



Deliverable D2.1

DATA SHARING INITIATIVES INVENTORY



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2	FUNDACION TECNALIA RESEARCH & INNOVATION	TECN	ES
3	IDC ITALIA SRL	IDC	IT
4	MINISTERO DEL TURISMO	MITUR	IT
5	INTELLERA CONSULTING SRL	INTELLERA	IT
6	AMADEUS SAS	AMAD	FR
7	INTERNATIONAL DATA SPACES EV	IDSA	DE
8	ARCTUR RACUNALNISKI INZENIRING DOO	ARCTUR	SI
9	NETWORK OF EUROPEAN REGIONS FOR COMPETITIVE AND SUSTAINABLE TOURISM ASBL	NECS	BE
10	OUTDOORACTIVE AG	OUTD	DE
11	DIH TOURISM 4.0, ZU	DIHT	CZ
12	AVORIS RETAIL DIVISION SL	AVOR	ES
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EXECUTIVE SUMMARY

The present document is meant to accompany the first DATES Work Package 2 deliverable – *Data sharing initiatives inventory (D2.1)* – which will be submitted as an Excel workbook together.

The Introduction (Chapter 1) presents the structure of the report, its objectives and provides a definition of the definition of data sharing initiatives adopted. Chapter 2 gives an overview of the methodology and the activities carried out to complete the data sharing initiatives inventory. Chapter 3 focuses on presenting the contents of the inventory: it displays an overview and the long list of the initiatives. Finally, Chapter 4 presents the preliminary results of the survey – the analysis of which will be at the core of the second deliverable *Analysis of gaps and overlaps (D2.2)* – and the next project activities.

1 Introduction

The present report outlines the activities carried out within Work Package 2 (WP 2) *Task 2.1 Mapping of data platforms and data sharing initiatives*, with the aim of developing the deliverable *D2.1 Data sharing initiatives inventory* (submitted as Appendix I).

This document – which accompanies the *D2.1 Data sharing initiatives inventory* – is structured as follows:

- Section 1 “Introduction” provides an overview of the report objectives;
- Section 2 “Overall approach” explains how the data sharing initiatives information was mapped in the inventory and which data collection methods were deployed to compile it;
- Section 3 “Data sharing initiatives inventory” provides an overview of the data sharing initiatives included in the inventory and the long list of all the identified ones;
- Section 4 “Initial findings, conclusions and next steps” provides a preliminary overview of tourism stakeholders’ views regarding the data sharing initiatives already in place. Moreover, this Section displays an overview of the next activities that will be carried out within the scope of DATES Work Package 2.

This report is also including the following Annexes:

- Annex I consists of the guide that was used by Task 2.1 partners to complete the inventory;
- Annex II consists of the survey questionnaire that was used to gather information regarding the tourism sector’s data needs and the tourism-related data sharing initiatives already in place.

Finally, the *D2.1 Data sharing initiatives inventory* (Appendix I) will be submitted as an Excel file – together with the present report.

1.1 Objectives of the report

The objective of this report is to present the state of art of the data sharing initiatives related to tourism and the methodology used for compiling the deliverable *D2.1 Data sharing initiatives inventory*, presented in Annex I. Such inventory will provide a basis for the identification of European tourism data space needs, best practices and required functionalities.

Before delving into an overview of the methodology used, it is important to have a common understanding of what is meant by “data sharing initiative”. In the context of this project, the perimeter adopted is broad, meaning that the team will consider as a **data sharing initiative any platform and/or initiative with a consistent focus on collecting, analysing or exchanging data related to tourism**. Therefore, initiatives in which partners work together to collect and share tourism-related data for a common purpose as well as

national public bodies regularly collecting data on the tourism industry (e.g. national institutes for statistics) fall under this definition.

2 Overall approach

To compile the inventory, a “data sharing initiatives gathering tool” was developed to collect information on data sharing initiatives in a homogeneous and systematic way. This Section describes the tool and the data collection activities done to gather the information included in the inventory.

2.1 Data Sharing initiatives gathering tool

To gather the data sharing initiatives, the Data Sharing initiatives gathering tool was structured in two Excel sheets. The first sheet contains a guide, providing instructions and definitions to fill-in the mapping included in the second sheet. This latter sheet contains a template displaying the dimensions along which the identified data sharing initiatives have been mapped.

These dimensions can be divided in two main groups: **Background information** and **Data information**. The former allowed the team to gain a complete overview on the initiatives. Complementarily, the latter provided accurate insights on the data and the modalities through which data are exchanged. These mapping dimensions are displayed in Table 1.

Table 1 - Mapping dimensions

Background information	Data information
Name of the initiative	Data purpose
Geographical level	Data users
Owner of the initiative	Data sources
Partner(s) and Partner type	Data collection mode
Challenge addressed	Data sharing strategy
Tourism sub-sector	Links with other data spaces
Contacts	Links of data license

In particular, the mapping dimensions have been defined as follows and are explained in more details in Annex I Data sharing initiatives gathering tool – User guide.

Background information

- Name of the initiative: name of the data sharing initiative and link
- Geographical level: the geographical level covered by the initiative (e.g. international / country / region / city)
- Owner: organization(s) responsible for the initiative
- Partners: organizations participating to the initiative
- Partner type: typology of partners – Public or private
- Challenge addressed: the issues that the initiative aims to solve

- Tourism sub-sector: the sub-sector covered by the initiative – Transport, Food and beverage, Car and other rental, Travel agency, tour operator and related activities, Accommodation, and Generic

Data information

- Data purpose: the goal for which the tourism actors might make use of data, i.e. the aim for which the data sharing initiative has been created. Starting from the *Study on mastering data for tourism by EU destinations*¹, the project team identified the following categories of data purposes:
 - Tourists' engagement: relates to the development of tourism services increasingly personalised and based on a higher degree of interaction with the customer/end-user;
 - Planning & operations: refers to the improvement of the overall efficiency and competitiveness of the tourism ecosystem, through accurate planning and resources allocation;
 - Market analysis & decision making: pertains to the improvements in market analysis and decision-making linked to higher availability of data and improved data analytics capabilities by tourism destinations;
 - Sustainability & accessibility: refers to the improvement of sustainability and accessibility of tourism offer, producing positive impacts on society at large,
 - Other: refers to any purpose other than the aforementioned categories.
- Data user: the type of stakeholder who uses this initiative – Tourism destinations & public authorities, Private sector - Tourism industry, and Private sector - Other
- Data sources: specifies where the shared data come from – User generated data, Transaction data, Device data, and Other data
- Data collection mode: explanation of how data of the initiative are collected
- Data sharing strategy: explanation of how users can access the data shared through the initiative
- Link with other Data Spaces: indication of the data space sector (and possibly name of the data space) to which the initiative might be linked
- Link of data license: the link of data license used to share data through the initiative.

To identify the initiatives and map them according to the aforementioned dimensions, the tool was informed through two data collection activities, namely desk research and a survey. These data collection methods are further described in the following paragraph.

¹ European Commission, Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs, Galasso, G., Montino, C., Sidoti, A., et al., *Study on mastering data for tourism by EU destinations: main text*, Publications Office of the European Union, 2022, <https://data.europa.eu/doi/10.2873/23880>

2.2 Data collection methods

In line with the purpose of producing an accurate and **up-to-date mapping of data sharing initiatives in the tourism sector**, two data collection methods were used:

1. Desk research for mapping existing data sharing initiatives,
2. Survey to investigate whether some existing data sharing initiatives were missed by the desk research.

2.2.1 Desk research

Desk research activities allowed to identify an initial list of data sharing initiatives. The desk research has been carried out using a mix of relevant sources, including: (i) overview of academic literature and reports on the topic of data sharing initiatives in the tourism sector; (ii) EU projects focusing on the use of data in the tourism field; and (iii) research on search engines through keywords.

To ensure that the ambitious goal of achieving a complete coverage of the existing initiatives, all partners involved on Task 2.1 have been assigned to a geographical area. The geographical area was assigned to each partner based on a set of different criteria: (i) country knowledge; (ii) language barrier; (iii) experience in conducting similar data collection activities in the area; and (iv) estimated task effort.

2.2.2 Survey

During the opening period (15th December 2022 – 16th January 2023), 209 survey replies were collected.

This survey was the first launched within DATES and its aim was twofold: (i) gaining insights on relevant **data sharing initiatives that could have been missed during the desk research activities** and (ii) exploring **which data are needed in the tourism sector**. Moreover, the survey was used to collect the contacts of stakeholders interested in engaging in project's future consultations. Overall, 187 respondents declared to be interested.

For each of the newly identified initiative, the team carried out additional desk research activities to populate the mapping dimensions of the data sharing initiative gathering tool (Table 1). The answers regarding which data are needed in the tourism sector will be used as preliminary knowledge that would inform the activities related to the Deliverable *D2.2 Analysis of gaps and overlaps*.

The survey was structured as follows:

- (i) Introduction – providing a brief presentation of DATES, an explanation of the topic of data sharing and a presentation of the survey;
- (ii) Section 1: General information – asking general information on respondents and their organization;
- (iii) Section 2: Tourism sector's data needs – exploring which data are important to be exchanged in the sector;

- (iv) Section 3: Existing tourism data sharing initiatives – asking specific information regarding data sharing initiatives known and/or used by the respondent.

According to the aims of the survey, the range of categories of stakeholders targeted by the survey was intentionally wide. Respondents represented small and medium enterprises (SMEs), start-ups, as well as large for-profit companies active in the sector; both central and local public authorities; NGOs and not-for-profit organizations; and research institutions and universities.

The survey has been disseminated through the Consortium partners' network of tourism stakeholders, allowing the team to reach a wide European audience in a variety of languages. Moreover, the survey was disseminated through DATES website and LinkedIn and Twitter accounts.

3 Data sharing initiatives inventory

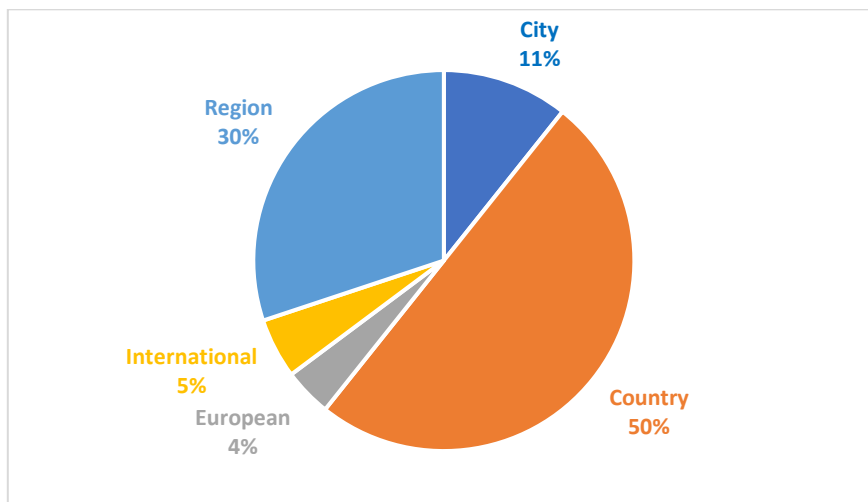
3.1 Overview

The project team overall mapped 194 data sharing initiatives, 36 of which were identified through the survey. Within those mapped initiatives, 2 data spaces were included, such as Themis-X Tourism Data Space (a consortium of GAIA-X involving 60+ major public and private stakeholders in France), EONA-X (the European Mobility, Tourism and Travel Dataspace), and several tourism data platforms and working groups (such as the GAIA-X hubs in France and Spain)."

Concerning the country coverage, the inventory covers 40 countries within and outside Europe and initiatives were found at all geographical levels, from local to global.

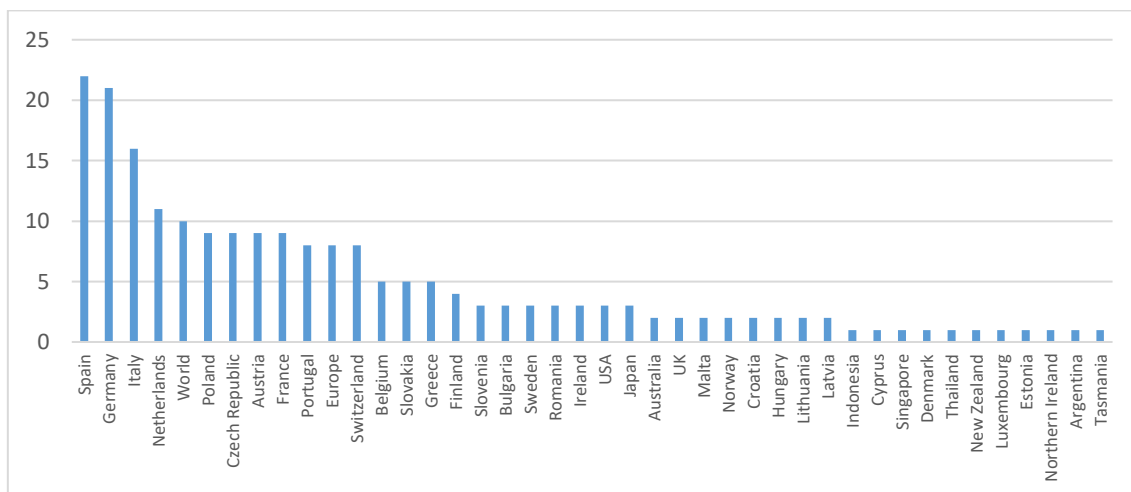
Regarding the geographical level, data sharing initiatives are distributed as Figure 1 shows: 96 are related to a specific country, 59 to a Region, 21 to a particular city, 10 are international, and 8 are related to the European Commission and European Travel Commission.

Figure 1 - Distribution of the geographical levels



Regarding country coverage, as **¡Error! No se encuentra el origen de la referencia.** highlights, Spain presents the highest number of data sharing mapped initiatives, followed by Germany and Italy.

Figure 2 - Country distribution



3.2 Long list of data sharing initiatives in the tourism sector

The long list of data sharing initiatives is reported in the attached file *Data sharing initiatives inventory.xls*, which will provide a complete breakdown of all the data sharing initiatives mapped through desk research and survey activities. Below is given the list with only general information to facilitate the reading.

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Deliverable D2.1 Data sharing initiatives inventory

N	Name & Link	Country	Owner	Challenge addressed
1	Observatorio turístico Buenos Aires	Argentina	Buenos Aires Turism	Generates market intelligence to guide decision-making in the public sector, companies and professionals, promoting tourism as a strategic activity for the economic and social development of the City of Buenos Aires
2	Australian Tourism Data Warehouse	Australia	Owned and managed by all Australian state and territory government tourism bodies	Enables leads to tourism businesses, helping to aid the Australian tourism industry in economic recovery
3	Australian Bureau of Statistics	Australia	Australian Bureau of Statistics and Tourism Research Australia	Provides official statistics to understand changes to population movement, business activity, and reductions in travel
4	Graph Integration Platform GIP	Austria	ÖVDAT - Austrian Institute for Traffic Data Infrastructure	Provides high-quality and up-to-date traffic data (roads, paths, POIs) and its exchange between different organizations.
5	Data Hub Tirol	Austria	Tyrolean Government	Enables users to develop new business models and implement new business ideas
6	Statistics Austria	Austria	STATISTIK AUSTRIA	Produces official statistics regarding Austria population, economy, society, research and environment. It explicitly covers data themes related to tourism (e.g. tourism accommodation, travel balance of payment, tourism satellite accounts and travel habits)
7	Austria Experience Data Hub	Austria	Next Level Tourism Austria (Österreich Werbung)	Offers guests new digital tools that enrich the holiday experience: information, invitations, hints – planning, stay, supplementation, and empowers tourism through new business models, better service and seamless experiences.
8	DigitalesWien	Austria	City of Vienna	Makes government figures and data publicly available for any use. Private individuals or companies can, for example, program apps that make life easier. Science and research can easily use this data.
9	Open Data Austria	Austria	Open Data Austria	Constitutes an important level of growth and economic and social development for the territory, providing more accurate information to users, civil and institutional, thus improving decision-making processes; allowing the drafting of statistical analysis and internal reporting supported by data

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Deliverable D2.1 Data sharing initiatives inventory

N	Name & Link	Country	Owner	Challenge addressed
10	Statbel	Belgium	Belgian statistical office	Produces official statistics regarding Belgium population, economy, society and environment. It explicitly covers data themes related to tourism
11	Open Data Portal Ghent	Belgium	City of Ghent	Provides city open data on a variety of topics including tourism and mobility
12	Statista - Travel and tourism in Belgium - Statistics and Facts	Belgium	Statista	Provides access to valuable and comparable market, industry, and country information for Belgium
13	Tourism Flanders	Belgium	Flemish government	Allows to deepen the knowledge of tourist phenomena on the basis of the analysis of reliable and selected data and information in Flanders Region
14	The Open Data Portal of the Republic of Bulgaria	Bulgaria	Ministry of e-Government	Provides access to Bulgarian public data in open and machine-readable format
15	National Statistical Institute Republic of Bulgaria	Bulgaria	National Statistical Institute	Produces official statistics regarding Bulgaria population, economy, society, science and environment. It explicitly covers data themes related to tourism
16	National Tourism Register	Bulgaria	Ministry of Tourism Republic of Bulgaria	Provides information on tourist intermediaries, tourist associations, wellness centres, qualified guides, mountain guides and ski instructors
17	Croatian Bureau of statistics	Croatia	Croatian Bureau of Statistics	Provides official statistics that could be used for observing and analysing the situation in the Croatian economy. It includes tourism-related datasets
18	Evisitor	Croatia	Croatian National Tourism Board	Provides insight into tourist traffic and accommodation capacities (commercial and non-commercial) in Croatia
19	Republic of Cyprus Statistical Service	Cyprus	Republic of Cyprus Statistical Service	Produces official statistics regarding Cyprus population, economy, society and environment. It explicitly covers data themes related to tourism
20	National open data catalog - Národní katalog otevřených dat	Czech Republic	Ministry of the Interior of the Czech Republic	Collects relevant data and information from the entire public administration in one place
21	Date portal of Hradec Králové Region	Czech Republic	Hradec Králové Region	Collects regional data and information in one place. It explicitly covers data themes related to tourism

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Deliverable D2.1 Data sharing initiatives inventory

N	Name & Link	Country	Owner	Challenge addressed
22	Prague integrated transport	Czech Republic	Regional Organiser of Prague Integrated Transport and Integrated Transport of the Central Bohemia Region	Provides regularly updated timetables, online information about the locations of connections, as well as statistical data about Prague Integrated Transport
23	Open data Prague	Czech Republic	Prague City	Provides data of the municipality, contribution organizations, city districts and other entities in one place
24	Czech Statistical Office - Český statistický úřad	Czech Republic	Czech Statistical Office	Produces official statistics regarding Czech population, economy, society, and environment. It explicitly covers data themes related to tourism
25	Date portal of Brno city	Czech Republic	Brno City	Provides data to get to know more about the city, providing interactive long-term statistics about the city or applications and machine-processable datasets
26	CzechTourism	Czech Republic	CzechTourism	Provides tourism information to tourism player, students and interested parties from other fields to facilitate data reuse and analysis
27	Open Data of the South Moravian Region	Czech Republic	South Moravian Region	Enables citizens to retrieve data of South Moravian public authorities from one single database
28	Geoportal Prague	Czech Republic	Prague Institute of Planning and Development	Promotes the use of digital mapping data and services of the City of Prague by the widest possible group of users.
29	Statistics Denmark	Denmark	Statistics Denmark	Produces official statistics regarding Denmark population, economy, society, and environment. It explicitly covers data themes related to tourism
30	Statistics Estonia	Estonia	Statistics Estonia	Produces official statistics regarding Estonia population, economy, society, and environment. It explicitly covers data themes related to tourism
31	Database Tourism Eurostat	Europe	European Commission	Gives access to comparable statistical information on tourism at a European level
32	TourMIS -CityDNA	Europe	Austrian National Tourist Office and European Travel Commission	Provides a Marketing-Information-System for tourism, delivering on-line tourism survey data, as well as various tools to transform data into management information
33	Tourism of Tomorrow Lab	Europe	NECSTouR	Helps to identify emerging market trends, to understand the travel behavior of tourists and to share learnings between the members of the net

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Deliverable D2.1 Data sharing initiatives inventory

N	Name & Link	Country	Owner	Challenge addressed
34	Official portal for European data	Europe	European Commission	Gives access and fosters the reuse of European open data among citizens, business and organisations; promoting the release of more and better-quality metadata and data by the EU's institutions, agencies and other bodies, and European countries. Moreover, it educates citizens and organisations about the opportunities that arise from the availability of open data
35	European Travel Commission Reports	Europe	European Travel Commission	Helps the organisation and its members understand the business environment, detect new growth opportunities and formulate suitable promotional strategies
36	EUHubs4data	Europe	European Commission	Aims to consolidate as the European reference for data driven innovation and experimentation, fostering collaboration between data driven initiatives in Europe, federating solutions in a global common catalogue of data services, and sharing data in a cross-border and cross-sector basis
37	COLLABORATIVE ECONOMY PLATFORMS	Europe	Eurostat	Produces European statistics on holiday homes, apartments and rooms in private buildings as part of the short stay accommodation sector
38	EU Tourism Dashboard	Europe	European Commission	Aims at promoting and monitoring the green and digital transitions and socio-economic resilience factors of the European tourism ecosystem
39	Finnish Tilastokeskus	Finland	Statistics Finland	Produces official statistics regarding Finnish population, economy, society and environment. It explicitly covers data themes related to tourism
40	Visit Finland, Statistics	Finland	Business Finland	Helps tourism companies operating in Finland to internationalise, develop, sell and market high-quality and competitive tourism products
41	Datahub visit Finland	Finland	Visit Finland	Enables Finnish travel data to be stored in and retrieved from one single database
42	National Institute of Statistics and Economic Studies	France	National Institute of Statistics and Economic Studies	Collection, production, analysis and dissemination of information on the French economy and society. Coordination of the statistical methods, resources and work of public administrations and private bodies.
43	DATAtourisme	France	Ministry for the Economy, Finance and Recovery	Facilitates access to public tourist information data, through a national Open Data platform and the animation of a community of users
44	Outdoorvision	France	Outdoor Vision	Gathers anonymized GPS tracks voluntarily provided by the contributors practicing sports and nature leisure activities during their outings, with

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Deliverable D2.1 Data sharing initiatives inventory

N	Name & Link	Country	Owner	Challenge addressed
				the aim of enhancing knowledge of outdoor spots and the preservation of practice sites throughout the territory
45	France velo tourisme	France	France Vélo Tourisme	Enables users to discover France by bike, consequently promoting the national bicycle tourism offer
46	Gaia-x Hub France	France	Association Cigref	Accelerates the co-innovation of services and use cases, and incubate the data spaces that will enable the development of service offers registered within the Framework of Gaia x. This implies identifying territory specific needs and high priority data spaces
47	Themis-x / OneCub	France	Onecub	Assists travellers by making them receive personalized recommendations based on data from all their digital services (mobility, hospitality, leisure), simultaneously helping them share their data easily from one digital service to another.
48	Prairy	France	Société Prairy	Gives proposals for regional destinations (walks, heritage, activities) based on GPS data and personal preferences of the user
49	Etalab - data government data	France	Etalab	Collects different datasets with the aim of facilitating access to data. Data of City of Saint Malo, Toulouse City Hall, Department of Saône-et-Loire and Saint Marcellin are the most reused data
50	Circuit	France, Belgium, Switzerland	Circuit	Helps travelers to find an itinerary between several walks, hikes and tourist routes
51	DB Open Data Portal	Germany	Deutsche Bahn AG	Facilitates access to data and information on DB infrastructure and mobility
52	Open Data Germany	Germany	German National Tourist Board	Creates the preconditions for the digital transformation towards artificial intelligence. Thus, promoting Germany as a tourism location, strengthening its competitiveness, and particularly promoting tourism regions as well as digital innovations in tourism and beyond
53	Statistisches Bundesamt	Germany	Federal Statistical Office	Produces official statistics regarding German population, society, and economy. It explicitly covers data themes related to tourism
54	Urban Data Platform Hamburg	Germany	CityScienceLab (CSL) of HafenCity Hamburg University	Facilitates access to high up-to-date data, enabling fast analyses and thus quick decisions at any time

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N	Name & Link	Country	Owner	Challenge addressed
55	mein.toubiz	Germany	Tourismus Marketing GmbH Baden-Württemberg	Facilitates access to datasets concerning POI & infrastructure, events, Routes & Tours, regions, Cities & Places, restaurants, Overnight accommodation
56	SaTourN	Germany	Tourismus Marketing Gesellschaft Sachsen mbH	Enables high-quality Saxon tourism-related data to be collected centrally, linked and made accessible
57	SAiNT	Germany	IMG Investitions- und Marketinggesellschaft Sachsen-Anhalt mbH	Bundles data from the various existing regional tourism databases as well as from administrative and business databases and output them via technical interfaces
58	Contentnetzwerk Brandenburg	Germany	TMB Tourismus-Marketing Brandenburg GmbH	Enables users to find fruitful and up-to-date information and contact persons in the field of tourism
59	DELFI	Germany	DELFI e.V.	Provides access to Public Transport Data, including forecasts
60	DWD	Germany	German Weather Service	Provides access to weather and climate data free of charge
61	Mobilithek	Germany	Federal Ministry for Digital and Transport	Provides reliable access to mobility data, including real-time data to support sustainable transport planning, targeted traffic control and individual decisions on modes of transport
62	Tourismus-Hub Hessen	Germany	Hessen Tourism	Records the entire range of Hessen's tourist offer with its sights and excursion possibilities, accommodation, events and gastronomy
63	Niedersachsen Hub	Germany	Tourismusmarketing Niedersachsen	Introduces a holistic state-wide database to allow guest to have access to a broad range of information about Lower Saxony
64	Bayern.Cloud	Germany	Bayern Tourismus Marketing GmbH	Facilitates access to tourism data and information through a regional Open Data platform
65	Data Hub NRW	Germany	Tourismus NRW e.V.	Bundles tourist data and provides guests with tourist information easily and quickly, regardless of the touchpoint.
66	Data Hub Rheinland-Pfalz	Germany	Rheinland-Pfalz Tourismus GmbH	Provides access and centralizes on digital content, user data, sensor, real time and forecast data
67	ThüCAT	Germany	Thüringer Tourismus GmbH	Organizes and centralizes digital content of all tourism partners from Thuringia
68	Open Data Platform Schleswig-Holstein	Germany	Open data Schleswig-Holstein	Makes an important contribution to strengthening trust between politics, business, the media and civil society, promoting transparent

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N	Name & Link	Country	Owner	Challenge addressed
				and comprehensible data coming from the state administration, Schleswig-Holstein municipalities and some companies and associations
69	Open Tourism Net	Germany, Austria	Outdooractive	Makes tourist-related information accessible to everyone, for example: events, current news, regional information and location descriptions, tours and activity trails, accommodations, attractions and sights, but also stories, pictures or videos.
70	Digitize the Planet	Germany, Switzerland, Austria, Norway	Digitize the Planet e. V.	Provides open data and interfaces to rules in protected areas
71	Hellenic Statistical Authority (ELSTAT)	Greece	Sectoral Statistics Division Tourism and Culture Statistics Section	Provides official statistics on society, the economy, the environment and the state
72	Travel services Bank of Greece	Greece	Bank of Greece	Gives access to a broad information base for research and reuse. It includes tourism-related datasets
73	Insete Intelligence	Greece	Institute of SETE-INSETE	Monitors, documents and provides information related to the tourism sector with two main aims: (i) to strengthen Greek Tourism Confederation's institutional and entrepreneurial capability in formulating proposed policies to develop tourism in Greece; and (ii) to bolster the competitiveness of tourism enterprises by providing information and documentation essential to improving existing services and products or to developing new ones.
74	Greek Hotelier chamber	Greece	Greek Hotelier chamber	Gives information about tourism and hospitality of Greece, mapping more than 10.000 hotels
75	Institute of SETE-INSETE	Greece	Institute of SETE-INSETE	Produces official statistics regarding Greek population, economy, society and environment. It explicitly covers data themes related to tourism
76	Hungarian Statistical Office	Hungary	Hungarian Statistical Office	Produces official statistics regarding Hungary population, economy, society, science and environment. It explicitly covers data themes related to tourism
77	National Tourism Data Supply Centre	Hungary	Hungarian Tourism Agency	Provide a real-time overview of the anonymous turnover statistics of all Hungarian accommodation establishments. Analyses are drawn up from the data received directly from property management systems in order to support data-driven decision-making in the tourism industry.

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Deliverable D2.1 Data sharing initiatives inventory

N	Name & Link	Country	Owner	Challenge addressed
78	Statistics Indonesia	Indonesia	BPS - Statistics Indonesia	Gives an official and detailed overview on society, the economy, the environment and the state
79	Fáilte Ireland	Ireland	Fáilte Ireland - National Tourism Development Authority	Makes Ireland accommodation, activities and attractions data available and easily accessible online
80	Smart Dublin - Dublinked	Ireland	Dublin City Council	Improves local authority services and addresses urban and regional challenges
81	Central Statistics Office	Ireland	Central Statistics Office	Produces official statistics regarding Ireland population, economy, society and environment. It explicitly covers data themes related to tourism
82	Tourism Digital Hub	Italy	Italian Ministry of Tourism (MiTur)	Supports the choice of the tourist in the planning of the destination and the trip, through the creation of an integrated tourism ecosystem, composed of tour operators, companies, institutional stakeholders
83	Open data Veneto	Italy	ICT and Digital Agenda of the Veneto Region	Constitutes an important level of growth and economic and social development for the territory, providing more accurate information to users, civil and institutional, thus improving decision-making processes; allowing the drafting of statistical analysis and internal reporting supported by data
84	Osservatorio Turistico della Regione Piemonte	Italy	Visit Piemonte	Provides a detailed overview on the offer, trend and evolution of demand and tourist markets and allows the creation of monitoring system on promotion, information and tourist reception activities in Piedmont.
85	Osservatorio del Turismo Regionale Federato	Italy	Unioncamere Veneto	Allows to deepen the knowledge of tourist phenomena on the basis of the analysis of reliable and selected data and information
86	AlpineBits	Italy	AlpineBits Alliance	Fosters innovation and data exchange in the alpine tourism and allows to optimize the online presence, sales and marketing efforts of the hotels and other accommodations in the alpine territory and also worldwide.
87	Open Data Piemonte	Italy	Piemonte Region	Constitutes an important level of growth and economic and social development for the territory, providing more accurate information to users, civil and institutional, thus improving decision-making processes; allowing the drafting of statistical analysis and internal reporting supported by data

DATES: European Data Space for Tourism

Deliverable D2.1 Data sharing initiatives inventory

N	Name & Link	Country	Owner	Challenge addressed
88	Regione Lombardia - E015	Italy	Regione Lombardia	Provides a digital ecosystem that governs and promotes the exchange of data, including that of tourism, and functions between different public and private actors, facilitating dialogue and the sharing of information with a standardised IT language that enables easy use.
89	API ERT - EmiliaRomagnaTurismo	Italy	Emilia Romagna Region	Encourages the reuse of tourism data and the creation of new applications, giving all stakeholders the opportunity to aggregate shared information
90	Open Data Regione Lombardia	Italy	Lombardy Region	Provides and links together valuable information to answer questions from citizens, businesses and public administrations. Moreover, it gives access to useful data to enable choices that create value for individuals, for the market and for the territory
91	Open Data Puglia	Italy	Puglia Region	Allows free access to individuals, private companies or other entities for different purposes: civic monitoring, study of economic and social phenomena, reuse for development of applications of public interest.
92	Banca d'Italia Tavole dati turismo	Italy	Italian Bank - Eurosystem	Gives access to a broad tourism information base for research and practitioners
93	OPENDATA HUB Tourism Data Browser - South Tyrol	Italy	Open Data Hub	Allows start-ups, companies and research institutes to develop digital solutions based on real data
94	OPENdata Trentino	Italy	The Autonomous Province of Trento	Promotes the reuse of data by encouraging the development of innovative ideas
95	ISTAT	Italy	ISTAT	Produces official statistics regarding Italian population, economy, society and environment. It explicitly covers data themes related to tourism
96	Open Data Roma Capitale	Italy	Roma Municipality	Provides additional input to citizens and to the Administration itself for design and implementation new innovative services
97	Open Destination One	Italy, Switzerland, Austria, Germany	Neusta destination.one	Facilitates access to tourism data and enables users to make their content available as open data

DATES: European Data Space for Tourism

Deliverable D2.1 Data sharing initiatives inventory

N	Name & Link	Country	Owner	Challenge addressed
98	Japan Tourism Statistics	Japan	Japan National Tourism Organization (JNTO)	Enables to understand the tourism landscape and latest trend of Japan
99	Regional Economy and Society Analyzing System (RESAS)	Japan	The Ministry of Economy, Trade and Industry	Helps service providers to collect and analyze data with the aim of enhancing service quality, developing new tourism products, and cultivating new markets that cater to tourists' needs and preferences
100	Visit Arctic Europe	Lapland Finland, Norway, Sweden	Finnish Lapland Tourist Board, Northern Norway Tourist Board and Swedish Lapland Visitors Board	Allows to deepen the knowledge of tourist phenomena on the basis of the analysis of reliable and selected data and information in Arctic Europe
101	Official Statistics of Latvia	Latvia	Official statistics of Latvia	Produces official statistics regarding Latvia population, economy, society, and environment. It explicitly covers data themes related to tourism
102	Latvia Open Data Portal	Latvia	Ministry of Environmental Protection and Regional Development	This platform will provide a single point of access to open government data.
103	Official Statistical Portal of Lithuania	Lithuania	Official statistics of Lithuania	Produces official statistics regarding Lithuania population, economy, society, science and environment. It explicitly covers data themes related to tourism
104	Lithuania Travel	Lithuania	Ministry of the Economy and Innovation	Lithuania Travel is national tourism development agency responsible for Lithuania's tourism marketing and promotion, acting under the Ministry of Economy and Innovation.
105	STATEC	Luxembourg	Ministry of the Economy	Provide public and private decision-makers and citizens with a high-quality public information service producing statistics, analyses and studies that represent a detailed, reliable and objective image of Luxembourg's society.
106	NSO Malta	Malta	Malta Statistics Authority	Collection, compilation, analysis and publication of a wide range of statistical information and related matters.
107	Malta Tourism Authority	Malta	Malta Tourism Authority	Guides the Malta Tourism Authority towards the best allocation of resources, giving directional support to the various planning processes
108	Netherlands Board of Tourism and Convention	Netherlands	Netherlands Board of Tourism & Conventions	Promotes the Netherlands as a travel destination by sharing insights on tourism sector
109	Nationaal Georegister	Netherlands	Public Services on the Map - Nationaal Georegister	Provides geographic information of the Netherlands

DATES: European Data Space for Tourism

Deliverable D2.1 Data sharing initiatives inventory

N	Name & Link	Country	Owner	Challenge addressed
110	Provincie Zuid Holland	Netherlands	Province of Zuid-Holland	Provides geodata of the province of Zeeland
111	Databank - Provincies in Cijfers	Netherlands	Province Antwerp	Produces official statistics regarding province population, economy, society and environment. It explicitly covers data themes related to tourism
112	The National Data Alliance (LDA)	Netherlands	National Data Alliance	Gives access to data and insights about tourism from, to and in the Netherlands with the aim of increasing data-driven policy decisions and greater competitiveness of entrepreneurs
113	Statistics Netherlands	Netherlands	Statistics Netherlands	Provides statistics about Dutch economy and society, covering themes relevant for the tourism sector, such as "Leisure and culture" and "Trade, hotels and restaurants".
114	Provincz Drenthe	Netherlands	Province of Drenthe	Provides access to public data regarding the province of Drenthe
115	Nationale Dataportaal van de Nederlandse	Netherlands	Dutch Government	Provides data made available by more than 180 Dutch government organizations
116	Provincie Utrecht	Netherlands	Province of Utrecht	Provides geodata of the province of Utrecht, including relevant data for the tourism sector, such as the "Digital cultural-historical Atlas of the Province of Utrecht"
117	Provincie Zeeland	Netherlands	Province of Zeeland	Provides geodata of the province of Zeeland, including relevant data for the tourism sector
118	Ubase	Netherlands	Province of Utrecht	Connects public organisations of the province of Utrecht to improve services for visitors
119	Tourism Data	New Zealand	Ministry of Business, Innovation and Employment	Assists regional tourism stakeholders make informed planning and investment decisions as well as inform government policy development related to regional and seasonal dispersal
120	Tourism Norther Ireland	Nother Ireland	Tourism Norther Ireland	Allows a more comprehensive understanding of tourism performance across Norther Ireland
121	Turystyka w 2021 r.	Poland	Statistics Poland	Provides statistics and insights on key indicators of tourism sector
122	System of Public Registers in Tourism - Turystyce	Poland	Ministry of Sport and Tourism	Enables the possibility to verify if providers of tourism services operate legally
123	Urząd Transportu Kolejowego	Poland	Office of Rail Transport	Facilitates data access to mobility sub-sectors

DATES: European Data Space for Tourism

Deliverable D2.1 Data sharing initiatives inventory

N	Name & Link	Country	Owner	Challenge addressed
124	Urząd Lotnictwa Cywilnego	Poland	Civil Aviation Authority	Facilitates data access to mobility sub-sector and on aviation economic activity
125	Bank Danych Lokalnych	Poland	Statistics Poland	Provides data for selected administrative units (town, commune, district, province, country) or statistical unit (macroregion, region, subregion) from many thematic fields including tourism
126	Zarabiaj na turystyce	Poland	Polish Tourist Organization and Ministry of Sport and Tourism	Provides statistics and insights on key indicators of tourism sector
127	Polish Vehicle Rental and Leasing Association	Poland	Polish Vehicle Rental and Leasing Association	Provides reliable information on long, medium and short-term car rental market in Poland
128	Service of the Republic of Poland, Otwarte dane	Poland	Minister of Digitization	Encourages the reuse of data and the development of innovative products and services based on data
129	Centrum Badania Opinii Społecznej, Turystyka	Poland	Public Opinion Research Center	Facilitates the access to non-commercial CBOS surveys conducted for satisfying the needs of Polish public administration bodies and societies at large, as well as various other interested institutions
130	Alentejo Sustainable Tourism Observatory	Portugal	Evora University	Promotes knowledge management to monitor the sustainable development of the tourist destination Alentejo and Lezíria do Tejo
131	OBSERVATORIO AÇORES	Portugal	Autonomous Region of the Azores; the Azores Tourism Association; and the University of the Azores.	Promote the analysis, dissemination and monitoring of the evolution of tourism activity, independently and responsibly, ensuring the suitability of its technical-scientific production, in order to contribute to the development of sustainable tourism in the Autonomous Region of the Azores
132	Statistics Portugal	Portugal	Statistics Portugal	Produces and disseminates high-quality official statistical information relevant for the whole society. As a statistical authority, it develops methodological advanced statistical processes, resorts to technological innovation, and data science, and integrates multiple sources for statistical purposes. It delivers valuable statistics to society for better knowledge, research and decision-making.
133	TRAVELBI	Portugal	Portugal Tourism	Gives access to tourism statistics, tourism indicators and those of other sectors associated with tourism activity

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Deliverable D2.1 Data sharing initiatives inventory

N	Name & Link	Country	Owner	Challenge addressed
134	Observatório do Turismo Sustentável do Centro de Portugal	Portugal	Tourism of Central Portugal	Monitors tourism activity, based on reliable and comprehensive indicators, supporting the decision-making of all entrepreneurs and public decision-makers in the Centre of Portugal
135	SIGTUR	Portugal	Tourism of Portugal	Gives an overview of tourism data in terms of tourism accommodations, touristic activities and tourism planning
136	Observatório do Lisboa	Portugal	Governing Bodies	Facilitates access to tourism datasets stemming from surveys and private business data of the city of Lisbon
137	Algarve Sustainable Tourism Observatory	Portugal	Tourism of Portugal	Provides more and better information for the framework of national and regional tourism policy, favoring the management of the tourist destination Algarve and monitoring/assessing the sustainability of the region
138	National Institute of Statistics	Romania	National Institute of Statistics	Collection, processing, analysis and dissemination of official statistical data necessary to substantiate and assess the economic and social policies, government decisions and economic operators' decisions, the information of the public opinion and the drafting of scientific researches.
139	CIMEC.RO	Romania	National Institute of Heritage	Collects, processes, develops and disseminates information concerning Romania's cultural heritage, theatre performances, cultural institutions, bibliographic records and cultural events. It further maintains the national databases on cultural heritage, the National Archaeological Record database and other computerised cultural information resources.
140	Data.gov.ro Portal	Romania	General Secretariat of the Government	Centralizing open data published by Romanian institutions according to the principles and standards in the field.
141	Singapore Tourism Analytics Network (STAN)	Singapore	Singapore Government Agency	Allows users to visualise the latest tourism data and to analyse tourism-related data with the aim of deriving actionable insights
142	High Tatras Tourism	Slovakia	Tourism Association High Tatras	Collects in one place relevant data about tourism in the Tatras
143	Open DATA Košice	Slovakia	Municipality of the City of Košice	Increases the transparency of local government towards its citizens. It includes tourism-related data

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Deliverable D2.1 Data sharing initiatives inventory

N	Name & Link	Country	Owner	Challenge addressed
144	DATAcube	Slovakia	Statistical Office of the Slovak Republic	Provides relevant, consistent and comparable information necessary for decision-making at all levels of management and for meeting the needs of users at corporate, national and international level
145	OPEN DATA BRATISLAVA	Slovakia	Municipality of the Capital City of the Slovak Republic Bratislava	Promotes the open data of the City of Bratislava, making data freely available to anyone under the same conditions for any purposes (commercial or non-commercial) on the Internet in a structured form that allows its mass machine processing
146	Data Catalogue of geoPrešov Region	Slovakia	Geoportál Prešovského kraja	Provides a comprehensive platform for integrating, storing, publishing and analysing open spatial data
147	SiStat - Republic of Slovenia STATISTICAL OFFICE	Slovenia	Statistical office of the Republic of Slovenia (SURS)	Gives access to broad Slovenia statistics for research and reuse. It publishes statistics on tourism themes
148	OPSI Portal (Open Data of Slovenia)	Slovenia	Ministry of Public Administration	Provides Slovenia's open data on a variety of topics including tourism and mobility
149	Municipality of Ljubljana	Slovenia	Municipality of Ljubljana	Facilitates access to real time data, including road conditions, social events, weather and public parking spaces
150	Sistema de Inteligencia Turística de Gran Canaria (SITGRAN)	Spain	Tourism Gran Canaria	Analyzes in real time multiple sources of public and private data from the tourism sector, giving access to a detailed overview on tourists - who they are (profile), what interests them (demand) and how visitors to the island see us (perception)
151	Dataestur	Spain	Secretariat of State for Tourism	Gives access to tourism statistics, tourism indicators and those of other sectors associated with tourism activity
152	Observatorio de Turismo Sostenible de Mallorca	Spain	Council of Mallorca	Generates valuable information to guide public and private sector decisions, facilitating access to timely and systematic monitoring tools and datasets on tourism
153	Observatorio del Turismo en Barcelona: ciudad y región	Spain	Barcelona City Council, Barcelona province, Chamber of Commerce of Barcelona and the Tourism consortium of Barcelona	Generates knowledge by providing analysis and evaluation of the tourism activity, monitoring it in a transversal way as well as the establishment of common methodological criteria in the quantification and characterisation of tourism activity in the City of Barcelona and the region of Barcelona
154	Observatorio Turístico de Córdoba	Spain	Municipality of Cordoba	Promotes and fosters tourism in the city of Córdoba

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Deliverable D2.1 Data sharing initiatives inventory

N	Name & Link	Country	Owner	Challenge addressed
155	Exceltur	Spain	Alliance for Tourism Excellence	Provides a business vision on the evolution of the Spanish tourism sector
156	Smart Data Andalusia	Spain	Andalusia government	Makes available to the Andalusian business sector and destinations the tourism-related data to help in decision-making; complements official data with unofficial data sources that are of special interest to the sector; and promotes the use of data in the tourism sector
157	Institute of statistics of Balearic Islands- IBESTAT	Spain	Institute of Statistics of the Balearic Islands	Produces official statistics regarding Balearic islands population, economy, society and environment. It explicitly covers data themes related to tourism
158	Gaia-x Hub Spain	Spain	Consortium of Gaia-X Spanish Hub	Enhances and supports the competitiveness of the data economy and proposes to be a forum for debate and proposals among the agents of the data sharing ecosystem at the national level
159	Sistema de inteligencia turística Visit Valencia	Spain	Visit Valencia	Generates useful and valuable information available to improve the competitiveness of the city's tourism sector
160	SIT EUSKADI - Sistema de inteligencia turística	Spain	Basque Government	Shows a global and permanent vision of the situation and evolution of the tourism industry in the Basque Country, with the aim to provide organizations with knowledge that allows them to anticipate and react to changes in the environment
161	Sistema de Inteligencia Turística Navarra	Spain	Navarra Government	Enables the dynamic visualization of the main data on tourism and their evolution over time, allowing users to make comparisons through multiple indicators
162	Sistema de Inteligencia Turística Canarias	Spain	Canarias Government	Allows the public sector and private enterprise to connect with visitors and residents, sharing data and information that generates the knowledge that makes possible a sustainable, safe and intelligent destination
163	Observatorio del Turismo de Extremadura	Spain	General directorate of Tourism - Extremadura	Provides and facilitates access to monthly, quarterly, seasonal and annual reports on tourism activities
164	Observatorio Turístico de Diputación de Cádiz	Spain	Cadiz Province	Provides and facilitates access to current, historical and comparative tourism statistics and studies of the province of Cadiz
165	OBSERVATORIO TURÍSTICO Canarias	Spain	Ministry of Tourism Industry and Trade	Provides and facilitates access to tourism statistics and studies

DATES: European Data Space for Tourism

Deliverable D2.1 Data sharing initiatives inventory

N	Name & Link	Country	Owner	Challenge addressed
166	SIT JAÉN	Spain	Chair of Interior Tourism of the University of Jaen	Making available to the different actors a tool for the analysis of tourist activity that takes place throughout the Jaén territory. This will allow to know in greater depth the different facets of this activity in the province of Jaén and will facilitate the decision-making process of the tourist actors
167	Open Data Euskadi	Spain	Basque Government	Facilitates access to tourism datasets stemming from the Basque Government, dependent entities and other provincial and municipal administrations
168	Aporta Initiative	Spain	Ministry of Economic Affairs and Digital Transformation of Spain, Public Business Entity Red.es.	Promotes the opening of public information and the development of advanced services based on data
169	Observatorio de Competitividad Turística y Desarrollo Sostenible de Ashotel	Spain	Ashotel	Helps associated companies to be more competitive when it comes to assuming environmental, economic and social commitments, thus contributing to the progress of a more responsible tourism
170	HODE1AN	Spain	Tecnalia	Promotes sustainable and efficient tourism, allowing analysis on consumption habits, origin or how visitors move around the territory of Gipuzkoa
171	National Institute of Statistics	Spain	National Institute of Statistics	Gives an official and detailed overview on society, the economy, the environment and the state. It explicitly covers data themes related to tourism
172	Statistic Database Sweden	Sweden	Statistics Sweden	Produces official statistics regarding Sweden population, economy, society, and environment. It explicitly covers data themes related to tourism
173	Tourism Tracer	Sweden, Tasmania, Japan	University of Tasmania	Allows the tourism industry to access information on tourist behaviour
174	Stadt Zürich	Switzerland	Stadt Zürich	Provides open data about the Kanton of Zurich, including relevant data for the tourism sector
175	Data & Content Hub Luzern Vierwaldstättersee (LUV)	Switzerland	Lucerne University of Applied Sciences and Arts	Serves as a common platform for various applications that the tourism organizations and service providers of the region develop and operate

DATES: European Data Space for Tourism

Deliverable D2.1 Data sharing initiatives inventory

N	Name & Link	Country	Owner	Challenge addressed
176	Discover.Swiss	Switzerland	Cooperative Discover.swiss	Enables all service suppliers such as tour, event and accommodation providers or transport companies in Switzerland to provide information
177	Swisstopo	Switzerland	Federal Office of Topography swisstopo	Provides official open geodata about Switzerland
178	Federal Statistical Office of Switzerland	Switzerland	Federal Department of Home Affairs	Produces and publishes statistical information on the status and development of the population, economy, society, education, research, territory and the environment. This information is used for opinion building among the population and for the planning and management of key policy areas.
179	Thailand Smart Tourism Platform	Thailand	Tourism Authority of Thailand (TAT)	Integrates the multiple tourism and other big data sources into a centralized database to allow greater data visualization and analysis
180	Office for National Statistics	UK	Office for National Statistics	Produces official statistics regarding UK population, economy, and society. It explicitly covers data themes related to tourism
181	Visit Britain	UK	Department for Digital, Culture, Media & Sport	Enables to understand the competitive tourism landscape, uncovering trends while promoting tourism in United Kingdom
182	NYC Open Data	USA	Open Data Hub	Engages New Yorkers in the information that is produced and used by City government
183	US Department of State - Country travel information	USA	US Department of State	Gives access to information to be taken into account by US travellers when visiting countries abroad
184	USCAmpgrounds.info	USA	USCAmpgrounds.info	Facilitates the access to data about public campgrounds
185	Plan4all (Open geodata for planning activities)	World	Plan4all z.s.	Offers open data for reuse in research, development & business innovation in areas like tourism, smart cities and transport
186	EONA-x	World	Aéroport Marseille Provence, Amadeus, Groupe ADP (Aéroports de Paris), Air France-KLM, Renault Group, SNCF	Facilitates data sharing in a secure and standardized way to enhance seamless travel, multi/intermodality and a sustainability approach to smart cities
187	BlueFlag	World	Foundation for Environmental Education	Maps the marinas and beaches which received the "Blue Flag" recognition, testifying high standards in water quality, environmental management, environmental education and safety

DATES: European Data Space for Tourism

Deliverable D2.1 Data sharing initiatives inventory

N	Name & Link	Country	Owner	Challenge addressed
188	Pantou - Promoting Accessible Tourism Around the World	World	ENAT	Promotes accessible tourism suppliers, showing places to go and things to do – in safety and with convenience and comfort; enables suppliers and destinations to find new partners and build networks of accessible services, for the benefit of visitors, local businesses and communities
189	UNWTO Tourism data dashboard	World	World Tourism Organization (UNWTO)	Provides statistics and insights on key indicators for inbound and outbound tourism at global, regional and national levels
190	CEIC Data	World	CEIC Data	CEIC curates the most relevant economic, industry and financial data for economists and investment professionals to track and gain genuine insight into what is happening in their markets
191	OECD tourism Statistics	World	The Organisation for Economic Co-operation and Development	Facilitates the monitoring of policies and structural changes affecting the development of tourism
192	The World Travel & Tourism Council Reports	World	The World Travel & Tourism Council	Gives access to tourism statistics (with particular emphasis on its economic dimension), tourism indicators and those of other sectors associated with tourism activity
193	Protected Planet	World	UNEP-WCMC	Facilitates the tracking progress towards global targets for protected and conserved areas
194	International Air Transport Association (IATA)	World	IATA	Provides data to understand the patterns and trends in passenger and cargo markets with the aim of deriving actionable insights

4 Initial findings and next steps

4.1 Initial findings

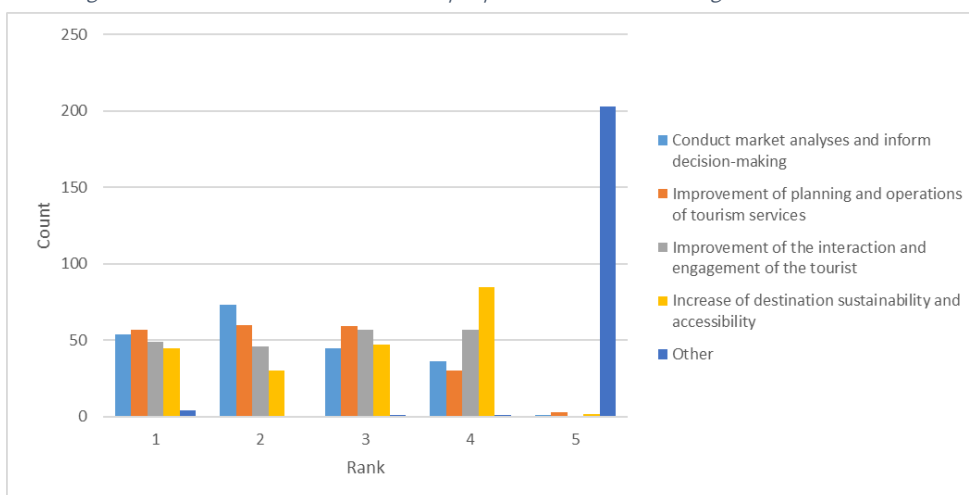
Throughout the Study, initial findings of crucial importance were uncovered. These results will be deeper investigated in the next steps in order to identify gaps and overlaps among the identified initiatives (deliverable *D2.2 Analysis of gaps and overlaps*).

Below, a brief overview of the initial findings is provided. More specifically, the team was able to bring to light the most relevant data needs in the tourism sector, in terms of

- (i) **Data purposes**, among which the most important² were revealed to be:
- conduct market analysis and inform decision-making, thanks to a higher availability of data and improved data analytics capability,
 - improve planning and operations of tourism services, facilitated by the understanding of tourism patterns through data.

Indeed, as shown in Figure 3, the first purpose was ranked 54 and 73 times respectively as the first and second most relevant purpose for data exchange in the tourism sector. While the improvement of planning & operations has been considered 57 and 60 times respectively as the first and second most important purpose.

Figure 3 - Rank of the most relevant purposes for data exchange in the tourism sector

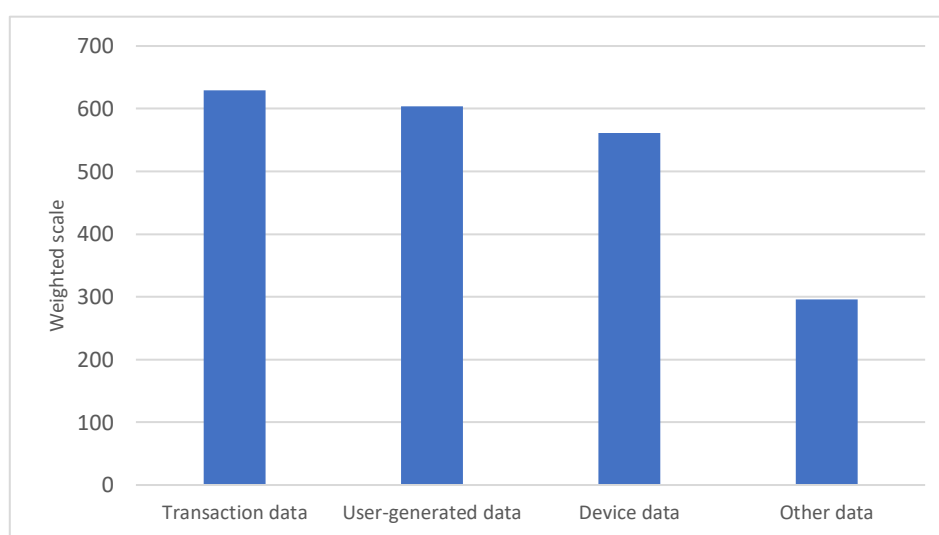


² Such ranking was calculated assigning a weight (from 5 to 1) to each of the rank positions (1st to 5th) expressed by the respondents. Therefore, for each vote ranking the purpose as the most important (1st) a 5 weight was assigned and so on. Then, final ranking is based on the sum of all the products of the number of votes for a ranking position times the weight assigned to that rank position. E.g. "conduct market analysis and inform decision-making" has an overall score of 770, calculated as 54 (votes for 1st position) x 5 (weight of the 1st position) + 73 (votes for 2nd position) x 4 (weight of the 2nd position) + 45 (votes for 3rd position) x 3 (weight of the 3rd position) + 36 (votes for 4th position) x 2 (weight of the 4th position) + 1 (votes for 5th position) x 1 (weight of the 5th position).

(ii) Data sources

Overall, according to the survey, transaction data and user-generated data are considered the most important sources of data to be exchanged in the tourism sector (Figure 4)³. At the same time, when asked which datasets have not yet been addressed by existing data sharing initiatives, respondents most frequently mentioned transaction and device data among the missing data sources. Consistently with these results, device data also appeared to be one of the missing data sources in the data sharing initiatives inventory, since only 35 out of 194 initiatives present data collected by devices and sensors that allow the tracking of movements, and by smart city/data initiative devices and sensors.

Figure 4 - Most important data sources



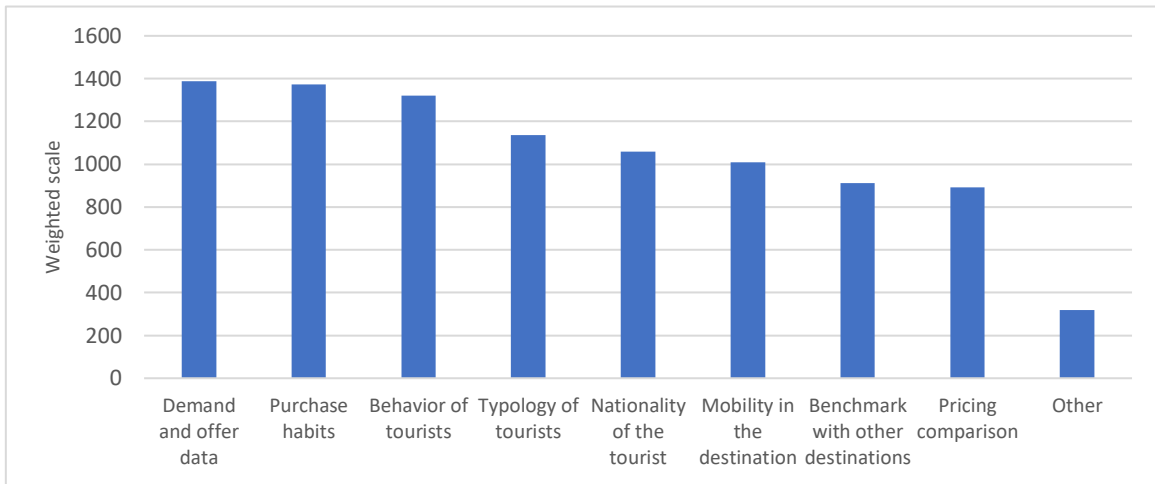
(iii) Data information

Overall, according to the survey, the most important tourism information concerns demand and offer data, tourists' purchase habits, and the behaviour of tourists⁴, as shown in Figure 5.

³ This ranking was using the same methodology explained in footnote 2.

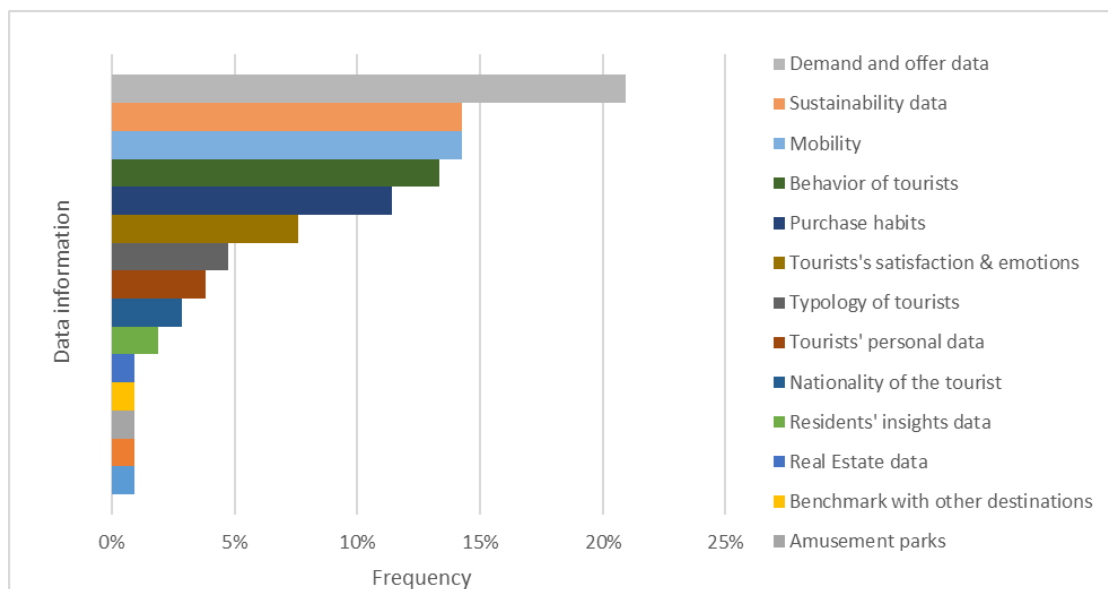
⁴ This ranking was using the same methodology explained in footnote 2.

Figure 5 - Most important tourism information



At the same time, when asked which datasets have not yet been addressed by existing data sharing initiatives, respondents most frequently mentioned data regarding demand and offer, sustainability, mobility, behaviour of tourists and purchase habits among the missing data information (Figure 6). Moreover, the gap in data related to purchase habits is confirmed by the lack of data sharing initiatives covering transaction data in the inventory.

Figure 6 - Frequency of missed data information in data sharing initiatives



(iv) Data characteristic

The survey underlines shortages in terms of completeness of the data. Indeed, when asked which are the shortages in the known/used data sharing initiatives, the respondents most frequently mentioned problems such as inaccuracy/superficiality of data, low quality and granularity of data, incomplete metadata, etc... The second most frequent type of answers refers to the lack of data interoperability. Answers related to the lack of coordination/cooperation and those related to the lack of timely data are the third most frequent types of shortages mentioned.

4.2 Next steps

Following the submission of deliverable D2.1, the project team will focus on analysing the inventory and the survey results (both completed in Task 2.1) to identify gaps and overlaps among the identified initiatives and to identify a set of priority data needs, problems, and purposes for the tourism industry (Task 2.2).

For identifying gaps and overlaps, the team has started developing a cluster analysis and a subsequent taxonomy of the initiatives identified in the inventory. Building on these analyses, the team will organise a workshop to identify – together with tourism stakeholders – which are the priority data needs, problems, and data purposes.

The results of the cluster analysis, the taxonomy analysis and the workshop will be analysed and presented in deliverable *D2.2 Analysis of gaps and overlaps*.

Following the submission of deliverable D2.1, the project team will focus on determining potential common building block with other data spaces (Task 2.3) and on identifying tourism data space priority datasets, data purposes and developing use cases (Task 2.4).

Regarding Task 2.4, through interviews, the team will deepen the knowledge on the initiatives already addressing the previously identified priority needs and purposes. Such consultations will also help the team in deepening the contents of datasets possibly answering the most important stakeholders' data needs. Such new information will be the basis for developing an initial list of uses cases, which will be later developed thanks to a new co-design workshop.

The results of Tasks 2.3 and 2.4 will be presented in the last Work Package 2 (WP 2) deliverable – *D2.3 Identification of data typology and priority lists of datasets, potential use cases and common building blocks with other data spaces*.

All upcoming Work Package 2 activities are summarised in the following Table 2.

Table 2 - Next WP 2 activities

Activities	Deliverable	Deadline
Cluster analysis	<i>D2.2 Analysis of gaps and overlaps</i>	28/02/2023
Taxonomy analysis		
Prioritization workshop (8 th February)		
Identifying potential common building blocks with other data spaces	<i>D2.3 Identification of data typology and priority lists of datasets, potential use cases and common building blocks with other data spaces</i>	30/04/2023
Deepening on the initiatives		
Use cases definition		
Use cases workshop (3 rd week of March)		

Furthermore, the results of WP 2 will be at the base of Work Packages 3 and 4. Regarding Work Package 3, some of the activities of *Task 3.1 Reference architecture for tourism data space* and *Task 3.2 Common standards and interoperability* are linked to the outputs of WP 2. Task 3.1 will build on the tourism data sharing initiatives inventory (delivery 2.1) and the

analysis of Gaps and Overlaps (deliverable 2.2) to define the tourism data space reference architecture and technical framework specifications. Task 3.2 will start from the analysis of the tourism data sharing initiatives mapped in the inventory (deliverable 2.1) to identify the common standards and interoperability protocols that are essential to the development and harmonization of new data services for the tourism industry and those connected to it (e.g., transport, environment, commerce, smart cities).

Regarding Work Package 4, some of the activities of *Task 4.1 Roles and Interactions in a European Tourism Data Space* will rely on WP 2. Task 4.1 will begin from the analysis of the use cases identified in Task 2.4 to shortlist the most representative ones from a governance point of view, and to identify the tourism data space governance requirements. Moreover, Task 4.1 will analyse the outputs of WP 2 from a governance perspective, in order to be able to set a baseline of legal and regulatory aspects for the tourism data space.

Annex I Data sharing initiatives gathering tool – User guide

The present document will present a clear and detailed guide of the data sharing initiatives gathering tool. As a first step, it is important to have a common understanding of what is meant with “data sharing initiative”. In the context of this project, the perimeter adopted is broad, meaning that the team will consider a data sharing initiative any platform and/or initiative with a consistent focus of exchanging data in the field of tourism. Therefore, initiatives in which partners work together to collect and share tourism data for a common purpose, as well as national public bodies regularly collecting data on the tourism industry (e.g. national institutes for statistics) follow both under the definition of “data sharing initiative”.

All the data sharing initiatives will be mapped based on several dimensions, which can be divided in two main groups: Background information and Data information. The data sharing initiatives gathering tool consists of two sheets: (i) “**Introduction**” explaining the background and data information requested, together with a guide on how to complete the mapping; and (ii) “**Mapping**” displaying the mapping template to be filled-in by T2.1 partners.

1. Introduction

The **Introduction** sheet provides a guide on how to fill in the mapping template, defining the background and data information. Moreover, it gives an overview of the distribution of the task by geographical area.

Geographical distribution

ANYSOLUTION	INTELLERA	AMADEUS	OUTDOORACTIVE	DIH TOURISM 4.0	AVORIS
EU Institutions Portugal Spain UN	Croatia Cyprus Greece Ireland Italy Malta Romania Slovenia	Belgium France Luxembourg	Austria Germany Netherlands Switzerland	Bulgaria Czech Republic Hungary Poland Slovakia	Denmark Estonia Extra EU Countries Finland Latvia Lithuania Sweden

The Data sharing initiatives gathering tool will allow to map the following dimensions for each identified initiative.

Column header	Value	Explanation
Name & link	Free text	Name of the data sharing initiative and link
Geographical level	Free text	The geographical level covered by the initiative - e.g. international/country/region/city
Geographical level Admin 1	Free text	Country(ies) covered by the initiative. Please use county names as written in the table above (e.g. "Czech Republic" rather than "Czechia")
Geographical level Admin 2	Free text	Region(s) covered by the initiative. If the initiative is at regional level, please fill in also the "Geographical level Admin 1"
Geographical level Admin 3	Free text	City(ies) covered by the initiative. If the initiative is at city level, please fill in also the "Geographical level Admin 1" and "Geographical level Admin 2"
Partners	Free text	Organizations participating to the initiative
Partner type	Free text	Typology of partners - Public or private
Owner	Free text	Organization(s) responsible for the initiative
Contacts	Free text	Public email or contact form of the initiative/owner
Challenge Addressed	Free text	The issues that the initiative aims to solve
Tourism sub-sector	Transport	The transportation sector aims at helping tourists to get where they need to go. This includes providing them with the means to get to and get back from their destination. It includes services related to road, rail, air and sea travel.
	Food and beverage	The food and beverage sector gives tourists essential refreshments at all stages of their travel experience, including during travel, when spending time in their chosen accommodation.
	Car and other rental	Having access to a car and other vehicles is an important part of the tourist experience, as it give tourists the freedom to explore and travel freely. Rental services provide this kind of access and often operate in close proximity to airports, airlines or travel companies.
	Travel agency, tour operator and related activities	These entities are focused on connecting customers with travel services they can benefit from, as well as providing customers with important information that can assist them in their travels.
	Accommodation	The accommodation sector is central to the travel and hospitality industry, since people travelling to different areas require somewhere to stay, rest, sleep and unwind.
	Generic	The initiative covers more sub-sectors, rather than focusing on a specific one

Column header	Value	Explanation
Data Purpose	Tourists' engagement	Improve interaction and engagement with the tourist: Development of tourism services increasingly personalised and based on a higher degree of interaction with the customer/end-user.
	Planning & operations	Improve planning and operations of tourism services: Understanding (and possibly predicting) tourism patterns through data can help to improve the overall efficiency and competitiveness of the tourism ecosystem.
	Market analysis & decision making	Conduct market analyses and inform decision-making: Higher availability of data and improved data analytics capabilities allow improvements in market analysis and decision-making.
	Sustainability & accessibility	Increase destinations sustainability and accessibility: Enhanced analysis and management of data can improve the destinations sustainability and accessibility producing positive impacts on society at large.
	Other data	Other purpose that you may consider relevant and/or in case the previous purposes do not match your analysis.
Data User	Tourism destinations & public authorities	This includes a wide variety of different entities, from multilevel PAs, to education institutions and cultural heritage sites. In some cases, destinations mutualise the effort by establishing partnerships, even cross-border. In larger countries, regional administrations sometimes launch strategies involving the entire regional tourism ecosystem
	Private sector – Tourism industry	There is a wide spectrum of private actors specialising in the provision of services for the tourism sector: big vacation rental sites and touristic metasearch engines, hotel groups, and a growing number of IT and software companies offer tourism-specific data-driven and data analytics services.
	Private sector – Other	These are private companies not directly related to the tourism sector, but capable of acquiring or producing high value data sets. These include for instance telecommunications companies. They usually sell the data they collect to operators in a variety of sectors - including tourism.
Data Sources	User generated data	User-generated content (UGC) is data produced and made available by tourists themselves. UGC can be divided into two main sub-categories: textual information (such as reviews, posts, etc.) and photos (usually uploaded on social media, including

Column header	Value	Explanation
		additional information, such as locations, time and tags).
		"Which one?" values: text; photos; videos; in case of other user generated data please specify
	Transaction data	<p>The rise in cashless payment solutions – from shops to public transports, accommodation and tourism sites – generates massive amount of tourism-related commercial data. Such data is generated anytime a transaction is performed, including in the pre-visit phase.</p> <p>"Which one?" values:</p> <ul style="list-style-type: none"> - Online booking and purchasing: data generated by this kind of transactions; - Consumer card transaction: consumer cards data (including credit cards data, reward cards data and payment cards data) - Web search and webpage visiting: data generated by web serches related to tourism related transactions <p>- In case of other transaction costs, please specify</p>
	Device data	<p>Device data can be divided in data collected by devices and sensors that allow the tracking of movements, and data collected by smart city/data initiative devices and sensors.</p> <p>"Which one?" values:</p> <ul style="list-style-type: none"> - GPS, mobile roaming, RFID, bluetooth, meteorological, Wi-Fi: data generated through the use of these technologies - Smart city (pollution, traffic, waste, etc.): data collected by smart city/data initiative devices and sensors <p>- In case of other transaction costs, please specify</p>
	Other data	High value data can also come from other sources, including private businesses datasets (e.g., data on the number of passengers held by airlines), statistics (such as datasets published by public authorities), and context-specific information (e.g., the information on the history of a place, which can be used to develop a virtual reality experience).

Column header	Value	Explanation
		Which one? values: - Private businesses data: data generated by the private businesses (e.g. data on the number of passengers held by airlines, hotels room bookings, etc.) - Statistics: aggregated data on tourism metrics (e.g. annual number of destination visitors, Net occupancy rate of bed-places and bedrooms in hotels, etc...) - Context-specific data: on the destination information (e.g. the information on the history of a place.) - In case of other costs, please specify
Data collection mode	Free text	Where do data shared through the initiative come from? E.g. only some specific organizations can provide data or is it open?
Data sharing strategy	Free text	Please, specify how users can access the data shared through the initiative. E.g. upon subscription/(multi)bilateral agreements, upon payment/for free, etc...
Link with other Data Spaces	Free text	Data space sector (and possibly name of the data space, e.g. "Mobility - EONA-X")
Link of data license	Free text	Please provide, if possible, the link of data license

Here are the detailed instructions to fill-in the mapping:

- For each identified data sharing initiative, add a row in the table in the sheet called "Mapping". Please, fill in every cell following the guide below: some gaps require a "free text" input, some others require to add an "x" under the relevant column headers.
- Table above mentioned "Guide" provides an explanation of the meaning of each column header and whether a "free text" or "x" answer is required. An "x" answer is requested for "Tourism sub-sector", "Data purpose", "Data User", and "Data Sources".
- For "Tourism sub-sector", "Data purpose", "Data user", and "Data sources" please add a "x" under the most appropriate value. The values are not mutually exclusive, therefore - if needed - you can add more than one "x" for each column header.
- For "Data purpose - Other purpose", please add a "x" under the column "Y/N" if the data sharing initiative covers the value and then, under "Which one?", if possible, please specify the other data purpose.
- For "Data sources", for each value, please add a "x" under the column "Y/N" if the data sharing initiative covers the value and then, under "Which one?", if possible, please specify the details of the data shared through the initiative using the values mentioned in the "Explanation" of the Guide

2. Mapping

The second sheet, **Mapping**, consists in the template for mapping the data sharing initiative for tourism purposes, gathering all the aforementioned information. For each identified data sharing initiative, users need to add a row in the table and fill in

Annex II Survey

1. Introduction

This survey is launched as the first consultation activity of the project “**DATES – Data Space for Tourism**”, financed by the **Digital Europe Programme (DIGITAL)**. The objective of the project is developing a strategy roadmap for building a tourism data space, in collaboration with stakeholders of the tourism sector.

A **data space** is defined as a decentralised and standard-based structure to enable trustworthy data sharing between the data space participants on a voluntary basis, regulated through governance, business, legal and technical combined mechanisms.

Therefore, a data space is a particular type of data sharing initiative, characterized by a higher level of data control by participants. Indeed, in data spaces, data are not centrally stored and exchanges (for free or against compensation) are based on agreements. A second key aspect of data spaces is trust among participants, which is not only guaranteed by technological requirements, but also by the data space governance.

As a transversal industry, tourism has a great need for efficient data exchange within and across industries. A data space indeed represents an opportunity for the sector: it allows to capture value associated with data production within the industry and, at the same time, its possible interoperability with other sectors data spaces (e.g. mobility and cultural heritage data spaces) allows to also access other industries' data. Such enhanced availability of data could foster industry innovation, the digital transformation of tourism SMEs, and provide a basis for policy making.

The starting point of DATES consists in mapping and analysing the state of the art of the existing data sharing initiatives in the sector. Therefore, the aim of this questionnaire is that of exploring:

1. which data are needed by tourism sector stakeholders,
2. which data sharing initiatives in the tourism sector are known/used by sector stakeholders.

The survey is structured as follows:

1. Section 1 regarding general information about respondents,
2. Section 2 regarding sector stakeholders' data needs,
3. Section 3 regarding existing tourism data sharing initiatives.

Questions marked with * are compulsory.

2. Section 1: General information

*Name Free text

*Surname Free text

***Country** Multiple choice

***Organization** Free text

***Email** Free text

***Q1. Which is the type of your organization?** Single choice

- Public authority
- NGO / not-for-profit organization
- Large for-profit company
- SME
- Start-up company
- Other → specify

***Q2: How would you describe your organization?** Single choice (dependent from Q1 "Public authority")

- Local authority
- Central authority (e.g. Ministry, National Agency...)
- Other

***Q3: How would you describe your organization?** Single choice (dependent from Q1 NGO / not-for-profit organization, Large for-profit company, SME, Start-up company, other)

- Travel agency;
- Tour operator;
- Rental service;
- Booking platform;
- Transport company;
- HORECA (hotellerie-restaurant-café) company;
- Other → *specify

***Q4: How would you describe your function?** Single choice

- Marketing
- Data Analytics
- Business development
- General management
- Operations
- Finance
- Purchasing
- Public relations
- Other → *specify

***Q5: Do you consider your organization as a producer or consumer of tourism data?**
Single choice

Data producer: during business activities, your organization produces and/or collects tourism-related data; Data consumer: your organization (would) needs data to carry out / improve business activities

- Data producer
- Data consumer
- Both

***Q6: As mentioned in the Introduction, the Consortium aims to develop a roadmap for building a tourism data space in collaboration with sector's stakeholders, as they will be the final users of such initiative. For this reason, the Project Team is creating a coalition of stakeholders to be consulted and involved in this co-creation process. Thus, we would like to take the chance to ask whether you would like to receive invitations to consultation activities (surveys, interviews and workshops) that will be organized until the end of the Project (October 2023).**

Do you agree to be invited to consultation activities related to this Project? Single choice

For this purpose, your email contact will be shared with Consortium partners (i.e. Amadeus, aNewGovernance, AnySolution, ARCTUR, AVORIS, DIH Tourism 4.0, IDC, IDSA, Intellera Consulting, Italian Ministry of Tourism, NECSTOUR, Outdooractive, Tecnalía).

- Yes
- No

Your personal data shall be processed in compliance with the Regulation 2016/679 (GDPR). The statistical results will be used for internal research purposes and, if presented to parties other than the aforementioned Consortium partners, results will be reported in aggregate form, so that it will not be possible to identify nor the respondent nor the organization on behalf of which the response was given. Please read the full privacy notice (PDF).

- By ticking this box, I agree with the provisions on personal data protection explained in the above-mentioned privacy notice.

3. Section 2: Tourism sector's data needs

***Q7: For which of the following purposes is data exchange most needed in the tourism sector?**

Please rank the following options starting from the one needing data exchange the most

Explanation:

1. **Improvement of the interaction and engagement of the tourist:** development of tourism services increasingly personalized and based on a higher degree of interaction with the customer/end-user;

2. **Conduct market analyses and inform decision-making:** higher availability of data and improved data analytics capabilities by tourism destinations which allow improvements in market analysis and decision-making;
3. **Improvement of planning and operations of tourism services:** understanding (and possibly predicting) tourism patterns through data can help improve overall efficiency and competitiveness of the tourism ecosystem. Depending on the type of destination and the characteristics of its attractions, tourism flows can present more or less clear or recurring patterns – such as in relation to seasonal attractions or specific landmarks/sites;
4. **Increase of destination sustainability and accessibility:** Enhanced analysis and management of data can improve destinations sustainability and accessibility, producing positive impacts on society at large.
 - Improvement of the interaction and engagement of the tourist
 - Conduct market analyses and inform decision-making
 - Improvement of planning and operations of tourism services
 - Increase of destination sustainability and accessibility
 - Other → please specify

***Q8: Which of the following types of data you think are the most important to be exchanged in the tourism sector?**

Please rank the following options starting from the most important

Explanation:

1. **User-generated data** is data produced and made available by tourists themselves. UGC can be divided into two main sub-categories: textual information (such as reviews, posts, etc.) and photos (usually uploaded on social media, including additional information, such as locations, time and tags).
2. **Transaction data** is generated anytime a transaction is performed, including in the pre-transaction phase. This source of data is divided into three sub-categories: data from the web searches and the webpage visits of tourists, data from the online bookings and purchases, and data from consumer cards (including credit cards, reward cards, payment cards, etc.);
3. **Device data** is data collected by devices and sensors. This category can also be divided into two sub-categories: data collected by devices and sensors that allow the tracking of movements (including GPS data, mobile roaming data, Bluetooth data, RFID data, WIFI data and meteorological data), and data collected by smart city devices and sensors, which are usually used for broader purposes but can also be put to use for tourism purposes (e.g. data from sensors traffic, air quality and pollution, public transportation, internet access, waste management, etc.);
4. **Other data:** high value data can also come from other sources, including private businesses datasets (e.g., data on the number of passengers held by airlines), statistics (such as datasets published by public authorities), and context-specific information

(e.g., the information on the history of a place, which can be used to develop a virtual reality experience).

- User-generated data
- Transaction data
- Device data
- Other data → specify

***Q9: Which of the following information about tourism are the most important for you?**

Please rank the following options starting from the most important

- Typology of tourists
- Behaviour of tourists
- Mobility in the destination
- Purchase habits
- Nationality of the tourist
- Demand and offer data
- Pricing comparison
- Benchmark with other destinations
- Other → specify

4. Section 3: Existing tourism data sharing initiatives

In this Section, we aim to explore whether you are aware of tourism data sharing initiatives and the ones you used.

For the purpose of this Project, the Team considers a data sharing initiative “*any platform and/or initiative with a consistent focus of exchanging data in the field of tourism*”. Therefore, for instance, initiatives in which partners work together to collect and share tourism data for a common purpose, data marketplaces with a dedicated focus on this industry, as well as national public bodies regularly collecting data on the tourism industry (e.g. national institutes for statistics) fall under the definition of “data sharing initiative”.

***Q10: Are you aware of any data sharing initiative for the tourism industry?** Single choice

- Yes
- No

***Q11: If yes, which one(s)?** Free text (max 500 characters) (dependent from Q10 yes)

.....

Q12: What prompted you to look for initiatives? *Please elaborate* Free text (max 500 characters)

.....

***Q13: Have you ever used a data sharing initiative?** Single choice

- Yes
- No

***Q14: If yes, which one(s)?** Free text (max 500 characters) (dependent from Q13 yes)

.....

***Q15: In such initiative(s), for which of the following purposes were data available?** Multiple choice (dependent from Q13 yes)

Explanation:

5. **Improvement of the interaction and engagement of the tourist:** development of tourism services increasingly personalized and based on a higher degree of interaction with the customer/end-user;
6. **Conduct market analyses and inform decision-making:** higher availability of data and improved data analytics capabilities by tourism destinations which allow improvements in market analysis and decision-making;
7. **Improvement of planning and operations of tourism services:** understanding (and possibly predicting) tourism patterns through data can help improve overall efficiency and competitiveness of the tourism ecosystem. Depending on the type of destination and the characteristics of its attractions, tourism flows can present more or less clear or recurring patterns – such as in relation to seasonal attractions or specific landmarks/sites;
8. **Increase of destination sustainability and accessibility:** Enhanced analysis and management of data can improve destinations sustainability and accessibility, producing positive impacts on society at large.

- Improvement of the interaction and engagement of the tourist
- Conduct market analyses and inform decision-making
- Improvement of planning and operations of tourism services
- Increase of destination sustainability and accessibility
- Other → please specify

***Q16: Which of the following types of data did you access through such data sharing initiative(s)?** Multiple choice (dependent from Q13 yes)

*For each of the selected options, please specify which “type of data sources” you have accessed by following the options in **bold**.*

The **data sources** are:

1. User generated data: data produced and made available by tourists themselves. These data can be divided in two main sub-categories: **textual information** and **photos/video**.

2. Transaction data: such data is generated anytime a transaction is performed. Like: **online booking and purchasing**; consumer **card transactions**; web search and **webpage visiting**.
3. Device data: can be divided in data collected by devices and sensors that allow the **tracking of movements** (GPS, mobile roaming, meteorological, Wi-Fi); and data collected by **smart city/data initiative devices and sensors** (pollution, traffic, waste).
4. Other data: high value data coming from other sources, including **private businesses datasets** (e.g. data on the number of passengers held by airlines, hotels room bookings, etc.); **statistics**: aggregated data on tourism metrics (e.g. annual number of destination visitors, Net occupancy rate of bed-places and bedrooms in hotels, etc...); **context-specific data**: on the destination information (e.g. the information on the history of a place).
 - User generated data → *specify
 - Transaction data → *specify
 - Device data → *specify
 - Other data → *specify

***Q17: Have you obtained valuable information from such data sharing initiative(s)?**

Free text (max 500 characters) ([dependent from Q13 yes](#))

.....

***Q18: Are there any shortages in the data sharing initiative(s) you know? Please elaborate** Free text (max 500 characters)

.....

***Q19: According to you, which datasets are not yet been addressed by existing data sharing initiatives? Please elaborate** Free text (max 500 characters)

.....