



**CROSTO – Croatian Sustainable Tourism Observatory  
2019 Report  
Focal area: Adriatic Croatia**

Zagreb, January 2021

**CROSTO – Croatian Sustainable Tourism Observatory  
2019 Report  
Focal area: Adriatic Croatia**

**Authors**

Zrinka Marušić, mag. math. (Institute for Tourism)

Izidora Marković Vukadin, PhD (Institute for Tourism)

Igor Borojević, mag. oec. (Croatian National Tourist Board)

Ivana Brozović, mag. oec. (Croatian Bureau of Statistics)

Mira Zovko, PhD (Ministry of Economy and Sustainable Development)

**Associates**

Jelena Šobat, mag. oec. (Ministry of Tourism and Sport of the Republic of Croatia)

Ivan Kožić, PhD (Institute for Tourism)

Neda Telišman Košuta, MSc (Institute for Tourism)

Zagreb, January 2021

## Contents

Executive Summary .....	4
1. Introduction.....	6
2. CROSTO observatory activities since the last Report.....	7
2.1. Croatian National Tourist Board and Ministry of Tourism and Sport – “Croatian Digital Tourism” project in 2020 .....	7
2.2. Ministry of Economy and Sustainable development – indicators reports.....	7
2.3. Ministry of Tourism and Sport – support to sustainability documents and programs...8	
2.4. Institute for tourism – research projects .....	8
3. Measurement Results for 2018.....	11
4. Handbook for Measurement and Continuous Monitoring of the Sustainability of Tourism for Destinations.....	26
5. Stakeholder workshops and dissemination activities .....	27
6. Further development/recommendations .....	29

## Executive Summary

CROSTO – Croatian Sustainable Tourism Observatory has been established in 2016 to support the vision for sustainable development of tourism in Croatia. It is hosted by the Institute for Tourism, Zagreb and Ministry of Tourism and Sport. In October 2016, CROSTO has officially become a member of the INSTO network thereby adopting standards and practices of monitoring sustainable tourism promoted by UNWTO. The major objective of CROSTO is to continuously measure and monitor the sustainability of tourism development in the most tourism developed region of Croatia – Adriatic Croatia.

In measuring and monitoring procedures, CROSTO has adopted the European Tourism Indicator System (ETIS) for sustainable destination management, developed by the European Commission. The decision to use ETIS is based on Croatia's compliance, as a European Union member state, with EU recommendations. The 14 ETIS indicators used are compatible with and cover all four mandatory sustainability themes selected by the UNWTO.

Since the 2016, CROSTO has become fully operable. This involved successful accomplishment of the following tasks:

- Establishing the local stakeholder's working group (Ministry of Tourism and Sport, Ministry of Economy and Sustainable Development, Croatian National Tourist Board, Croatian Bureau of Statistics);
- Organizing several yearly workshops with the stakeholder's on different topics aimed at improving the process at the regional and local level ;
- Conducting the yearly measurements (2016, 2017, 2018) of tourism sustainability at the NUT2 level (Adriatic Croatia) as well as the level of seven counties comprising the Adriatic Croatia;
- Supporting research projects aimed at gathering new or updated data on indicators of sustainable tourism development;
- Promotion of INSTO network on number of scientific and professional conferences and lectures;
- Drafting a Handbook for Measurement and Continuous Monitoring of the Sustainability of Tourism for Destinations as one of the supporting activities towards application / implementation of CROSTO at the level of tourist destinations;
- Dissemination of CROSTO activities and knowledge sharing on local level and active support for destinations willing to measure sustainability on local level.

CROSTO indicators	2018 value	Percent change to 2016 (baseline)
Percentage of residents who are satisfied with tourism	76.3%	
Number of tourist nights per 100 residents	7,087	17% increase
Percentage of tourists who are satisfied with their overall experience in the destination	76.0%	1% decrease
Percentage of repeat/return tourists	33.9%	
Number of tourist nights	84.9 million	14% increase
Daily spending per tourist overnight	79 Eur	19% increase
Direct tourism employment as percentage of total employment	16.3%	8.5% increase
Gross annual occupancy rate in commercial accommodation	18.7%	0.3% increase
Energy consumption per tourist night compared to general population energy consumption per resident night	0.22	13% increase

Water consumption per tourist night compared to general population water consumption per resident night	0.28	3.4% increase
Percentage of sewage from a destination treated to at least secondary level prior to discharge	5.6	4% decrease
Waste production per tourist night compared to general population waste production per resident night	0.17	15.5% increase
Percentage of tourism enterprises using voluntary certification/labelling for environmental Corporate Social Responsibility	N/A	
Percentage of destination area out of the settlement's boundaries built for tourist purposes	0.10 %	

The main issues and challenges remain almost the same throughout the whole CROSTO implementation period:

- Availability of up-to-date data needed for measuring each of the indicators (data is not always available, secondary data often cannot be used directly, surveys on attitudes and expenditures of tourists and residents are always dependent on availability of financial resources etc.);
- International comparability of indicators is usually deteriorated by absence of unified set of indicators, clear list of data sources or indicator's calculation methodology, as well as an absence of some baseline values or value intervals needed for each indicator.

## 1. Introduction

Sustainability becomes a key challenge in developing quality tourism products without negatively affecting the natural and cultural environment that maintains and takes care of them (Kunasekaran et al, 2017<sup>1</sup>). Indicators for sustainable tourism may exist at national, regional and destination level and they have socio-cultural, economic, and environmental dimension (Ceron and Dubois, 2003<sup>2</sup>; Gebhard, Meyer and Roth, 2007<sup>3</sup>). Each dimension has one or more themes (issues). Also, there are indicators developed from these themes. Furthermore, the literature alleges few or numerous indicators for sustainable tourism development.

To mitigate some of those challenges and needs for indicators monitoring, CROSTO – Croatian Sustainable Tourism Observatory has been established in 2016 to support the vision for sustainable development of tourism in Croatia. It is hosted by the Institute for Tourism, an academic institution with more than 60 years of experience in research and consultancy in tourism. In October 2016, CROSTO has officially become a member of the INSTO network thereby adopting standards and practices of monitoring sustainable tourism promoted by UNWTO.

The main objective of CROSTO is to continuously measure and monitor the sustainability of tourism development in the most tourism developed region of Croatia – Adriatic Croatia, with potential of widening the measurement on whole Croatia.

In measuring and monitoring procedures, CROSTO adopts the European Tourism Indicator System (ETIS) for sustainable destination management, developed by the European Commission. It has been decided to use ETIS due to Croatia's compliance, as a European Union member state, with EU recommendations. The ETIS indicators which have been used cover all the mandatory sustainability issues selected by the UNWTO. Along with measuring and monitoring tourism sustainability at the regional level, the intention is to promote the application of ETIS among local communities all over Croatia. In fact, there are plans for fostering the application of ETIS on municipal level. It must be noted, however, that this heavily depends on cooperation among all relevant stakeholders, especially the National Tourist Board and the Croatian Ministry of Tourism and Sport which have mandatory power over local tourist destinations.

---

<sup>1</sup> Kunasekaran, P., Gill, S. S., Ramachandran, S., Shuib, A., Baum, T., & Herman Mohammad Afandi, S. (2017). Measuring sustainable indigenous tourism indicators: A case of Mah Meri ethnic group in Carey Island, Malaysia. *Sustainability*, 9(7), 1256.

<sup>2</sup> Ceron, J. P., & Dubois, G. (2003). Tourism and sustainable development indicators: The gap between theoretical demands and practical achievements. *Current Issues in Tourism*, 6(1), 54-75.

<sup>3</sup> Gebhard, K., Meyer, M., & Roth, S. (2007). Sustainable Tourism Management: Planning in Biosphere Reserves: a Methodology Guide. Ecological Tourism in Europe (ETE).

## 2. CROSTO observatory activities since the last Report

It is important to point out that all institutions which are part of the CROSTO observatory are implementing activities / projects aimed at monitoring the sustainability of tourism. These activities / projects are described below.

### 2.1. Croatian National Tourist Board and Ministry of Tourism and Sport – “Croatian Digital Tourism” project in 2020

Aware of the importance of digital transformation, the Ministry of Tourism and Sport of the Republic of Croatia started the “Croatian Digital Tourism” project, with the aim of improving communication between tourist services suppliers and public administration, as well as increasing the overall efficiency of five major public services in the field of tourism. The project, worth over 54 million HRK and supported by EU funds (ERDF and ESF), would provide an improved connection of the user and public administration in tourism, by shortening the time of processing requests of citizens, reducing the costs of providing public services, as well as generating updated tourist information to citizens through different e-services.

The project will be implemented in several phases and will, through improved and newly-developed public e-services (among which is the already globally awarded eVisitor system for the registration of guests), connect the processes of several public administration bodies in an integrated state information system. The Croatian Digital Tourism project will lift the whole tourism system of Croatia to an even higher level of efficiency in the domain of business operations and serve as an example of good business practice.

The Croatian National Tourist Board, as a partner institution, is involved in the execution of the project through improvement of two out of five services – eVisitor and the central B2C communication platform of Croatian tourism ([www.croatia.hr](http://www.croatia.hr)), while the other three services (the central register of stakeholders in tourism, the register of available subsidies in tourism, as well as an e-service aimed at the facilitation of starting business activities in tourism) encompasses the efforts of the Ministry of Tourism and Sport and several other public bodies.

### 2.2. Ministry of Economy and Sustainable development – indicators reports

In 2019 the Ministry of Economy and Sustainable development has released a new edition of the publication Environment in your Pocket I - 2019<sup>4</sup> which includes, inter alia, data from the topic Environment and Tourism.

In addition, a new State of the Environment Report in the Republic of Croatia was published in November 2019.<sup>5</sup> Based on seven indicators from the National list of indicators<sup>6</sup> and relevant information the Report contains an integrated environmental assessment of state and impacts of the tourism sector on the environmental components, considering strategic and planning documents from both, Tourism and Environment sector.

Following on the European Environment Agency's initiative Tourism and Environment Reporting Mechanism - TOUERM<sup>7</sup>, in which a Ministry representative participated during the period 2015 - 2017, a new expert group Tourism and Environment Eionet Project (TEEP) has been formed in 2019. The expert group consisted of six countries including Croatia, provided inputs in the drafting process of

<sup>4</sup> <http://www.haop.hr/hr/tematska-podrucja/integrirane-i-opce-teme/opce-teme/dokumenti>

<sup>5</sup> [http://www.haop.hr/sites/default/files/uploads/dokumenti/06\\_integrirane/dokumenti/niso/IZVJ\\_OKOLIS\\_2013-2016.pdf](http://www.haop.hr/sites/default/files/uploads/dokumenti/06_integrirane/dokumenti/niso/IZVJ_OKOLIS_2013-2016.pdf)

<sup>6</sup> [http://www.haop.hr/sites/default/files/uploads/inline-files/NLP\\_2015.pdf](http://www.haop.hr/sites/default/files/uploads/inline-files/NLP_2015.pdf)

<sup>7</sup> <https://www.eionet.europa.eu/etcs/etc-uls/products/etc-uls-report-01-2018-tourism-and-the-environment-towards-a-reporting-mechanism-in-europe>

The European environment – state and outlook 2020 (SOER)<sup>8</sup> and initiated gathering of data, information and options from cooperated countries in order to identify the main information and methodology needs and to develop indicators that reflect tourism's impact on the environment. A matching table with data and proposed indicators was produced and each country commented and selected the indicators that they consider feasible to develop. From this matching table, a group of indicators has been shortlisted, and activities for e.g. developing common methodology, establishing the specific database and studying the sectors sustainability from an environmental impact point of view are on further development and will continue in 2020 year.

### 2.3. Ministry of Tourism and Sport – support to sustainability documents and programs

The Ministry of Tourism and Sport has continued to support, financially as well as in expertise, the CROSTO project in 2019. In addition, through the *Public Tourism Infrastructure Development Program* in 2019<sup>9</sup> from the *Tourism Fund*<sup>10</sup>, the Ministry of Tourism and Sport has co-financed *Sustainability studies on tourism development and carrying capacity with action plans* to be implemented for local and regional self-government. Through the *Competitiveness of Tourism Sector Program*<sup>11</sup> the Ministry of Tourism and Sport has co-financed projects for sustainable development by investing in sustainable (green) entrepreneurship in tourism and development of special forms of tourism (health, cultural, cycling tourism, nautical, congress, rural etc.).

Ministry devises more inclusive tourism policies by ensuring active participation and transparent consultative processes with all tourism stakeholders including the civil society, the private sector, SMEs and micro-enterprises, destinations, local communities in the formulation of the national policy framework for sustainable tourism planning processes, especially through the National Development Strategy<sup>12</sup>. As partner and associated partner to various Interreg Projects Ministry of Tourism and Sport is active in strengthening public-private and multi-stakeholder partnerships to reinvigorate the means of implementation for the SDGs through tourism. Furthermore, Ministry is engaged in the Sustainable Tourism Programme of the 10YFP to accelerate the shift towards sustainable consumption and production and decouple tourism growth from the increased use of natural resources.

### 2.4. Institute for tourism – research projects

Several major research projects aimed at gathering new or updated data on indicators of sustainable tourism development were conducted during 2018 and 2019.

#### 2019 TOMAS Croatia Survey

Survey on attitudes and expenditures of tourists in Croatia (2019 TOMAS Croatia Survey) is the first visitor survey conducted in both, the Adriatic, and the continental part of Croatia. The survey is an extension of the TOMAS Summer Survey, the only longitudinal (continuous) survey on tourists' trip characteristics and consumption pattern in Croatia that had been conducted from 1987 to 2017 in the Adriatic Croatia, during the summer months only. TOMAS Croatia Survey was conducted from May 2019 to March 2020, based on the methodological framework of TOMAS Summer survey.

---

<sup>8</sup> <https://www.eea.europa.eu/soer-2020>

<sup>9</sup> <https://hrturizam.hr/en/ministarstvo-turizma-objavilo-odluku-o-potpori-programima-razvoja-javne-turisticke-infrastrukture-u-2019-godini/>

<sup>10</sup> <https://www.eu-projekti.info/ministarstvo-turizma-objavilo-poziv-za-sufinanciranje-razvoja-turisticke-infrastrukture/>

<sup>11</sup> <https://hrturizam.hr/en/ministarstvo-turizma-objavilo-javni-poziv-za-program-konkurentnost-turistickog-gospodarstva/>

<sup>12</sup> <https://hrvatska2030.hr/>



The aim of this survey was to profile tourist demand in Croatia according to sociodemographic characteristics, travel motivation, activities, satisfaction, and consumption, as well as according to main regions, seasons, type of accommodation and main generating markets. TOMAS Croatia 2019 survey is a quantitative survey conducted on a sample of 13,582 respondents in hotels, hostels, camp sites and family accommodation (rooms, apartments, houses) in 143 destinations along the country. Data were collected from domestic tourists and foreign tourists from 24 main generating markets. Personal interview (CAPI) was used as a data collection method. Research instrument was a structured questionnaire. The survey results are weighted by 2019/2020 data on tourists' overnights (eVisitor data base). The survey results are representative for Croatian tourism demand according to region, type of accommodation, season, and country of origin. The research also enables the continuation of trend analysis of tourism demand characteristics for the Adriatic Croatia. TOMAS Croatia 2019 survey was funded by the Ministry of Tourism and Sport of the Republic of Croatia and the Croatian National Tourist Board.

### **Survey on local population's attitudes toward tourism development in 2018**

The survey of the local population's attitudes towards tourism development in 2018 followed the methodological framework set in 2012, within the development of the Tourism Development Strategy of Croatia by 2020. In 2018, the survey was conducted on a stratified random sample of 2,535 respondents – Croatian residents aged 18 to 75, representative by region, gender, and level of education. Data collection method was telephone interview (CAPI). Data were collected from June 19 to July 5, 2018. The results of the survey are presented in the report, at the country level and separately for each of the 10 tourist regions, including seven coastal counties of the Adriatic Croatia.

The main objective of the survey was to identify perceptions and attitudes of residents towards tourists and tourism as one of the important elements of a sustainable and responsible tourism planning. Specifically, the objectives of the research were to identify: attitudes of the local population on the economic, social, cultural and environmental impacts of tourism in Croatia in general and in a place of permanent residence, the degree of involvement in tourism business (indirectly or directly) and population reactions towards tourists and tourist activity. The research was also aimed to collect data needed for the calculation of some of the CROSTO indicators for the NUTS 2 region of Adriatic Croatia.

The results indicate that Croatian residents have mainly a positive attitude towards tourism. Furthermore, a relatively large share of population, despite the lack of income from tourism, still report that they benefit from tourism. It is also positive that citizens are critically questioning the theses that are often and continuously being put into public discourse like tourism as an activity for poorly paid jobs only, which encourages unwanted labor force imports, visually pollutes an urban harmony etc. Finally, probably due to the expressed awareness of the economic benefits of tourism, residents are generally tolerant to the crowds and other negative manifestations of tourist activity. Nevertheless, the support to tourism is decreasing in comparison to 2012, the share of residents recognizing the positive effects of tourism is decreasing also, and the share of those recognizing its negative effects is growing. Also, there is a slight decline in support for various tourism development policies. Furthermore, a relatively large share of the population has no established attitudes on various aspects of tourism, and can therefore easily become promoters but, equally, opponents of tourism and tourism development. Based on these results, tourism policy makers at the national and regional level can devise quality strategies or plans to raise awareness of the importance and value of tourism, which is, by legislation, one of the key tasks of tourism boards.

The other major research projects conducted in 2018 – 2019 period were:

- **2018 TOMAS Dubrovnik Survey** - Survey on attitudes and consumption of tourists and same-day visitors in Dubrovnik<sup>13</sup>, the first comprehensive research focused solely on the

---

<sup>13</sup> <http://www.iztg.hr/hr/projekti/tomas-istrazivanja/>

tourism demand of the city of Dubrovnik. Considering the characteristics of Dubrovnik's tourist demand and the availability of the existing data, the research was focused on two main segments of Dubrovnik tourism demand: (i) tourists in commercial accommodation facilities (hotels and family accommodation) and (ii) same-day visitors from international and domestic cruise ships. TOMAS Dubrovnik 2018 is a quantitative survey conducted on a sample of 1,587 respondents (672 in hotels, 390 in family accommodation, 435 visitors from international and 90 from domestic cruise ships). The data were collected by personal interview (CAPI), from August to October 2018.

- **2018 TOMAS Health Tourism** – Survey on attitudes and consumption of users of health tourism services in Croatia.<sup>14</sup> As one of the surveys from TOMAS 'family' of longitudinal quantitative surveys on tourism demand in Croatia, it had been conducted for the first time in 2018. The survey covers all three segments of health tourism: wellness, spa and medical. Data were collected through a personal interview (CAPI), from July to December 2018, on a sample of 2,540 respondents (1,331 users of wellness services, 793 spa users, 416 medical service users), in 43 facilities / health tourism centers in Croatia.
- **Study on sustainable tourism development and carrying capacity of the City of Dubrovnik with Action Plan**
- **Improving the methodology for carrying capacity assessment of tourism destinations.**

---

<sup>14</sup> <http://www.itzg.hr/hr/projekti/tomas-istrazivanja/>

### 3. Measurement Results for 2018

The first official measurement of tourism sustainability in Adriatic Croatia was conducted in 2016. It was primarily an experimental attempt to identify issues that could emerge in the regular monitoring process. The 2016 exercise identified up-to-date data availability and international comparability as two major issues for a successful measurement process. In the meantime, data availability for the second sustainability measurement process in Adriatic Croatia has been significantly improved, but there are no substantial improvements/changes in the international comparability of the sustainability indicators.

In the 2016 – 2018 period there were two significant improvements regarding data availability and updates of data sources. Two surveys had been conducted: **TOMAS Summer Survey 2017 on attitudes and expenditures of tourists in Croatia**, and **Survey on satisfaction and attitudes of local population towards tourism development conducted in 2018**.

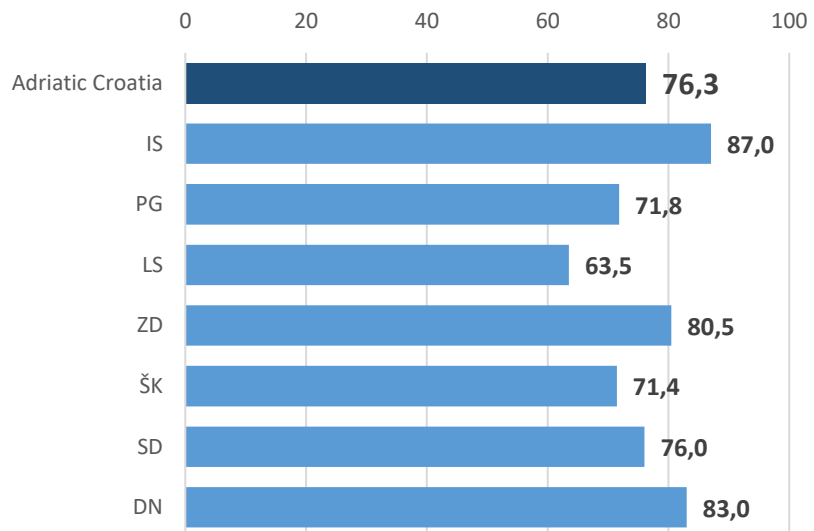
TOMAS Summer Survey – a longitudinal Survey on Attitudes and Expenditures of Tourists in Croatia was conducted in 2017 for the 10<sup>th</sup> time in 30-year period (the previous survey was conducted in 2014). It is a quantitative survey, conducted from July to October 2017 on a sample of almost 6 thousand tourists in commercial accommodation facilities in 67 destinations in Adriatic Croatia. Personal interview (CAPI) with tourists from 20 main generating markets was used as data collection method, while a structured questionnaire was used as a research instrument. The survey results are representative for summer tourism demand (7 coastal counties, July to October 2017). The results are weighted by data on tourists' overnights (eVisitor data base) on a county level, according to the type of accommodation and country of origin. As a longitudinal survey, the TOMAS Summer survey has been conducted every three to four years. It has not been conducted in 2018. It has been conducted again in 2019, extended to the continental part of Croatia and, also, out of season months. Data from 2019 TOMAS survey has not been used in the CROSTO 2018 measurement process, but will be used in the CROSTO 2019 measurement process.

Survey on satisfaction and attitudes of local population towards tourism development was conducted in 2018 (the previous one is from 2012) on a sample of 2,535 residents (1,800 in Adriatic Croatia). Data were collected by telephone interview (CATI). The survey results are representative for Croatian population by region, size of settlement, gender, age, and education level.

This section of the report is dedicated to the third official measurement of the set of 14 CROSTO indicators for 2018.

CROSTO indicator	Percentage of residents who are satisfied with tourism
UNWTO mandatory issue	Local satisfaction with tourism
ETIS section	C Social and cultural impact
ETIS criterion	C.1 Community/social impact
Description / Scope	Composite indicator based on a battery of questions describing resident attitudes towards tourism development and tourists
Approach	Based on representative survey of local residents
Data source/s	The survey was conducted in 2018 (the previous results are from 2012) on a representative sample of 1.8 thousand residents in Adriatic Croatia. There were several survey questions (following ETIS recommendations) describing residents' attitudes toward tourism development. The following indicator was used as CROSTO indicator: <i>the share of residents who consider tourism and tourists visiting their town / municipality bring benefits to their community.</i>
Limitations / issues	-

**Figure 1:**  
**The share of residents who consider tourism and tourists visiting their town / municipality bring benefits to their community in 2018 by county (%)**

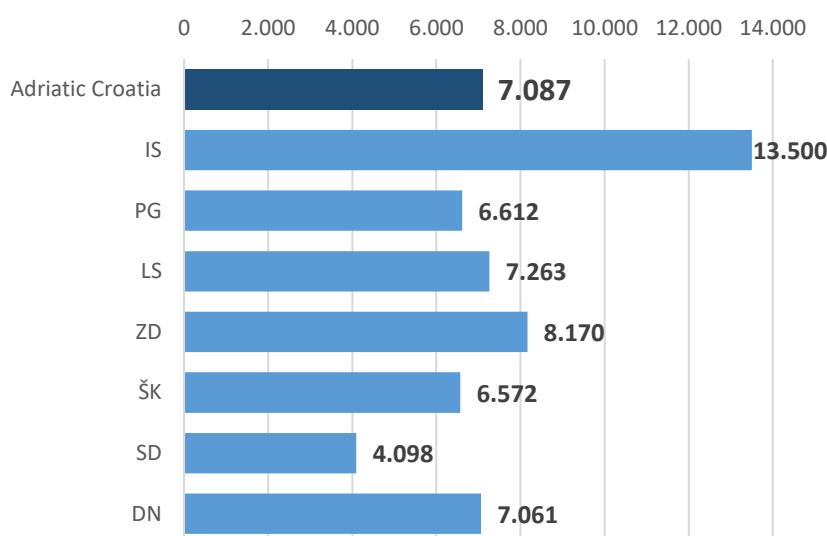


Counties: IS Istria, PG Primorje-Gorski Kotar, LS Lika-Senj, ZD Zadar, ŠK Šibenik-Knin, SD Split-Dalmatia, DN Dubrovnik-Neretva

Comments	More than three quarters of residents in the Adriatic Croatia consider that tourists and tourism development have positive impacts on their community. The share of respondents with positive attitude towards tourism development ranges from 64% in county of Lika-Senj (the county with the smallest number of tourist facilities) to 87% in county of Istria (the most tourism developed county with the highest number of tourist facilities and the highest tourist activity).
----------	--

CROSTO indicator	Number of tourist nights per 100 residents
UNWTO mandatory issue	-
ETIS section	C: Social and cultural impact
ETIS criterion	C.1 Community/social impact
Description / Scope	Number of tourist nights in commercial and non-commercial accommodation facilities as per 100 residents
Approach	Composite indicator based on secondary data There is a slight deviation from the proposed definition - the number of tourist nights is used instead of number of tourists/visitors since both, number of tourists and number of same-day visitors, are not yet available within the Croatian system of tourism statistics. Furthermore, number of tourist arrivals is overestimated due to multiple recording of arrivals in different accommodation facilities.
Data source/s	CBS, First Release 4.3.2. TOURIST ARRIVALS AND NIGHTS IN 2018 CBS, First Release 4.3.3. NON-COMMERCIAL TOURISM ACTIVITY IN 2018 CBS, First Release 7.1.3. POPULATION ESTIMATE OF REPUBLIC OF CROATIA, 2018
Limitations / issues	<ul style="list-style-type: none"> <li>The survey on non-commercial tourism activity is based on the administrative data (eVisitor system); however, some research results have pointed to an inadequate coverage of the data source<sup>15</sup></li> <li>Quality of the survey results as well as the rate of hidden overnights most probably differ among counties; that might cause different deviations regarding the counties</li> </ul>

**Figure 2:**  
Number of tourists nights per 100 residents in Adriatic Croatia in 2018 by county



**Table 1: Percent change of 2018 indicator in comparison to 2016**

	2018/2016 (%)
IS	113.9
PG	112.6
LS	119.0
ZD	128.1
ŠK	112.3
SD	119.1
DN	118.3
Adriatic Croatia	117.1

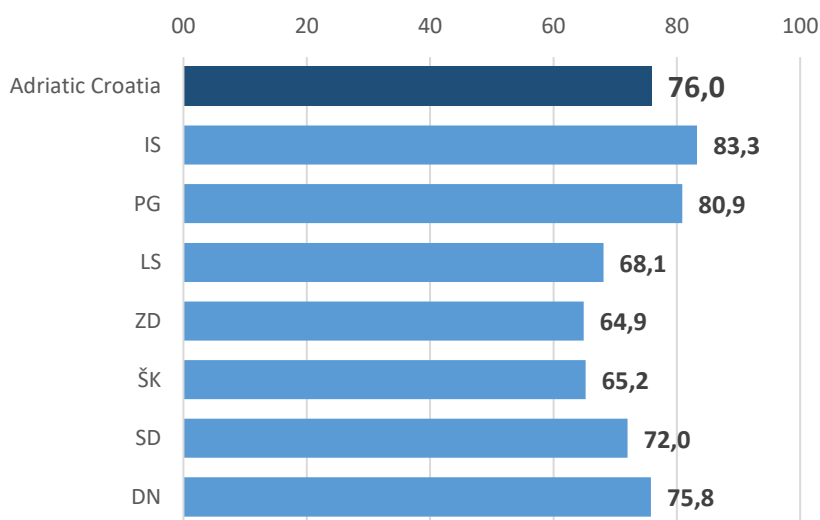
Counties: IS Istria, PG Primorje-Gorski Kotar, LS Lika-Senj, ZD Zadar, ŠK Šibenik-Knin, SD Split-Dalmatia, DN Dubrovnik-Neretva

**Comments** About 7 thousand tourists' overnights in 2018 are realized per 100 residents in the Adriatic Croatia (the increase of 17% in comparison to 2016). Istria, the most tourism developed county, has 13.5 thousand tourists overnights per 100 residents, while five counties recorded almost the same level of tourist flows. The smallest ratio is recorded in Split-Dalmatia county (4 thousand). The highest increase is recorded in county of Zadar (28%).

<sup>15</sup> Marušić, Z., Kožul, M., & Brozović, I. (2020). Measuring non-commercial tourism traffic in Croatia: Challenges of using administrative data. *Croatian Review of Economic, Business and Social Statistics*, 6(2), 69-81, [https://hrcaj.srce.hr/index.php?show=clanak&id\\_clanak\\_jezik=361285](https://hrcaj.srce.hr/index.php?show=clanak&id_clanak_jezik=361285)

CROSTO indicator	Percentage of tourists who are satisfied with their overall experience in the destination
UNWTO mandatory issue	-
ETIS section	A Destination management
ETIS criterion	A.2 Customer satisfaction
Description / Scope	Percentage of tourists who are satisfied with the overall tourist experience in the destination
Approach	Direct use of secondary data from the previous year (2017 TOMAS Summer Survey). Variable ‘satisfaction with the overall experience’ is measured on a 7-point Likert scale (1-very bad to 7-excellent). Ratings 6 and 7 are considered as the evidence of tourist’s satisfaction with the overall experience.
Data source/s	TOMAS Summer 2017 - Survey on Attitudes and Expenditures of Tourists in Croatia in 2017 (Institute for Tourism); sample size of almost 6 thousand tourists in commercial accommodation facilities in Adriatic Croatia; data were collected from July to October 2017
Limitations / issues	<ul style="list-style-type: none"> <li>• Same-day visitors and tourists in non-commercial accommodation were not included in the survey’s population</li> <li>• TOMAS Summer survey has not been conducted in 2018; it is a longitudinal survey, conducted every three to four years; its execution is not stable since it is always dependent on an availability of financial resources</li> </ul>

**Figure 3:**  
Percentage of tourists who are satisfied with their overall experience in the destination in Adriatic Croatia in 2018 by county



**Table 2: Percent change of 2018 indicator in comparison to 2016**

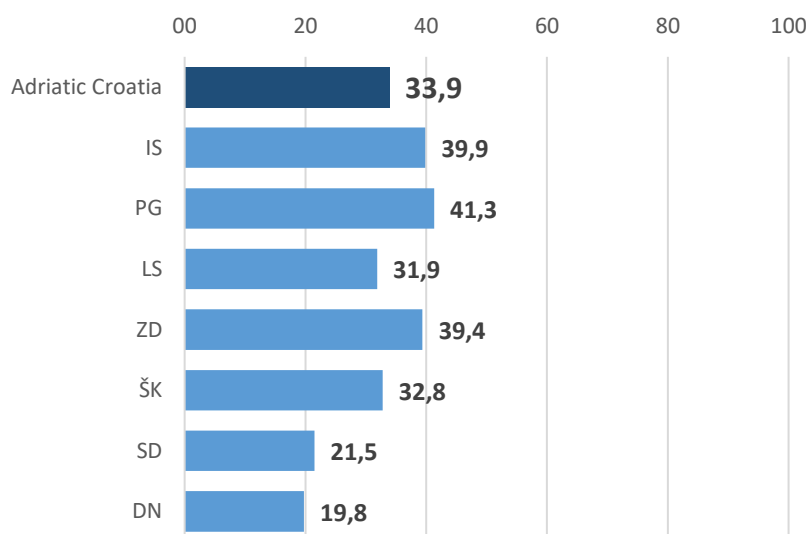
	2018/2016(%)
IS	109.3
PG	104.5
LS	81.0
ZD	79.0
ŠK	92.9
SD	94.9
DN	94.4
Adriatic Croatia	98.8

Counties: IS Istria, PG Primorje-Gorski Kotar, LS Lika-Senj, ZD Zadar, ŠK Šibenik-Knin, SD Split-Dalmatia, DN Dubrovnik-Neretva

**Comments** Tourist satisfaction with their overall experience while staying in destination in 2018 was high, with more than three quarters of tourists rating their overall experience as excellent or very good. The overall satisfaction was almost the same as that observed in 2014. The highest tourist satisfaction is recorded in Istria and county of Primorje-Gorski Kotar – those counties also recorded an increase in tourist satisfaction in comparison to 2014. All other counties recorded a slight decrease in tourist satisfaction. The highest decrease (21%) was in county of Zadar.

CROSTO indicator	Percentage of repeat/return tourists
UNWTO mandatory issue	-
ETIS section	A Destination management
ETIS criterion	A.2 Customer satisfaction
Description / Scope	Percentage of tourists in commercial accommodation facilities who have visited a destination during last 5 years
Approach	Direct use of secondary data (from the previous year)
Data source/s	TOMAS Summer 2017 - Survey on Attitudes and Expenditures of Tourists in Croatia in 2017 (Institute for Tourism); sample size of almost 6 thousand tourists in commercial accommodation facilities in Adriatic Croatia; data were collected from July to October 2017
Limitations / issues	<ul style="list-style-type: none"> <li>Highly dependent on a type of accommodation</li> <li>In the past surveys the repeat visit was not restricted to the period of last 5 years; this has been modified in the 2017 survey in order to be completely consistent with the proposed ETIS indicator; 2017 survey results are therefore not entirely comparable with the results obtained in 2014</li> <li>TOMAS Summer survey has not been conducted in 2018; it is a longitudinal survey, conducted every three to four years; its execution is not stable since it is always dependent on an availability of financial resources</li> </ul>

**Figure 4:**  
Percentage of repeat/return visitors to destination during last 5 years in Adriatic Croatia in 2018 by county

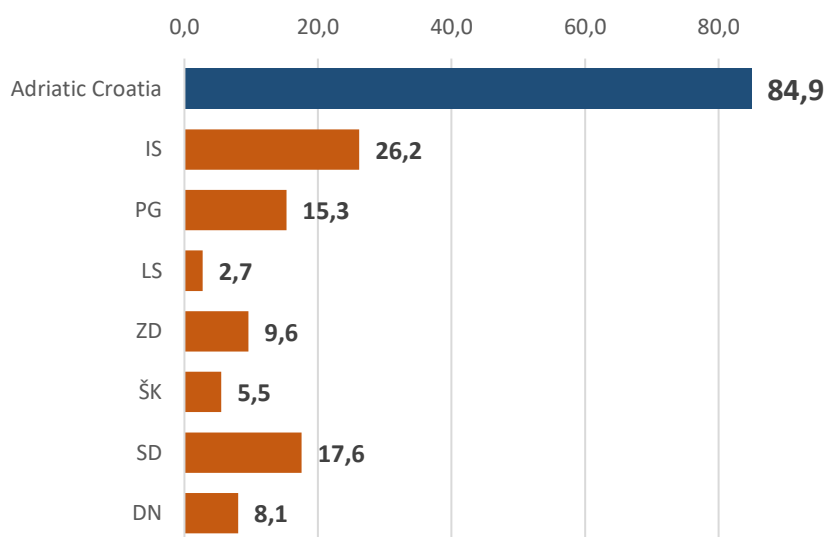


Counties: IS Istria, PG Primorje-Gorski Kotar, LS Lika-Senj, ZD Zadar, ŠK Šibenik-Knin, SD Split-Dalmatia, DN Dubrovnik-Neretva

Comments The overall percentage of repeat/return visits in Adriatic Croatia (during last 5-year period) is 34%. Above average rate of repeat visits is registered in counties with a higher share of campsites and household accommodation (County of Primorje-Gorski Kotar, Istria, and Zadar). The lowest rate of repeat visits is in the County of Dubrovnik-Neretva, where the city of Dubrovnik is recording an above average share of first-time visitors, and County of Split-Dalmatia. County of Split-Dalmatia has on average the youngest tourists, while the city of Split is, similarly to Dubrovnik, recording an above average share of first-time visitors.

CROSTO indicator	Number of tourist nights
UNWTO mandatory issue	Destination economic benefits
ETIS section	B Economic value
ETIS criterion	B.1 Tourism flow (volume and value) at destination
Description / Scope	Registered number of overnights realized in commercial accommodation facilities (hotels and similar accommodation, holiday, and other short-stay accommodation, camping sites and camping grounds, other accommodation) in 2018
Approach	Direct use of secondary data
Data source/s	CBS, First Release 4.3.2. TOURIST ARRIVALS AND NIGHTS IN 2018
Limitations / issues	<ul style="list-style-type: none"> <li>Registered number of overnights in commercial accommodation only</li> <li>Distribution of overnights by type of accommodation facility differ significantly among counties, having different influence on destination benefits from tourism activity</li> <li>Rate of non-registered overnights most probably differ among counties</li> </ul>

**Figure 5:**  
Number of tourist nights in Adriatic Croatia in 2018 by county (in million)



**Table 3: Percent change of 2018 indicator in comparison to 2016**

	2018/2016 (%)
IS	113.2
PG	109.3
LS	118.4
ZD	116.8
ŠK	110.5
SD	118.0
DN	117.9
Adriatic Croatia	114.2

Counties: IS Istria, PG Primorje-Gorski Kotar, LS Lika-Senj, ZD Zadar, ŠK Šibenik-Knin, SD Split-Dalmatia, DN Dubrovnik-Neretva

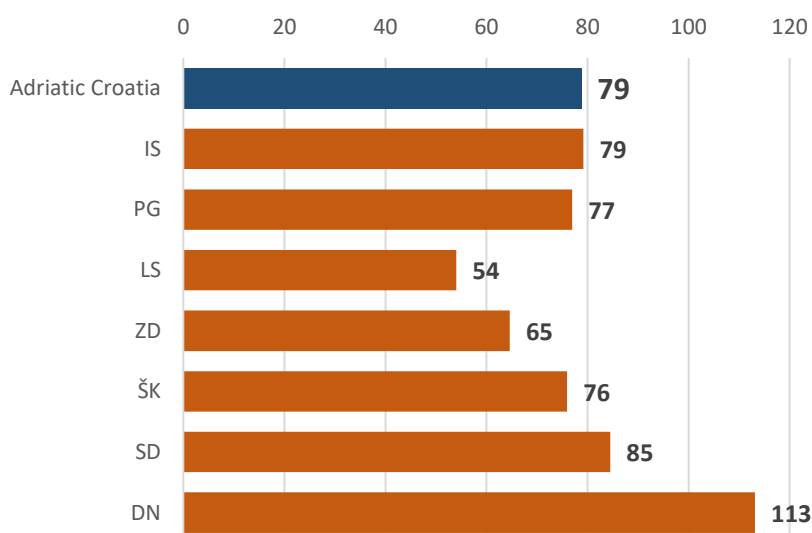
Comments

A total of almost 85 million overnights were realized in commercial accommodation facilities in Adriatic Croatia in 2018 (14% increase in comparison to 2016; 95% of total commercial tourist overnights in Croatia). The share of overnights realized by foreign tourists is 94%. The specific feature of Croatian tourism is that the majority (51%) of all overnights is realized in rooms/apartments/summer houses. Istria is the most tourism developed county with 26.2 million tourist overnights or 31% of all overnights registered in the Adriatic Croatia region.



CROSTO indicator	Daily spending per tourist overnight
UNWTO mandatory issue	Destination economic benefits
ETIS section	B Economic value
ETIS criterion	B.1 Tourism flow (volume and value) at destination
Description / Scope	Average expenditures in euros per night per tourist in commercial accommodation facilities in 2018
Approach	Direct use of secondary data (from the previous year)
Data source/s	TOMAS Summer 2017 - Survey on Attitudes and Expenditures of Tourists in Croatia in 2017 (Institute for Tourism); sample size of almost 6 thousand tourists in commercial accommodation facilities in Adriatic Croatia; data were collected from July to October 2017
Limitations / issues	<ul style="list-style-type: none"> <li>TOMAS Summer survey has not been conducted in 2018; it is a longitudinal survey, conducted every three to four years; its execution is not stable since it is always dependent on an availability of financial resources</li> </ul>

**Figure 6:**  
Daily spending per tourist overnight in Adriatic Croatia in 2018 by county (in Euro)



**Table 4: Percent change of 2018 indicator in comparison to 2016**

	2018/2016 (%)
IS	124.1
PG	133.7
LS	96.2
ZD	82.8
ŠK	141.3
SD	121.4
DN	122.1
Adriatic Croatia	118.7

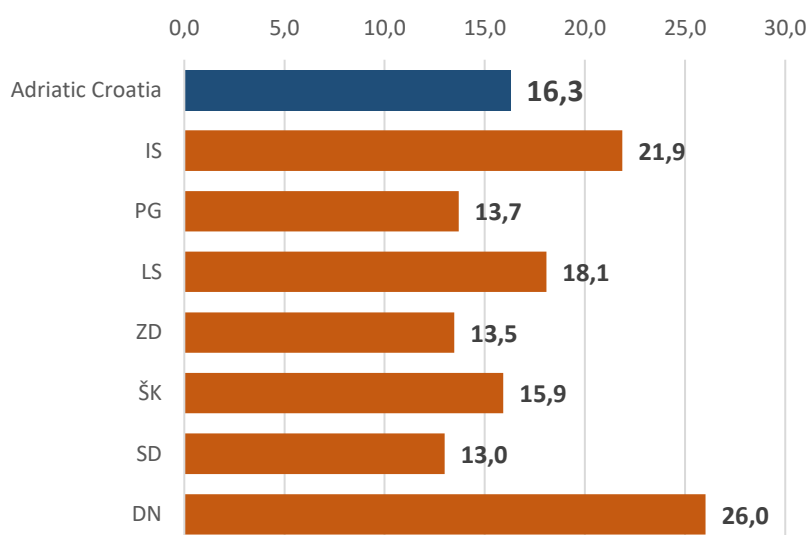
Counties: IS Istria, PG Primorje-Gorski Kotar, LS Lika-Senj, ZD Zadar, ŠK Šibenik-Knin, SD Split-Dalmatia, DN Dubrovnik-Neretva

Comments

The average daily tourist expenditure in 2018 (precisely, 2017) was 79 Euro (without travel expenses to and from destination), 19% higher in comparison to 2014, and ranging from 54 Euro in County of Lika-Senj to 113 Euro in County of Dubrovnik-Neretva. 49% of the total daily expenditure is the expenditures for accommodation, 17% for restaurants and bars, and 34% for all other services in destination. It should be noted that daily tourist expenditure, apart from the structure and quality of tourism destination product, is also a reflection of structure of tourists' overnights by accommodation facilities within counties.

CROSTO indicator	Direct tourism employment as percentage of total employment
UNWTO mandatory issue	Employment
ETIS section	B Economic value
ETIS criterion	B.3 Quantity and quality of employment
Description / Scope	Share of persons employed in legal entities and in crafts and trades in NKD (2007) section I <i>Accommodation and food service activities</i> in August 2018 in total employment in legal entities and crafts and trades in August 2018
Approach	Estimated based on secondary data available for March and corrected for total employment ratios in March and August, since the August is the peak month of tourist activity
Data source/s	CBS, First Release 9.2.4. PERSONS IN PAID EMPLOYMENT, BY ACTIVITIES AND COUNTIES, Situation as on 31 March 2018, Table 1 CBS, First Release 9.2.2/1. PERSONS IN EMPLOYMENT IN CRAFTS AND TRADES AND FREE LANCES, FIRST QUARTER OF 2018, Table 3
Limitations / issues	<ul style="list-style-type: none"> <li>Limited to employment in NKD (2007) section I <i>Accommodation and food service activities</i> only</li> <li>Employees in family housing/households not included; since the importance of household accommodation differs among the counties, it could have a significant impact on employment on a county level</li> </ul>

**Figure 7:**  
Direct tourism employment as percentage of total employment in a destination in Adriatic Croatia in 2018 by county (in %)



**Table 5: Percent change of 2018 indicator in comparison to 2016**

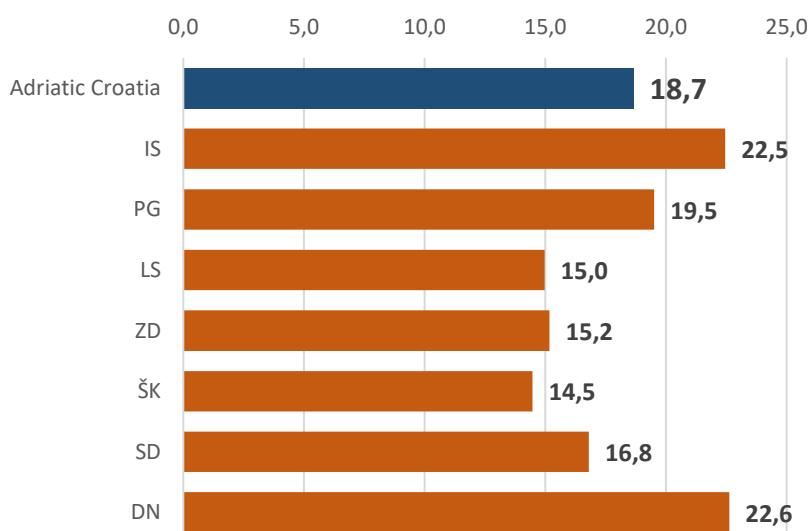
	2018/2016 (%)
IS	109.3
PG	103.7
LS	102.1
ZD	104.5
ŠK	111.5
SD	111.7
DN	106.0
Adriatic Croatia	108.5

Counties: IS Istria, PG Primorje-Gorski Kotar, LS Lika-Senj, ZD Zadar, SK Šibenik-Knin, SD Split-Dalmatia, DN Dubrovnik-Neretva

**Comments** Direct tourism employment (in NKD section I *Accommodation and food service activities*) in August 2018 is estimated at 16.3% of total employment in the Adriatic Croatia. The highest rates of direct tourism employment were recorded in County of Dubrovnik-Neretva (26%) and County of Istria (21.9%) as a consequence of high proportion of hotels and similar accommodation facilities in County of Dubrovnik-Neretva and high proportion of both hotels and similar accommodation as well as camping sites in County of Istria. In comparison to 2016, there is 8.5% increase in direct tourism employment in Adriatic Croatia. The highest increase is recorded in two counties: Split-Dalmatia (almost 12%) and Šibenik-Knin (11.5%).

CROSTO indicator	Gross annual occupancy rate in commercial accommodation
UNWTO mandatory issue	Tourism seasonality
ETIS section	B Economic value
ETIS criterion	B.2 Tourism enterprise(s) performance
Description / Scope	Gross yearly occupancy rate in commercial accommodation The indicator will be extended in the future with monthly gross occupancy rates in the commercial accommodation
Approach	Composite indicator based on total number of available beds in commercial accommodation (the maximum is registered in August) on yearly basis and total number of overnights in commercial accommodation in 2018
Data source/s	CBS, First Release 4.3.2. TOURIST ARRIVALS AND NIGHTS IN 2018 (ad-hoc request for data)
Limitations / issues	<ul style="list-style-type: none"> <li>Registered number of overnights in the commercial accommodation only</li> <li>Highly dependent on the structure of accommodation capacity by type</li> </ul>

**Figure 8:**  
Gross yearly occupancy rate in commercial accommodation in Adriatic Croatia in 2018 by county (in %)



**Table 6: Percent change of 2018 indicator in comparison to 2016**

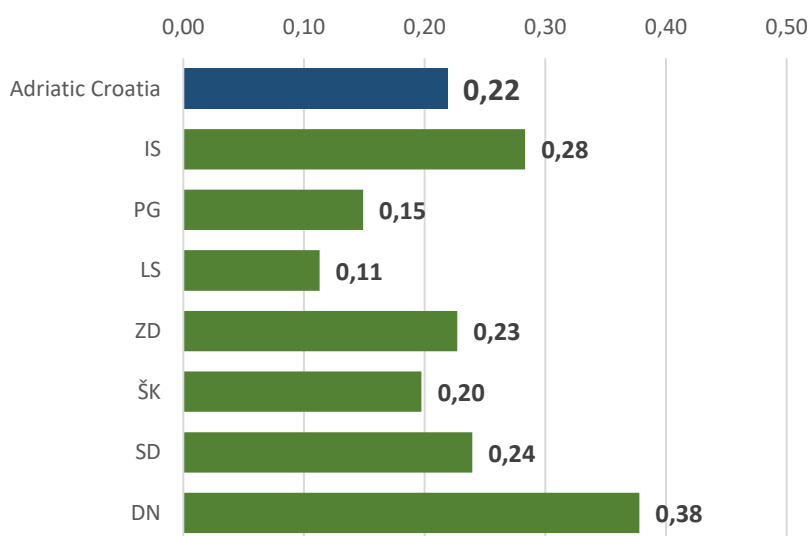
	2018/2016 (%)
IS	104.6
PG	98.5
LS	96.8
ZD	98.5
ŠK	97.9
SD	98.7
DN	103.7
Adriatic Croatia	100.3

Counties: IS Istria, PG Primorje-Gorski Kotar, LS Lika-Senj, ZD Zadar, ŠK Šibenik-Knin, SD Split-Dalmatia, DN Dubrovnik-Neretva

**Comments**  
Gross yearly occupancy rate in commercial accommodation in Adriatic Croatia in 2018 is 18.7%, mostly due to high seasonality of tourist activity in the region and high share of household accommodation (rented rooms/apartments/ houses). Due to high increase in capacity (number of beds), the overall occupancy rate has almost not changed in comparison to 2016. Above average occupancy rates are recorded in three counties (Dubrovnik-Neretva, Istria, and Primorje-Gorski Kotar), mostly due to higher share of hotel and similar accommodation. County of Istria and County of Dubrovnik-Neretva recorded slight increase in the utilization of accommodation facilities in comparison to 2016 (5% and 4%, respectively).

CROSTO indicator	Energy consumption per tourist night compared to general population energy consumption per resident night
UNWTO mandatory issue	Energy management
ETIS section	D Environmental impact
ETIS criterion	D.6 Energy usage
Description / Scope	Total tourist energy consumption in GWh divided by total household consumption in GWh
Approach	Total energy consumption in commercial accommodation capacities is estimated based on the 2012 survey results (consumption norms by type of accommodation) and the structure of accommodation capacities in 2018 (estimated by Energy Institute Hrvoje Požar, Zagreb, Croatia). Energy consumption in households is based on the survey results from 2012 and number of residents in 2018.
Data source/s	CBS (2015). Data of energy efficiency in households and services, 2012 CBS, First Release 4.3.2. TOURIST ARRIVALS AND NIGHTS IN 2018, additional ad-hoc analysis CBS, First Release 7.1.3. POPULATION ESTIMATE OF REPUBLIC OF CROATIA, 2018
Limitations / issues	<ul style="list-style-type: none"> <li>Registered number of overnights in the commercial accommodation only</li> <li>Energy consumption in households includes, partly, tourism consumption; since the share of household accommodation differs significantly among counties it can to some extent distort the estimates and comparability among the counties</li> <li>There are no updates of 2012 energy survey (consumption norms)</li> </ul>

**Figure 9:**  
Energy consumption per tourist night compared to general population energy consumption per resident night in Adriatic Croatia in 2018 by county



**Table 7: Percent change of 2018 indicator in comparison to 2016**

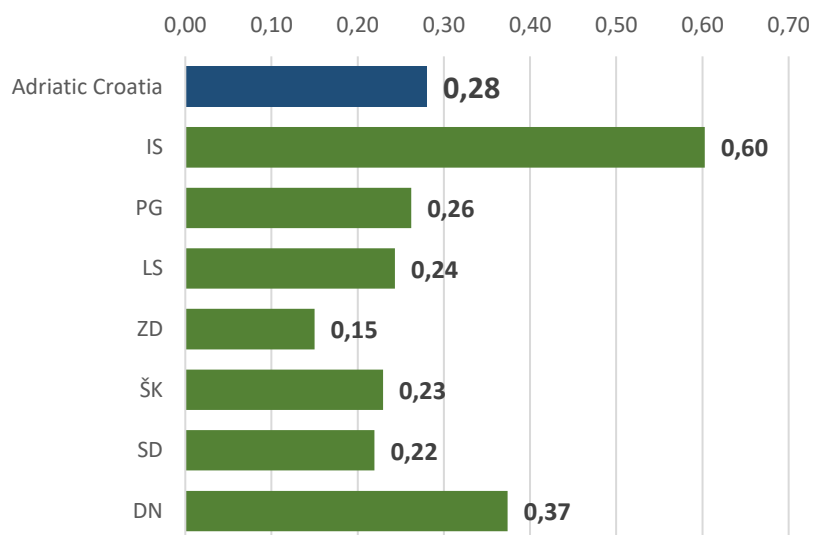
	2018/2016 (%)
IS	109.8
PG	112.1
LS	123.5
ZD	113.4
ŠK	112.9
SD	116.3
DN	106.2
Adriatic Croatia	112.7

Counties: IS Istria, PG Primorje-Gorski Kotar, LS Lika-Senj, ZD Zadar, ŠK Šibenik-Knin, SD Split-Dalmatia, DN Dubrovnik-Neretva

Comments	Energy consumption of tourists to residents in Adriatic Croatia in 2018 is 0.22, 13% higher than in 2016. The highest rate of energy consumption by tourists is associated with counties with the highest share of hotels and similar accommodation and the lowest tourism seasonality, namely County of Dubrovnik-Neretva (0.38) and County of Istria (0.28).
----------	--

CROSTO indicator	Water consumption per tourist night compared to general population water consumption per resident night
UNWTO mandatory issue	Water management
ETIS section	D Environmental impact
ETIS criterion	D.5 Water management
Description / Scope	Water consumption by tourists in commercial accommodation compared to total water consumption by households
Approach	Estimates of water consumption by tourists in commercial accommodation were based on consumption norms by type of accommodation obtained in 2008 and number of overnights by type of accommodation in 2018. Household consumption includes both public supply system and hydrofoil pump, etc.
Data source/s	CBS, First Release 6.1.2. COLLECTION, PURIFICATION AND DISTRIBUTION OF WATER, 2018 CBS, Census of Population, Households and Dwellings 2011, Dwellings by Occupancy Status, 2017 Institute IGH, Water Supply plan for County of Split-Dalmatia, 2008
Limitations / issues	<ul style="list-style-type: none"> <li>Registered number of overnights in the commercial accommodation only</li> <li>Same water consumption by households on public water supply and hydrofoil pumps is assumed</li> <li>No updates of 2008 consumption norm by type of accommodation</li> </ul>

**Figure 10:**  
Water consumption per tourist night compared to general population water consumption per resident night in Adriatic Croatia in 2018 by county



**Table 8: Percent change of 2018 indicator in comparison to 2016**

	2018/2016 (%)
IS	107.9
PG	109.5
LS	105.6
ZD	69.0 <sup>16</sup>
ŠK	112.1
SD	118.0
DN	111.4
Adriatic Croatia	103.4

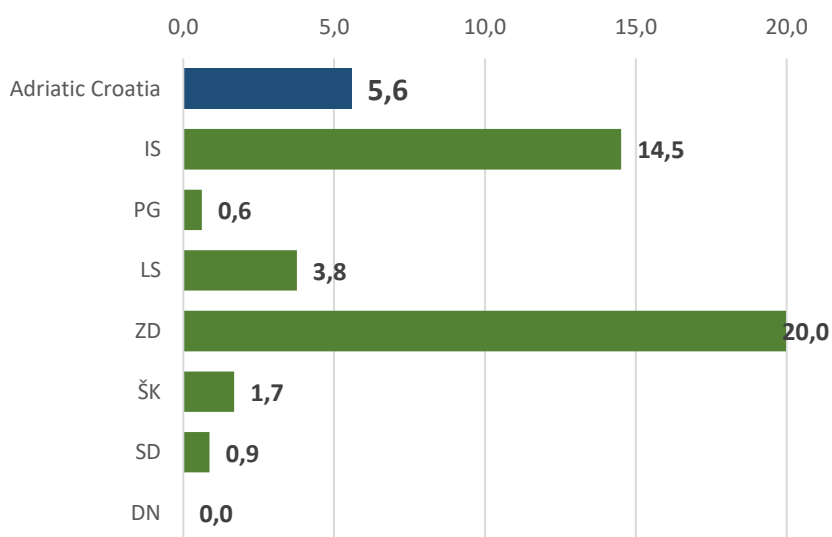
Counties: IS Istria, PG Primorje-Gorski Kotar, LS Lika-Senj, ZD Zadar, SK Šibenik-Knin, SD Split-Dalmatia, DN Dubrovnik-Neretva

**Comments**  
The amount of water used by tourists in Adriatic Croatia in 2018 in relation to residents is 0.28, 3% higher than in 2016. The highest rate of water consumption by tourists is associated with counties with the highest share of hotel and similar accommodation and the lowest tourism seasonality, County of Istria (0.60), where there is also the highest number of households on public water supply system as well as the highest number of registered tourists overnights.

<sup>16</sup> There was a significant increase recorded in the amount of water delivered to households in 2017, as well as in 2018 in comparison to 2016 (7,552,000 m<sup>3</sup> in 2016 and 13,582,000 m<sup>3</sup> in 2017). At the same time there was a significant decrease in water losses in the same period (22,386,000 m<sup>3</sup> in 2016 and 4,976,000 m<sup>3</sup> in 2017). The figures should be further double checked with data providers.

CROSTO indicator	Percentage of sewage from a destination treated to at least secondary level prior to discharge
UNWTO mandatory issue	Wastewater (sewage) management
ETIS section	D Environmental impact
ETIS criterion	D.4 Sewage treatment
Description / Scope	Percentage of sewage from a destination treated to at least secondary level prior to discharge
Approach	The official data on sewage treated to at least secondary level prior to discharge were corrected by rate of households/dwellings connected to a public sewer system on county level
Data source/s	CBS, First Release 6.1.3. PUBLIC SEWAGE SYSTEM, 2018, additional ad-hoc analysis CBS, Census of Population, Households and Dwellings 2011, Dwellings by Occupancy Status, 2017
Limitations / issues	<ul style="list-style-type: none"> <li>The rate of households/dwellings connected to a public sewer system was applied to the total wastewater (from households and economic activities) by counties</li> </ul>

**Figure 11:**  
Percentage of sewage from a destination treated to at least secondary level prior to discharge in Adriatic Croatia in 2018 by county



**Table 9: Percent change of 2018 indicator in comparison to 2016**

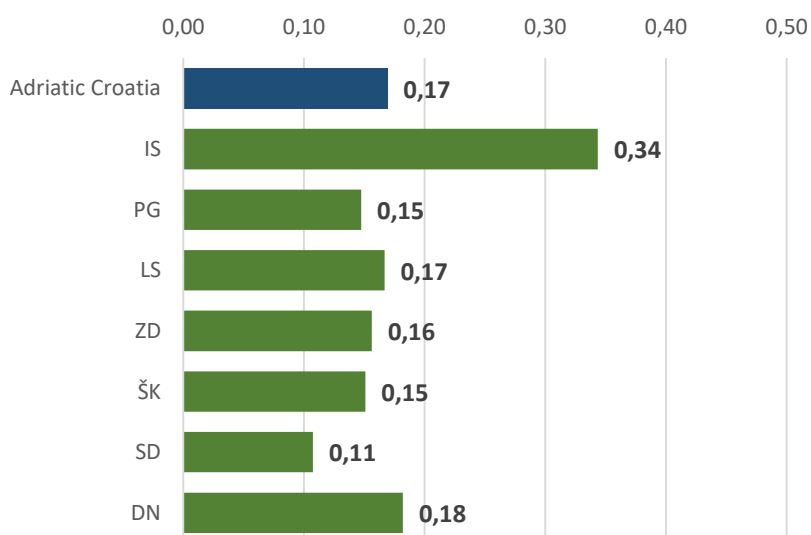
	2018/2016 (%)
IS	113.3
PG	165.0
LS	37.1
ZD	101.7
ŠK	1664.6
SD	112.8
DN	-
Adriatic Croatia	95.8

Counties: IS Istria, PG Primorje-Gorski Kotar, LS Lika-Senj, ZD Zadar, ŠK Šibenik-Knin, SD Split-Dalmatia, DN Dubrovnik-Neretva

**Comments** Only 5.6% of sewage in Adriatic Croatia is treated to at least secondary level prior to discharge. The highest rate of treatment is in County of Zadar (20%) even when corrected for households not connected to public sewage system (72%). The indicator decreased in comparison to 2016. It should also be noted that data highly oscillate from year to year and corrections of already published data are often.

CROSTO indicator	Waste production per tourist night compared to general population waste production per resident night
UNWTO mandatory issue	Solid waste management
ETIS section	D Environmental impact
ETIS criterion	D.3 Solid waste management
Description / Scope	Waste production by tourists in relation to residents' waste production
Approach	Based on total amount of solid waste produced in 2018 (source: Croatian Agency for Environmental and Nature Protection), number of residents and number of tourists overnights in 2018
Data source/s	Croatian Agency for Environmental and Nature Protection CBS, First Release 4.3.2. TOURIST ARRIVALS AND NIGHTS IN 2018, additional ad-hoc analysis CBS, First Release 7.1.3. POPULATION ESTIMATE OF REPUBLIC OF CROATIA, 2018
Limitations / issues	<ul style="list-style-type: none"> <li>Registered number of overnights in commercial accommodation only</li> <li>The assumption is that tourists and residents have the same patterns of consumption and hence the same production of solid waste</li> </ul>

**Figure 12:**  
Waste production per tourist night compared to general population waste production per resident night in Adriatic Croatia in 2018 by county



Counties: IS Istria, PG Primorje-Gorski Kotar, LS Lika-Senj, ZD Zadar, ŠK Šibenik-Knin, SD Split-Dalmatia, DN Dubrovnik-Neretva

**Table 10: Percent change of 2018 indicator in comparison to 2016**

	2018/2016 (%)
IS	112.8
PG	111.3
LS	122.8
ZD	117.8
ŠK	113.7
SD	119.1
DN	118.6
Adriatic Croatia	115.5

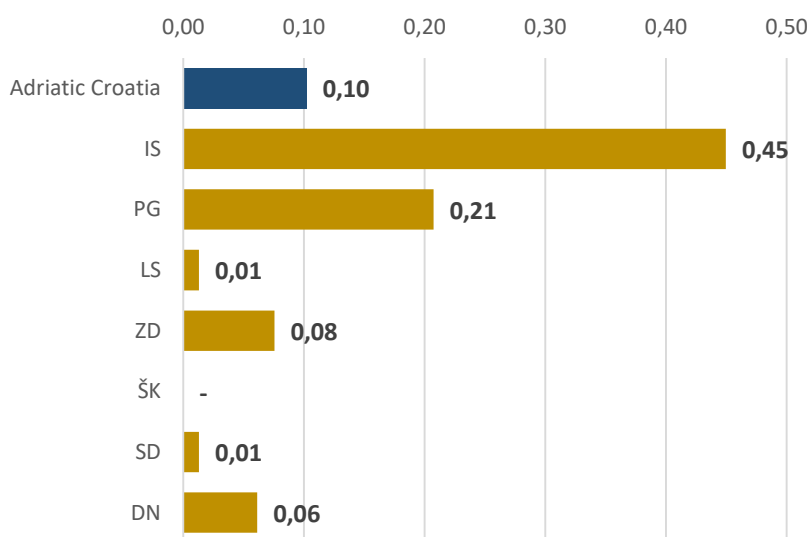
**Comments** The extra pressure of solid waste generated by tourists in relation to residents is estimated to 0.17. The highest rate is recorded in Country of Istria (0.34), proportionally to the highest number of tourists overnights. The rate of tourist's waste production increased in comparison to 2016 for almost 16%.

CROSTO indicator	Percentage of tourism enterprises using voluntary certification/labelling for environmental Corporate Social Responsibility
UNWTO mandatory issue	-
ETIS section	A Destination management
ETIS criterion	A.1 Sustainable tourism public policy
Description / Scope	To measure the awareness of accommodation providers regarding environmental/quality/sustainability and/or Corporate Social Responsibility in their operation
Approach	Ad-hoc survey has been planned for 2019 but it has not been conducted yet
Data source/s	There is no currently available list of certification/labelling for environmental /quality/sustainability and/or Corporate Social Responsibility for tourism enterprises/facilities in Adriatic Croatia. In cooperation with Ministry of Tourism and Sport and Croatian Agency for Environmental and Nature Protection a survey of all accommodation facilities aimed at collecting such data is planned for the near future
Limitations / issues	<ul style="list-style-type: none"> <li>Collecting and monitoring certification/labelling for environmental /quality/sustainability and/or Corporate Social Responsibility in household accommodation facilities could be a specific issue due to the huge number of such facilities available in Adriatic Croatia and willingness of their owners to participate in such survey</li> </ul>
Figure	<b>Data N/A</b>
Comments	-



CROSTO indicator	Percentage of destination area out of the settlement's boundaries built for tourist purposes
UNWTO mandatory issue	Governance
ETIS section	-
ETIS criterion	-
Description / Scope	To measure and monitor areas out of the settlement's boundaries which is built or designated for tourist purposes
Approach	Indicator is used instead of the proposed one '% of destination area subject to control (density, design, etc.)' since it is evaluated as more important for the area of Adriatic Croatia
Data source/s	Ministry of Construction and Physical Planning (2012) Izvješće o stanju u prostoru Republike Hrvatske 2008-2012 [National Report on the State of Spatial Development of the Republic of Croatia 2008-2012] Since there are no new data, the indicator is the same as in 2016
Limitations / issues	<ul style="list-style-type: none"> <li>No updates on the state of spatial development of the Republic of Croatia</li> <li>Due to high number of rooms/apartment/houses available for rent within towns/villages in the Adriatic Croatia, it is of outmost importance for the Adriatic Croatia to extend this indicator to measure the % of built area for renting purposes within the settlement's boundaries; for example, 19% of all dwelling in the Adriatic Croatia are used for short-term rental in tourism</li> </ul>

**Figure 12:**  
Destination area out of the settlement's boundaries built for tourist purposes in Adriatic Croatia in 2018 by counties (in %)



Counties: IS Istria, PG Primorje-Gorski Kotar, LS Lika-Senj, ZD Zadar, SK Šibenik-Knin, SD Split-Dalmatia, DN Dubrovnik-Neretva

Comments On average, only 0.1% of the area outside the settlements is already built for tourist purposes. The highest (above average) percentage of built area is in Istria (0.45%) and County of Primorje-Gorski Kotar (0.21%).

#### 4. Handbook for Measurement and Continuous Monitoring of the Sustainability of Tourism for Destinations

Given the trend of informed management and starting from the current development moment of Croatian tourism as well as the fact that the systematic measurement of tourism sustainability indicators in the Republic of Croatia is in the initial phase of development, one of the goals of this document is to increase the total number of destinations involved in the measurement process. This will ensure timeliness and spatial comparability of sustainability, improvement of measurement methodology and database, which has the function of informed management, as well as the determination of the supporting capacity of the destination.

Accordingly, this document defines guidelines for:

- Determining a common methodology for collecting primary data
- Unification of secondary data collection / use and calculation system
- Creating a Clear Process of Establishing a Local Observatory by Steps
- Create a unified reporting system
- Determining the process of determining specific destination indicators.

Considering that the purpose of this Handbook is to facilitate and approximate the process of measuring tourism sustainability to all interested stakeholders of tourism development at the local level, and especially to tourism communities and local self-government units, a summary overview of selected CROSTO indicators is presented. The following elements are presented for each indicator:

- reasoning - a short introduction to the indicator,
- description - simple explanation,
- access - type of indicators and complexity, method of data collection,
- data required - elements required for the calculation,
- data sources - institutions / organizations / databases that have the necessary data to calculate the indicators,
- calculation - formula for calculation (if applicable),
- alternative calculation (if any) - method of data collection and / or calculation according to the specific characteristics of the destination and
- restrictions (if recognized).

Furthermore, in order to collect relevant, representative and reliable data as a basis for calculating tourism sustainability indicators, the research should be well prepared. The guide also briefly explains all the steps of conducting the survey and gives examples and templates of individual research tools to enable stakeholders in the destination to conduct the research at the destination (city / municipality) level as properly as possible.

## 5. Stakeholder workshops and dissemination activities

During this measurement period (2019), two meetings were held with the members of the inter-institutional sector group, discussing the following issues:

- a. proposals for new indicators

CROSTO includes at the moment 14 baseline indicators. There is a plan to extend the list of CROSTO indicators to 20 to 25, including, for example, indicators concerning demographics, protected areas, renewable energy, destination traffic, the number of same-day visitors (measuring via a tele carrier or similar), local residents' business activity, beaches and their capacity etc. On the regional workshops with new destinations to be held in 2020, the problem areas/issues will be defined, and measurable indicators will be proposed as an extended set of baseline indicators.

- b. knowledge sharing through scientific and professional international cooperation

There are several directions in which CROSTO experiences have been used for knowledge sharing:

- Indicator-driven internal project of the Institute for tourism – aimed to improve the methodology and link it to the carrying capacity calculation and guidelines
- ERASMUS+ proposal with Ericsson Nikola Tesla, University of Surrey - aimed at increasing visibility, education and creating a base of comparable indicators
- Numerous interests in cooperation: Plitvice Professional Conference, University of Surrey, University of Maribor, Ukrainians, Mallorca
- DESTIMED PLUS - a new INTEREG Mediterranean project focused on sustainability indicators in island protected areas, with the purpose of enhancing ecotourism. DestiMED PLUS will establish a Med Ecotourism Consortium (MEC) of conservation and tourism actors from regional administrations which will work to capitalize on tools and strengthen policy frameworks for ecotourism. The MEC will allow regions to exchange best practices and develop an integrated ecotourism model for the Med that will be adopted by their territories and scaled up. Existing monitoring tools will be harmonized, and an online learning platform produced, allowing local and regional authorities to measure sustainability and improve participatory governance, while also ensuring ecotourism benefits conservation in PAs located on islands and in sparsely populated areas.

Some of the selected dissemination activities were:

### **Development of a harmonized monitoring system dedicated to tourism in the Danube region, Sofia, Bulgaria, October 2018**

Presentation of the CROSTO observatory with an emphasis on the topics of support for the work of the observatory by other institutions and the involvement of local communities (Izidora Marković Vukadin)

### **Mediterranean Sustainable Tourism Convention 2019, 5-7 June, Barcelona**

Presentation of Tourism sustainability: Croatian Experiences and Challenges and participation in the roundtable at thematic session 2a: Data and knowledge-based management of tourist destinations (participants: Mr. Xavier Font, Professor of Sustainability Marketing, School of Hospitality and Tourism Management, University of Surrey, Ms. Nagore Espinosa, CEO in2destination and Coordinator INRouTe Network, Ms. Zrinka Marušić, Croatian Sustainable Tourism Observatory, Representative of Università Ca'Foscari Venezia-SHAPETOURLISM(tbd), Mr. Lluís Prats Planagumà, Universitat de Girona -MITOMED, Moderation: Ms. Anna Torres, Researcher and Lecturer in Sustainable Tourism and Coordinator of Postgraduate Programmes, School of Tourism, Hospitality and Gastronomy CETT-University of Barcelona (UB))

**Towards Policy Recommendations on Sustainable Tourism: Shaping the Results of the MED Community, Workshops of the Med Sustainable Tourism Community, 27-28 March 2019, Split (Croatia)**

Participation in the workshop and drafting / reviewing policy recommendations on Ensuring an effective monitoring of tourism sustainability in the Mediterranean region (Zrinka Marušić)

**Sustainable tourism indicators: Manual of transfer of best practices**

Presenting Case Study: Institute for Tourism, Zagreb Croatia, under the topic: Collate existing data sets to develop a cost-effective sustainability indicator set

**Figure 13:** Front page and case study from The Manual of Sustainable Tourism Indicators



Source: Mitomed – plus project: [https://mitomed-plus.interreg-med.eu/fileadmin/user\\_upload/Sites/Sustainable\\_Tourism/Projects/MITOMED%2B/Sustainable\\_Tourism\\_Indicators\\_EN.pdf](https://mitomed-plus.interreg-med.eu/fileadmin/user_upload/Sites/Sustainable_Tourism/Projects/MITOMED%2B/Sustainable_Tourism_Indicators_EN.pdf)

**Global Green Destinations Days - GGDD19,8-12 October 2019, Zagreb and Mali Lošinj (Croatia)**

On GGDD2019 s yearly event brought together leading sustainability experts in government, business, and academia in a set of workshops, peer-to-peer learning, field trips, in-depth sessions, and panel discussions, CROSTO observatory approach in measuring tourism sustainability was presented (Izidora Marković Vukadin).

## 6. Further development/recommendations

For further measurement of sustainability on local level, lack of stakeholder knowledge on the purpose of sustainability indicators is an important obstacle, as local coordinators must simultaneously inform themselves about the indicator system and motivate data providers. In other words, since stakeholders involved in the measurement process are informed through local coordinators about the purpose of data collection, they are also educated about systematic data collection and therefore sometimes unable to effectively transfer newly learned information to other members of the working group.

From the above, it is necessary to create a data collection system in which all members of the local working group will be fully informed about the process, interactively involved, and adequately motivated. Also, communication with other destinations included in the network is important for reviewing the process of data collection and mutual exchange of knowledge and for communication with destinations that do not measure how they can access the measurement process. In this sense in the next period the emphasis is on drafting a communication plan and developing / planning educational activities.

There are many ways to improve networking and collaboration among stakeholders involved. One form is the creation of a formal body to meet at the Ministry of Tourism and Sport. This formal group could develop an action plan to strengthen cooperation. In order to strengthen the network, it is necessary to promote it and continuously inform members about the benefits of active participation in the network, which can easily be done through mailing lists and newsletter distribution, at the basic level of information. However, the network should have a two-way exchange of knowledge. It is therefore important to engage in personal communication at all levels, both formal and informal.

Furthermore in the monitoring framework it should be clearly stated whether the required data are available and how the indicators are calculated and interpreted, which means that data flow and uniform methodology for data processing should be introduced. Calculating indicators is still a challenge since we value what we measure, rather than measuring what we value; while data collection is expensive and sustainability data are limited. Finally, understanding of the meaning of indicators requires the definition of the politically-contested process of defining sustainability thresholds and therefore education is a more efficient tool to resolve obstacles, such as unreliability of data used in measuring the sustainability of tourism. Because of that we plan to continue with diverse popularization and knowledge sharing activities to achieve that goal.