
Smart and Sustainable Tourism Impacts, Approaches, Solutions

Conference within the framework of the Biennale della Sostenibilità and the
Project Adrijoroutes - Interreg Italy-Croatia program 2021-2027
05-12-2025 | Aula Magna Tolentini, Venice, Italy

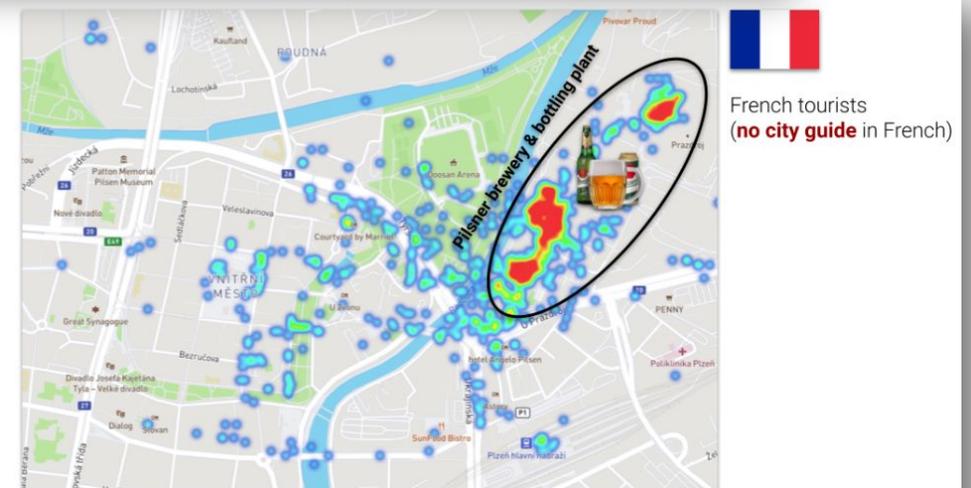
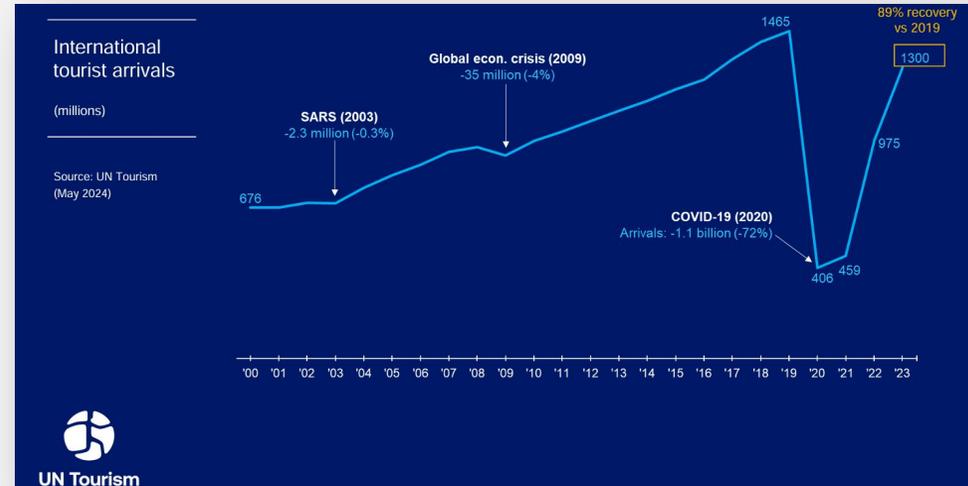
Dr Ioannis Pappas
GSTC Regional Director for Europe



The Global Sustainable Tourism Council (GSTC®) is **managing the GSTC Criteria**, global standards for sustainable travel and tourism; as well as **providing international accreditation** for sustainable tourism **Certification Bodies**.

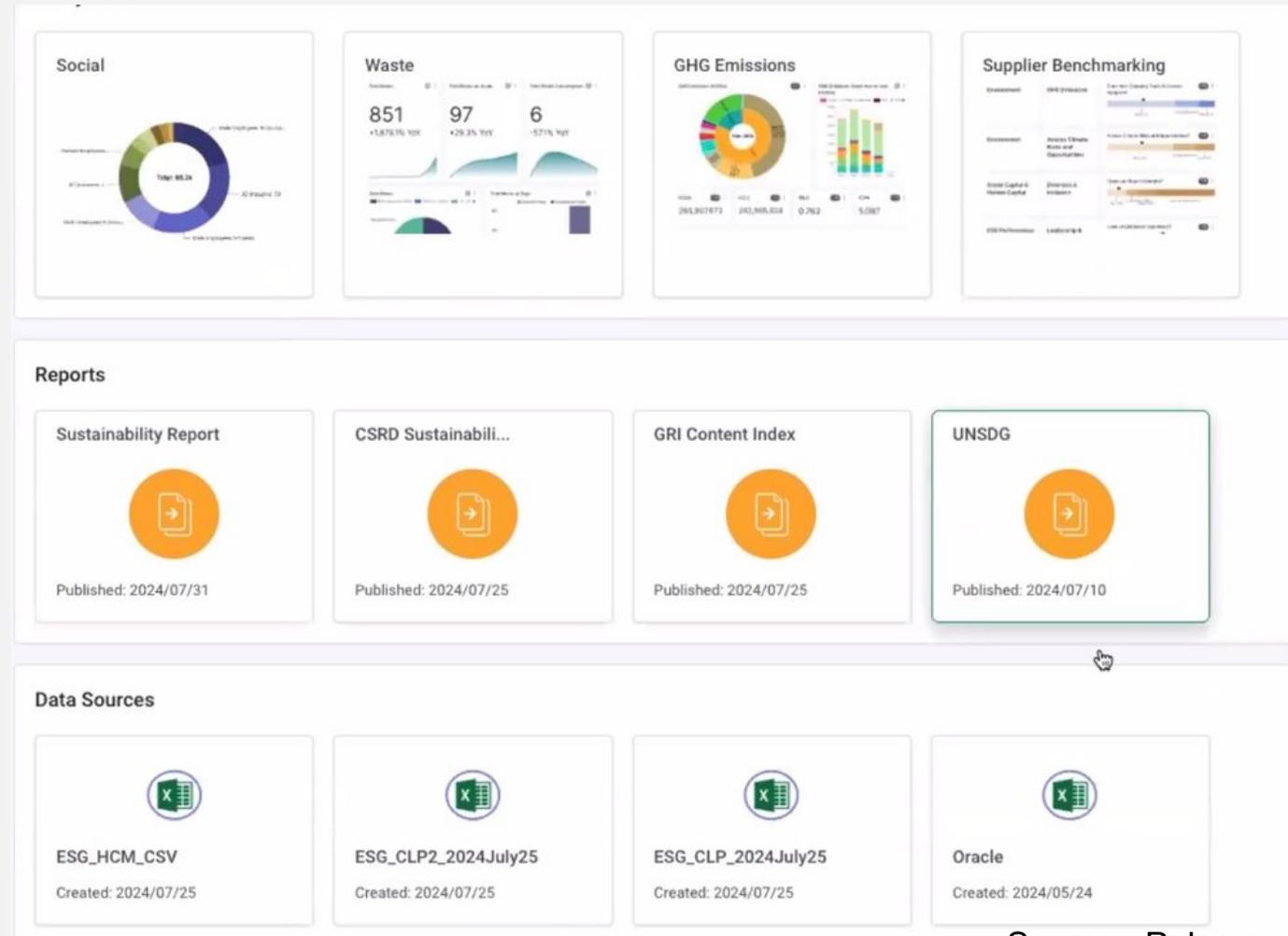
Current Scenario in Tourism Data

- ✓ Official statistics often focused on demand-side metrics (e.g., arrivals, expenditures).
- ✓ Limited emphasis on sustainability-related indicators (e.g., environmental, social, and governance impacts).



The Data of Sustainability in Tourism

- ✓ Importance of monitoring the triple bottom line: economic, environmental, and social factors.
- ✓ GSTC's criteria as a global framework for sustainable tourism.



GSTC Standards

So far, we have developed:

**Criteria
for Hotels and Tour Operators
(2008, rev. 2012)**

**GSTC Destination Criteria
(2013, rev. 2019)**

**GSTC Industry Criteria
(2017)**

**GSTC MICE Criteria
(2024)**

**GSTC Attractions Criteria
(2024)**

*(The GSTC Standard for Food & Beverage Service
Providers in Tourism is under development.)*

Each group has 41 Criteria in 4 pillars

**Sustainable
management**



**Socioeconomic
impacts**



**Cultural
impacts**



**Environmental
impacts**



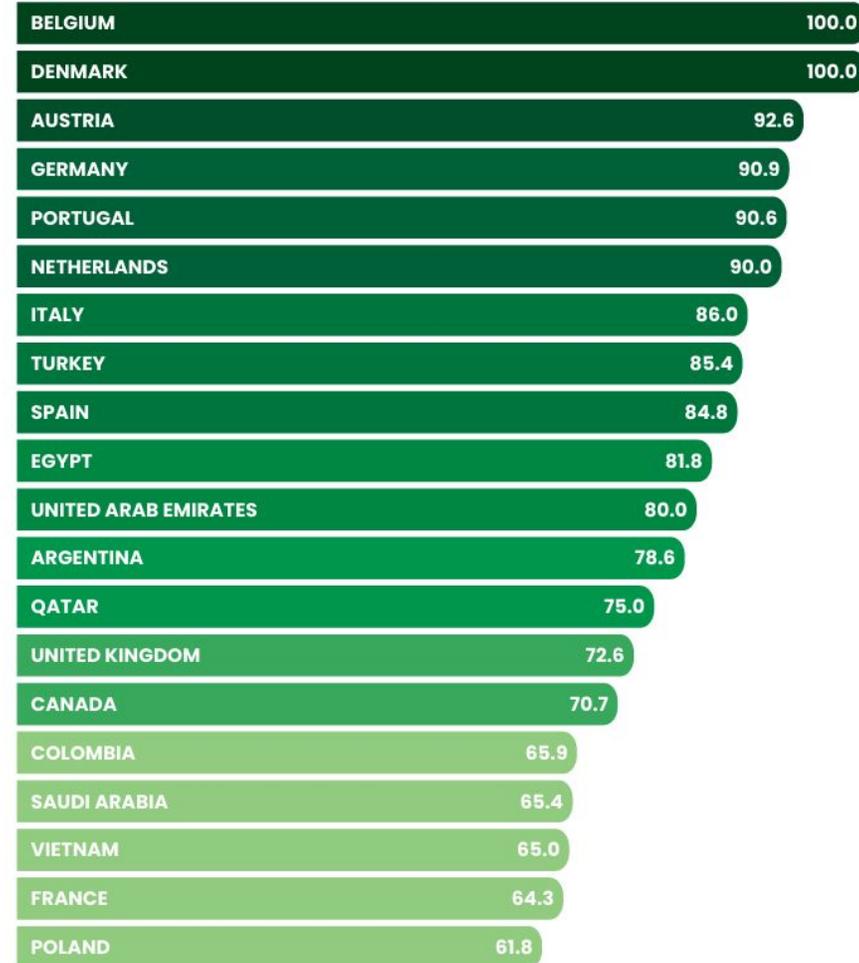
Top-Down Sources of Tourism Data on Sustainability



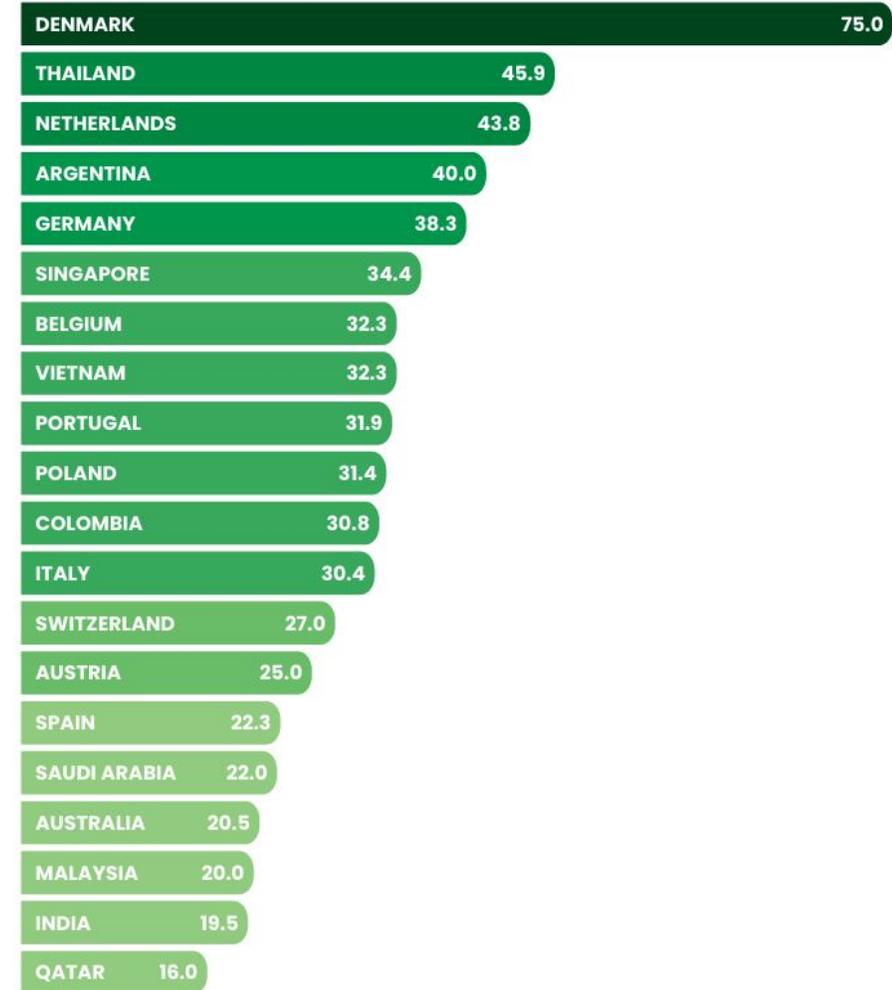
Bottom up - Sources of Tourism Data on Sustainability



Country Ranking - 3rd-party Certification (%)



Country Ranking - Recyclables Tracking (%)



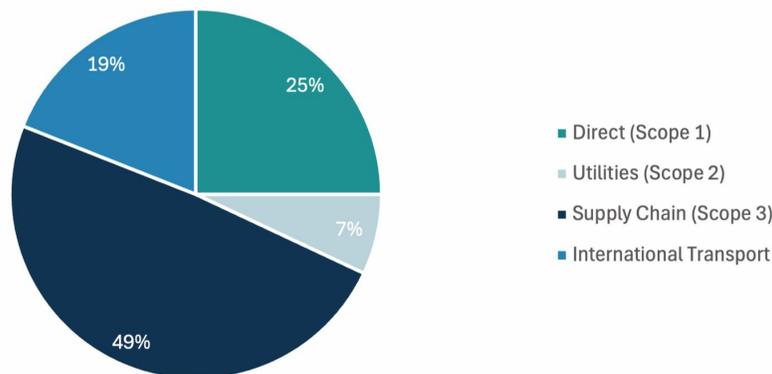
Complexity of Data : GHG Scope 3 Example

Scope 3 – Indirect emissions (*Not owned*)

Three scopes are defined in the GHG protocol to clearly set emission calculation boundaries. **Scope 3 assesses your company's other indirect GHG emissions, that are not owned or controlled by the company**, and therefore not reported in Scope 1 and Scope 2. Reporting on Scope 3 is not mandatory, but recommended, as it can count for a large share of a company's GHG emissions.

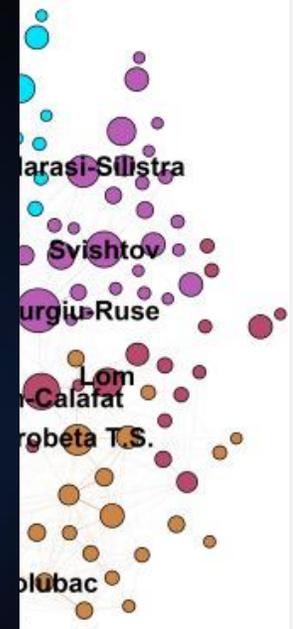
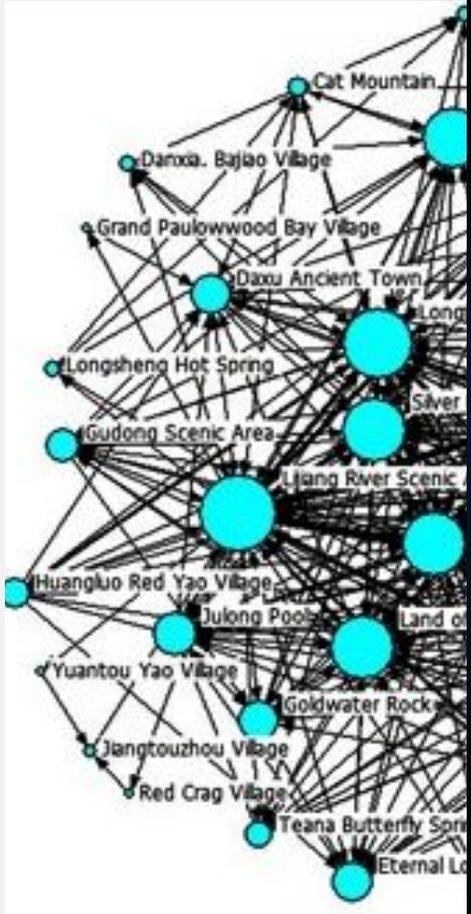
The GHG Protocol defines **15 main categories under Scope 3 emissions**, which are differentiated **based on upstream and downstream activities**.

% Share of coastal and marine tourism's total GHG emissions in 2023



Upstream emissions (<i>Purchased goods/services</i>)	Downstream emissions (<i>Sold goods/services</i>)
Purchased goods and services	Downstream transportation and distribution
Capital goods	Processing of sold products
Fuel- and energy-related activities (excluded from Scope 1 or Scope 2)	Use of sold products
Upstream transportation and distribution	End-of-life treatment of products sold
Waste generated in operations	Downstream leased assets
Business travel	Franchises
Employee commuting	Investments
Upstream leased assets	

Complexity of Data : GHG Scope 3 Example

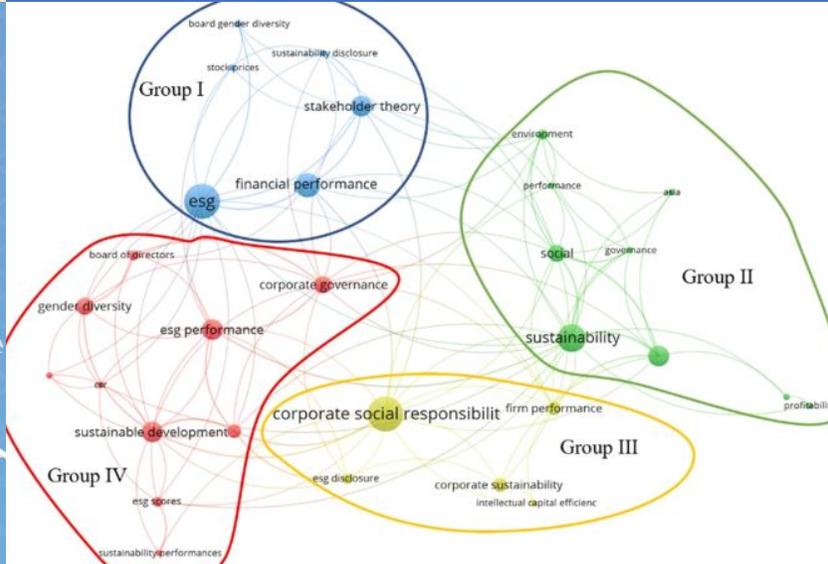


Opportunities with New Data Sources

Emerging Technologies

Collaborative Frameworks

Global Alignment



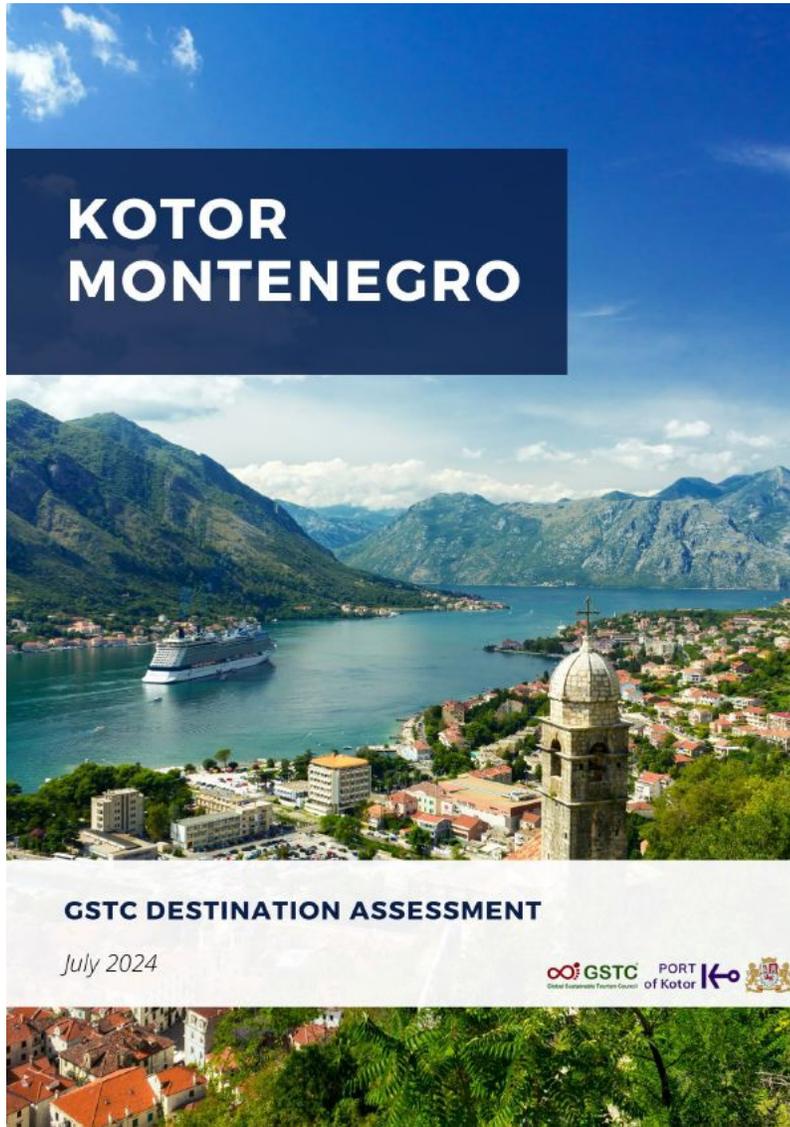
In collaboration with the University of Surrey

WORLD ECONOMIC FORUM

Travel & Tourism Development Index 2024

INSIGHT REPORT
MAY 2024

GSTC Assessment : KOTOR | Examples - 2024



Good Practice M – On-Site Stations (x4) for GHGs monitoring from Cruise in Boka Bay (D1)



GSTC Assessment : KOTOR | Examples - 2024



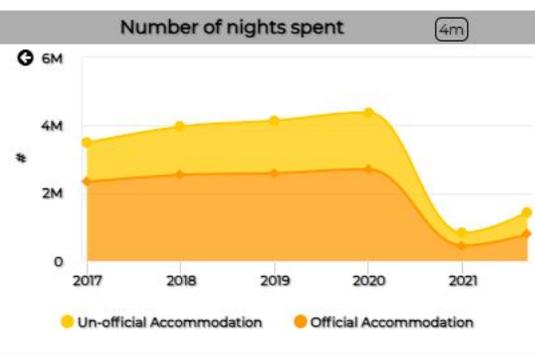
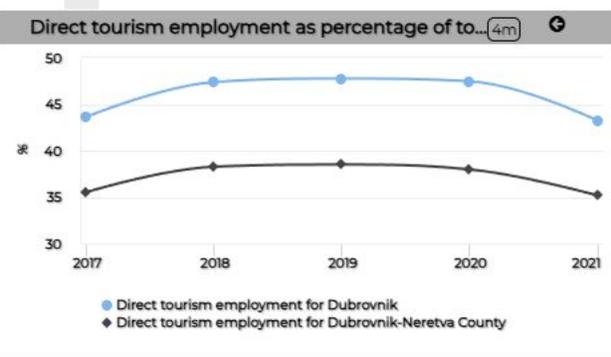
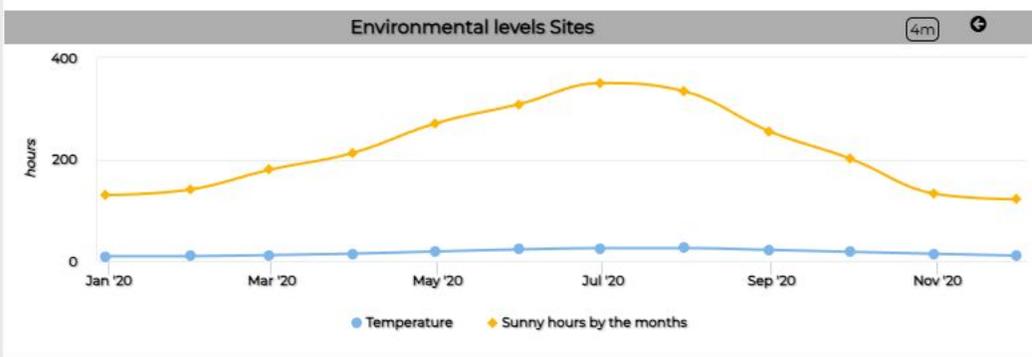
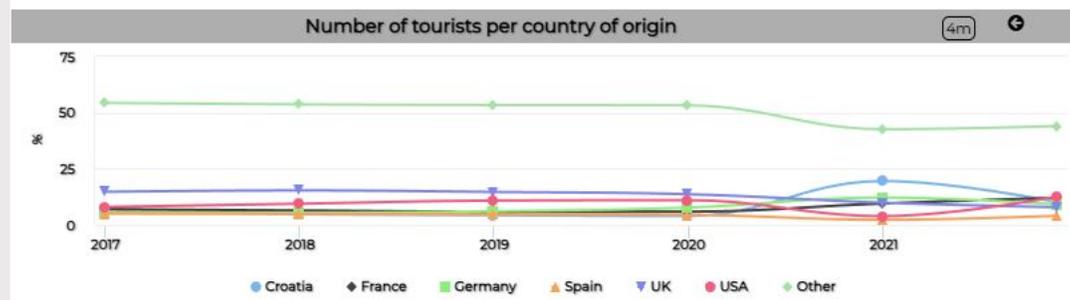
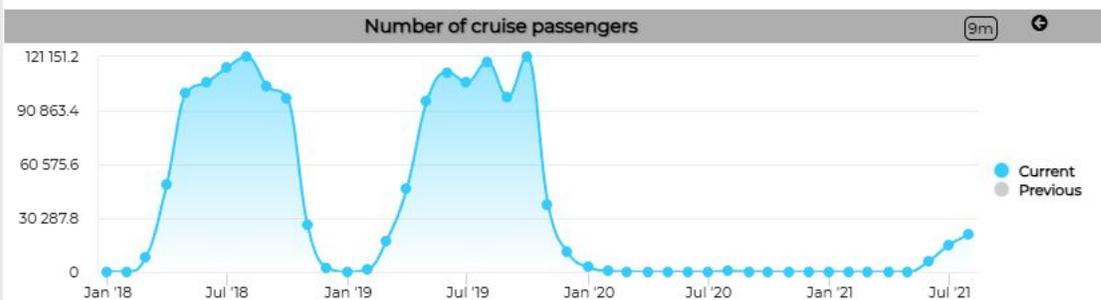
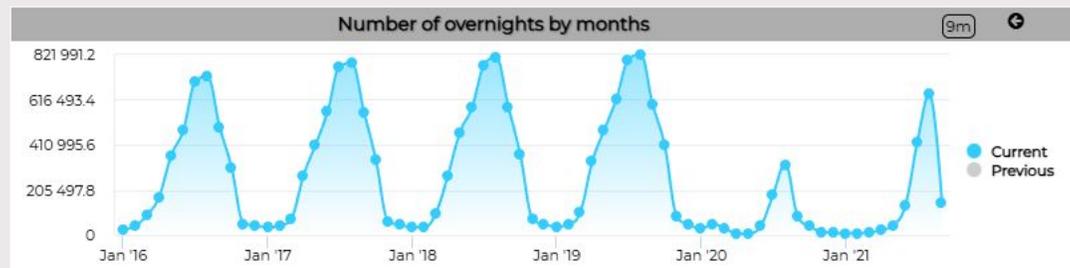
GSTC Assessment : KOTOR | Examples - 2024





Herit-Data Dubrovnik KPIs data

Fri 5 Dec 06:40:33



Herit-Data Main

Dubrovnik Main

Trends and Counting

Dubrovnik people counts

Long Term Calendar

42
Average age of Dubrovnik

51
Percentage of guests

63
Percentage of guests

20
Percentage of guests with

Snap4City

Switch To New Layout (Beta)

LOGIN 

Search element

- www.snap4solutions.org
- Dashboards (Public)**
- Extra Dashboard Widgets
- Data Management, HLT
- Knowledge and Maps
- Processing Logics / IOT App
- Entity Directory and Devices
- Resource Manager
- Development Tools
- Management
- Decision Support Systems
- Deploy and Installation
- Help and Contacts
- Documentation and Articles
- Km4City portal
- DISIT Lab portal

Dashboards (Public by (ORG))

Prev 1 2 3 ... 24 Next

Filter by dashboard title,

- Energy - with custom pins
Passive
Energy



Public (Firenze)

054.00_002_Library
Proc.Logic / IoT App



Public (DISIT)

15 minuti index Bologna Città Metropolitana
Proc.Logic / IoT App
I5min Bologna



Public (DISIT)

15 minuti index Bologna Città Metropolita...
Proc.Logic / IoT App



Public (DISIT)

15MinCityIndex Dashboard
Proc.Logic / IoT App



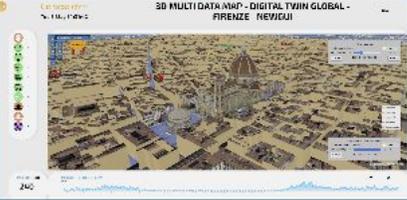
Public (DISIT)

3D Multi Data Map - Digital Twin Global - F...
Passive



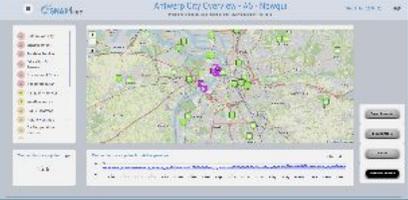
Public (DISIT)

3D Multi Data Map - Digital Twin Global - F...
Passive



Public (DISIT)

Antwerp City Overview - A5 - newgui
Passive



Public (Antwerp)

Antwerp overview ICON
Passive



Public (Antwerp)

Antwerp Selector Tech
Passive
Antwerp Selector Tech



Public (Antwerp)

Antwerp vs Florence comparison
Passive
Antwerp vs Florence comparison



Public (Antwerp)

Arrivals to Mostar - AnnexIII (Herit-Data) - ...
Passive

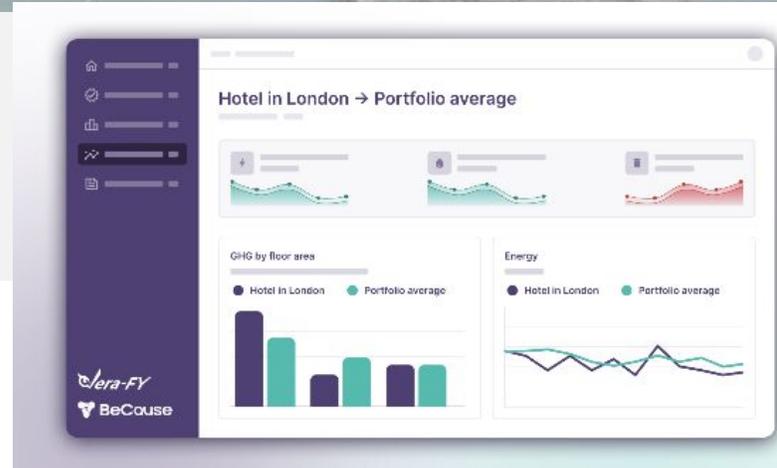


Public (Mostar-BosniaHerzegovina)

Standardizing Certification Data : Collaboration is a must!



Vera-FY, Your Sustainable Hospitality Reporting Solution



What Vera-FY Does



Capture

- Automated intake from PMS, APIs, spreadsheets, utilities
- Native alignment to Universal Sustainability KPIs
- Regular asset-level reporting as standard
- Data quality levels: estimated, reported, verified



Validate

- Verification aligned to WSHA methodology standards (e.g. HCMI, HWMI)
- Strong governance for credible assurance
- Embedded metadata that travels with the data wherever it goes



Benchmark

- Peer comparison using anonymised, aggregated data drawn from thousands of hotels
- Segmented benchmarks (region, class, asset type)
- Performance clustering to identify improvement opportunities across anonymised peer groups



Distribute

- One-click sharing to RFP platforms, OTAs, eco-certifications, owners. Data sharing is always controlled by each participating organisation
- Streamlined with GBTA, Basics+, and wider reporting
- "Collect once, use everywhere" delivery to all required endpoints



Let's make travel better together

www.gstcouncil.org