BLUTOURSYSTEM

SMART CROSS BORDER DATA SYSTEM (SCBDS)

Final Version of 01/January/2019

Deliverable Number D. 3.1.1

Document references

Project: BLUTOURSYSTEM "*Knowledge platform, skills and creative synergies for blue tourism ecosystem development*"

Axis: BLUE INNOVATION

Specific Objective: 1.1 - Enhance the framework conditions for innovation in the relevant sectors of the blue economy within the cooperation area

Work Package N.: WP3

Work Package Name: Knowledge based tools (KBT) creation CB knowledge networks development

Activity N.: act 3.1

Activity Name: Calibrating Tourmedasset DSS on CB area for new knowledge based tools

Deliverable N.: D n.3.1.1

Deliverable Name: SMART CROSS BORDER DATA SYSTEM

Credits

Partners in charge: Ca Foscari University of Venice
Partners Involved: University of Split
Edited by: Dario Bertocchi[1], Nicola Camatti[2], Jan van der Borg[2], Raffaella Lioce[2]
Checked and reviews by: Quality Project Manager
Approved by: Steering Committee

Info

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Scope of the documents

The scope of this document is to describe the creation, design and utility of the SMART CROSS BORDER DATA SYSTEM (SCBDS), a knowledge tool able to support the development of blue tourism in Cross-border area.

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Data system design

The creation of the SCBDS has benefited primarily from the experience developed in two European projects, TOURMEDASSET and SHAPETOURISM both with the aim of developing innovative analyses on the performance of the tourism destination and on the monitoring of tourism sector and impacts. The first project had the objective of using, processing, aggregating public data, trying to extract value useful to destinations, DMOs and all tourism stakeholders from the open data available on the web in the official statistics sites. ShapeTourism project, on the other hand, tested the procedures for collecting, cleaning, analysing and aggregating data created by users using the open data available on the web, with the aim of monitoring the performance of the destination also from the point of view of users.

BlueToursystem has as its first objective, and one of the first steps of the project, to combine the lessons learned from these two projects and make the product intelligible, easy to read and share, proposing a data-driven approach that will be defined and developed among the project itself. To implement this approach, which will later take the form of an operational methodology, it is relevant to define some standards for processing and quality of data used. These steps on the use and re-elaboration of the data are:

- the quality of the data;

- the sizes of the data quality;

- the value of the data;

and then this entity defined as "data" is activated thanks to these following processes:

- data collection;

- data management (storage);

- data analysis;

- the re-use of the processed data.

The definition of "data quality" can therefore be: "A set of characteristics that a data item must have in order to perform the tasks for which it was designed; these characteristics are specifically related to the values and format of the data item". The analysis of data quality should be carried

out in four main steps:

1. **Definition of quality dimensions**: the objectives and the different quality dimensions that will be applied to the information being analysed are defined;

2. **Data Analysis**: the dimensions of the data quality are analysed. These are linked to the analysis of the process in which the data are used, identifying the computer procedures and databases;

3. **Measurement of quality dimensions**: in this phase of data analysis, the individual dimensions of data quality are calculated by means of continuous data monitoring;

4. **Improvement of data quality**: Improvement is achieved through data inspection and
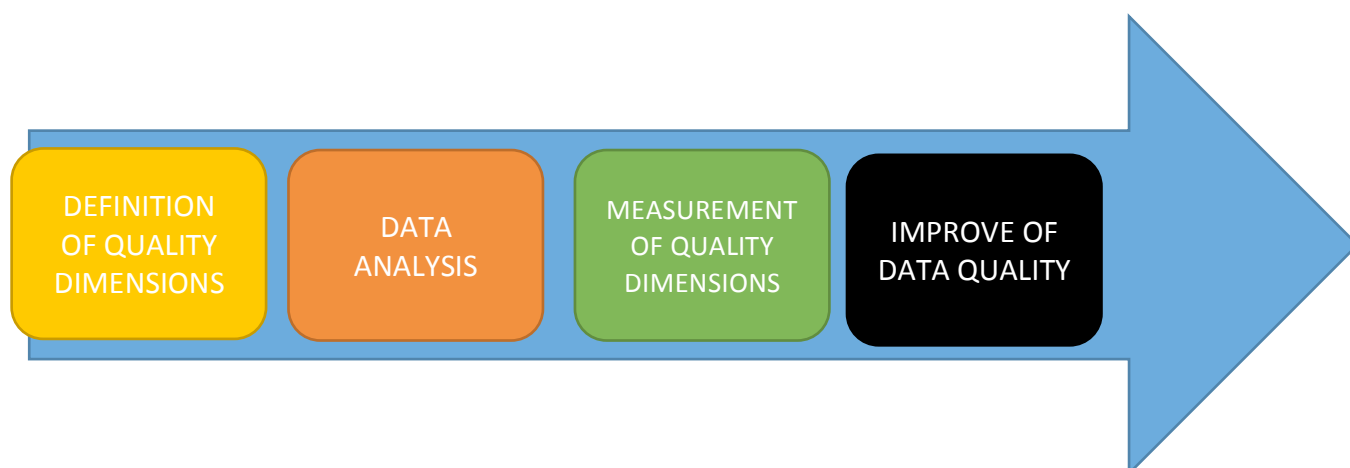
correction, process improvement and control, and the design of new processes.

Regarding the quality dimensions it is useful to distinguish the data into three main categories of quality: logic scheme (contents, coverage area/topic, level of detail, solidity); value of raw data (accuracy, comprehensiveness, currency); data visualization (iterability, portability, flexibility).

After having an overview about the dimensions is necessary to define metrics able to consider the context passes from the definition of the dimensions through which to evaluate the quality of the data. The main dimensions to take into account are:

- **Syntactic accuracy**: defined as the closeness of the value of the data item to a value in the syntactic definition domain considered correct;

- **Semantic accuracy**: defined as closeness of the value of the data item to a value in the domain of semantic definition considered correct;

- **Time accuracy**: defined as the closeness of the value of the data item to the temporally correct value;

- **Actuality**: defined as the adequacy of the value of the data item with respect to the temporal needs of the context of use;

- **Completeness of values**: defined as the extent to which the values of the data items are present in the database. A data item must have a value, otherwise it is null; the null values should be limited and in any case their meaning must be specified;

- **Internal Consistency**: relative to the degree of consistency of data item values within the same entity. For example, the values of the CAP, Municipality, Province data items must be consistent within the Person entity;
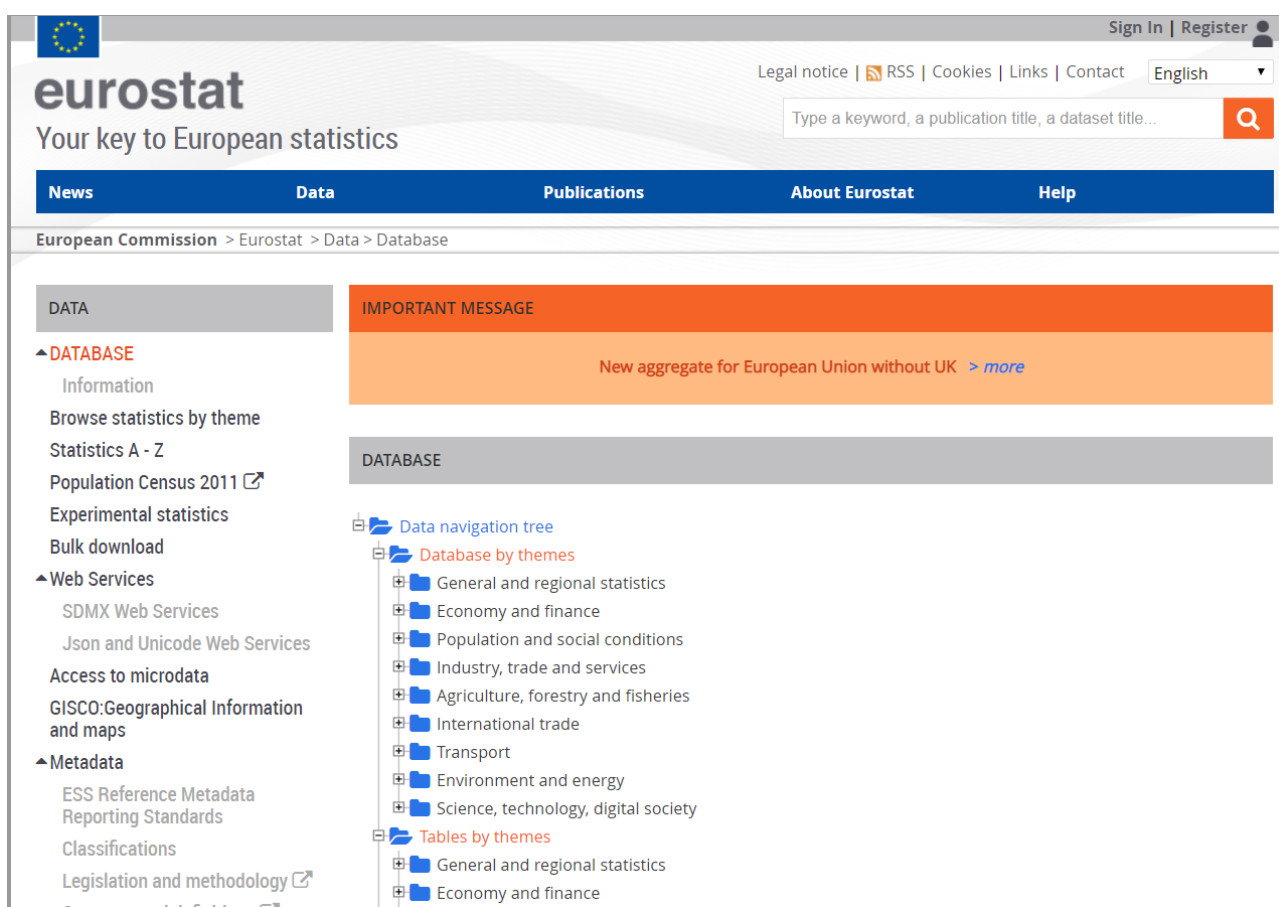
- **External Consistency**: relative to the degree of consistency of data item values within different entities.

Data source

For the design and creation of the SCBDS and to obtain an information repository that allows tourist destinations to develop strategies, adapt operational actions and guide the development of innovative activities for blue innovation through a data-driven approach, two main data sources were used:

1. **official data at European level**, related to national and international tourism statistics, with standards shared and adopted by all member states for data collection, presentation and sharing. The official source of the data is the EUROSTAT website - http://ec.europa.eu/eurostat and the systematic collection has been done using the database section and collecting the data related to the following macro-sectors:

- **General and regional statistics;**
- **Economy and finance;**
- **Population and social conditions;**

- Industry, trade and services;

- Agriculture, forestry and fisheries;

- International trade;

- Transport;

- Environment and energy;

- Science, technology, digital society

The task of the SCBDS, through the integration and analysis of this public and open databases, is to extract the value of the data through the creation of indicators that will be described in this document.

2. **unofficial data coming from the web** (Social media) and definable as user-generated contents (UGC), able to offer specific insights on destinations and tourist facilities and also present qualitative values and information compared to quantitative ones. Using the UGC,

the thoughts, experiences and opinions of the user, in our case tourists and city-users, are also included in official and modern statistics. In this way, the data that are used for the construction of the SCBDS also contain end-user information and are created directly by the tourist and not only by public offices delegated to the investigations and statistical reworkings. In order to provide significant information on the world of tourism, attractions, accommodation and tourism facilities, it has been decided to use the information present in the major web site 2.0 relating to the travel that is TripAdvisor.com. This site is able to illustrate the tourist situation of various European and world destinations, specifically describing the experiences of visitors in tourist attractions (e.g. museums, monuments, squares, churches, beaches, etc..), in accommodation (e.g. hotels, B & Bs, hostels, holiday homes, etc..) and in the food and beverage sector (restaurants, pizzerias, bars, clubs, shops).
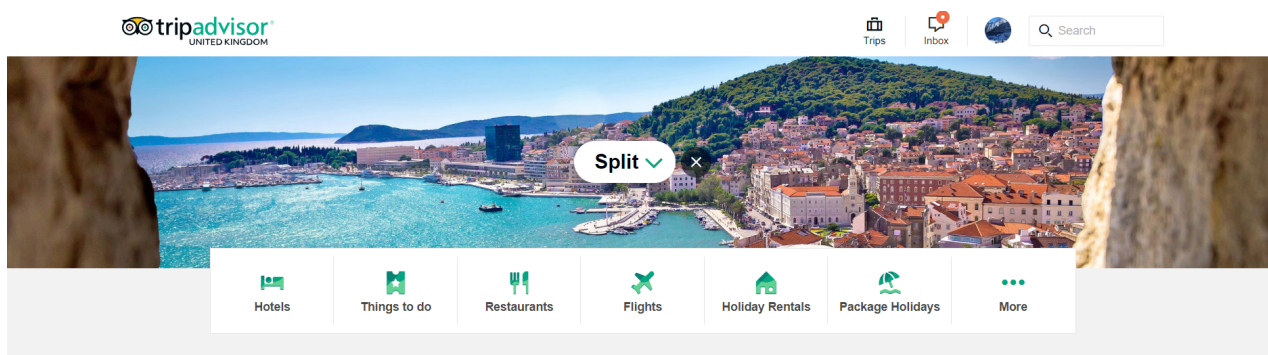
Data quality structure

Regarding the structure of the data collected, processed and analysed to build the SCBDS, it is possible to evaluate the quality and the dimensions of the data in correlation of the used data sources

DATA DIMENSIONS	EUROSTAT	SOCIAL NETWORK – TRIPADVISOR
Syntactic accuracy	European standard	Subjective information with some common details (e.g. price, number of reviews)
Semantic accuracy	European standard	Subjective information with a

		common rate standard
Time accuracy	Annual update	Flow of data
Actuality	High level	Very High level
Completeness of values	High performance - Nearly 100%	Few null fields
Internal Consistency	High level – European standard	Low level – users mapping
External Consistency	Metadata file are available	Low level – it is not possible to create a description without analysis and interpretation

Table 1- Quality dimensions applied to the SCBDS data source - author's elaboration

Data system development

The analysis and processing of the data must take place through technical guidelines (methods, formulas, algorithms, aggregations) and method guidelines. The technical guides are not the subject of this report, but what is important is to describe the method with which the data were aggregated and reworked indicators. The guidelines for the development of the data system were taken directly from the World Economic Forum through the re-reading and study of the document called "The Travel & Tourism Competitiveness Report 2017 Paving the way for a more sustainable and inclusive future". The index is built studying 4 main areas and dimensions of the competitiveness:

1. *Enabling environment;*
2. *Travel and Tourism policy and enabling conditions;*
3. *Infrastructure;*
4. *Natural and Cultural Resources.*

The T&T Competitiveness Index 2017 framework
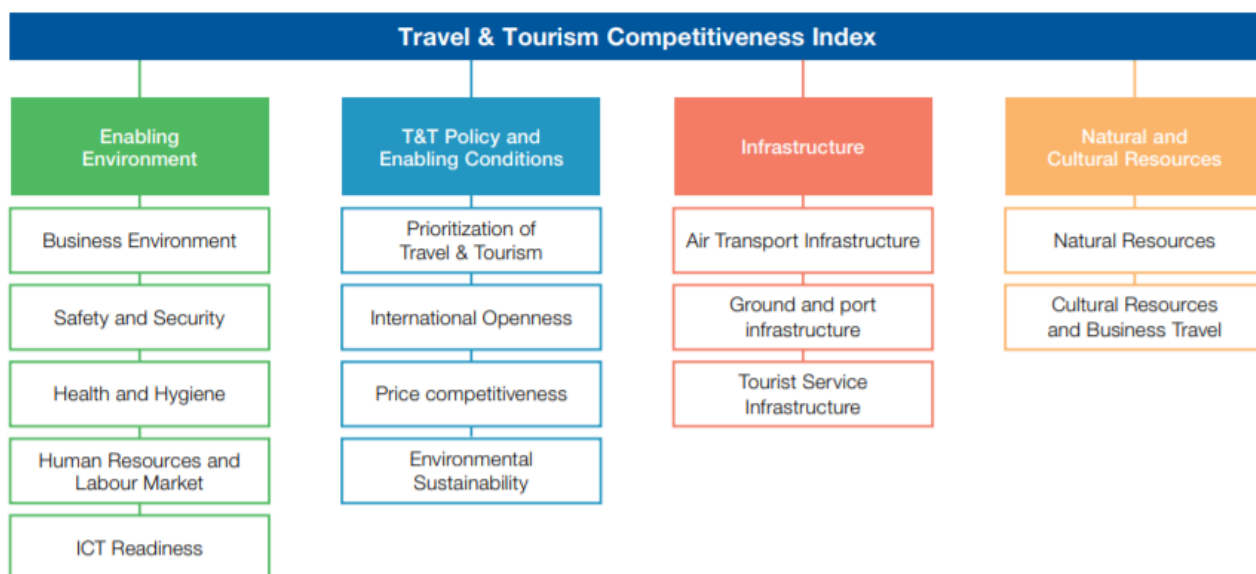
To elaborate the data the "Data Presentation" section has been used: "The Report contains an extensive data section, which features individual scorecards for each of the 136 economies covered by the travel & Tourism Competitiveness index (TTCI). These provide a complete snapshot of a country's performance in all the components of the TTCI, including the 90 individual indicators as well as additional key indicators, to offer a complete picture of a country's T&T's sector. In addition, the data tables reporting global rankings and scores for each of the indicators provide an overview of the global situation of the most relevant T&T measures available".

As far as the processing of unofficial data is concerned, a method has been developed that adds to the performance indicators of the destination also the information coming from the user. These are to be grouped into (experience satisfaction, asset utilisation rate, price level, seasonality, type of traveller).

From raw data to indicators

In order to extract value from the data, it is necessary to process it and develop analyses capable of producing synthetic indicators with which the performance and work of the destination is measured and compared. The SCBDS contains three macro-indexes of the destination's assets, a web reputation macro-index (composed of categories and variables) and a user type index macro-

index. The first three are created by processing official European-level data (nuts 2) from the Eurostat website to obtain information on:

1. Tourism competitiveness;

2. Tourist attractiveness;

3. Tourism sustainability.

The other macro indicators instead concern the **web reputation** of:

- Attractions,

- Accommodation,

- Food and beverage sector,

- vacation rentals

and the study of the **tourist profile** that has used and reviews those facilities and attractions. Going deep to the created indicators is possible to understand the components of every single index:

- COMPETITIVENESS INDEX:

- o Business environment, 1-7 (best)

- o Safety and security, 1-7 (best)

- o Health and hygiene, 1-7 (best)

- o Human resources and labour market, 1-7 (best)

- o ICT readiness, 1-7 (best)

- o Prioritization of Travel & Tourism, 1-7 (best)

- o International Openness, 1-7 (best)

- o Price competitiveness, 1-7 (best)

- o Environmental sustainability, 1-7 (best)

- o Air transport infrastructure, 1-7 (best)

- o Ground and port infrastructure, 1-7 (best)

- o Tourist service infrastructure, 1-7 (best)

- o Natural resources, 1-7 (best)

- o Cultural resources and business travel, 1-7 (best)

- <u>ATTRACTIVENESS INDEX</u>:

  - o Antropic capital index, 1-7
  - o Economic capital index, 1-7
  - o Environmental capital index, 1-7
  - o Institutional capital index, 1-7
  - o Social capital index, 1-7

- <u>SUSTAINABILITY INDEX</u>:

  - o Coverage rate of municipal waste collection by NUTS 2 regions, 1-7
  - o KIT Poli Data, Patents in green technologies per capita, Average patents in green technologies per capita, Energy indicators (ReRisk), Wind energy potential, 1-7
  - o Arrivals of tourists/km2, Nights spent/km2, Arrivals of tourists/1000 people, Nights spent/1000 people, 7-1
  - o Heating degree-days by NUTS 2 regions, 1-7
  - o Environmental treaty ratification
  - o Baseline water stress
  - o Threatened species
  - o Forest cover change
  - o Wastewater treatment
  - o Costal shelf fishing pressure

- <u>WEB REPUTATION INDEX</u>:
  - o Rating
  - o Weighted Rating
  - o Price
  - o Usage rate (number of reviews)

- o Seasonality
- o Shannon index
- o And other index related to the type of point of interest (e.g quality of the food, number of rooms, star rating, ect.).

- USE PROFILE INDEX:

- o Nationality
- o Type of traveller
- o Personal info (not always available)
- o Rating score of the experience

Dataset structure

For each macro indicator we propose screenshots related to the structure of the database that recall the attached SCBDS_dataset file that contains all the indicators of synthesis and the aggregation of the data.

COMPETITIVENESS

COMPETITIVENESS INDEX IN EUROPEAN CONTRY - NUTS 2 LEVEL

SOURCE DATA: EUROSTAT

nuts2	lgdp_pc_p	arr15	larr15	TTCIr	rank	A1r	A2r	A3r	A4r	A5r	B6r	B7r	B8r	B9r	C10r	C11r	C12r	D13r	D14r
AT11	10,15813	888530	13,69732	3,870258	142	4,525147	5,22892	4,820943	3,438766	4,475966	5,030683	5,456984	4,346693	4,874713	1,858998	2,757566	5,781976	3,475632	1,70364
AT12	10,32548	2350628	14,67019	3,941736	132	4,245846	5,149492	5,122226	3,618544	4,423813	5,030683	5,456984	4,346693	5,174844	2,524623	3,15665	5,427824	3,467762	1,631488
AT13	10,70773	6557374	15,6961	3,932057	135	4,209251	4,376473	6,338441	3,474357	4,765129	5,030683	5,456984	4,346693	4,701315	1,792862	3,617746	5,111044	3,462039	1,946687
AT21	10,34817	2585815	14,76555	3,943361	131	4,47509	5,737013	5,659808	3,418285	4,29974	5,030683	5,456984	4,346693	4,90154	1,88926	2,800181	6,354434	3,469432	1,410951
AT22	10,40729	3332584	15,01926	4,003559	122	4,511617	5,984423	6,227388	3,311513	4,324743	5,030683	5,456984	4,346693	4,951976	1,928804	2,641922	6,055544	3,462039	1,845208
AT31	10,53742	2512007	14,73659	3,901937	138	4,483447	5,57173	4,971751	3,492866	4,388204	5,030683	5,456984	4,346693	5,082669	1,883225	2,98597	5,523469	3,470147	1,695191
AT32	10,6736	6006196	15,6083	4,025065	116	4,487276	5,292092	5,715092	3,450358	4,526403	5,030683	5,456984	4,346693	4,821295	2,060323	2,999685	6,354434	3,469193	1,905382
AT33	10,57898	9166148	16,03103	4,010673	120	4,593404	6,125444	5,286751	3,365706	4,407356	5,030683	5,456984	4,346693	4,83861	1,990713	3,239293	6,354434	3,475394	1,539082
AT34	10,58658	1950820	14,48376	3,917463	136	4,415215	5,183518	5,077477	3,670749	4,441292	5,030683	5,456984	4,346693	4,867992	1,858998	2,990504	6,354434	3,473248	1,430693
BE10	10,98868	3353899	15,02563	3,574317	197	4,012616	3,642332	4,888546	3,335357	4,157048	3,35199	5,775317	3,21577	4,319281	1,844247	4,371087	4,280815	2,244856	3,006705
BE21	10,60659	1856366	14,43413	3,678728	173	4,140729	3,869463	4,412114	3,536056	4,220388	3,35199	5,775317	3,21577	4,609799	1,850395	5,186236	4,303821	2,412932	2,908654
BE22	10,26116	1263223	14,04918	3,520711	205	4,142978	4,017693	4,405901	3,465445	4,265851	3,35199	5,775317	3,21577	4,520613	1,848024	3,538455	4,366166	2,604413	2,508522
BE23	10,35774	1016308	13,83169	3,678536	174	4,152383	4,467365	4,454291	3,456735	4,217872	3,35199	5,775317	3,21577	4,648293	1,819722	5,119245	4,323053	2,311311	2,813818
BE24	10,52406	1201210	13,99884	3,695344	169	4,222081	4,115995	4,485816	3,510364	4,388134	3,35199	5,775317	3,21577	4,539016	2,685575	4,371087	4,297889	2,332654	2,930398
BE25	10,41031	3928200	15,18369	3,615861	184	4,138071	4,123746	4,475209	3,547191	4,119827	3,35199	5,775317	3,21577	4,419825	1,834856	4,765568	4,478901	2,319557	2,678048
BE31	10,52943	285090	12,56056	3,636435	180	4,222081	3,591668	4,743903	3,488359	4,482132	3,35199	5,775317	3,21577	4,843643	1,848024	4,371087	4,284833	2,318223	2,966007
BE32	10,00333	554469	13,22577	3,511723	206	4,820035	3,570784	4,318711	3,451023	4,171572	3,35199	5,775317	3,21577	4,814138	2,22807	3,69108	4,284279	2,332169	2,647871
BE33	10,11456	985028	13,80043	3,548539	202	3,9171	3,552756	4,563815	3,344096	4,142424	3,35199	5,775317	3,21577	4,582371	1,857833	4,243831	4,380458	2,387224	2,74221
BE34	9,989665	897517	13,70739	3,553712	201	4,127758	3,651865	4,327025	3,513714	4,27347	3,35199	5,775317	3,21577	4,400644	1,848024	3,759041	4,61774	2,637761	2,646002
BE35	10,06476	505616	13,13353	3,561803	198	3,930445	3,651515	4,312754	3,383481	4,213871	3,35199	5,775317	3,21577	4,614385	1,848024	3,728774	4,459909	2,49406	3,033667

ATTRACTIVENESS

ATTRACTIVENESS INDEX IN EUROPEAN CONTRY - NUTS 2 LEVEL

SOURCE DATA: EUROSTAT

nuts2	AN	EH	EN	IN	SC	ATTR	rank
AT11	1,725066	2,829899	1,965026	5,4375	4,594794	3,310457	196
AT12	4,380974	2,840408	1,821774	5,25	5,048954	3,868422	94
AT13	2,252889	4,635062	1,899642	5,5	5,102554	3,87803	93
AT21	2,912905	3,417535	2,781746	5,375	5,03252	3,903941	86
AT22	3,302529	4,38924	2,639445	5,375	5,040059	4,149254	42
AT31	3,256395	4,873709	2,28572	5,4375	5,447014	4,260067	34
AT32	3,550537	4,265256	3,189438	5,1875	5,5976	4,358066	21
AT33	3,359592	3,796754	3,354871	5,5	5,504024	4,303048	26
AT34	1,787099	3,418158	3,146505	5,5625	5,80977	3,944807	77
BE10	2,83271	5,16918	2,23019	6,25	4,993157	4,295047	27
BE21	2,24123	4,35889	2,800321	6,375	5,352678	4,225624	38
BE22	2,179133	3,207899	3,755646	6,375	5,782598	4,260055	35
BE23	2,077005	4,263373	2,452646	6,375	5,478815	4,129368	47
BE24	4,763598	3,366777	2,332298	6,375	5,812876	4,53011	8
BE25	2,07614	3,865798	2,727348	6,375	5,140211	4,036899	65
BE31	2,145059	4,566945	2,160884	6	5,602852	4,095148	56
BE32	4,004442	2,950307	2,34315	6	4,184309	3,896442	89
BE33	2,332594	2,980258	2,469863	6	4,355839	3,627711	141
BE34	2,107698	3,199803	3,082903	6	4,570897	3,79226	108
BE35	2,073449	3,379421	2,77422	6	4,539678	3,753354	115
BG31	1,391157	1,50031	4,524083	2,125	1	2,10811	314

SUSTAINABILITY

SUSTAINABILITY INDEX IN EUROPEAN CONTRY - NUTS 2 LEVEL

SOURCE DATA: EUROSTAT

nuts2	Sustr	B9_01r	B9_02r	B9_03r	B9_04r	B9_05	B9_06	B9_07	B9_08	B9_09	B9_10
AT11	4,874713	6,757414	3,027086	2,676775	2,100847	4,333333	6,633153	4,954974	5,590604	5,672946	7
AT12	5,174844	6,757414	4,453846	4,467152	1,885014	4,333333	6,633153	4,954974	5,590604	5,672946	7
AT13	4,701315	6,757414	2,107744	1,908924	2,05406	4,333333	6,633153	4,954974	5,590604	5,672946	7
AT21	4,90154	6,757414	4,164015	2,167826	1,741132	4,333333	6,633153	4,954974	5,590604	5,672946	7
AT22	4,951976	6,757414	3,957324	2,867232	1,752777	4,333333	6,633153	4,954974	5,590604	5,672946	7
AT31	5,082669	6,757414	4,549469	3,538215	1,796579	4,333333	6,633153	4,954974	5,590604	5,672946	7
AT32	4,821295	6,757414	4,195421	1,43828	1,63682	4,333333	6,633153	4,954974	5,590604	5,672946	7
AT33	4,83861	6,757414	4,395289	1,437599	1,610789	4,333333	6,633153	4,954974	5,590604	5,672946	7
AT34	4,867992	6,757414	4,263629	1,753934	1,719933	4,333333	6,633153	4,954974	5,590604	5,672946	7
BE10	4,319281	6,392723	2,56195	1,913717	1,73085	5	3,210267	5,923427	5,389262	4,394404	6,676211
BE21	4,609799	6,392723	3,909558	3,503947	1,698188	5	3,210267	5,923427	5,389262	4,394404	6,676211
BE22	4,520613	6,392723	3,903813	2,628466	1,687558	5	3,210267	5,923427	5,389262	4,394404	6,676211
BE23	4,648293	6,392723	2,829468	4,944494	1,722671	5	3,210267	5,923427	5,389262	4,394404	6,676211
BE24	4,539016	6,392723	2,911417	3,760819	1,73163	5	3,210267	5,923427	5,389262	4,394404	6,676211
BE25	4,419825	6,392723	3,783473	1,72513	1,703348	5	3,210267	5,923427	5,389262	4,394404	6,676211
BE31	4,843643	6,392723	4,403925	5,329942	1,716269	5	3,210267	5,923427	5,389262	4,394404	6,676211
BE32	4,814138	6,392723	3,235006	6,246449	1,673635	5	3,210267	5,923427	5,389262	4,394404	6,676211
BE33	4,582371	6,392723	3,135915	4,13465	1,566849	5	3,210267	5,923427	5,389262	4,394404	6,676211
BE34	4,400644	6,392723	3,209852	2,280224	1,530074	5	3,210267	5,923427	5,389262	4,394404	6,676211
BE35	4,614385	6,392723	3,469388	4,097661	1,590509	5	3,210267	5,923427	5,389262	4,394404	6,676211
BG31	3,698818	1,095395	1,203896	3,981976	2,431178	5,666667	5,496686	3,466489	4,342282	2,303653	6,999963
BG32	3,726724	1,222588	1,247162	3,981976	2,539774	5,666667	5,496686	3,466489	4,342282	2,303653	6,999963

WEB REPUTATION – ATTRACTION

WEB REPUTATION ATTRACTION INDEX IN EUROPEAN CONTRY - NUTS 2 LEVEL

SOURCE DATA: SOCIAL MEDIA (tripAdvisor)

REGION CODE	rating	rating_p	families_r	couples_r	alone_r	business_r	friends_r	excellent_	very_good	good_r	bad_r	very_bad	mar_may	jun_aug	sep_nov	dec_feb	shannon
AL	4.272727273	4.303274908	0.2317	0.5864	0.1819	0.1346	0.8654	0.5326	0.3269	0.1149	0.0202	0.0054	0.2396168	0.3476311	0.2185330	0.1942189	0.947575943
BH02	4.35	4.454671761	0.2311	0.5875	0.1815	0.0952	0.9048	0.573	0.305	0.0891	0.0251	0.0078	0.2514040	0.4098535	0.2610260	0.0777163	1.207973803
BH03	4.5	4.5	0.3889	0.1111	0.2941	0.7059	0.7381	0.1429	0.0476	0.0476	0.0238	0.1507352	0.5367647	0.1801470	0.1323529	1.049550668
CY	4.302795031	4.265091247	0.3174	0.5961	0.0864	0.0818	0.9182	0.504	0.3271	0.1301	0.0274	0.0114	0.2785937	0.2917068	0.2348441	0.1948553	0.596430443
ES24	4.180327869	4.280114723	0.3124	0.6134	0.0742	0.097	0.903	0.47	0.3675	0.1212	0.0266	0.0147	0.2913705	0.2681636	0.2633538	0.1771118	1.042506431
ES51	4.176136364	4.431521894	0.3191	0.573	0.1079	0.0777	0.9223	0.5758	0.3096	0.0856	0.0176	0.0114	0.3134557	0.2414124	0.2265439	0.2147999	0.945480146
ES52	4.126126126	4.356372991	0.3406	0.5907	0.0687	0.0509	0.9491	0.5238	0.34	0.1034	0.0206	0.0121	0.3281326	0.2695780	0.2177145	0.1845748	1.048349677
ES53	4.245901639	4.357834507	0.2578	0.6695	0.0727	0.0567	0.9433	0.5174	0.3518	0.1078	0.0147	0.0083	0.2438993	0.2730204	0.3301158	0.1529643	1.044607519
ES61	4.189899587	4.400593372	0.2615	0.6062	0.1323	0.0671	0.9329	0.5892	0.2959	0.0896	0.0168	0.0085	0.2579386	0.1831252	0.2683096	0.2906263	0.962542961
ES62	4.192307692	4.372956909	0.3798	0.5576	0.0626	0.0568	0.9432	0.5162	0.3518	0.1051	0.0189	0.0081	0.4055991	0.1301306	0.1349718	0.3292983	1.164588573
ES63	3.69047619	4.334983498	0.3832	0.486	0.1308	0.2069	0.7931	0.6022	0.2762	0.0939	0.011	0.0166	0.3655132	0.1499079	0.1299838	0.3545949	0.554574106
FR62	4.279464286	4.397552164	0.3969	0.5075	0.0956	0.1194	0.8806	0.5188	0.3432	0.0988	0.0251	0.014	0.3511461	0.1857905	0.1994027	0.2636605	0.971640934
FR71	4.27672956	4.404992516	0.3421	0.5471	0.1108	0.1338	0.8662	0.5709	0.345	0.0644	0.0145	0.0051	0.3059154	0.1901147	0.1989989	0.3049708	1.09179167
FR81	4.216981132	4.538657604	0.364	0.5908	0.0453	0.1293	0.8707	0.6252	0.2776	0.0742	0.0172	0.0058	0.2933978	0.2411554	0.2390381	0.2264085	1.066575434
FR82	4.282828283	4.291146077	0.2547	0.4731	0.2722	0.3026	0.6974	0.4706	0.3629	0.117	0.0321	0.0174	0.2523672	0.3347185	0.2463985	0.1503866	1.000144579
FR83	4.333333333	4.357569095	0.414	0.512	0.074	0.2015	0.7985	0.5873	0.3129	0.0639	0.021	0.0149	0.1873312	0.1426427	0.4089025	0.2611234	1.111447771
GR11	4.204545455	4.444299844	0.3319	0.4569	0.2112	0.1527	0.8473	0.6222	0.262	0.0932	0.0227	0	0.3511719	0.2405423	0.2013526	0.2069329	0.980285508
GR14	4.4375	4.405084746	0.2482	0.5745	0.1773	0.0556	0.9444	0.6131	0.2613	0.1055	0.0201	0	0.3118848	0.2884237	0.1902480	0.2094433	0.973209615
GR21	4.456521739	4.565230052	0.4118	0.4973	0.0909	0.1522	0.8478	0.6142	0.2953	0.0748	0.0157	0	0.3798926	0.2176590	0.2041162	0.1983320	1.093603128
GR25	4.384615385	4.463948197	0.2803	0.654	0.0658	0.0512	0.9488	0.6119	0.2954	0.0737	0.0134	0.0056	0.2540380	0.2749326	0.2702454	0.2007837	1.030963105

WEB REPUTATION – RESTAURANT

WEB REPUTATION RESTARANTS INDEX IN EUROPEAN CONTRY - NUTS 2 LEVEL

REGION CODE	rating	rating_p	price	price_p	cooking	cooking_p	service	service_p	price_qua	price_qua	environm	environm	families_r	couples_r	alone_r	business_r	friends_r
AL	4.395348837	4.327317473	1.816901408	1.912464412	4.3864864	4.3977947	4.3274456	4.3264971	4.3527027	4.2962891	4.3743589	3.4975389	0.387	0.516	0.097	0.262	0.738
BH01	4.6875	4.535714286	1.833333333	1.428571429	4.6666666	4.7023809	4.5833333	4.7142857	4.5833333	4.7142857	3.5	0.4166666	0.6364	0.1818	0.1818	0.0833	0.9167
BH02	4.353025937	4.499687773	1.662100457	1.718496316	4.4893162	4.5204508	4.4065217	4.4370550	4.5171673	4.5370300	4.2947763	3.9631572	0.3044	0.5854	0.1103	0.189	0.811
BH03	4.487012987	4.341050989	1.8125	1.879292404	4.5344827	4.3389698	4.4913793	4.2801768	4.5344827	4.3056711	4.3243243	3.7697710	0.3521	0.5356	0.1124	0.2414	0.7586
CY	4.346938776	4.424465943	1.862411348	1.96429999	4.3319070	4.4409354	4.4009779	4.4855031	4.2799511	4.3500755	2.9156479	4.1789848	0.4246	0.5477	0.0277	0.1174	0.8826
ES24	3.916382253	4.101498804	1.845714286	1.736954558	3.9727954	4.1424076	3.9633802	4.0900504	3.9210526	3.9746266	3.8283358	3.4488812	0.4245	0.544	0.0315	0.1277	0.8723
ES51	4.069171348	4.24280225	1.860952381	1.870829067	4.1532682	4.2893409	4.1248120	4.2091171	4.0469924	4.0922693	3.9864226	3.7846318	0.3914	0.5647	0.0439	0.1227	0.8773
ES52	4.126928471	4.295813845	1.851813472	1.861999393	4.2051476	4.3298519	4.1839908	4.2683964	4.1015921	4.1436830	4.0925675	3.6030313	0.4004	0.5688	0.0308	0.1236	0.8764
ES53	4.22972973	4.31134701	1.887788779	1.925071438	4.2712651	4.3330638	4.2670495	4.3096494	4.1658327	4.1482381	4.2306501	3.9730974	0.3766	0.599	0.0244	0.0824	0.9176
ES61	4.128438364	4.264091112	1.74679974	1.805956295	4.1660609	4.3035703	4.1293253	4.2361150	4.0993047	4.1453337	2.4076473	3.7257276	0.3346	0.6244	0.041	0.1072	0.8928
ES62	4.251633987	4.199014124	1.891774892	1.918781098	4.2535460	4.2334116	4.1666666	4.1432456	4.0815602	3.9779336	3.9483695	3.5423555	0.401	0.5675	0.0315	0.1345	0.8655
ES63	4.061983471	4.197811218	1.443548387	1.754582763	3.9427083	3.8837209	4	3.9830369	3.9427083	3.8837209	3.8846153	2.9195622	0.4668	0.4637	0.0695	0.198	0.802
FR62	3.917293233	4.125104548	1.822891566	1.908226462	3.9666370	4.0369702	3.9995539	4.1491755	3.9675266	4.0369902	3.8037190	3.5546140	0.3986	0.5426	0.0587	0.2022	0.7978
FR71	4.072222222	4.124526032	1.94077135	1.934470857	4.1124031	4.1687873	4.1206395	4.1488928	4.0407766	3.9916630	3.9645892	3.6186318	0.4567	0.5048	0.0384	0.224	0.776
FR81	4.030357143	4.012703062	1.811983471	1.836900956	4.0239013	3.9374949	4.0704334	4.0484671	4.0242868	3.9355799	3.8933500	3.3935231	0.4202	0.549	0.0308	0.1421	0.8579
FR82	4.011627907	4.079751671	1.8125	1.830627189	3.9473684	4.0684495	4.0394736	4.1138172	3.9605263	4.0447309	3.9166666	3.5614454	0.4005	0.5222	0.0773	0.2407	0.7593
FR83	4.112048193	4.218448833	1.939490446	2.009713944	4.0025445	4.0039300	4.1755725	4.2173609	4.0025445	4.0039300	4.0862068	3.7921384	0.3843	0.5989	0.0168	0.0915	0.9085
GR11	4.329642249	4.348806993	1.744343891	1.839718737	4.3595927	4.4015786	4.3947084	4.3912813	4.2470525	4.2157974	4.3214285	3.8069996	0.4117	0.558	0.0303	0.1113	0.8887
GR14	4.274064171	4.308982855	1.752767528	1.814873251	4.2969187	4.3258388	4.3531073	4.3886346	4.2022471	4.1995371	4.25	3.6517040	0.3584	0.607	0.0346	0.1402	0.8598
GR21	4.347336066	4.430756802	1.824817518	1.877773767	4.3942093	4.4805428	4.4587973	4.5223276	4.3552338	4.3746540	4.4209039	4.1740920	0.3519	0.6201	0.028	0.0807	0.9193
GR25	4.414506343	4.420222793	1.731241473	1.798444251	4.4303921	4.4461040	4.4580052	4.4716346	4.3758169	4.3780509	4.4241443	4.1562714	0.3459	0.6343	0.0198	0.0865	0.9135
GR30	4.183315622	4.370297548	1.7585693	1.867191671	4.2380952	4.3762115	4.2725146	4.4352899	4.0802325	4.2542250	4.1605603	3.8901443	0.3108	0.6242	0.065	0.1413	0.8587

WEB REPUTATION – HOTEL

WEB REPUTATION HOTEL INDEX IN EUROPEAN CONTRY - NUTS 2 LEVEL

region code	rating	rating_p	stars	stars_p	rooms	rooms_p	price	price_p	families_r	couples_r	alone_r	business_r	friends_r	excellent_	very_good	good_r
AL	3951219512	4.18671208	3.459.259.259	3.139.475.227	381.946	5.348.512.167	6.105.729.167	7.187.525.652	0.3126	0.5576	0.1297	0.5214	0.4786	0.5114	0.2968	0.12
BH01	3	330.952.381	3	0.714285714	43	2.354.761.905	57.5	3.148.809.524	NULL	NULL	NULL	0.9412	0.0588	0.1053	0.6842	0.2105
BH02	399.382.716	4.128.172.589	3504424779	3.282.053.381	570.211	101.694.449	7.678.231.293	960.124.038	0.2669	0.5326	0.2005	0.5287	0.4713	0.4751	0.2958	0.132
BH03	3.838.709.677	3.897.904.762	3.545.454.545	3.091.190.476	592.766	6.679.904.762	6.556.122.449	7.481.547.619	0.3519	0.4762	0.172	0.6799	0.3201	0.3721	0.3217	0.1841
CY	4.019.101.124	4.244.571.226	3.076.404.494	3.722.563.616	1.203.342	180.957.574	129.796.967	1.603.596.494	0.3793	0.5804	0.0402	0.2242	0.7758	0.5745	0.2618	0.1005
ES24	3.978.070.175	413.272.757	2.935.779.817	3.351.833.661	537.658	8.693.264.571	9.641.517.857	1.002.764.244	0.2816	0.6155	0.1028	0.4951	0.5049	0.438	0.3741	0.127
ES51	3.834.637.965	3.987.921.341	3.198.294.243	3.585.992.192	986.825	1.760.646.854	1.493.599.204	1.861.385.382	0.3303	0.5695	0.1002	0.4229	0.5771	0.3819	0.3684	0.1479
ES53	395.631.068	4.024.148.311	3.426.315.789	3.591.709.875	1.312.437	2.262.610.696	1.966.076.446	2.078.247.112	0.3202	0.5773	0.1025	0.2339	0.7661	0.4182	0.3266	0.1451
ES61	386.662.531	4.029.427.265	2.765.654.061	3.550.764.412	91.737	1.768.183.959	1.208.620.354	1.557.520.385	0.2793	0.6692	0.0514	0.1721	0.8279	0.4267	0.3676	0.1376
ES62	3.877.192.982	3.942.714.537	3.172.727.273	3.668.283.138	1.032.105	1.560.359.594	7.960.526.316	9.346.894.674	0.2985	0.6335	0.068	0.4661	0.5339	0.3372	0.3921	0.1757
ES63	352.173.913	3.861.021.454	3.473.684.211	4.401.556.863	1.186.364	3.354.230.112	1.053.028.182	157.984.303	0.5053	0.3921	0.1026	0.2992	0.7008	0.4331	0.2618	0.1714
FR62	40.075	3.997.223.624	2.846.875	3.096.640.305	577.633	7.875.820.293	8.401.734.104	9.408.148.242	0.2829	0.597	0.1201	0.6417	0.3583	0.3473	0.396	0.1715
FR71	3.836.448.598	397.633.932	2.900.970.874	3.091.181.933	519.316	8.454.684.269	1.305.432.227	1.564.131.116	0.3638	0.5283	0.1079	0.5315	0.4685	0.3657	0.3845	0.1448
FR81	4.027.027.027	4.058.680.986	2.85	3.024.368.021	426.029	5.307.862.903	1.165.946.845	1.286.144.666	0.2736	0.612	0.1144	0.5265	0.4735	0.375	0.4169	0.1391
FR82	3.865.771.812	400.777.116	29.525	3.419.014.627	488.417	9.182.720.311	136.672.032	1.863.783.038	0.2799	0.6014	0.1187	0.4966	0.5034	0.371	0.3704	0.1521
FR83	3.878.151.261	3.953.562.821	3.147.321.429	3.318.891.407	438.305	8.116.492.213	1.768.069.534	2.051.374.406	0.2123	0.7564	0.0313	0.1638	0.8362	0.3011	0.3817	0.1936
GR11	4.143.617.021	4.311.222.195	3.242.038.217	3.970.837.513	675.517	1.553.848.895	1.105.445.678	1.927.140.029	0.4021	0.5512	0.0468	0.4247	0.5753	0.5984	0.2416	0.0942
GR14	4.145.454.545	4.259.342.258	3.059.782.609	3.221.798.603	504.194	1.156.196.158	8.349.462.366	1.528.066.356	0.3503	0.6016	0.0481	0.3794	0.6206	0.531	0.2872	0.1062
GR21	4.108.870.968	4.186.736.225	3.072.164.948	3.614.771.672	648.774	1.603.362.753	1.033.617.336	1.521.239.989	0.2614	0.6948	0.0439	0.1752	0.8248	0.5669	0.2694	0.0928
GR25	4.238.351.254	4.319.088.518	3.055.813.953	2.835.429.038	491.356	7.757.249.611	1.073.912.134	1.088.598.103	0.3092	0.6431	0.0476	0.2071	0.7929	0.6075	0.2463	0.0895

region	rating	rating_p	price	price_p		month_booked_avg	month_booked_avg_p
					WEB REPUTATION RENTALS INDEX IN EUROPEAN CONTRY - NUTS 2 LEVEL		
				SOURCE DATA: SOCIAL MEDIA (tripAdvisor)			
AL	4.666666667	4.720183486	36.43103448	40.14678899		4.70776699	5.275229358
BH02	4.631578947	4.756849315	51.99410609	96.98972603		6.029803922	10.18767123
BH03	4.777777778	4.636363636	39.08	25.09090909		1.653333333	2.636363636
CY	4.731848984	4.856412005	67.20664679	54.78521487		12.62255667	16.576603
ES24	4.5625	4.747038917	69.88148148	64.59560068		4.475555556	5.986125212
ES51	4.399855908	4.56991348	87.46807491	75.62908178		12.35459559	13.95584706
ES52	4.430079156	4.613964224	58.72289157	58.47316792		12.01664841	13.48967109
ES53	4.424242424	4.481965735	203.5235735	92.43372408		12.01581686	14.61009919
ES61	4.554256135	4.692420191	71.81320894	69.09646498		11.01055644	13.4357513
ES62	4.638996139	4.754419677	56.68940754	55.41199078		10.78384201	13.23504996
ES63	4.555555556	4.363636364	72.95833333	64.09090909		3.5	5.390909091
FR62	4.48125	4.630467572	74.68714012	73.09200603		6.334740883	6.184313725
FR71	4.548051948	4.653492149	124.1081147	132.7883054		12.01030253	8.606388738
FR81	4.431034483	4.609958506	139.2833608	70.60165975		7.404587156	7.098755187
FR82	4.54063302	4.620996143	135.4261796	84.88194835		8.385426122	9.735971826
FR83	4.5	4.628440367	106.918782	79.08944954		9.120833333	12.61192661
GR11	4.732283465	4.716080402	68.25333333	81.49748744		9.114285714	10.68542714
GR14	4.794871795	4.842105263	96.97643836	71.59774436		7.461917808	9.514661654
GR21	4.728813559	4.777262181	91.69337979	104.3596288		9.813504823	12.02320186
GR25	4.746323529	4.854545455	88.96981132	74.36902357		10.66658625	13.48417508

Benchmarking thanks of common indicators

All the indicators are weighed and compared among all the European and/or Mediterranean destinations in order to offer first of all, a single scale of values that is easy to read, then a more detailed possibility of comparison not to obtain simple performance rankings, but operational ideas on which sectors should be developed and strengthened (because they are lower within the score or in comparison with other destinations) and which should be consolidated (strengths of the destination). In view of interoperability in a context of cross boarding between Croatia and Italy, two European destinations with similar products, but with different strategic assets and priorities, the comparison of results becomes the first tool that can be activated following the creation of the SCBDS.

References

The Travel & Tourism Competitiveness Report 2017 – World Economic Forum

Annexes

Excel file named "3.1.1del_SCBDS_dataset"