable solution*: the app's scalable technology infrastructure allows for easy expansion to more cities and regions in Sardinia. This flexibility makes the platform adaptable to various locations, from large urban centers to small cities and rural areas, offering tailored experiences that highlight the peculiarities of each place. This scalability ensures that a large audience of travelers and locals can access and enjoy the unique and interactive experiences, contributing to a comprehensive tourism strategy for Sardinia.

4.25. SLOVAKIA, Travelities

Table 31. Travelities's data sheet. Authors elaboration

STATE	Slovakia
SECTOR	Travel
NAME	Travelities
YEAR	2021
TOPIC/INNOVATION	AI travel agent for personalized trips on demand
WEBSITE	*www.travelities.com*
STRENGTHS	• Comprehensive information • User-friendly design • Advanced AI Technology • Personalized Itinerary Generation • Seamless Booking Integration • User-Centric Design and Experience • Innovation in Travel Technology • Partnership opportunities • Global reach

4.25.1. Potential benefits of implementing an AI travel agent on-demand in Sardinia

Using the Travelities approach to Sardinia might have several advantages, leveraging the island's many cultural, historical, and natural features to improve traveler planning, discovery, and booking. Moreover, implementing an AI travel agent on-demand in Sardinia could significantly enhance the tourist experience by offering personalized recommendations, real-time assistance, and seamless itinerary planning. This technology could increase efficiency in booking accommodations, activities, and transportation, thereby boosting convenience for travelers. Additionally, the AI system can analyze vast amounts of data to predict trends and optimize resource allocation, fostering a more sustainable and economically beneficial tourism industry in the region. The following are a few such advantages:

1. *Seamless planning and booking*: the AI-driven personalized itinerary generation ensures that visitors get tailored travel experiences based on their preferences and budget. This increases satisfaction and encourages longer stays and repeat visits. Moreover, the integration of booking functionalities within the platform allows travelers to plan and book their entire trip in one place, reducing the effort required to organize a trip and ensuring that travelers can access information and make bookings with

convenience and flexibility. The platform can provide interactive maps and guides, making it easier for tourists to navigate the island and find points of interest. For the fragmented offer of Sardinia, this means that tourists can easily find and book accommodations, activities, and tours all in one place, making the process of organizing a trip easier. Additionally, offering a variety of payment options and secure transaction, can make bookings convenient and reliable.

2. *Increased visibility and bookings*: local accommodations, restaurants, and attractions gain increased visibility on a global platform. This can lead to higher bookings and patronage, supporting the growth and sustainability of local businesses. Collaborations with local tourism providers can enhance the platform's offerings and credibility. These partnerships can also drive mutually beneficial marketing and promotional activities.

3. *Data-driven decision making*: the platform can collect valuable data on traveler preferences, booking trends, and popular activities. This information can help local tourism authorities and businesses make informed decisions to improve services and manage tourist flows effectively.

4. *Showcasing local culture and heritage*: the platform can highlight Sardinia's unique cultural and natural heritage, attract culturally inclined travelers, and enhance the region's profile as a diverse and rich travel destination. By featuring Sardinia prominently, the platform contributes to promoting the region globally, reaching a wide audience of potential international travelers interested in history and cultural authenticity.

5. *Positioning as a tech-savvy destination*: implementing an advanced AI-powered travel platform positions Sardinia as a forward-thinking, innovative destination. This can attract tech-savvy travelers and enhance the region's reputation for embracing modern technology in tourism. By adopting cutting-edge travel technology, Sardinia can lead the way in evolving the tourism industry towards more intelligent, responsive, and user-centric travel services. Promoting Sardinia through a cutting-edge platform reinforces its brand as a premier travel destination, known for its innovation, cultural richness, and outstanding visitor experiences.

6. *Enhanced user engagement and satisfaction*: the platform's intuitive and user-friendly interface ensures accessibility and ease of use, encouraging broader adoption among travelers seeking efficient and hassle-free travel planning solutions.

4.26. SLOVENIA, Nexto

Table 32. Nexto's data sheet. Authors elaboration

STATE	Slovenia
SECTOR	Guided tours
NAME	Nexto
YEAR	2016
TOPIC/INNOVATION	A cultural engagement platform that uses augmented reality and gamification to create interactive, location-based storytelling experiences, enhancing the visitor experience at cultural tourism destinations like museums, historic cities, and nature parks.
WEBSITE	*www.nexto.io*
STRENGTHS	• Pioneering Use of New Technologies • Enhanced Visitor Experience • Personalization and Customization • Scalability and Versatility • Multiple Revenue Streams • Recognition and Awards • Integration with Social Media • Data and Analytics

4.26.1. *Potential benefits of implementing a self-guided multimedia app in the Sardinian context*

Applying the model of Nexto to Sardinia could bring a variety of benefits, capitalizing on the island's rich cultural, historical, and natural offerings while enhancing the tourist experience through the use of advanced technology, which provides enriched, sustainable, and inclusive experiences that benefit both tourists and local communities.

1. *Enhanced visitor engagement*: AR and multimedia content can transform traditional tours and museum visits in Sardinia into interactive and engaging experiences. The integration of audio guides, 3D models, and interactive storytelling can provide educational content in an engaging manner. This enhances the learning experience for visitors of all ages, making cultural sites more accessible and informative. Visitors can explore historical landmarks and cultural sites with greater depth and interactivity, fostering a deeper appreciation for Sardinia's heritage.
2. *Increased tourist attraction*: the platform's integration with popular social media platforms and the use of photo filters can encourage visitors to share their experiences online. This user-generated content can serve

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as powerful marketing, increasing Sardinia's visibility and attractiveness to potential tourists.

3. *Support for cultural heritage*: the platform can help preserve Sardinia's cultural heritage by creating digital replicas and interactive narratives that highlight the significance of historical sites. This not only educates visitors but also promotes the conservation of cultural assets. By involving local historians, artists, and cultural experts in content creation, the platform can foster community engagement and ensure that the representation of Sardinia's heritage is authentic and comprehensive.

4. *Tourism management and data insights*: the platform's ability to collect data on visitor interactions and preferences provides valuable insights for tourism authorities and cultural site managers. This information can be used to improve site management, tailor marketing strategies, and enhance visitor services. Moreover, real-time data on visitor flow can help manage crowd distribution at popular sites while enhancing the visitor experience and protecting the integrity of cultural sites.

5. *Scalability and adaptability*: the platform's scalable technology can be extended to various cultural sites across Sardinia, from major landmarks to lesser-known attractions. This widespread implementation can ensure that the benefits of enhanced visitor engagement and revenue generation are felt throughout the region. The ability to create custom content tailored to specific sites and stories allows for a nuanced representation of Sardinia's diverse cultural heritage, catering to the unique aspects of each location.

4.27. SPAIN, Beder

Table 33. Beder's data sheet. Authors elaboration

STATE	Spain
SECTOR	Travel
NAME	Beder
YEAR	2020
TOPIC/INNOVATION	Travel app that connects users with tourism and leisure experiences through user-generated video content.
WEBSITE	*www.beder.app*
STRENGTHS	• Innovative Market Approach • Engaging User-Generated Content • Authenticity and Relatability • Integrated Discovery and Booking:. • Targeted Marketing Strategy • Community Building • Cost Efficiency • Diverse Revenue Streams • Effective Crowdfunding • Supplementary Business Ventures

4.27.1. Potential benefits of implementing an image-based social media platform in the Sardinian context

Implementing an image-based social media platform for tourism in Sardinia could substantially enhance the region's visibility by leveraging user-generated content to showcase its scenic beauty and cultural heritage. By leveraging user-generated video content and integrating booking functionalities, an image-based social media platform like Beder could enhance travel planning experience, boost local businesses, and promote Sardinia as a dynamic and appealing destination. This platform could stimulate increased tourist engagement and interaction, driving higher visitation rates through visual storytelling and peer recommendations. Furthermore, the aggregated visual data can provide valuable insights into tourist preferences and trends, enabling more effective marketing strategies and resource allocation for sustainable tourism development. Some of the potential benefits are:

1. *Enhanced authentic tourism promotion*: the use of short, engaging, user-generated videos can make exploring Sardinia's attractions more compelling and visually appealing. Visitors can get a real sense of destinations through firsthand accounts and discover less-common sites

on the island and historical sites. These videos can showcase the region's unique attractions, culture, and natural beauty, effectively capturing the attention of social media-savvy travelers, and/or younger travelers who are more likely to be influenced by social media content.

2. *Economic growth*: the integration of discovery and booking into one platform simplifies the travel planning process, encouraging more tourists to book their trips to Sardinia. This can lead to increased bookings for local accommodations, tours, and activities, driving revenue growth for local businesses. Additionally, Beder provides a platform for local tourism-related businesses to advertise and promote their services. This can help small and medium-sized enterprises (SMEs) in Sardinia reach a larger audience and compete more effectively with larger, established businesses.

3. *Cost-effective marketing*: the reliance on user-generated content reduces production costs for the platform. Local businesses and tourism authorities can benefit from this cost-effective marketing strategy, as they can promote their offerings without the need for extensive marketing budgets. Moreover, the platform's business model, which includes revenue from advertising and affiliate marketing, can provide additional income streams. Local businesses can advertise on the platform, gaining exposure to a targeted audience of potential travelers.

4. *Community building*: Beder creates a community of travelers who share their experiences, tips, and recommendations. This user-generated content serves as a powerful form of word-of-mouth marketing, further promoting Sardinia as a desirable travel destination while fostering engagement and trust, encouraging more people to visit Sardinia based on peer recommendations and shared experiences

5. *Innovative and competitive edge*: by adopting a video-driven travel platform, Sardinia can differentiate itself from other destinations that rely on traditional marketing methods. This innovative approach can attract tech-savvy travelers looking for unique and engaging ways to plan their trips. Additionally, this can attract partnerships, investments, and collaborations with other forward-thinking entities in the travel and tech sectors.

6. *Enhanced visitor experience*: the integration of travel discovery and booking into one seamless platform enhances the user experience, making it easier for travelers to plan and book their trips. This convenience can increase traveler satisfaction and loyalty. The platform can provide personalized travel recommendations based on user preferences and behaviors, ensuring that visitors have a tailored and enjoyable experience in Sardinia.

4.28. SWEDEN, Be Here Then

Table 34. Be Here Then's data sheet. Authors elaboration

STATE	Sweden
SECTOR	Guided tours
NAME	Be Here Then
YEAR	2019
TOPIC/INNOVATION	BeHereThen is a platform that offers immersive, location-based storytelling and guided tours through augmented reality, enhancing the visitor experience at various cultural and historical sites.
WEBSITE	*www.beherethen.se*
STRENGTHS	• Advanced Technological Integration • Location-Based Customization • Educational Value • Strategic Partnerships • User-Friendly Interface • Freemium Model • Scalability

4.28.1. Potential benefits of implementing an AR time-travelling app in the Sardinian context

Applying the model of Be Here Then to Sardinia could bring several advantages that are culturally enriching, economically beneficial, and environmentally sustainable. By leveraging augmented reality (AR) and location-based technology, an AR Time-Travelling app can transform the way visitors and locals experience Sardinia's rich historical and cultural sites. Some potential benefits include:

1. *Promotion of Sardinia's cultural heritage*: by utilizing AR overlays and multimedia content, an AR Time-Travelling app can provide users with an immersive way to explore Sardinia's historical sites. This technology can bring the island's rich past to life, offering a deeper understanding and appreciation of its cultural heritage. Additionally, it can promote the island's cultural heritage on a global scale, contributing to Sardinia's reputation as a premier cultural destination while promoting its intangible cultural heritage. In fact, the platform could offer detailed historical information and context, making it a valuable tool for students, educators, and history enthusiasts. Schools and educational institutions can integrate the app into their school trips, enhancing learning experiences with interactive content.

2. *Increased visitor engagement*: the app's intuitive design ensures that users can easily navigate and access historical information. This seamless user experience can enhance the overall satisfaction of visitors, making their exploration of Sardinia more enjoyable and informative. Moreover, the gamification features and interactive adventures can make exploring Sardinia more engaging and enjoyable for visitors. This enhanced experience can lead to longer stays and higher visitor satisfaction.
3. *Economic growth*: by using the freemium model, premium features, and in-app purchases, the platform can provide additional revenue streams. Partnerships with cultural institutions, museums, and local businesses can also generate income through advertising and sponsored content. Additionally, by providing up-to-date details about museums, theatres, restaurants, and shops, Be Here Then can drive traffic to local businesses. This can boost the local economy by encouraging visitors to explore and spend more within the community.
4. *Strategic partnerships and collaborations*: partnerships with museums, galleries, and cultural sites can enhance the platform's content and reach. These collaborations can also provide financial support and additional revenue opportunities. On the other hand, by involving local historians, artists, and cultural experts in content creation, the platform can foster community engagement and ensure that the representation of Sardinia's heritage is authentic and comprehensive.
5. *Scalability and flexibility*: the platform's technology can be adapted to various cultural and historical sites across Sardinia, from major landmarks to lesser-known attractions. This scalability ensures that the benefits of enhanced visitor engagement and educational value are widespread.

FOCUS ON DESTINATION ITALIA GROUP'S INNOVATIVE PROJECT

5.1. Destination Italia Company Profile

Destination Italia S.p.A. is an Italian Travel Tech, leader in the experiential incoming tourism sector. Listed on Euronext Growth Milan, the company achieved a turnover of over 35 million euros in the first half of 2024, marking a growth of 6% compared to the previous year. In recent years, the group has carried out a series of mergers to become a "market maker" leader in the incoming tourism sector in Italy, capable of competing internationally thanks to the synergy between the skills and technological know-how of the diverse companies involved. Right from the start, the company embarked on a path of technological innovation that has evolved, characterized by the adoption of APIs and business intelligence solutions to ensure optimal control of the supply chain and economic operations, contributing to the sustainable growth of the tourism market, first B2B and, from 2023, also B2C. Recently, focusing on artificial intelligence, automation and control to optimize the interaction between tourism supply and demand, it has decided to integrate the Hubcore platform, which represents the reference point for all-in-one booking in Italy. This platform, supported by a development team experienced in CRM and Marketing Automation, facilitates the management of machine-to-machine reservations and the interpretation of email requests, improving the relationship with customers through advanced technologies such as chatbots and marketing automation. With the ability to analyze proprietary data on the geographic provenance of bookings, the company was able to record and confirm the U.S. as the most important inbound market, followed by growth in the Middle East and Asia-Pacific. Taking note of these data, and since Italy is the leader in Europe as regards the US market, preferring luxury services, the company is focusing on this market as a main target, although keeping an eye on potential new markets. A precise business model based on advanced technologies provides for expansion into

new international markets through well-defined steps and timelines for each destination management company. With this wave of expansion in other markets and the acquisition of several companies specialized in specific segments, Destination Italia can be defined as a "Glocal specialist". The company, through its brands, offers local travel experiences on a global scale thanks to a network of local experts with a deep knowledge of the culture and traditions of the territory[1]. The main factors that determine its strategic positioning are the multi-destination offer, the high-tech solutions, and the multi-channel approach. The strength of Destination Italia is the HubCore technology platform, which uses AI-based modules for the end-to-end management of tourism services.

5.2. Strategic Positioning

Destination Italia's business model stands out for its integrated use of advanced technology and a multi-destination approach that maintains a global vision. This unique positioning, which combines the promotion of authentic local experiences with a global presence, allows the Group to emerge as a leader in the international tourism market for the destination Italy. Its ability to integrate local tourism systems and create economies of scale in marketing and distribution places it in a privileged position compared to competitors, fostering sustainable growth and improving Italy's reputation as a tourist destination of excellence. Destination Italia Group is proposing itself as a leader in tourism innovation. In fact, the strategic positioning factors are the multi-destination approach that allows the company to offer an expanded but hyper-specialized offer and a high level of technology. These two factors allow the company to achieve a unique position in the market. However, the innovative process with which Destination Italia has decided to expand into new markets is also an important driver of competitiveness. The three aspects will now be explored in detail, as outlined in Figure 3.

- *Multi-destination approach*. High technology as a fundamental operational tool and the multi-destination approach with a global vision allow Destination Italia to position itself as a Glocal Specialist. This concept implies a global specialization in local experiences, supported by the international promotion of unique and otherwise inaccessible experiences. It implies a global experience and offer (given the multi-channel nature and multi-destination) but with a strong specialization in local experiences,

1. *destinationitaliagroup.com/brand/destination-local-expert/*.

which without this approach would be unique, but inaccessible. Thanks to the network of Destination Local Experts, and local operators who create content to promote unique and identifying experiences, the company offers an innovative USP (Unique Selling Proposition) that makes it a leader in international markets for Destination Italy.

- *High-tech level*. Destination Italia, thanks to a series of recent acquisitions and shareholdings, has consolidated its position as a high-tech leader in the tourism sector through strategic investments and technological advances. It is currently focused on the development and integration of HubCore, an advanced all-in-one platform designed specifically for the tourism industry. As will be explained in the next paragraph, this platform aims to improve IT systems for the management of incoming tourism activities, both for B2B and B2C markets. The incorporation of artificial intelligence (AI) within HubCore improves its functionality, especially in booking and administrative systems, and represents a significant aspect of the Group's high-tech approach.

- *Innovative process for new market openings*. Thanks to the company's high-tech approach as well as its innovative expansion process, it is possible for the company to reach new markets in a maximum of six months. The process consists of four key steps that are crucial for expansion, supported by the technological capabilities inherent within the company, along with a comprehensive roadmap that outlines the timeline for this expansion. This expansionist model has already been successfully tested and is set to be replicated in other markets. These include China and Japan, in which trade initiatives are already being carried out, as stated by President Dina Ravera in a recent press release (D. Italia, Milan Press Release, 28 March 2024).

The positioning of Destination Italia, as already mentioned, is mainly based on two factors: the level of technology adopted and the multi-destination approach. These two variables, demonstrated by the substantial investments in Hubcore, allow Destination Italia to position itself as a leader in the market and set the Group as a Glocal Specialist, a unique figure in the global tourism scene that combines a strong specialization in local experiences with a global operational scale. The technological tools implemented and the development processes planned for the future allow the Group to propose a specialized offer based on local experiences, but on a global scale, thanks to a dense network of local experts with a strong knowledge of territories and traditions, combined with a strong technologization. The other players that populate the market are:

- *Global media players*. These operators have a global presence and offer a wide range of tourism content, but often fail to provide authentic and localized experiences like those of Destination Italia.
- *Local regional specialists*. These local specialists offer authentic and region-specific experiences, although they lack the global promotion capacity and advanced technological integration that characterize Destination Italia.
- *Local travel agencies*. Local travel agencies possess extensive knowledge of their regions, although they typically lack the technological resources and comprehensive vision required to compete effectively on an international scale.

Destination Italia's positioning as a Glocal Specialist is an important competitive advantage, that allows it to offer authentic local experiences on a technologically advanced and globally integrated platform. This approach not only strengthens the Group's reputation as an innovator in the sector but also consolidates its role as a market leader, capable of responding to the needs of a global clientele looking for unique and personalized experiences.

Figure 3. Destination Italia's Brand Positioning Map. Authors elaboration
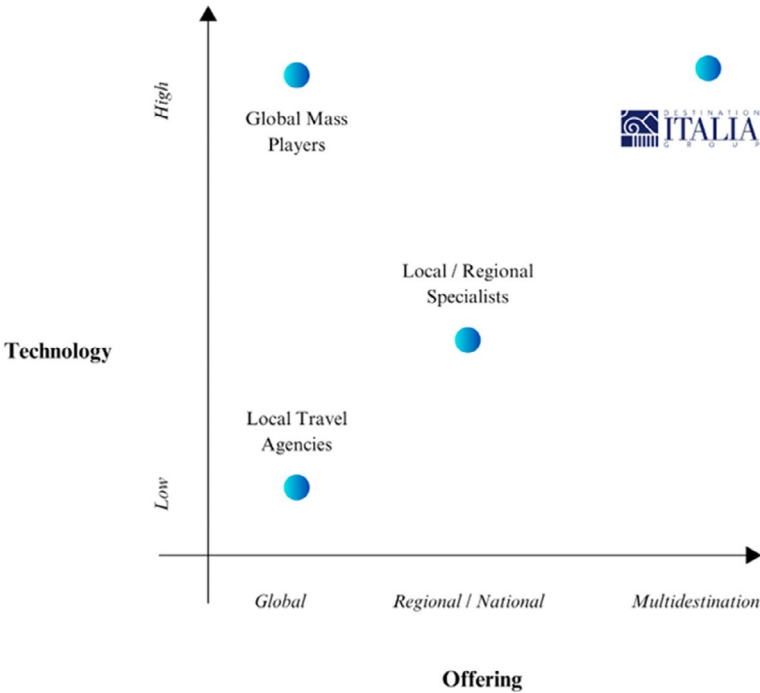
5.3. Innovative Business Model

Destination Italia has developed an aggregative and scalable business model that integrates local tourism systems through technology and strategic investments, standing out in the highly competitive tourism market. The key drivers of innovation of this business model are:

*   *Corporate acquisitions*. The corporate acquisitions facilitate a multi-channel and multi-destination approach, allowing Destination Italia to hyper-specialize in different areas of tourism through its current 10 brands. This approach allows the group to diversify its offering and manage a wider range of destinations and distribution channels, improving its ability to meet different customer needs and increasing operational efficiency.
*   *Technological advances and AI integration*. The recent merger with Portale Sardegna has provided the group with internal technological capabilities and an innovative business model. This integration allows the company to replicate its success in various regions of Italy through significant national investments. The proprietary technology not only supports operational efficiency but also facilitates the delivery of unique and personalized tourism products, increasingly differentiating the company from competitors. In addition, the acquisition of cutting-edge technologies and substantial investments to align with the most advanced market standards, such as artificial intelligence (AI), play a fundamental role in the future growth of Destination Italia. AI integration will improve operational capabilities, personalize customer interactions and improve overall service efficiency.
*   *Scalability and aggregation of local systems*. A significant strength of Destination Italia's business model lies in its ability to scale by aggregating local tourism systems. The company uses technology as an integrative force to create economies of scale in marketing and distribution. This approach positions the "Italy" brand in international markets, emphasizing a specialized product offering, physical presence, and increasing profit margins across business lines.
*   *International expansion*. The company's internationalization strategy is rapidly gaining momentum, particularly in the North and South American markets, thanks to a dedicated team based in New York. In addition, Destination Italia is actively pursuing commercial initiatives in the Emirates, China and Japan. The group's proactive approach can be declined through a well-defined process of expansion, with precise key steps and clear deadlines that guide the route to new markets.

- *Product policies and unique tourist experiences*. Through the Destination Local Expert project, Destination Italia promotes itineraries that include destinations off the beaten track, offering tourists immersive experiences related to local food, crafts and lifestyle[2]. This initiative not only diversifies the tourist offer but also enriches the visitor experience by incorporating authentic local elements. An example is the introduction of the concept of "Long Stay" based on the trend of slow tourism and encouraging stays of at least two weeks. This approach integrates tourists into local life through activities such as cooking, traditional crafts, and language learning. This initiative aims to offer a deeper and more immersive tourist experience, fostering a connection between visitors and the local community.

Destination Italia's business model is therefore characterized by its innovative technological integration, national and international strategic expansion, scalable aggregation of local tourism systems, and promotion of unique and immersive travel experiences. This model not only ensures competitive differentiation but also drives sustainable growth and improves Italy's global positioning as a tourist destination of excellence.

5.4. Hubcore.AI Project

5.4.1. Company Background

The innovative project Hubcore.AI was born from the synergy between Destination Italia and Portale Sardegna, a company already widely established in online tourism that recently merged with the former. This synergy integrates tradition and innovation, excelling in the B2B and B2C markets. Hubcore's focus is on constant innovation, integrating artificial intelligence with decades of experience in the sale of accommodation, experiences and tourism services to improve operational efficiency for DMO managers, operators, innovators and tourism startups, offering a highly integrated all-in-one platform.

The fundamental stages of the birth and development of Hubcore. AI company since its inception are hereby retraced, highlighting the technological evolution and the business development process.

- *2008*: Establishment of the firm Pavoneggi to revolutionize the tourism market through innovative software solutions.

2. *www.destinationlocalexpert.com*.

- *2009*: Launch of *BOS* (Booking Online System), an online booking engine for hotels, apartments and campsites.
- *2011*: Evolution from BOS to *CORE*, a more complete platform including a Central Reservation System (CRS) and administrative modules
- *2013*: Transformation of CORE into *Hubcore*, an all-in-one platform for incoming tourism, integrated with various Channel Managers, CRM and administration software, and introduction of the proprietary CMS Kinboo. Designed to facilitate medium-sized tourism companies to integrate with an increasingly large number of CRM software.
- *2018*: Strategic partnership with Portale Sardegna S.p.A., expanding Hubcore's offer with new integrations such as *GDS delle Navi* and *Bank-Beds*, and introduction of frontend solutions for a complete experience.
- *2023*: Merger with Destination Italia S.p.A., that turned Pavoneggi into *Hubcore.AI*, expanding its focus on the global B2B market and integrating artificial intelligence in all operational aspects.

Hubcore offers, with its all-in-one technology platform developed over 15 years ago, an advanced and integrated system specifically designed for tourism operators dealing with incoming tourism. This digital tool is equipped with specialized features for different categories of users, including Online Travel Agencies (OTAs), hotels and destination management organizations (DMCs/DMOs).

At the moment, Destination Italia has decided to invest over 3 million euros on the platform over the next three years and has already started the migration of data, which is estimated to lead to annual savings of more than 500,000 euros.

5.4.2. Platform and Features

Hubcore is an all-in-one platform designed for incoming tourism, integrating numerous modules and solutions to optimize the management of tourism activities. Among the main features, Hubcore.AI offers a centralized booking system, a booking engine with multi-channel integrations, and advanced tools such as TripBuilder and InstantQuote for creating personalized travel quotes. The platform also includes administrative management modules, payment gateways, and a business intelligence system for data analysis and optimization. It offers Solutions for Tour Operators, Incoming Agencies, DMOs, and Travel Startups. Below are described its main features/ modules:

1. *Catalog*: the Catalog module serves as a centralized library of tourism services, allowing travel agencies to manage and organize offers, tours, activities, and accommodations on a single platform. This feature optimizes resource management and facilitates access to a wide range of tourism services.
2. *Copywriter Assistant*: the Copywriter Assistant uses artificial intelligence to generate marketing content and descriptions of tourism products. This tool improves efficiency in content creation, ensuring engaging and informative texts that attract the interest of customers.
3. *Digital Warehouse and Product Factory*: this function transforms latent tourist attractions into concrete commercial offers, creating customized packages that meet the needs of the market. The Digital Warehouse facilitates the management and updating of tourist resources.
4. *Central Reservation System*: the Central Reservation System (CRS) centralizes reservation management, allowing agencies to easily track and manage reservations from different channels on a single platform, improving accuracy and operational efficiency.
5. *TripBuilder & InstantQuote*: TripBuilder and InstantQuote offer advanced tools to create custom travel quotes quickly and accurately. These modules automate the creation of tailored itineraries, improving the customer experience and reducing response times.
6. *Booking engine & integrations*: the integrated booking engine allows the multi-channel distribution of tourist offers, connecting to different online and offline sales platforms. This integration maximizes the visibility and bookability of the tourist services offered.
7. *CMS & B2B Funnel | B2C*: the content management system (CMS) and B2B and B2C sales funnels make it easy to create and manage websites and e-commerce platforms. These tools support online selling, improving the user experience, and increasing conversions.
8. *Marketplace*: the Hubcore.AI Marketplace introduces innovation to the tourism industry, offering a platform for selling and buying tourism services. This virtual space facilitates the connection between suppliers and customers, expanding market opportunities.
9. *Payment Gateway*: the Payment Gateway module simplifies payment management by integrating several secure payment methods. This feature improves the efficiency of financial transactions and provides a better payment experience for customers.
10. *Business Intelligence*: Business Intelligence provides advanced tools for data analysis and optimization, allowing agencies to make informed decisions based on hard data. This module improves transparency and drives growth through the analysis of performance and market trends.

11. *Experience*: the Experience module offers the possibility to create and manage personalized tourist experiences, combining activities, tours and local events. This tool improves the tourism offer, allowing suppliers to create unique experiential packages that meet the specific needs of customers, increasing their satisfaction and loyalty.

12. *Administration*: the Administration module provides advanced tools for managing business operations, including accounting, human resource management, and financial performance monitoring. This integrated system optimizes administrative processes, improving operational efficiency and transparency in day-to-day operations.

13. *SplitPayment DMO*: the SplitPayment DMO module is designed to manage split payments between different organizations and vendors within Organizational Marketing Destinations (DMOs). This feature simplifies financial transactions, ensuring a fair and transparent distribution of revenues among the parties involved, and improving cooperation and integration between local tour operators.

5.4.3. Highlighting Hubcore.AI's Innovation

Destination Italia, beside dealing with various activities oriented to the tourism sector, focuses its investments in the creation of specific software and conducts continuous research activities to offer complete technological solutions. These solutions are designed to keep tourism companies at the forefront, simplify day-to-day operations through integrated systems, and provide ready-to-use tools for startups, helping them compete effectively with large companies in the industry from the moment they enter the market.

As stated by the President of Destination Italia, Dina Ravera, in a press release dated July 22, 2024:

In the coming months, we expect even more significant growth, thanks to the extension of seasonality and the investments we have made in opening new markets and improving our offer, increasing the value of our projects including the development of AI-based modules of HubCore, our technological platform for the management of end-to-end tourism services based on the SaaS model that is experiencing great interest in the market, and the construction of Destination Local Expert, the national network of tourism professionals. Through the MEET Forum, our flagship event that we bring to the Italian territories, we are spreading the guidelines of sustainable tourism, collecting local instances and facilitating collaboration between institutions and operators in our sector.

Hubcore.AI is therefore part of a business model that integrates various strategic choices, mainly driven by technology. Specifically, Hubcore.AI is an innovative software platform that deals with the development and implementation of advanced technologies to facilitate the meeting between supply and demand in the tourism sector. As stated in the brand section of Destination Italia website[3].

Hubcore.AI is the digital and innovation-oriented soul of Destination Italia Group, which we welcomed in 2023 with the acquisition of Portale Sardegna. All-in-one booking, CRM, marketing automation and applications based on artificial intelligence are just some of the research and development activities we carry out to find the most efficient solutions for the B2B and B2C tourism market.

The innovative project Hubcore.AI involves the adoption of three different artificial intelligence tools that facilitate operations and efficiency on two levels: internal company use and customer use (on which the company is particularly focusing).

With the specific AI tool for *internal company use*, Destination Italia intends to facilitate and streamline operations in the creation of texts and content in line with the company's publication rules, especially with a tone of voice suitable for that type of target and needs. This AI tool, renamed *Copywriter Assistant*, involves the participation of local experts who identify and propose experiences, create information and content on local attractions, upload them to Hubcore and make them available to the new technology, which then redistributes them strategically.

Meanwhile, through the two specific tools for *customer use*, the company intends, on the one hand, to meet B2B needs through operational technological development modules and, on the other hand, B2C needs through an all-in-one offer. Specifically, the tool designed for B2B provides for the presence of a personalized travel assistant (virtual concierge), aligned with the product and the brand's tone of voice, which can inspire the user during the trip or assist him in booking. This tool simplifies operational processes and increases operator booking spend. It operates substantially on the construction and proposal of travel packaging, thus structuring:

- A *Digital Inventory*. Virtual space where content related to the tourist offer is collected and indexed, therefore experiences, events and points of interest.
- A *Travel Factory*. Virtual space where the contents just mentioned are

3. *destinationitaliagroup.com/brand/hubcore-ai/*.

also used to create Smart Packages and Proprietary Dynamic Curated Packages.
- Through a *Travel management approach.* That is, it offers an aggregate of all the "travel ingredients", therefore Accommodation, Transportation, Local Experts, and Experiences.
- By offering *Smart Packages (distribution).* It distributes and offers smart packages to customers such as tourism operators, who in turn sell to the end customer, then to travelers, through access to Hubcore.

Therefore, it offers, through a virtual warehouse, the various destination products, built based on the interaction between human knowledge and AI, giving the possibility of high customization of the offer, allowing efficient management of information, and automating repetitive processes.

On the other hand, the tool designed for B2C, whose launch is scheduled for 2025, allows customers to interact with a local artificial intelligence expert through an Avatar that reproduces their appearance, voice and mannerisms. The avatar provides tourist knowledge, shares personal stories, teaches local dialects and introduces customers to typical food and drink, enriching and making the travel experience more authentic.

As can be seen, the technological development offered by the HubCore project allows for an important improvement in the internal and external management systems of the group's activities, and the integration with Artificial Intelligence gives the possibility of responding quickly and effectively to the needs of different targets through a smart, intelligent offer with a precise vision and roadmap, both in terms of time and at an economic-financial level. In fact, the company has identified precise strategic growth levers that will lead it towards an important enrichment of its innovation process between now and 2029.

5.4.4. Benefit of Hubcore.AI in the Sardinian Tourism Landscape

The Hubcore.AI project represents a technological avant-garde in the tourism and culture sectors, and its potential benefits go beyond the simple digitization of services. In particular, the integration of artificial intelligence tools, such as the *Copywriter Assistant*, offers a significant improvement in internal operational efficiency in the application of the project on Sardinia and its business system. The positive impact on better communication for both B2B and B2C would be relevant. This tool allows a faster and more targeted production of content, adapting to the specific needs of the various market segments. Such a capacity for personalization is crucial to attract

tourists with diverse interests and to accurately and authentically promote local culture while reducing the operational costs associated with content creation. It also solves an important gap, which is the fragmentation of information and the inconsistency of content with business objectives and target audiences. In the analysis of communication models of Deliverable 3, "Innovation Project for communication of touristic destinations" (task 1.1), it emerged that the communication of some destinations in Sardinia is lacking and poorly coordinated, and often it does not enhance the territory nor does it represent its authenticity. Analyzing the communication models in Europe, it is clear that the most virtuous destinations and entrepreneurial systems are those that, among various characteristics, well communicate an integrated offer. It should be taken into account that, often, where the communication of DMOs is lacking or non-existent, it is the companies that take charge of conveying content to tell stories, traditions, and places, and consequently attract tourists. In this case, Destination Italia with its Hubcore.AI and other innovative projects, could offer a tangible contribution.

The implementation of a B2B Virtual Concierge introduces an additional layer of benefits, facilitating smoother interactions that are rich in value. This tool not only streamlines the booking process but also enables the provision of comprehensive tour packages by integrating services such as transportation, accommodation, and cultural experiences. This all-inclusive approach is crucial to increasing the average expenditure per tourist, supporting the local economy, and promoting a sustainable tourism model. In addition, the possibility of developing Smart Packages allows for better management of tourist flows, helping to contain overtourism and distribute economic benefits more equitably throughout the territory.

The introduction of the *AI Avatar*, scheduled for 2025, marks a significant step towards an immersive and interactive tourism experience. The Avatar will not only provide detailed and personalized information to visitors but will also act as an ambassador of Sardinian culture, teaching local dialects, stories and traditions. This cultural enrichment helps to create a unique travel experience that can appeal to a wider and more diverse audience, including tourists interested in deep and authentic cultural experiences. In addition, the use of artificial intelligence for data-driven insight allows Destination Italia to have a series of benefits that undoubtedly fall on the territories involved.

The collaboration between Hubcore.AI and Destination Italia presents several general factors that could significantly benefit Sardinia and the small and medium-sized enterprises (SMEs) within the tourism supply chain. For instance, the implementation of the Hubcore.AI project in Sardinia represents a significant turning point in the island's tourism and cultural landscape, offering several strategic and operational advantages.

This advanced artificial intelligence system allows for more efficient and targeted management of tourism resources, enhances the visitor experience, and optimizes internal operations. Among the main benefits deriving from the adoption of Hubcore.AI, in addition to those already analyzed in chapters 3.16 and 4.16, the following can be listed:

- *Customer profiling*. Greater accuracy in collecting and analyzing visitor data allows you to better understand their preferences and behaviours, allowing you to offer personalized services and products that increase customer satisfaction and loyalty. Such profiling is essential to optimize the tourist offer, identifying specific market segments, and anticipating consumer needs.
- *Personalization of communication*. The use of AI tools allows to adapt the tone of voice and messages according to different targets, improving the relevance and effectiveness of marketing campaigns. An in-depth knowledge of the customer allows to improve loyalty strategies, increasing retention and reducing abandonment rates.
- *Improved image of the Sardinia Brand*. By positioning Sardinia as a technologically advanced destination, Hubcore.AI contributes to strengthening the image of the region as a modern and innovative destination, capable of attracting a higher spending target. Moreover, it continues to attract additional target segments, expanding its awareness and reputation globally.
- *Identification of new business opportunities and new markets*. Thanks to an in-depth analysis of data, it is possible to discover emerging market niches and propose new product development opportunities. The development of new air routes, particularly to strategic markets such as the United States, favours an increase in tourist flows and economic integration with other regions.
- *Integration of the tourist offer*. The integration of the various components of the tourist offer (accommodation, transport, local experiences) in a single platform facilitates access and use by visitors, improving the consistency and quality of the offer and contributing to the resolution of a gap from a communication point of view.
- *Integration between local culture and digitalization*. The enhancement of local culture and traditions through digital tools enriches the visitor experience, promoting sustainable tourism that respects the island's identity.
- *Collection and use of proprietary data*. Access to real and proprietary data allows to build marketing and development strategies based on concrete information, increasing the accuracy of business decisions.

- *Improvement of business processes and optimization of investments*. The automation of processes and the simplification of internal operations increase organizational efficiency and the ability to respond to market needs. AI helps reduce operating costs and improve overall efficiency, as demonstrated by the Copywriter Assistant. This not only frees up resources for higher value-added activities but also allows for more agile and responsive management, which is essential in a dynamic sector such as tourism. In addition, integrating AI into business processes can improve the quality of data collected and the accuracy of timeliness, further improving the effectiveness of business operation, and driving more informed and strategic decisions.

These benefits, combined with a long-term strategic vision, could position Sardinia as a model of smart tourism, capable of competing globally and promoting sustainable economic development, thanks to Destination Italia Group support.

6
RESULTS

6.1. Introduction

The present research focuses on the exploration of innovative approaches adopted by remarkable startups and projects in the tourism and cultural heritage sectors in Europe, in order to apply some of their features to the regional context of Sardinia. The main research question is defined as follows:

How can innovative approaches and technologies employed by successful European projects in the tourism and hospitality sectors be adapted to improve cultural heritage, tourism engagement, and economic development in the Sardinian regional context?

To answer this question, the study is divided into three main objectives:

- *Identification and analysis of innovative European startups/projects*. To meet this objective, innovative startups that have demonstrated significant success in the tourism and cultural heritage sectors in Europe have been analyzed in detail.
- *Identification of success factors*. The key factors that enabled these projects to achieve and maintain success in a competitive market were examined through a thematic analysis of their strengths.
- *Assessment of applicability to the Sardinian context*. The relevance and potential impact were assessed, analyzing the benefits that such projects could bring to the regional ecosystem.

This research uses a qualitative method to examine the operations, strengths, and main strategies of the selected startups and to assess their applicability in the Sardinian context. By analysing the diverse international projects and companies in the sample, innovations capable of significantly enhancing the performance of regional SMEs operating in tourism and

cultural heritage were highlighted. However, one project in particular turned out to be the most relevant for the purpose of the research. It was therefore necessary to propose a focus on the company Destination Italia S.p.A., which, due to its most innovative project, Hubcore.AI, appears to respond well to the development needs of the regional entrepreneurial fabric.

6.1.1. Presenting the results

The scouting strategy involved 69 European start-ups and projects in the tourism and culture sectors. The selection criteria considered geographical diversity, age, theme and type of innovation, to pursue heterogeneity in their potential impact on the Sardinian market. All the projects initially mapped and examined are listed in Annex 1. The data search was conducted using the Google search engine and the databases provided by *www.eu-startups.com/directory/* and *www.f6s.com/*. This approach made it possible to collect individual information sheets and select the most suitable ones for a representative sample of the 69 projects. On the basis of this population, a representative sample of 28 innovative projects was chosen and constructed, as explained in Section 1.2. As is evident, most of the projects analysed thus reflect the regional need for greater digitalization and technological development across the board. Once the representative sample had been defined, three steps were carried out:

- Individual project analysis using data sheet containing information such as: member state name, project name, year of foundation, topic and innovation, business model and main strengths (Chapter 3).
- Benchmark analysis on the benefits of the potential application of the innovative idea in the regional context, starting from the previously analysed strengths (Chapter 4).
- Analysis of the results and interpretation of the data, dividing the representative sample into clusters (Chapter 6).

Figure 4 illustrates the geographical coverage and the macro-categories analyzed, as well as the general themes and innovations for each state, whereas in Figure 5, the thematic representation is shown on a percentage basis for the representative sample.

The projects analysed fall mainly into the travel, guided tours, hospitality, aviation, and nautical categories. It should be pointed out that the subdivision into clusters is indicative, as they are often projects/start-ups that propose transversal activities, and thus innovation embraces several areas. However, in order to avoid confusion and present aggregated results, the analysis of the

results and interpretation of the data were conducted based on clusters. The impact of each project was assessed by evaluating the benefits within each cluster. In fact, to better represent the results, the key question posed was: *Among the benefits resulting from the potential application of these projects in the regional context, which ones have the most impact?*

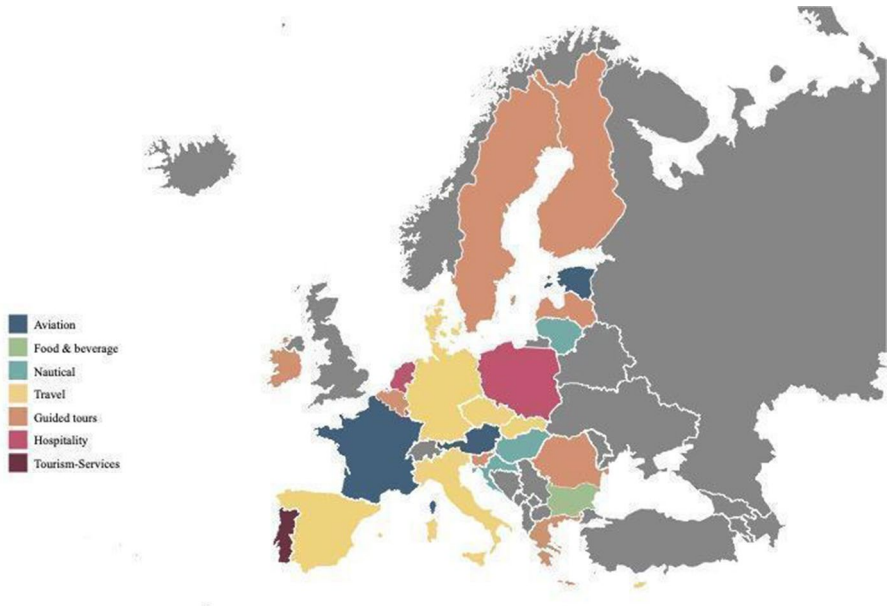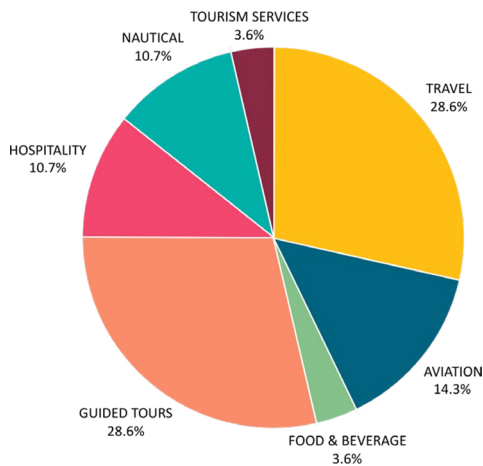*Figure 4. Geographical coverage & Clusters division. Authors elaboration*

Figure 5. Cluster rates. Authors elaboration

To conclude, a brief description of each cluster's emergent traits, most successful achievements, and tangible potential implementation in Sardinia with reference to the current regional context is presented below with a summary table.

6.2. Aviation Cluster

Table 35. Aviation cluster results. Authors elaboration

STATE	NAME	TOPIC/INNOVATION	STRENGTHS	BENEFITS
Austria	Aeroficial Intelligence	Advanced data analysis and insight generation for the aviation industry (airports and in airspaces).	• Real-Time Operational Insights • AI-Driven Optimization and Predictive Analytics • Emissions Reporting • Operational Efficiency • Scalability and Adaptability	• Operational efficiency • Environmental sustainability • Cost saving • Economic growth • Scalability and future proofing • Safety and security
Estonia	Pointship OÜ	A digital platform that offers innovative solutions for managing and optimizing frequent flyer points and travel rewards, aiming to maximize value and streamline the redemption process for users.	• Innovative Digital Asset Conversion. • User-Friendly Platform • Secure Transactions • Community-Driven Exchange • Comprehensive Ecosystem Integration. • Agile and Innovative Development	• Digital economy (blockchain) • Technological advancement • Attracting tourists • First mover • Destination reputation • Data-driven insight • Transparency and Trust
France	Fairlyne	Fairlyne.com provides a white-label SaaS solution for airlines to optimize revenue by integrating ticket resale into existing channels and managing no-shows efficiently.	• Specialized Resale Platform • Incremental Revenue Generation • Enhanced Customer Satisfaction • Brand Loyalty Boost • Strategic Innovation • Market Adaptability • Customer-Centric Approach • Technological Integration	• Economic growth • Customer satisfaction & loyalty • Technological advancement

As part of the analysis of companies in the aviation sector, several companies were examined, including Aeroficial Intelligence (Austria), Pointship OÜ (Estonia), and Fairlyne (France). Innovation in these companies focuses mainly on aspects such as operational efficiency, environmental sustainability, and technological advancement. The benefits of these

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innovations include cost reductions, economic growth, tourism appeal, and customer satisfaction and loyalty improvement. More specifically, a project similar to Aeroficial Intelligence could aid the island's airport management in their already started process of achieving environmental sustainability and operational efficiency [4]. The model of Pointship OÜ, designed to enhance customer loyalty through a reward and credit system, could be effectively applied to sectors beyond aviation, such as hospitality, cultural heritage, and entertainment, highlighting the transversal potential of some analyzed projects. By creating a network among these entities across Sardinia, this model could significantly boost customer engagement and loyalty in these additional industries. Finally, an approach as the one of Fairlyne could sensitize airline companies having traffic across Sardinia toward a virtuous approach and improve the travel experience of travelers choosing Sardinia as a destination.

6.3. Food and beverage Cluster

Table 36. Food&beverage cluster results. Authors elaboration

STATE	NAME	TOPIC/INNOVATION	STRENGTHS	BENEFITS
Bulgaria	Local food	A trading platform built on Corda that uses Blockchain DLT (Distributed Ledgers Technology) to track food from farms to restaurants, promoting sustainability and transparency. The platform connects users with local, sustainable food options and offers activities like tastings and pub crawls.	• Authenticity and Local Expertise • Curated Experiences • User-Centric Platform • Cultural Exchange • Scalability • Strategic Partnerships	• Cultural & gastonomic • Economic benefits • Environmental sustainability • Food sustainability • Strategic partnerships

The cluster of Food & Beverage is represented by the bulgarian company Local Food. With its platform, it innovates the sector by leveraging cutting-edge technologies such as blockchain to track the origins of raw materials. The application of such a model could result in great benefits for the tourism offer in Sardinia since it could enhance one of the main features researched by the modern traveler who chooses it as a destination, namely authenticity. In fact, this system would increase the use of local products among tourism

4. *www.geasar.it/press/news/il-viaggio-della-sostenibilita-all-aeroporto-olbia-costa-smeralda.*

operators such as hotels and restaurants, enhancing in-land production and sustainable practices. Moreover, this will have an impact on tourism satisfaction and quality perception by guaranteeing the transparency and traceability of the production chain.

6.4. Nautical Cluster

Table 37. Nautical cluster results. Authors elaboration

STATE	NAME	TOPIC/INNOVATION	STRENGTHS	BENEFITS
Croatia	Sebastus Sailing	Online rental platform for boats and yachts and worldwide yacht charter agency for tailored sailing vacation.	• Personalized Approach • Finest Fleet and Crew Selection • Comprehensive Support	• Economic growth • Low-season enhancement • Marittime sustainability • Differentiation
Hungary	CLICKn CRUISE	Travel platform specializing in cruise bookings, offering a streamlined experience for selecting, comparing, and reserving various cruise options.	• Efficient Booking Process • Live Pricing • User Experience • Comprehensive Search Filters • Targeted Market • Global Expansion • Scalable Revenue Model	• Customer satisfaction • Tourism experience • Economic growth • Global expansion • Local businesses support
Lithuania	SEARADAR	A unique concierge service for booking yachts powered by AI	• Strategic Partnerships • User-Friendly Interface • Comprehensive Service Offering • Advanced Technology Integration • Scalability	• Technological advancement • Economic growth • Strategic partnership • Tourism experience & quality

In the analysis of companies operating in the nautical sector, three entities were assessed for innovation in chartering and nautical services. These companies have introduced advanced digital platforms for booking yachts and cruises, improving the customer experience and supporting economic growth. The use of technologies such as artificial intelligence has further enhanced the offerings of these companies, providing a competitive advantage in the market. Key benefits identified include an improved tourism experience, maritime sustainability and global expansion. Specifically, the two companies dealing with yacht renatals and chartering (Seabastus and Searadar) represent virtuous examples perfectly fitting with the constant growth that Sardinia is experiencing in this sector. Their user-centric approach,

supported by advanced digital infrastructure, could help in coordinating the region's fragmented offer of boat renting, greatly enhancing customer perception and consequent reservation rates. Moreover, by leveraging the competitiveness among providers within the platform, the overall quality of the offer would be further improved. The case of CLICKnCRUISE on the other hand, could inspire the rise of new enterprises. As shown in the study, the Sardinian cruise market is promising, thus intermediary companies could leverage the proximity of the cruise stops on the island and turn Sardinia into one of the main characters of a broader system.

6.5. Travel Cluster

Table 38. Travel cluster results. Authors elaboration

STATE	NAME	TOPIC/INNOVATION	STRENGTHS	BENEFITS
Czech Republic	Wordee	A cloud-based travel platform that provides automated travel planning and booking services, utilizing advanced algorithms to optimize and customize travel itineraries. Additionally, users can store and share their trips in the marketplace and monetize them.	• User-Friendly Interface • Monetization Opportunities • Comprehensive Trip Planning Tools • Community Engagement • Technological Integration	• Tourism experience enhancement • Economic growth • Cultural conservation • Technological integration • Environmental sustainability
Denmark	EXPLOY	Exploy is a travel technology company that utilizes data-driven solutions to offer personalized travel recommendations and optimize itinerary planning for users.	• Innovative Content Creation • Comprehensive Marketing Solutions • Strong Social Media Presence • Global Network • Focus on Sustainability	• Marketing & communication strategies • Social media presence enhancement • Sustainability travel practices • Economic growth • Technological advancement
Germany	Omio	A comprehensive travel booking platform that aggregates options for trains, buses, and flights, enabling users to compare and book multi-modal transportation seamlessly.	• Extensive Network • User-Friendly Interface • Comprehensive Data Integration • Robust Investment and Growth • Innovative Travel Solutions	• Booking integration • Economic growth • Data-driven insight • Sustainable tourism

STATE	NAME	TOPIC/INNOVATION	STRENGTHS	BENEFITS
Italy	Takyon	Platform for managing and optimizing travel experiences, focusing on enhancing efficiency and personalization in booking and itinerary management. It enables individuals to convert their hotel reservations into resellable digital assets (NFTs)	• Pioneering Technology Integration • Market Disruption • Enhanced Consumer Flexibility • Support for Sustainability • Strategic Market Positioning	• Technological advancement • Market disruption • Customer satisfaction • Sustainable tourism
Italy	Destination Italia s.p.a.	The company's core business is based on an advanced and transversal technological approach, integrating artificial intelligence and automation through the HubCore platform. This platform enables the complete management of tourism services, optimising the booking and interaction processes between supply and demand. The company adopts a multi-destination and multi-channel model, enabling it to offer unique local experiences on a global scale. Thanks to the use of technological solutions such as CRM and Marketing Automation, Destination Italia is able to customise the offer and improve operational efficiency, positioning itself as a 'glocal specialist' in the international market. Its innovative approach includes the collection and analysis of proprietary data for an in-depth understanding of market trends, enabling a rapid and targeted response to customer needs	• Leadership in the Incoming Luxury Market • Technological Innovation • Global Presence and Strategic Investments • Proprietary Data Analysis • Collaborations and Networking • Performance of the Subsidiaries • Focus on Sustainability • Enhancement of Local Territories • Experienced team	• Economic growth • Tourism service offering • Luxury & experiential tourism • Data-driven insight • Global reach • Market diversification • Sustainable tourism • Empowerment of local experts • Strategic partnerships (public sector)

STATE	NAME	TOPIC/INNOVATION	STRENGTHS	BENEFITS
Republic of Cyprus	Travelnaut	AI-driven travel information platform, offering extensive content and resources for planning single or multiple destination trips, road trips, and special journeys, eg. detailed itineraries and up-to-date guides.	• Advanced Personalization • Comprehensive and Integrated Travel Resources • Intuitive and User-Friendly Interface • Accurate and Timely Information	• Tourism experience • Economic growth • Cultural sustainability • Environmental sustainability • Accessibility & inclusiveness • Competitive advantage
Slovakia	Travelities	AI travel agent for personalized trips on demand	• Comprehensive information • User-friendly design • Advanced AI Technology • Personalized Itinerary Generation • Seamless Booking Integration • User-Centric Design and Experience • Innovation in Travel Technology • Partnership opportunities • Global reach	• Booking integration • Global reach • Data-driven insight • Cultural promotion • Competitive positioning (tech-savvy) • Tourist engagement & satisfaction
Spain	Beder	Travel app that connects users with tourism and leisure experiences through user-generated video content.	• Innovative Market Approac • Engaging User-Generated Content • Authenticity and Relatability • Integrated Discovery and Booking:. • Targeted Marketing Strategy • Community Building • Cost Efficiency • Diverse Revenue Streams • Effective Crowdfunding • Supplementary Business Ventures	

Eight companies in the travel sector have been analyzed, each with a distinctive focus on technological innovation and optimization of travel experiences. These companies stand out for their integration of advanced solutions such as automated planning algorithms, travel personalization, and service management platforms. In particular, Wordee (Czech Republic) and Takyon (Italy) utilize cutting-edge technologies to offer a highly personalized and flexible booking experience while also introducing

innovative concepts such as travel monetization and the transformation of bookings into digital assets (NFTs). The implementation of these types of solutions could enhance the image of Sardinia as a tech-savvy destination and attract additional target segments, in addition to enhancing its reputation. Omio (Germany) focuses on the provision of multi-modal transport options, using data to optimize travelers' itineraries and promote sustainable practices. The introduction of a similar platform in Sardinia appears crucial for solving the problem of information fragmentation that characterizes the mobility sector, served by both public transport and private providers, which is not yet displayed on one comprehensive platform. As a consequence, this market is configured as a blue ocean waiting for a first mover. EXPLOY (Denmark) and Beder (Spain) focus on content creation, respectively, leveraging multimedia-marketing skills and social media. Their modern approach, specialized in tourism communication strategy, could benefit the Sardinian operator ecosystem, which, as confirmed by Deliverable 3 on communication models, at the moment appears poorly efficient. Travelnaut (Republic of Cyprus) and Travelities (Slovakia) are remarkable examples of how technology can improve itinerary management and tourism offer display. The first proposes pre-arranged itineraries for various popular destinations, providing all kinds of useful information, from weather forecasts to basic idioms. The latter uses an AI-interactive form to profile the characteristics of the journey and returns an extensive travel plan (flights, hotels, and activities) that matches the answers provided. These solutions could be incredibly appreciated by modern tourists, who organize their travel autonomously. Furthermore, it would help in redirecting the tourism flow to avoid overcrowding while promoting cultural heritage sites and less popular areas. Finally, Destination Italia (Italy), with the project Hubcore, underlined the great potential of an all-in-one solution powered by artificial intelligence. For instance, their copywriter assistant, capable of adapting the tone of voice depending on the channel used, could incredibly support tourism operators, who can thus focus on more strategic activities, whereas a virtual assistant based on a vast digital warehouse" could support booking departments, improving the responsiveness and efficiency of the service. In addition, its structured strategic approach, characterized by highly technological features and multi-destination offers, appears particularly interesting. For these reasons, the decision to dedicate an in-depth study to the case of Destination Italia was taken and carried out in Chapter 5. In summary, these companies contribute to sustainable economic growth, enhance customer satisfaction through personalized solutions, and promote environmental sustainability, marking a significant evolution in the travel industry.

6.6. Guided tours Cluster

Table 39. Guided Tour cluster results. Authors elaboration

STATE	NAME	TOPIC/INNOVATION	STRENGTHS	BENEFITS
Finland	Vreal	Vreal is a company focused on developing advanced virtual reality solutions by leveraging Extended Reality (XR) to create engaging virtual experiences.	• Immersive Technology • Interactive Storytelling • Expert-Led Content • Educational Impact • Cultural Empathy	• Economic growth • Technological advancement (VR) • Environmental sustainability • Brand differentiation & positioning
Greece	Clio Muse Tours	The World's #1 Self-Guided Audio Tours. Clio Muse Tours specializes in the creation and curation of audio and virtual tours, as well as the development of state-of-the-art technologies for cultural institutions.	• Award-Winning Storytelling Methodology • Global Distribution Network • Comprehensive and High-Quality Content • Technological Integration and Scalability • Collaborations with Cultural Experts • Sustainable Tourism Practices	• Cultural promotion • Global reach • Economic growth • Customization & flexibility • Technological advancement
Ireland	Road Trip: Ireland	GPS-guided audio app for planning and navigating self-guided road trips across Ireland, featuring itineraries, maps, and local attractions.	• Broad Cultural Scope • Academic standards and professional scriptwriting • High quality audio and production experience • Geofencing Technology • Real-World Testing • Innovative Approach	• Cultural promotion • Economic growth • Tourism experience (engaging & professional contents) • Technological advancement
Latvia	Apgrieztā māja – The Upside-Down House	Architectural installation that inverts traditional design elements to create a visually unique experience. This project integrates innovative spatial design with interactive engagement, offering both a novel tourist attraction and an educational exploration of perceptual dynamics.	• Unique Design • Interactive Experience • Tourism Appeal • Educational ValueVersatility	• Low-season performance • Social media content/ appeal • Offering diversification • Cultural promotion • Environmental sustainability

STATE	NAME	TOPIC/INNOVATION	STRENGTHS	BENEFITS
Malta	Maria by Visit Malta	"Maria by Visit Malta" is a digital platform or campaign by Visit Malta designed to provide comprehensive information and personalized recommendations for travelers exploring Malta's rich cultural heritage, attractions, and experiences.	• AI-Driven Interaction • Cultural Authenticity • Multilingual Support • Easy Accessibility • Strategic Partnerships	• Tourism experience • Cultural promotion • Accessibility & inclusivity (language) • Competitive positioning • Strategic partnerships • Scalability & adaptability
Romania	Questo	Questo is a mobile app that offers interactive city tours and adventure games, allowing users to explore new destinations through immersive, self-guided experiences and challenges.	• Innovative Gamification Concept • Diverse Game Offerings • Enhanced Visitor Engagement • Educational and Cultural Value • Scalable and Flexible Platform	• Tourism experience • Cultural promotion • Economic growth • Competitive positioning • Scalability & adaptability
Slovenia	Nexto	A cultural engagement platform that uses augmented reality and gamification to create interactive, location-based storytelling experiences, enhancing the visitor experience at cultural tourism destinations like museums, historic cities, and nature parks.	• Pioneering Use of New Technologies • Enhanced Visitor Experience • Personalization and Customization • Scalability and Versatility • Multiple Revenue Streams • Recognition and Awards • Integration with Social Media • Data and Analytics	• Tourist engagement • Cultural promotion • Data-driven insight • Scalability & adaptability
Sweden	Be Here Then	BeHereThen is a platform that offers immersive, location-based storytelling and guided tours through augmented reality, enhancing the visitor experience at various cultural and historical sites.	• Advanced Technological Integration • Location-Based Customization • Educational Value • Strategic Partnerships • User-Friendly Interface • Freemium Model • Scalability	• Cultural promotion • Torusim experience & engagement • Economic growth • Strategic partnerships • Scalability & flexibility

STATE	NAME	TOPIC/INNOVATION	STRENGTHS	BENEFITS
Belgium	Explore-Share	Platform that connects adventure seekers with professional guides for unique outdoor activities (climbing, skiing, and hiking) worldwide.	• Direct Connection with Local Guides • Comprehensive Adventure Options • User-Friendly Interface • Community and Support • Global Reach	• Offer diversification • Experience & brand reputation • Economics benefits • Cultural & environmental conservation • Low-season performance • Residencial tourism • Marketing & global reach

In the analysis of companies specialising in guided tours, nine entities operating mainly in the tourism and cultural sectors were evaluated. These companies, in turn, can be grouped into three subcategories in accordance with their focus areas, namely technology, networking, and entertainment. Within the first, Vreal (Finland), Questo (Romania), Nexto (Slovenia), and BeHereThen (Sweden) are characterised by the provision of immersive experiences and gamification solutions. Advanced technologies such as virtual reality (VR) and augmented reality (AR) make it possible to enhance interest in cultural venues and learn about the destination in a fun way that engages a wider audience. Likewise, Clio Muse Tours (Greece) and Cultural Roadmap (Ireland) focus on cultural storytelling, although using an apparently simpler technology as an audio-guide. The high quality of their scriptwriting and audio recording, together with the GPS integration and their strategic marketization, create an overall interesting opportunity not to underestimate for Sardinia. Lastly, in this category falls Marija, the interactive AI-powered virtual being launched by Visit Malta. Marija aims to assist all those who are interested in learning more about the Maltese Islands' rich history, and will soon be available for mobile phones. The second group includes Explore-Share (Belgium), which uses a simple online platform to connect travelers and local guides for outdoor activities. Given the lack of a comprehensive website or section in official channels regarding the touristic guides of Sardinia, the model of Explore-Share can have a two-way application, such as outdoor activities and cultural tours. This solution would enhance customer convenience, increase tourism flows in more off-the-beaten paths, and support this class of service providers. Finally, The Upside Down House (Latvia) is representative of the entertainment category. The analysis of this project shows how a peculiar architectural structure, by leveraging its photographic appeal (today often referred to as "Instagrammability"), could have a positive impact on many aspects, such as creating an alternative for bad weather days during the summer season and boosting regional tourism flows all over the year, besides promoting the

island's cultural heritage in a fun way to reach diverse targets (e.g., using Lego characters representing the Nuragic population) and/or sustainability practices in the construction phase. Overall, key benefits of this cluster include cultural promotion, an improved tourist experience, and environmental sustainability, and their adoption could contribute significantly to brand differentiation and competitive positioning in the global market.

6.7. Hospitality Cluster

Table 40. Hospitality cluster results. Authors elaboration

STATE	NAME	TOPIC/INNOVATION	STRENGTHS	BENEFITS
Luxembourg	Travelsify	Explainable AI (XAI) platform that creates Hotel Brand DNA®	• XAI Technology • Data Analysis • Unicity • Scalability • Strategic support	• Data-driven insight (XAI) • Competitive positioning • Scalability (market segments) • Sustainable tourism • Brand development
Netherlands	*Runnr.ai*	RUNNR.ai automates your first-line support by using A.I. and integrations.	• Advanced Generative AI and Natural Language Processing (NLP) • Utilization of WhatsApp • Automation of Routine Inquiries • Multilingual Capabilities • Scalability and Customizability • Integration with Hotel Property Management Systems (PMS) • Enhanced Upselling Capabilities • Data-Driven Insights and Analytics	• Operational efficiency • Economic growth (upselling) • Accessibility & inclusivity (language) • Data-driven insight • Scalability • Tourism experience • Competitive positioning
Polands	Findbed	Booking platform that allows users to book accommodations by proposing their preferred rate	• Efficient Price Negotiation • Cost-Effective Booking Process • Comprehensive Marketing and Sales Solutions • Regional Focus and Specialization • Streamlined User Experience	• Tourism experience • Economic growth • Tourism flux distribution • Data-driven insight • Local business fostering

In this cluster, three hospitality-related businesses were examined. These businesses stand out primarily for their technological advancements and the advantages they provide. In particular, Travelsify's advanced use of Explainable Artificial Intelligence (XAI) enables more effective brand development and uniqueness. It could be particularly advantageous to use such technologies among hospitality providers in Sardinia, where the MSMEs composing the majority of the entrepreneurial fabric often find difficulties in concentrating on strategic marketing. Runnr.ai, by automating customer support (e.g., WhatsApp real-time concierge) and internal operations through artificial intelligence, appears to be a notable example to get inspiration from to improve accessibility, efficiency, and scalability in the sector. Finally, the original idea of Findbed of allowing travelers to propose their rate for the stay could be a successful implementation in low-season periods or across less-known areas to improve the occupancy rate. These innovations demonstrate significant progress towards greater personalisation, operational efficiency, and enrichment of the tourism experience and therefore deserve consideration.

6.8. Tourism Services Cluster

Table 41. Tourism services cluster results. Authors elaboration

STATE	NAME	TOPIC/INNOVATION	STRENGTHS	BENEFITS
Portugal	Luggit	Luggit is a mobile app that offers luggage storage and delivery services, allowing travelers to securely store or transport their bags during trips, enhancing convenience and flexibility.	• Innovative Service Model • Recognition and Endorsement • Strategic Evolution to B2B Integration. • Global Expansion and Market Penetration • Strategic Investment and Financial Support	• Tourism experience • Local business fostering • Economic growth

In the area of tourism services, one company, Luggit, was analysed as an innovative example of technology integration in the sector. Luggit, founded in Portugal in 2019, offers a mobile app for luggage storage and delivery, enhancing the tourism experience through a flexible and secure service. Key benefits from the innovation include improving the traveller experience, supporting local businesses and overall economic growth. In fact, although Sardinia is a popular destination in the Mediterranean, some ancillary services seem to be lacking. A luggage storage solution is often wanted by travelers arriving early in the morning and deciding to spend the day in the airport/

port town to explore the surroundings before checking-in the hotel or on their way back. This service could simplify travel logistics and contribute to enhancing the image of Sardinia as a convenient destination through word-of-mouth and online peer-to-peer platforms.

7

CONCLUSIONS

The primary objective of the present study was to explore innovative projects in Europe over the past decade to understand their potential impact on tourism and cultural heritage in the Sardinian market. To achieve this, 69 projects were mapped across Europe, resulting in a representative sample of 28 projects (Table 42), one from each European country except Italy, for which two projects were taken into account. The selection process included a testing phase to eliminate inactive startups or thematically irrelevant ones for regional needs.

The research revealed various development opportunities for businesses in the tourism and cultural heritage sectors, highlighting a dynamic and innovative European landscape with companies like Destination Italia and its project HubCore.AI and others like Marja By Visit Malta and Travelnaut demonstrating how advanced technologies and innovative business models can significantly enhance the customer experience, optimize operations, and reduce costs. Artificial intelligence (AI) has proven to be immensely important in this field, significantly enhancing the customer experience through personalized interactions and tailored service delivery. AI facilitates operational optimization in tourism businesses, reducing costs and improving efficiency through automation and advanced data analysis. Additionally, AI plays a key role in promoting and preserving cultural heritage, making it more accessible and engaging through virtual and augmented experiences. Its impact on sustainability is also noteworthy, contributing to better management of tourist flows, preventing overcrowding, and promoting lesser-known destinations, thereby distributing economic benefits more equitably and preserving cultural resources.

Table 42. Representative Sample, 28 Innovative Projects (synthetic). Authors elaboration

| STATE	NAME	SECTOR	TOPIC / INNOVATION
Austria	Aeroficial Intelligence	Aviation	Advanced data analysis and insight generation for the aviation industry (airports and in airspaces).
Belgium	Explore-Share	Outdoor activities	Aa platform that connects adventure seekers with professional guides for unique outdoor activities (climbing, skiing, and hiking) worldwide.
Bulgaria	Local food	Food & beverage	A trading platform built on Corda that uses Blockchain DLT (Distributed Ledgers Technology) to trace food from farms to restaurants, promoting sustainability and transparency. The platform connects users with local, sustainable food options and offers activities like tastings and pub crawls.
Croatia	Sebastus Sailing	Nautical	Online rental platform for boats and yachts and worldwide yacht charter agency for tailored sailing vacation.
Republic of Cyprus	Travelnaut	Travel	AI-driven travel information platform, offering extensive content and resources for planning single or multiple destination trips, road trips, and special journeys, eg. detailed itineraries and up-to-date guides.
Czech Republic	Wordee	Travel	A cloud-based travel platform that provides automated travel planning and booking services, utilizing advanced algorithms to optimize and customize travel itineraries. Additionally, users can store and share their trips in the marketplace and monetize them.
Denmark	EXPLOY	Travel	Exploy is a travel technology company that utilizes data-driven solutions to offer personalized travel recommendations and optimize itinerary planning for users.
Estonia	Pointship OÜ	Aviation	A digital platform that offers innovative solutions for managing and optimizing frequent flyer points and travel rewards, aiming to maximize value and streamline the redemption process for users.
Finland	Vreal	Guided tours	Vreal is a company focused on developing advanced virtual reality solutions by leveraging Extended Reality (XR) to create engaging virtual experiences.
France	Fairlyne	Aviation	Fairlyne.com provides a white-label SaaS solution for airlines to optimize revenue by integrating ticket resale into existing channels and managing no-shows efficiently.
Germany	Omio	Travel	A comprehensive travel booking platform that aggregates options for trains, buses, and flights, enabling users to compare and book multi-modal transportation seamlessly.
Greece	Clio Muse Tours	Guided tours	The World's #1 Self-Guided Audio Tours. Clio Muse Tours specializes in the creation and curation of audio and virtual tours as well as the development of state-of-the-art technologies for cultural institutions.
Hungary	CLICKnCRUISE	Nautical	Travel platform specializing in cruise bookings, offering a streamlined experience for selecting, comparing, and reserving various cruise options.
Ireland	Cultural Roadmapp	Guided tours	GPS-guided audio app for planning and navigating self-guided road trips across Ireland, featuring itineraries, maps, and local attractions.
Italy	Takyon	Travel	Platform for managing and optimizing travel experiences, focusing on enhancing efficiency and personalization in booking and itinerary management. It enables individuals to convert their hotel reservations into resellable digital assets (NFTs)
Italy	Destination Italia	Travel	The company leverages an advanced technological approach through the HubCore platform, integrating AI and automation to optimize tourism service management and enhance booking interactions.
Latvia	The Upside-Down House	Guided tours	Architectural installation that inverts traditional design elements to create a visually unique experience. This project integrates innovative spatial design with interactive engagement, offering both a novel tourist attraction and an educational exploration of perceptual dynamics.
Lithuania	SEARADAR	Nautical	A unique concierge service for booking yachts powered by AI
Luxembourg	Travelsify	Hospitality	Explainable AI (XAI) platform that creates Hotel Brand DNA®
Malta	Maria by Visit Malta	Guided tours	"Maria by Visit Malta" is a digital platform or campaign by Visit Malta designed to provide comprehensive information and personalized recommendations for travelers exploring Malta's rich cultural heritage, attractions, and experiences.
Netherlands	Runnr.ai	Hospitality	RUNNR.ai automes your first-line support by using A.I. and integrations.
Polands	Findbed	Hospitality	Booking platform that allows users to book accommodations by proposing their preferred rate
Portugal	Luggit	Tourism-Services	Luggit is a mobile app that offers luggage storage and delivery services, allowing travelers to securely store or transport their bags during trips, enhancing convenience and flexibility.
Romania	Questo	Guided tours	Questo is a mobile app that offers interactive city tours and adventure games, allowing users to explore new destinations through immersive, self-guided experiences and challenges.
Slovakia	Travelities	Travel	AI travel agent for personalized trips on demand
Slovenia	Nexto	Guided tours	A cultural engagement platform that uses augmented reality and gamification to create interactive, location-based storytelling experiences, enhancing the visitor experience at cultural tourism destinations like museums, historic cities, and nature parks.
Spain	Beder	Travel	Travel app that connects users with tourism and leisure experiences through user-generated video content.
Sweden	Be Here Then	Guided tours	BeHereThen is a platform that offers immersive, location-based storytelling and guided tours through augmented reality, enhancing the visitor experience at various cultural and historical sites.

Moreover, companies like Travelsify, Exploy, and Beder have shown how these technologies can address communication challenges faced by SMEs in Sardinia, supporting the creation of a virtuous communication model as introduced in *Deliverable of Task 1.1, titled e.INS – Ecosystem*

of Innovation for Next Generation Sardinia – Spoke 2 PNRR Project for Communication of Touristic destinations (*Authors: M. Iesu, A. Usai, F. Morandi*). Other companies, while not offering excessive technological innovation, have been crucial in regional rethinking by addressing further gaps in the sector,such as Luggit, Omio, and Cultural Roadmap/Road trip: Ireland. The latter is an Irish company that provides a GPS-guided audio app for planning and navigating self-guided road trips across Ireland, featuring itineraries, maps, and local attractions. Implementing this idea in Sardinia would demonstrate how even the most remote locations on the island could be showcased through a simple offering that respects tradition, culture, and the environment.

These findings indicate that investments in technology and the adoption of data-driven strategies are crucial for maintaining and expanding competitiveness in the global travel market. In this regard, the two analyzed Italian companies have demonstrated remarkable adaptability and innovation, adding value to both the national and international scenes.

In particular, the research led to a focus on Destination Italia due to its interesting and highly innovative business model. The Hubcore.AI project proposes innovation drivers that would improve in a cross-cutting way various aspects and needs of the tourism and cultural heritage supply chain in Sardinia, both in B2B and B2C contexts. Furthermore, the Hubcore.AI model incorporates many of the innovations studied and analyzed in other projects within this research. In Figure 6, the four pillars of the value proposition that Destination Italia offers with this project are illustrated.

Figure 6. Hubcore.AI project. Source: Destination Italia
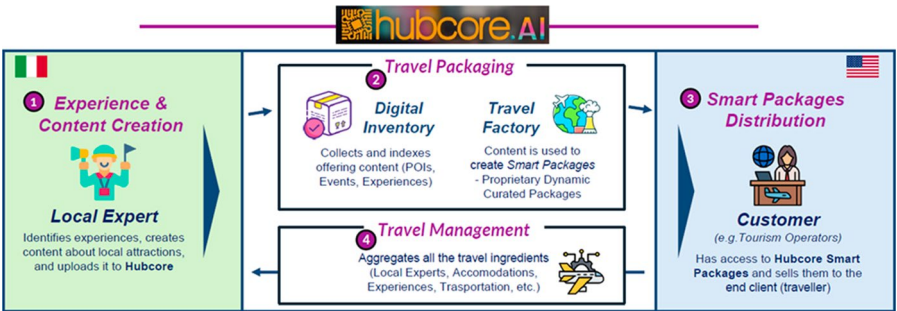
Through the utilization of artificial intelligence and three tools – Copywriter Assistant, Virtual Concierge, and the forthcoming Avatar – the Group proposes an innovative model that begins with the creation of experiences and their showcase and extends to distribution to the final customer, B2B2C

(Par. 5.4.3). Throughout these phases, are evident the significant engagement of local experts and the enhancement of the entrepreneurial fabric of tourism and culture through AI. Thus, future development could include the implementation of a pilot project of Hubcore.AI in Sardinia as a catalyst for an innovation ecosystem that includes SMEs.

At the moment, Destination Italia is pursuing an expansion strategy in international markets, leveraging its positioning as a Glocal Specialist, a global provider of specialized products and experiences rooted in the territory. Nonetheless, the aforementioned model, further analyzed in paragraph 5.4.4, has been tested by the company on the US market to promote inbound tourism to Italy. In fact, the influx of Americans to Italy is on the rise, as they increasingly choose Italy as a top destination. This trend is evidenced by:

Two travel advisor surveys – one from First in Service (F1S), the other from American Marketing Group (AMG) – both put Italy in the top spot again for 2024 (Travel Weekly).

The ongoing desire among Americans to visit Italy simply can't be overstated (CEO, First in Service, Global Travel Agency).

Figure 7. US tourism influx in Sardinia. Source: Osservatorio del Turismo, Artigianato e Commercio
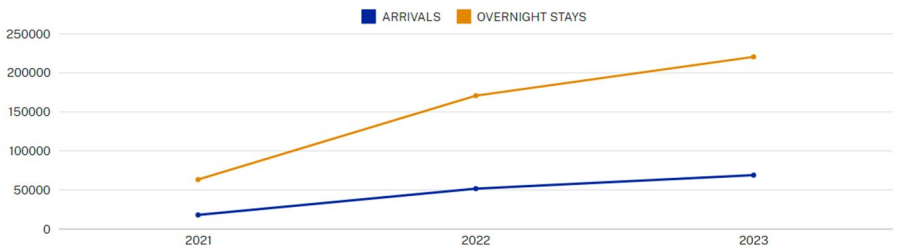
In this regard, it is noteworthy that Sardinia has experienced a steady increase in visitors from the American market in recent years. According to the tourism observatory of the Sardinia region, there has been a significant increase in arrivals (+33.51%) and overnight stays (+29.13%) from the United States in the past year alone (2023 vs. 2022), confirming a positive trend in the post-pandemic triennium. However, the data analyzed on the regional platform also indicate a slight decrease in the average length of stay over the last three years, declining from 3.5 nights to 3.1. While this trend is minimal, it raises important considerations. Engaging through AI tools to understand tourist movements within the territory, identify the most

attractive aspects of culture and heritage, and discern their needs and desires would represent a strategic solution and an opportunity to strengthen ties with a high-spending market that has already shown interest in the region.

7.1. Future perspectives and practical implications of this study

The present study represents a significant starting point for a broader project with the potential to make a substantial impact on innovation in the tourism and cultural sectors in Sardinia. Through the practical application of the research conclusions, this study aims to positively influence the industry by promoting an innovation ecosystem based on a multi-stakeholder approach. This approach involves a variety of stakeholders, including companies, cultural institutions, government entities, and local communities. The objective is to foster integration between technology, tourism and culture, improving both operational efficiency and the end-user experience. This collaborative environment is designed to facilitate the adoption of innovative solutions and stimulate the development of new business opportunities and sustainable economic growth.

The future perspective is to promote the innovation of Sardinian SMEs through the cross-contamination of ideas and innovation strategies derived from the study, particularly through.

1. *Practical application of an innovative project*: utilizing the "Hubcore.AI pilot project" as a catalyst for innovation and encouraging integration with the strategies of projects analyzed throughout the study.
2. *Organization of a Brokerage Event*: facilitating and incentivizing cross-contamination, allowing SMEs to actively participate in an innovation ecosystem that provides the tools to translate and implement the trends identified in the research.

Ultimately, these perspectives aim to make the tourism and cultural industries more receptive to innovation by encouraging continuous dialogue between the research community and the market.

7.1.1. Practical application of an innovative project

A potential pilot project could integrate Hubcore.AI into the entrepreneurial fabric of Sardinia to improve the operational efficiency of regional small and medium-sized enterprises (SMEs) in the tourism and culture sectors,

enabling them to compete globally through the adoption of advanced digital tools.

The primary objective is to develop an integrated and innovative tourism ecosystem that attracts a global audience and promotes sustainable economic growth. This ecosystem will be characterized by a personalized and technologically advanced tourism offering that values local resources and encourages responsible and authentic tourism. Through the adoption of technologies like Hubcore.AI, it is anticipated that innovation in local businesses will be stimulated, enhancing visitor experiences and fostering balanced economic development for the region, solidifying Sardinia's competitive positioning in the global tourism market. This will be achieved by replicating the Hubcore.AI project in other target markets for Sardinia, supported by a versatile company like Destination Italia, which is actively engaged in research and development and can bring significant benefits to the regional territory, as analyzed and discussed in paragraph 5.1.

Figure 8. Steps of application of Hubcore.AI. Authors' elaboration
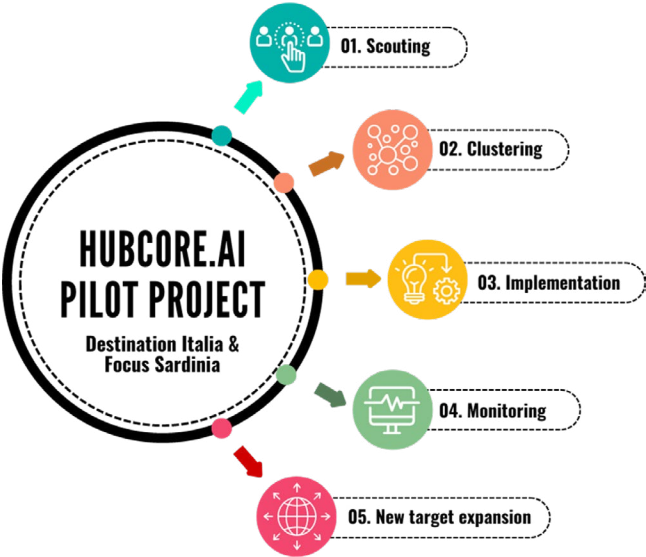
The main steps for the application of Hubcore.AI in the Sardinian SMEs system could include:

- *SMEs scouting.* Identify SMEs in the tourism and cultural heritage sectors, analyzing their characteristics and potential synergies with Destination Italia.

- *Cluster and focus groups*. Create clusters of enterprises based on type, geographical coverage, or innovation propensity, with activation of focus groups to facilitate collaboration.
- *Implementation*. Launch the innovative project within the selected enterprises, utilizing Hubcore.AI to improve offerings and management.
- *Monitoring*. Continuously evaluate the project's effectiveness by collecting and analyzing data.
- *New target expansion*. Adapt and replicate the model in other target markets, leveraging the expertise and infrastructure developed.

7.1.2. Organization of a Brokerage Event

The brokerage event is conceived as a moment of sharing and cross-contamination where stakeholders, including enterprises, research teams (University of Sassari in collaboration with University of Cagliari) and institutions from Sardinia, can meet to discuss and promote the adoption of innovative technologies in tourism and cultural heritage. This event could serve as an hub to share experiences, ideas, and opportunities, facilitating collaboration between local SMEs and the Hubcore.AI project, defined as a "pilot project for the innovation of the Sardinian tourism and cultural entrepreneurial system." During the event, in addition to providing information on all the innovative projects analyzed, potential partnerships and strategies for implementing advanced technological solutions could be explored, promoting sustainable and competitive growth in the Sardinian tourism sector.

A "Pitch Session" for inauguration and networking could be planned, followed by B2B meetings and/or matchmaking sessions within a month of the inauguration to establish partnerships and collaborations. The fundamental steps for the brokerage event could be as follows.

- *Presentation of research results*. The research team will present the study results, best practices for implementing similar technologies in other regions or sectors, and highlight the potential benefits of applying these practices in the regional context.
- *Official presentation of the Pilot Project*. A detailed presentation of Hubcore.AI, showcasing its functionalities, benefits, and potential impact on the Sardinian tourism and cultural heritage sectors. The presentation will emphasize the innovative and cross-cutting nature of the project.
- *Stakeholder engagement*. Invite institutional representatives, technology and innovation experts, and local entrepreneurs to discuss the challenges and opportunities of the project.

- *Technical demonstration*. Provide practical demonstrations of the Hubcore.AI software and its tools, illustrating how SMEs can use them to improve their business processes.
- *Networking and matchmaking sessions*. Organize meetings between participating SMEs and representatives from Destination Italia to discuss potential collaborations and local adaptations of the project.
- *Thematic workshops*. Conduct workshops on specific topics such as AI integration in tourism and cultural heritage, digitalization of local experiences, and data management for service improvement.
- *Discussion on future prospects*. Explore the potential for expanding the pilot project to other regions and markets, and discuss funding opportunities and institutional support.
- *Monitoring and evaluation*. Establish evaluation criteria to monitor the adoption and effectiveness of the presented technologies. Conduct follow-up sessions to gather feedback and make improvements.

This approach, which first involves the brokerage event and subsequently the implementation of Hubcore.AI, ensures that the launch of the pilot project is well-structured and thoughtful. It engages all relevant stakeholders and facilitates the integration of new technologies into the Sardinian tourism and cultural heritage market, paving the way for the subsequent technology transfer from research to businesses, in line with the objectives of Spoke 2. According to the study's practical implications, Sardinian SMEs could enhance their competitiveness by using the Hubcore.AI project to benchmark against an organized organization like Destination Italia and by drawing inspiration from the different projects that were part of the European analysis of the innovative projects presented in this study.

Figure 9. Practical development roadmap. Authors' elaboration

Research   Brokerage Event   HubCore.AI Implementation   Technology Transfer
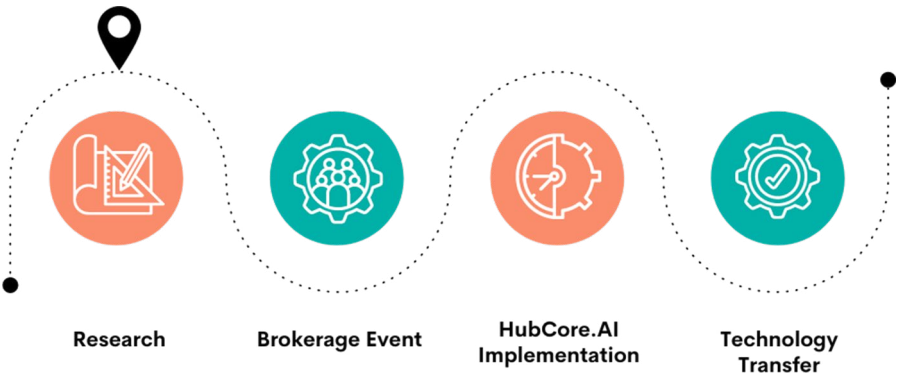
In conclusion, the study highlighted which innovations could contribute to the development of the tourism and cultural heritage sectors in Sardinia. However, it does not address the financial aspect and does not provide an overview of which sources and funding could enable Sardinian SMEs to sustain this innovation. Therefore, a dedicated session within the brokerage event could focus on this aspect.

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ANNEX. EU PROJECTS FULL MAPPING

STATE	NAME	YEAR	SECTOR	TAGS	TOPIC/INNOVATION
Austria	Aeroficial Intelligence	2018	Aviation	**Software Development** // Surveillance Data, Analytics, Air Traffic Performance, Emission Saving, Air Traffic Procedures	Advanced data analysis and insight generation for the aviation industry (airports and in airspaces).
	Branding 5	2023	Hospitality	**Information Technology & Services** // **Marketing, branding**	AI-driven brand positioning tool designed to assist startups and entrepreneurs in defining their brand and developing a successful marketing strategy through established frameworks.
Belgium	Explore-Share	2015	Guided tours	**Travel Arrangements** // Booking platform, Outdoor community, climbing, adventure sports,, Hiking, Trekking, Canyoning, Alpinism	Aa platform that connects adventure seekers with professional guides for unique outdoor activities (climbing, skiing, and hiking) worldwide.
Bulgaria	Local food	2020	Food & beverage	**Food supply chain** // **Blockchain, food tracking, sustainability**	A trading platform built on Corda that uses Blockchain DLT (Distributed Ledgers Technology) to trace food from farms to restaurants, promoting sustainability and transparency. The platform connects users with local, sustainable food options and offers activities like tastings and pub crawls.
Croatia	Sebastus Sailing	2019	Nautical	**Travel Arrangements** // Sailboats, tourist agency, yacht charter, nautical tourism	Online rental platform for boats and yachts and worldwide yacht charter agency for tailored sailing vacation.
Republic of Cyprus	Mordomo	2015	Tourism-Services	**Tourism-Services**	Offering a high-quality service that manages household errands, chores, and to-dos on a one-off, monthly, or weekly basis to transform the market. This model allows consumers to delegate tasks they lack time for, such as grocery shopping, dry cleaning, postal services, or Internet research.
	Travelnaut	2023	Travel	**Travel, Artificial Intelligence, and Tech** // Hospitality, booking, online platform, itinerary	AI-driven travel information platform, offering extensive content and resources for planning single or multiple destination trips, road trips, and special journeys, eg. detailed itineraries and up-to-date guides.
Czech Republic	Kiwi.com	2012	Travel	**Software Development** // Booking platform	A global travel platform specializing in flight search algorithms and comprehensive travel solutions.

STATE	NAME	YEAR	SECTOR	TAGS	TOPIC/INNOVATION
Czech Republic	worldee.com	2019	Travel	**Travel Arrangements //** Booking platform, itinerary, tourism services	A cloud-based travel platform that provides automated travel planning and booking services, utilizing advanced algorithms to optimize and customize travel itineraries. Additionally, users can store and share their trips in the marketplace and monetize them.
Denmark	EXPLOY	2016	Travel	**Marketing Services // Digital marketing, travel, tourism, media**	Exploy is a travel technology company that utilizes data-driven solutions to offer personalized travel recommendations and optimize itinerary planning for users.
	Atobi	2017	Hospitality	**Software Development //** Retail training, communication, employer engagement	A communication and execution app for retailers. One channel to manage mindset and behaviors of employees. With training, compliance, communication, KPI targets, competitions, checklist, visual guidelines.
Estonia	HotelBuddy	2020	Travel	**Software Development //** Tourism, Hospitality	A digital platform that digitalizes the hotel journey for guests, from booking to stay.
	Pointship OÜ	2021	Aviation	**ICT //** Travel, Loyalty Platforms, Blockchain, NFT, Token, Fintech.	A digital platform that offers innovative solutions for managing and optimizing frequent flyer points and travel rewards, aiming to maximize value and streamline the redemption process for users.
Finland	Vreal	2019	Guided tours	**Software Development //** Cultural Heritage, Tourism, VR, XR	Vreal is a company focused on developing advanced virtual reality solutions by leveraging Extended Reality (XR) to create engaging virtual experiences.
France	Namastai	2021	Hospitality	**Software Development //** Tourism, Hospitality	An optimised booking and payment solution directly integrated into hotels' websites.
	Fairlyne	2021	Aviation	**Airlines and Aviation //** SaaS, revenue management	Fairlyne.com provides a white-label SaaS solution for airlines to optimize revenue by integrating ticket resale into existing channels and managing no-shows efficiently.
	GreenGo	2020	Travel	**Travel Arrangements //** Booking platform, hospitality, green	Greengo.voyage offers a platform for eco-friendly travel solutions, facilitating sustainable transportation options and carbon footprint reduction for conscious travelers.

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STATE	NAME	YEAR	SECTOR	TAGS	TOPIC/INNOVATION
Germany	Omio	2013	Travel	**Software Development** // Booking platform, Tourism, Hospitality	A comprehensive travel booking platform that aggregates options for trains, buses, and flights, enabling users to compare and book multi-modal transportation seamlessly.
	Distribusion	2016	Travel	**IT Services and IT Consulting** // Travel Technology, Booking API, and B2B Technology Services	Distribusion.com is a B2B platform that connects travel companies with bus operators, streamlining the distribution and booking of intercity bus services through a centralized API.
Greece	Clio Muse Tours	2014	Guided tours	**Travel Arrangements** // Cultural Content Creation and Curation, Audio Tours, Tour App	The World's #1 Self-Guided Audio Tours. Clio Muse Tours specializes in the creation and curation of audio and virtual tours as well as the development of state-of-the-art technologies for cultural institutions.
	Butlair	2016	Travel	**Travel Arrangements** // **Customer service, service management**	Butlair is a service that connects travelers with a team of locals through Facebook Messenger, WhatsApp and WeChat.
Hungary	CLICKnCRUISE	2021	Nautical	**Travel Arrangements** // Cruise, nautical tourism	Travel platform specializing in cruise bookings, offering a streamlined experience for selecting, comparing, and reserving various cruise options.
	VerAR	2023	Guided tours	**Travel Arrangements** // AR, local tourism	VerAR revitalizes local tourism through Augmented Reality, initially enhancing wineries and wine events to attract younger audiences, with plans to expand to other tourism services.
Ireland	winetourer	2020	Guided tours	**Travel Arrangements** // wine, technology tourism	WineTourer.com offers curated wine tourism experiences, providing personalized tours and activities at vineyards and wineries for enthusiasts and travelers.
	Cultural Roadmapp	2017	Guided tours	**Travel Arrangements** // Cultural Content Creation, Audio Tours, local tourism	GPS-guided audio app for planning and navigating self-guided road trips across Ireland, featuring itineraries, maps, and local attractions.
	CULTUREMEE	2016	Guided tours	**Travel Arrangements** // Cultural Content Creation, Audio Tours, local tourism	Platform for discovering and exploring cultural and heritage sites, providing detailed information and curated recommendations for travelers seeking enriching experiences. // paroject of Society of Intercultural Education, Training, and Research

STATE	NAME	YEAR	SECTOR	TAGS	TOPIC/INNOVATION
Italy	Takyon	2022	Travel	**Travel Arrangements** // Hospitality, booking, online platform, itinerary, blockchain, NFT	Platform for managing and optimizing travel experiences, focusing on enhancing efficiency and personalization in booking and itinerary management. It enables individuals to convert their hotel reservations into resellable digital assets (NFTs)
	Guides4you	2018	Guided tours	**Information Technology & Services** // **Travel arrangement, booking, itinerary**	Creates digital repository offering structured, user-centric guides and resources designed to facilitate efficient navigation and understanding of diverse topics across multiple disciplines.
	RnB4Culture srl	2019	Tourism-services	**Information Technology & Services** // **Souftware development, service management**	RnB4Culture focuses in 2 connected fields of business: software development and services management. // project: Cultural Innovation Center Dolo
	Destination Italia S.p.A.	2016	Travel	**Travel Arrangements**	The company's core business is based on an advanced and transversal technological approach, integrating artificial intelligence and automation through the HubCore platform. This platform enables the complete management of tourism services, optimising the booking and interaction processes between supply and demand. The company adopts a multi-destination and multi-channel model, enabling it to offer unique local experiences on a global scale. Thanks to the use of technological solutions such as CRM and Marketing Automation, Destination Italia is able to customise the offer and improve operational efficiency, positioning itself as a "glocal specialist" in the international market. Its innovative approach includes the collection and analysis of proprietary data for an in-depth understanding of market trends, enabling a rapid and targeted response to customer needs
Latvia	Ringbe	2015	Communication	**Information Technology & Services**	RingBe allows to make affordable cell calls with no internet connection
	Apgrieztā māja • The Upside-Down House	2022	Guided tours	**Travel Arrangements** // Entertainment, tourism services	Architectural installation that inverts traditional design elements to create a visually unique experience. This project integrates innovative spatial design with interactive engagement, offering both a novel tourist attraction and an educational exploration of perceptual dynamics.

STATE	NAME	YEAR	SECTOR	TAGS	TOPIC/INNOVATION
Lithuania	SEARADAR	2017	Nautical	**Travel Arrangements** // Charter, yacht rental, nautical tourism	A unique concierge service for booking yachts powered by A.I.
	Hoperfy	2020	Hospitality	**Information Technology & Services** // Travel arrangement, itinerary, booking	Platform to seamlessly handle all travel arrangements, get comprehensive reporting, and streamline accounting processes.
Luxembourg	Travelsify	2016	Hospitality	**Information Technology & Services** // Marketing, branding	Explainable AI (XAI) platform that creates Hotel Brand DNA®
	Ufodrive	2018	Mobility	**Travel Arrangements** // e-car rental, mobility, transport	UFO Drive is an innovative electric vehicle rental service that combines seamless digital experiences with sustainable transportation solutions, offering fully automated car rentals and a fleet of electric vehicles.
Malta	Orderly	2020	Hospitality	**Information Technology & Services** // Office management, administration, resource optimization	Orderly provides remote and on-site professional personalised general administration, office management, data capturing, virtual assistance, personal assistance, customer service, and accounts administration/book-keeping services to entrepreneurs, businesses and busy professionals on an as-needed basis.
	Maria by Visit Malta	2023	Guided tours	**Travel Arrangements** // Cultural Content Creation, Audio Tours, local tourism	"Maria by Visit Malta" is a digital platform or campaign by Visit Malta designed to provide comprehensive information and personalized recommendations for travelers exploring Malta's rich cultural heritage, attractions, and experiences.
	Where next	2021	Travel	**Travel Arrangements** // Cultural Content Creation, Audio Tours, local tourism	WhereNext is an AI-powered travel recommendation platform that offers personalized suggestions for destinations, activities, and experiences based on user preferences and real-time data.
	Trotteo	2020	Travel	**Travel Arrangements** // Hospitality, booking, online platform, itinerary	Trotteo is a new start-up poised to innovate the way travelers access necessary information throughout their trips. A cross-platform mobile application that automatically generates a trip itinerary from booking details.
Netherlands	Runmr.ai	2022	Hospitality	**Information Technology & Services** // Hospitality, Artificial Intelligence, Guest Communication	RUNNR.ai automes your first-line support by using A.I. and integrations.

STATE	NAME	YEAR	SECTOR	TAGS	TOPIC/INNOVATION
Netherlands	Katanox	2020	Hospitality	**Information Technology & Services** // Hospitality, resource managemnt, administration	Katanox is a B2B platform designed to streamline the distribution and management of hotel inventory and rates, leveraging technology to enhance connectivity between hotels and travel agents.
	Campspace	2016	Hospitality	**Travel Arrangements** // Hospitality, booking, online platform, itinerary	Campspace is an online platform that connects outdoor enthusiasts with unique, private camping spaces, offering a diverse range of locations and experiences for nature lovers and travelers.
Polands	Trawell (created by allventures tech company)	2022	Guided tours	**Information Technology & Services** // Hospitality, Artificial Intelligence, Gamification, local tours	Trawell is a mobile app that combines city tours with gamification, offering personalized travel experiences and team-building activities through interactive urban games.
	CityGuideTour	2015	Guided tours	**Information Technology & Services** // Hospitality, Artificial Intelligence, Gamification, local tours	CityGuideTour is a mobile app tailored for each region, using augmented reality and gamification to offer users free, high-quality access to comprehensive information on tourist attractions, including descriptions, audio guides, opening hours, ticket prices, and photos.
	DirectHotels.com	2015	Hospitality	**Travel Arrangements** // Hospitality, booking, online platform, itinerary	Meta-search hotel engine focused on hotel coupons and direct bookings. Compare over 200 booking sites and thousands of direct hotel offers
	Findbed	2015	Hospitality	**Travel Arrangements** // Hospitality, booking, online platform, itinerary	Booking platform that allows users to book accommodations by proposing their preferred rate
	Zaklepuje	2020	Travel	**Travel Arrangements** // Hospitality, booking, online platform, itinerary	Platform specializing in automating bookings for sports and leisure activities, and provides a nationwide search engine for active lifestyle enthusiasts.
Portugal	Luggit	2019	Tourism-Services	**Travel Arrangements** // Luggage storage, tourism services, logistics	Luggit is a mobile app that offers luggage storage and delivery services, allowing travelers to securely store or transport their bags during trips, enhancing convenience and flexibility.
	Climber	2020	Hospitality	**Information Technology & Services** // Hospitality, resource managemnt, administration	Climber RMS is a revenue management system designed for the hospitality industry, providing advanced tools for optimizing pricing, forecasting, and maximizing revenue through data-driven insights.

STATE	NAME	YEAR	SECTOR	TAGS	TOPIC/INNOVATION
Portugal	GuestReady	2015	Hospitality	**Travel Arrangements** // Hospitality, booking, property management	GuestReady is a tech-driven hospitality company that provides a full property management service for short and mid-term rentals.
	Timelinefy	2018	Travel	**Information Technology & Services** // Travel arrangement, planning, tourism services	Timelinefy is a platform that allows users to create interactive timelines for visualizing and organizing events, projects, and historical data in a user-friendly format.
Romania	Questo	2017	Guided tours	**Information Technology & Services** // Hospitality, Artificial Intelligence, Gamification, local tours	Questo is a mobile app that offers interactive city tours and adventure games, allowing users to explore new destinations through immersive, self-guided experiences and challenges.
	Framey	2019	Travel	**Travel Arrangements**	A travel planning app that allows users to create trip itineraries based on visually appealing photos.
Slovakia	Travelities	2021	Travel	**Information Technology & Services** // Hospitality, bookings, turism services	AI travel agent for personalized trips on demand.
	NextRetreat	2020	Travel	**Information Technology & Services** // Social media, Artificial Intelligence, Gamification, local tours	The all-in-one toolkit for organising team travel, optimizing corporate retreats and team-building events, offering tailored solutions for location selection, accommodation, and activities.
Slovenia	BeachRex	2019	Travel	**Travel Arrangements** // Online platform, itinerary, tourism services	Find your perfect beach and BeachRex will acquaint you with every single detail it possibly can.
	Nexto	2016	Guided tours	**Information Technology & Services** // Hospitality, Artificial Intelligence, Gamification, local tours	A cultural engagement platform that uses augmented reality and gamification to create interactive, location-based storytelling experiences, enhancing the visitor experience at cultural tourism destinations like museums, historic cities, and nature parks.
	goDruid	2021	Green	**Constructions.**	It is a construction project dealing sustainability and green houses.
Spain	Effiwaste	2023	Waste management	**Information Technology & Services** // Circular economy, waste management, sustainability	Effiwaste is a digital platform designed to optimize waste management processes through real-time monitoring and data analytics, aiming to enhance efficiency and sustainability in waste handling.

STATE	NAME	YEAR	SECTOR	TAGS	TOPIC/INNOVATION
Spain	Twistic	2021	Waste management	**Information Technology & Services // Circular economy, waste management, sustainability**	Digital tool designed to track and analyze food waste in buffet settings, aiming to optimize food management and reduce waste through real-time data and insights.
	Beder	2020	Travel	**Information Technology & Services** // Social media, Artificial Intelligence, Gamification, local tours	Travel app that connects users with tourism and leisure experiences through user-generated video content.
Sweden	Be Here Then	2019	Guided tours	**Information Technology & Services** // Hospitality, Artificial Intelligence, Gamification, local tours	BeHereThen is a platform that offers immersive, location-based storytelling and guided tours through augmented reality, enhancing the visitor experience at various cultural and historical sites.

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In a global context where technological innovation and sustainability are essential drivers of tourism competitiveness and the enhancement of cultural heritage, this study aims to identify and analyse innovative European models that are adaptable to the Sardinian context. Starting with a scouting mission on 69 European start-ups, a representative sample of 28 initiatives was constructed, selected according to geographic, thematic and innovation criteria. The research asked, "How can the innovative approaches and technologies employed by successful European innovative projects in the tourism and hospitality sectors be adapted to enhance cultural heritage, tourism engagement, and economic development in the Sardinian regional context?"

The qualitative methodology allowed for analysis of start-ups that integrate emerging technologies (e.g., AI, AR, VR, Blockchain NTF) and sustainable practices into their business models. The results highlight replicable models and opportunities for local implementation. The research's relevance lies in the systemic approach and the framework that integrates technological innovation and territorial identity, offering new perspectives for the sustainable growth of the regional cultural tourism sector..

Antonio Usai, Ph.D., is Associate Professor of Economics and Business Management at the University of Sassari. He directs research groups working on issues of innovation and strategic management, tourism management, and innovative and sustainable development strategies for tourist destinations.

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