Visiting the Margins.
INnovative **CUL**tural **T**o**U**ris**M** in European peripheries

This Project has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement no. 101004552

Deliverable number: D3.2

Title: Intermediate findings presentation

Due date: 31.10.2022 (M18)

Actual date of delivery to EC: 18.11.2022

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Context

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Deliverable version number	2.0
Document reviewed by:	CBS

History

Change log

Version	Date	Author(s)	Reason for change
1.0	14.10.2022	Sara Mitchell, Karol J. Borowiecki, Martin Hørlyk Kristensen	First draft
2.0	31.10.2022	Sara Mitchell, Karol J. Borowiecki	Second draft

Release approval

Version	Date	Name & Organisation	Role
1.0	18.11.2022	Maria Teresa Bonet Garcia (UGR)	Project Manager

Contents

Executive Summary

The INCULTUM project aims to further sustainable social, cultural, and economic development in marginal and peripheral areas of Europe via cultural tourism. The main focus of the project is the implementation of innovative participatory approaches across ten diverse pilot cases. These pilots will be monitored before, during, and after these interventions to assess outcomes on the pilot-level and to understand the conditions necessary for successful implementation. The analysis involves the use of quantitative and qualitative data from official statistics, as well as novel data collected through innovative data collection processes.

The aim of this deliverable (D3.2 *Intermediate findings presentation*) is to present findings from before the pilot phases for destinations where innovative approaches are introduced and for control destinations (the counterfactual). To achieve this, we discuss the pre-project data collection processes of the pilot partners, including their experience in conducting visitor surveys, surveys of local residents, and other types of data. We analyse the trends in the urban and regional development of the pilot regions from before the intervention using various demographic and economic indicators. We present trends in pre-pilot tourism activity in the pilot regions, including both on-site visitors and online visibility and interest. We identify proposed control regions to be used as a counterfactual and present the trends in pre-project tourism activity in these regions. We discuss difficulties in carrying out tasks and completing the deliverable, including challenges related to the pilots' prior experience with data collection, the impact of the COVID-19 pandemic on baseline data, the lack of available data on a sufficiently disaggregated level, and anticipated challenges in future work.

1 Introduction

The INCULTUM project aims to further sustainable social, cultural, and economic development in marginal and peripheral areas of Europe via cultural tourism. The main focus of the project is the implementation of innovative participatory approaches across ten diverse pilot cases. These pilots will be monitored before, during, and after these interventions to assess outcomes on the pilot-level and to understand the conditions necessary for successful implementation. The analysis involves the use of quantitative and qualitative data from official statistics, as well as novel data collected through innovative data collection processes. This deliverable presents the the intermediate findings of that data and statistical analysis.

1.1 Role of the deliverable in the working package and in the project

The aim of this deliverable (D3.2 *Intermediate findings presentation*) is to present findings from before the pilot phases for destinations where innovative approaches are introduced and for control destinations (the counterfactual). In order to achieve this deliverable, we have completed Task T3.1.1 *Identifying measures* and Task T3.1.3 *Official statistics*. We have completed the initial phase of Task T3.1.2 *Pilot study data*. We have completed the initial round of data collection for Task T3.1.4 *Innovative data collection*, and we are currently updating this with the more recently available data. We have also begun work on Task T3.2 *Data analysis*.

The work done to achieve this deliverable forms the foundation for the work that will be done for Deliverable D3.3 *Findings analysis report*, in which we will present an analysis of findings from the pilots and discuss the short- to medium-term effects of the pilot projects. The work done to achieve this deliverable is crucial for the success of Deliverable D3.3. This deliverable establishes the baseline (pre-pilot) situation[1], particularly with respect to urban and regional development and cultural tourism, which is essential to determine whether the innovation actions implemented as part of INCULTUM were successful.

The work done to achieve this deliverable also directly feed into Task T3.1.2 *Pilot study data*. As part of the work done to achieve this deliverable, we gathered and analysed data that had been collected by the pilot partners before the start of INCULTUM. We have worked to identified gaps, weaknesses, and limits in pre-existing data collection processes. The work for this deliverable has helped to shape the shared set of metrics that will be collected by the pilots over the duration of the INCULTUM project.

[1]The pilot partners began introducing interventions at various stages of the INCULTUM project, with some introducing innovations immediately while others began this work at a later stage. For consistency and comparability, we focus the baseline analysis on the time before the start of the INCULTUM project.

Furthermore, the analysis outlined in this deliverable will provide insights for the work of other working packages. In particular, the challenges pilots face that we identify in this deliverable will help to shape the policy recommendations provided in WP6 Deliverable D6.2 *Guidelines on the use of European Structural and Investment Funds*. The work done to achieve this deliverable will also feed into WP6 Deliverable D6.1 *INCULTUM training portal*, as this deliverable aims to provide resources on best practices for socio-economic local development and will include data resources and analysis produced by WP3. Finally, this deliverable is also relevant for WP7 Deliverable D7.3 *Updated plan for the impact, evaluation and exploitation of results*. Deliverable 3.2 helps to establish a pre-pilot baseline that could help to WP7 track the effectiveness of INCULTUM-related activities.

1.2 Objective of the deliverable

This intermediate findings presentation provides an analysis of the pilot study areas from before the pilot phases for destinations where innovative approaches are introduced. We focus on three key areas that help us to establish a pre-pilot baseline: pre-pilot data collection by the pilot partners, pre-pilot trends in urban and regional development and tourism, and identification of proposed control regions.

More specifically, this deliverable discusses data that was collected by the pilot partners from before the start of the INCULTUM project, focusing on data that contribute to development of the shared set of metrics that are to apply to all pilots, such as number of visitors, age groups, provenance, and occupation. This deliverable also presents an analysis of trends in urban and regional development and tourism (especially cultural tourism) in the pilot regions using official statistics, focusing on the 5 years before the start of the pilot projects.

In addition, this deliverable explains the identification of proposed control regions and presents trends in tourism activity for these areas for the 5 years before the start of INCULTUM. That is, we identify regions and tourist attractions / tourist sites that are comparable to the INCULTUM pilot regions / sites before the start of the INCULTUM project. These control regions will serve as a comparison group that will help shed light on the short- to medium-term effects of the pilot activities in later analyses, as these regions will not exposed to the innovative approaches introduced via INCULTUM activities.

1.3 Structure of the document

The structure of this document is organised as follows. We discuss the pre-pilot data collection processes in Section 2. Next, Section 3 discusses the trends in the urban and regional development of the pilot regions from before the intervention. Section 4 the various methods for estimating trends in pre-pilot tourism activity in the pilot regions and the results. The identification of proposed control regions and trends in pre-pilot tourism activity in these regions is presented in Section 5. Difficulties in carrying out tasks and completing the deliverable are discussed in 6. Finally, Section 7 provides concluding thoughts and next steps.

1.4 Acknowledgements

We would like to thank Anne Møller Madsen and Sofus Hesseldahl Laubel for their research assistance in collecting the Tripadvisor data.

2 Pre-pilot data collection

In this section, we discuss the data that was being collected on the pilot-level before the commencement of the pilot studies and the methodologies used for this data collection. In particular, we discuss visitor surveys, surveys of local residents, and any other data collection done before the start of the INCULTUM project.

The information provided in this section was collected primarily through a questionnaire sent to the pilot leaders, as well as several follow-up information requests. Some of the work was done in collaboration with the WP7 team, as there are spillovers between the WP3 team analysis of data needs on the pilot-level and the WP7 work to identify the interests, goals, opportunities, and barriers of each pilot. This work involved sharing and discussing the findings of the pilot questionnaire, information requests, and the semi-structured qualitative interviews.

As part of Deliverable D7.1[2], the WP7 team provided a brief description of the data on tourism activity that was being collected for the pilot region in cases where this information was provided by the pilot during the interview process. There is some overlap in the data discussed in D7.1 and in this report: however, this section focuses explicitly on data collected by the pilot partner rather than official statistics on the regional level.

In the pilot questionnaire, we asked the pilots to indicate whether they had conducted visitor surveys, surveys of local residence, or other type of data collection before the start of the INCULTUM project. The results are summarised in Table 1. The pilots vary dramatically in terms of content, focus, and level of development, ranging from the development of new tourism infrastructure at a well-establish tourism site in a single, well-defined location to the restoration of cultural heritage assets and creation of tourism routes across multiple, large areas with no pre-existing tourism infrastructure. The pilots are similarly diverse with respect to the scope and frequency of data collection and the development of data collection methods and procedures.

2.1 Visitor surveys

Only two pilot partners (France and Sweden) had experience conducting visitor surveys before the start of the INCULTUM project.

The French pilot collected data on the number of visitors per day, the number of tickets sold per day, the quality of the visit / visitor rating of the sites, date of visit, gender of visitor, type of visitor (solo, couple, family, student group, tour group, etc.), and origin of visitor (local resident, domestic tourist, international tourist). This data collection was

[2]See Section 5 *Individual pilot profiles and current / envisaged stakeholder dynamics*.

Table 1: Summary of pre-pilot data collection

Pilot	Visitor surveys	Resident surveys	Other data	Brief description
1. Spain	×	×	×	
2. Portugal	×	×	×	
3. Slovakia	×	×	✓	Data on tourism sites related to mining history
4. Italy: Sicily	×	×	×	
5. Italy: Tuscany-Emilia	×	×	✓	Social media engagement (e.g., followers, likes, shares)
6. France	✓	✓	✓	Website traffic (e.g., Google analytics); Online reviews (number and rating); Social media engagement (e.g., followers, likes, shares)
7. Greece	×	✓	✓	Socio-economic, political, and environmental data on region
8. Albania	×	✓	×	
9. Ireland	×	×	✓	Website traffic (e.g., Google analytics); Online reviews (number and rating); Social media engagement (e.g., followers, likes, shares)
10. Sweden	✓	×	×	

focused on visitors to the archaeological site of Bibracte, while the INCULTUM pilot site consists of a much larger area. Some basic data collection began when the museum opened in 1995. More recently (2018-2019), the pilot partner Bibracte set up an observatory using EVALTO participative methodology to characterise the visitors, their behaviour in the region, and their perception of tourism in the region. This EVALTO survey was first conducted in 2018. Visitors are asked to complete a survey at each visit. The findings of the 2018-2019 EVALTO survey have been published in the *Bibracte and its territory: Tourism statistics review 2018-2019* report (Bibracte EPCC, 2021).

The Swedish pilot began collecting data on visitor demographics in July 2021 (the start of INCULTUM). This data included on the quality of the visit / visitor rating of the sites, date of visit, gender of visitor, type of visitor (solo, couple, family, student group, tour group, etc.), origin of visitor (local resident, domestic tourist, international tourist). In addition to this basic data on visitor demographics, the pilot partner included detailed questions combined with GPS trackers to better understanding consumer behaviour and the spatial and temporal patterns of tourists. The Swedish pilot had prior experience collecting this type of visitor data for other destinations during the summers of 2018 and 2019.

The pilots in Ireland and Italy: Tuscany-Emilia involve implementing innovative actions with largely pre-existing tourism assets. These pilots noted that there were visitors at the local museum in San Pellegrino (Italy) and at the historic graves in Connemara and Ballyhoura (Ireland). However, no data was collected on visitor numbers or demographics before the start of INCULTUM.

The pilots in Greece and Albania involve a combination of implementing innovations with existing tourism assets (e.g., museums), restoring cultural heritage assets, and creating new tourism routes. However, the local tourism partners managing existing tourism assets were not collecting data on visitors or visitor numbers during the pre-pilot phase.

The pilots in Spain, Portugal and Italy: Sicily involve the restoration of local cultural heritage assets and the creation of new tourism sites and routes; therefore, there were no tourism sites / attractions to visit during the pre-pilot phase. It should be noted that the provincial tourism authority of Granada province has collected data on tourists for a number of years. This data is only available for broader area (Zona Norte) and not specific to the pilot area or proposed pilot sites. As these three pilots are at a very early stage of development, we expect the data collection on visitors to commence at a later stage of INCULTUM relative to the other pilots. For example, the pilot partners in Portugal estimate that data collection will not begin until December 2022.

2.2 Surveys of local residents

Three pilot partners (France, Greece, and Albania) had experience conducting surveys of local residents before the launch of the INCULTUM project.

The pilot partner in France, Bibracte, began conducting surveys of local residents with the establishment of the observatory in 2018. These surveys aimed to understand the perception of the touristic activity of the territory by local actors to raise interest in tourism issues. Bibracte plans to conduct this survey every five years.

The Greek pilot conducted a survey of local residents in 2012. This survey was a ”worth-living integrated development” study of the pilot area. That is, a study of the local social, economic, cultural, and environmental needs of the local community. (See Rokos, 2001 and Rokos, 2004 for more information on the concept of ”worth-living integrated development”.) No other surveys of local residents were conducted during the pre-pilot phase.

The Albanian pilot has conducted surveys of local residents annually since 2011. This surveys is an ethno-archaeological and cultural heritage study.

2.3 Other pre-pilot data collection

Five pilot partners (France, Greece, Ireland, Italy: Tuscany-Emilia, and Slovakia) collected other types of data before the INCULTUM project began.

The Italy: Tuscany-Emilia pilot was collecting data on social media engagement (e.g., followers, likes, shares) during the pre-pilot phase. The French pilot collected data on website traffic for the institution (e.g., Google analytics), online reviews (e.g., number of reviews, ratings), and social media engagement (e.g., followers, likes, shares). The Irish pilot has a well-developed online community on their website *historicgraves.com*, and one of the aims of the pilots is to encourage this online community to use information available on the website to plan on-site visits. This pilot has been collecting data on website traffic (e.g., Google analytics), online reviews (e.g., number of reviews, ratings), and social media engagement (e.g., followers, likes, shares) since 2020.

The Greek pilot collected data to characterise, analyse and visualise the natural, social, cultural, economic, political, technical/technological conditions of the pilot area. This data has been published in a public geodatabase (The High Mountains, 2022). Some of the data was being collected before the pilot project began, while other data collection began end of September 2021. The Slovakian pilot started collecting data on tourism sites related to the historic mining community and traditions during the pre-pilot phase, with additional data being collected from December 2021. This data will be used to cre-

ate an interactive digital map of local mining treasures as part of an mobile app designed to promote the mining history and culture of the pilot region.

2.4 Summary of findings

The pilots are diverse in the type and amount of data they were collecting prior to the start of INCULTUM. Most of the pilots are relatively inexperienced in data collection with respect to visitor surveys and surveys of local residents. Notable exceptions include the pilots in France and Sweden. Half of the pilot partners have at least some experience collecting other types of data. Three of these pilots have prior experience collecting data on online engagement and web traffic, while the other two pilots have prior experience collecting data used to characterise the pilot area.

3 Urban and regional development in pilot regions

This section outlines the economic and cultural activity of pilot study regions in the period preceding INCULTUM. We describe the data and methodology used to identify key economic indicators related to demographs and labour market conditions and regional income. We then provide results for the pilot regions, and we contrast the results for the INCULTUM regions with national and EU averages (where possible). We focus the analysis on pre-pandemic trends, as the 2020 levels are likely not representative of longer-term regional development. The impact of the COVID-19 pandemic on data for the pilot regions is discussed in detail in Section 6.2.

3.1 Data and methodology

To obtain measures of urban and regional development in INCULTUM pilot regions we rely on statistics provided by the statistical office of the European Union, Eurostat. The variables of interest are analysed at the regional level, either NUTS2 or NUTS3, depending on data availability. We use the more disaggregated NUTS3 (where available) to get as close to the pilot study as possible. We list all pilot studies and their respective NUTS2 and NUTS3 region name and code in Table 4 in Appendix A.

In some cases, official statistics on urban and regional development exist on a more localised level. However, we utilise the most localised geographic level available for all pilots to ensure consistency and comparability (a requirement for the planned causal analysis to be conducted as part of Task T3.2 *Data analysis*). We acknowledge that indicators at the NUTS 2 and NUTS 3 level are not ideal proxies for the urban and regional development of the pilot areas. The pilot areas are likely to have lower levels of urban and regional development than the regional average, particularly the pilots in Spain, Portugal, Italy, and Ireland. However, these data still provide an important overview of the surroundings, the type of region the pilot is located in, and the broader economic development potential. We discuss this issue in more detail in Section 6.3.

The subsequent subsections will provide a description of the variables used in the analysis. For each indicator, we provide the 2018-2019 average for the INCULTUM region and compare this with the national and EU average (where available). We exclude the year 2020 from the analysis, as the trends during the COVID-19 pandemic are likely not reflective of longer-term regional development. We also acknowledge that the INCULTUM regions considered might have been disproportionately impacted by COVID-19.

3.1.1 Demographics and labour market

To give an indication of population structure of the INCULTUM pilot regions, we make use of population structure indicators provided by Eurostat. In particular, we investigate the median ages and old-age-dependency ratios (defined as the number of individuals aged 65 and over divided by the number of individuals aged 15-64) for the regions. The old-age dependency ratio can be interpreted as the pressure on the working force population of a given region. A low old-age dependency ratio implies that there is a more sufficient work force to support the dependent population (aged 65 and over in this case), while a high ratio implies that there is a less sufficient work force to support the dependent population. Both the median ages and old-age dependency ratios are available at a NUTS3 regional level.

As a measure of the urbanisation rate of INCULTUM pilot regions, we obtain a measure of population density defined as persons per km^2. This measure is available on a NUTS3 regional level.

We give an overview of the educational attainment level among INCULTUM pilot regions by using the share of the population that successfully completed a tertiary education. The classification of educational activities is based on the International Standard Classification of Education (ISCED). Tertiary education covers ISCED 2011 level 5 (short-cycle tertiary education), 6 (Bachelor's or equivalent level), 7 (Master's or equivalent level), and 8 (Doctoral or equivalent level). Eurostat provides this measure on a NUTS2 regional level.

We use the share of the labour force employed in the cultural sector to illustrate the cultural labour capacity of the INCULTUM pilot region. Eurostat reports cultural employment on a NUTS2 regional level.

Finally, we provide an overview of the unemployment rates in INCULTUM pilot regions using unemployment rates among all persons in private households aged 20-64 by NUTS2 regions.

3.1.2 Income

We use the Gross Domestic Product (GDP) per inhabitant (capita) measured in current market prices to get an indication of the level of economic activity of the pilot regions. Eurostat provides this measure on a NUTS3 regional level.

In order to give a more comprehensive view on the economic development of INCULTUM pilot regions, we move beyond GDP per capita and provide an overview of at-risk-of-poverty rates. The at-risk-of-poverty rate is defined as the share of people with an

equivalised disposable income (after social transfers) below a threshold of 60% of the national median equivalised disposable income. Hence, it gives an overview of the share of low-income individuals in comparison to other residents of that country. The measure is available on a NUTS2 regional level.

3.2 Results for pilot regions

3.2.1 Demographics and labour market

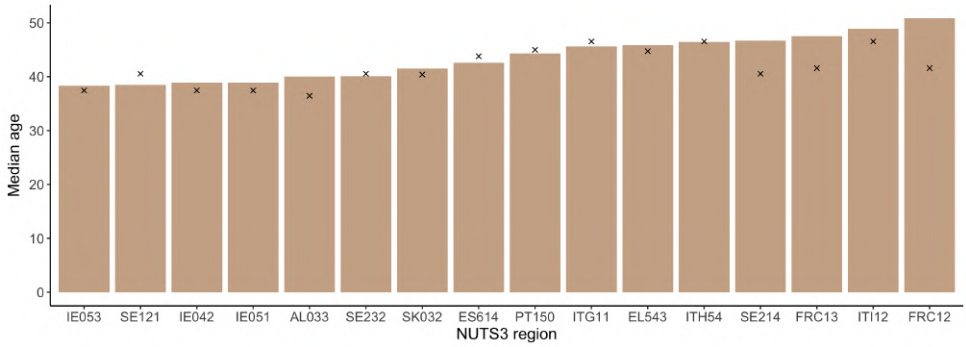
Figure 1 illustrates the median age of INCULTUM pilot regions compared with the respective national level. The figure shows that INCULTUM pilot regions are more often older than the national average. A similar pattern is observed when considering old-age-dependency ratios. As seen in Figure 2, the majority of INCULTUM pilot regions have a higher old-age-dependency ratio compared with the respective national average. More practically, when comparing with the respective national averages, the proportion of elderly to working age individuals tend to be larger in INCULTUM pilot regions, which implies that there is extra pressure on the working age individuals to support the dependent population (individuals aged 65 and over).

The population density of INCULTUM pilot regions is illustrated in Figure 3. Comparing with the EU27 average, it is evident that the majority of the regions are less densely populated. The only INCULTUM pilot regions that lie above the EU27 average are Italian regions, which is not surprising due to the high population density of the country. When comparing with national averages, a majority of the INCULTUM pilot regions tend to be less densely populated. The relatively low level of population density suggests that the pilot regions are more rural regions rather than metropolitan regions. This is in line with our expectations, since the INCULTUM pilot regions are considered to be peripheral.

Education is an important determinant for economic development. Therefore, we provide an overview of the educational attainment level of INCULTUM pilot regions in Figure 4. When comparing with the EU27 average, there is a handful of regions (primarily from Southern Europe) where the share of the population with tertiary education is below the average. On the other hand, regions with a larger share of individuals that completed tertiary education are primarily from Northern Europe. When comparing with national averages, however, a different pattern emerges; INCULTUM pilot regions tend to have a smaller share of individuals with completed tertiary education.

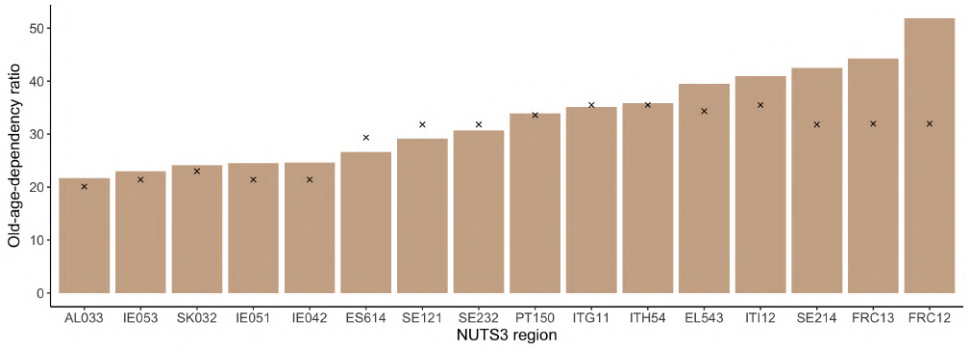
Figure 5 shows the cultural employment of INCULTUM pilot regions and compares it with the EU27 countries' and national averages. As is evident from the figure, all but two INCULTUM pilot NUTS2 region fall below the EU27 average in terms of cultural employment. Similarly, all but one INCULTUM pilot NUTS2 region fall below their re-

Figure 1: Median age of population in pilot regions



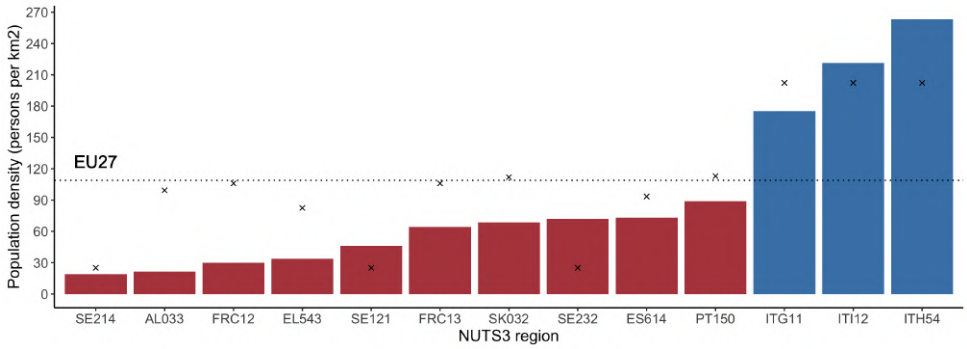
Source: Eurostat (2022k) online data file DEMO_R_PJANIND3.
Note: The bars illustrate the 2018-2019 regional average while the cross represents the 2018-2019 national average.

Figure 2: Old-age-dependency ratio of pilot regions



Source: Eurostat (2022k) online data file DEMO_R_PJANIND3.
Note: The bars illustrate the 2018-2019 regional average while the cross represents the 2018-2019 national average.

Figure 3: Population density of pilot regions



Source: Eurostat (2022j) online data file DEMO_R_D3DENS.
Note: The bars illustrate the 2018-2019 regional average while the cross represents the 2018-2019 national average. The horizontal dotted line represents the EU27 countries' average population density rate. Bars are coloured blue if the population density rate of the region lies above the EU27 average, and coloured red if it lies below.

spective national average of cultural employment. This pattern suggests that the cultural labour capacity in the period preceding INCULTUM was lower in the vast majority of INCULTUM pilot NUTS2 regions when comparing with national and EU27 averages. This pattern may not be surprising due to the peripheral nature of the regions involved with INCULTUM.

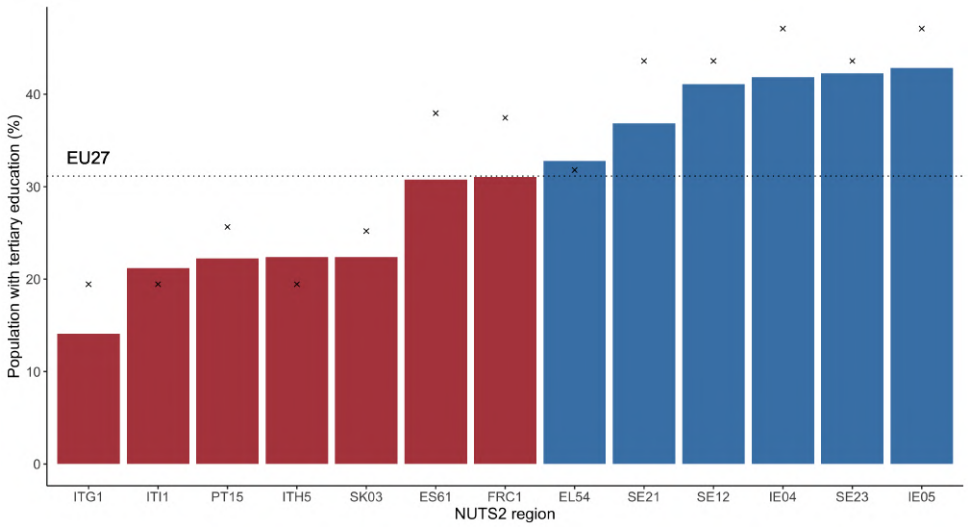
The unemployment rates of INCULTUM NUTS2 regions are illustrated in Figure 6. The INCULTUM pilot regions in Northern Europe more or less follow their respective national unemployment average. But when considering Southern European countries, there seems to be substantial variability in unemployment across regions. For instance, Emilia-Romagna (ITH5) has a noticeable smaller unemployment rate than the average unemployment rate of Italy. On the other hand, Andalusia (ES61) and Sicily (ITG1) have unemployment rates that are far above their respective national average unemployment rate. Together with Epirus (EL54), these regions also have unemployment rates that are far above the EU27 average unemployment rate.

3.2.2 Income

Figure 7 illustrates the income levels of INCULTUM pilot NUTS3 regions. Considering the income levels of INCULTUM pilot NUTS3 regions, there once again seems to be a divide between Northern- and Southern European regions. Almost all Northern European regions have income levels that lie above the EU27 average level of GDP per capita, while the majority of Southern European INCULTUM pilot regions have income levels that lie below the EU27 average. When comparing with national averages, 11 out of 16 INCULTUM NUTS3 regions have lower income levels than their respective national income levels. Again, this result is not surprising due to the peripheral nature of the regions of interest.

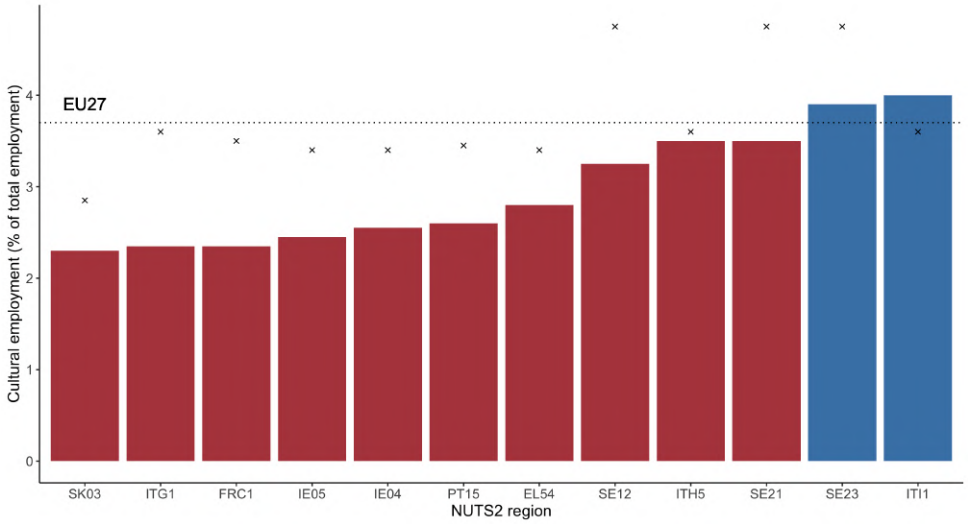
The at-risk-of-poverty rates of pilot regions is illustrated in Figure 8. More often than not, INCULTUM pilot regions have at-risk-of-poverty rates that are at or above the respective national averages. This suggests that the majority of INCULTUM pilots have a larger share of low-income individuals compared with their national averages.

Figure 4: Percentage of population with tertiary education



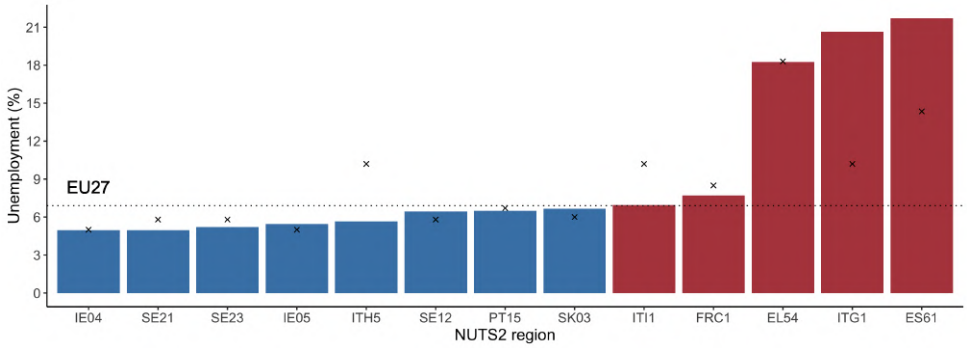
Source: Eurostat (2022i) online data file EDAT_LFSE_04.
Note: The bars illustrate the 2018-2019 regional average while the cross represents the 2018-2019 national average. The horizontal dotted line represents the EU27 countries' average share of population with tertiary education. Bars are coloured blue if the share of population with tertiary education of the region lies above the EU27 average, and coloured red if it lies below.

Figure 5: Cultural employment of pilot regions



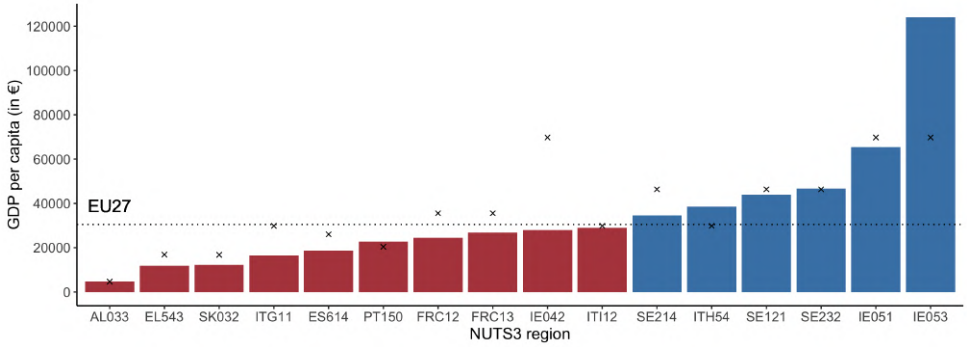
Source: Eurostat (2022d) online data file CULT_EMP_REG.
Note: The bars illustrate the 2018-2019 regional average while the cross represents the 2018-2019 national average. The horizontal dotted line represents the EU27 countries' average cultural employment rate. Bars are coloured blue if the employment rate of the region lies above the EU27 average, and coloured red if it lies below.

Figure 6: Unemployment rates of pilot regions



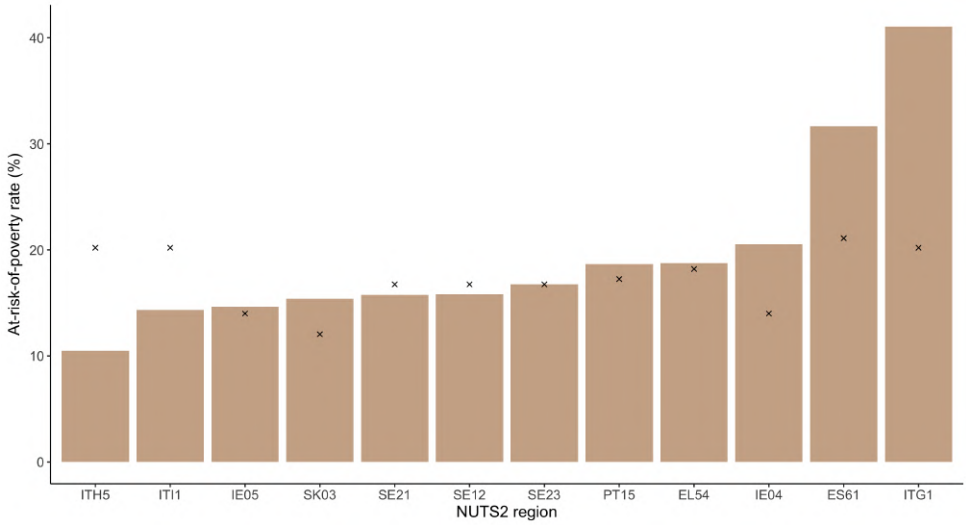
Source: Eurostat (2022l) online data file LFST_R_LFU3RT.
Note: The bars illustrate the 2018-2019 regional average while the cross represents the 2018-2019 national average. The horizontal dotted line represents the EU27 countries' average unemployment rate. Bars are coloured blue if the unemployment rate of the region lies below the EU27 average, and coloured red if it lies above.

Figure 7: GDP per capita of pilot regions



Source: Eurostat (2022e) online data file NAMA_10R_3GDP.
Note: The bars illustrate the 2018-2019 regional average while the cross represents the 2018-2019 national average. The horizontal dotted line represents the EU27 countries' average level of GDP per capita. Bars are coloured blue if the income level of the region lies above the EU27 average, and coloured red if it lies below.

Figure 8: At-risk-of-poverty rate



Source: Eurostat (2022c) online data file ILC_LI41.
Note: The bars illustrate the 2018-2019 regional average while the cross represents the 2018-2019 national average.

3.3 Summary of findings

Considering the period preceding INCULTUM, this section has showed that regions affected by INCULTUM, on average, are older than the respective national average, are less densely populated, and has a lower cultural labour capacity than the respective national average and the EU27 average. Pilot regions also tend to be less educated when comparing with the respective national average. Furthermore, we illustrated that a few INCTULTUM regions have unemployment rates that are far beyond both their national- and EU27 average.

In terms of income levels, we illustrated that the majority of INCULTUM regions have income levels that lie below the EU27 and their respective national average income level. Finally, we showed that, more often than not, pilot regions have at-risk-of-poverty rates that are above the respective national average at-risk-of-poverty rate.

4 Estimating pre-pilot tourism activity in pilot regions

This section provides estimates of tourism activity in pilot study regions in the years before the start of INCULTUM. We describe the data and methodology used to identify key indicators of tourism activity, and we provide results for the pilot regions. In particular, we use official statistics to measure tourism arrivals and net occupancy rates. We use Google Trends data to measure the visibility of / interest in the pilot regions. Finally, we use the pilots' presence on various social media platform to analyse the degree to which the pilots can enhance their online presence.

4.1 Data and methodology

We use a combination of official statistics and innovative data collection to estimate the level of tourism activity in the pilot regions before the start of INCULTUM. We focus our analysis on the years 2018 and 2019 to provide baseline levels of tourism activity in the pilot regions. We exclude the year 2020, as this was the first year of the COVID-19 pandemic and the pandemic-related restrictions on both domestic and foreign travel dramatically reduced tourism activity (European Commission, 2021). The impact of the COVID-19 pandemic on data for the pilot regions is discussed in detail in Section 6.2.

4.1.1 Official statistics

To illustrate the patterns of pre-pilot tourism activity with data from Eurostat, we use arrivals at tourist accommodation establishments and net occupancy rates. For both measures, we consider both domestic and non-domestic visitors and all tourist accommodation establishments that fall under one of the three NACE Rev. 2 classifications I551 (hotels and similar accommodations), I552 (holiday and other short-stay accommodation), and I553 (camping grounds, recreational vehicle parks and trailer parks).

An arrival at a tourist accommodation establishment is defined as a person (tourist) who arrives at a tourist accommodation establishment and checks in. There are made no restrictions on age, meaning that adults as well as children are part of the statistic. Same-day visitors that spend only few hours (no overnight stay) are excluded from this statistic. In order to express the statistic per 1000 inhabitants, we divide the arrivals at tourist accommodation establishments by the population of a given region, and multiply by 1000. Finally, Eurostat provides data on arrivals at tourist accommodation establishments at a NUTS2 regional level.

We use the net occupancy rate for both bedrooms and bed places. The net occupancy rate for bedrooms/bed places is defined as the total number of bedrooms/bed places in use during the reference period divided by the total amount of bedrooms/bed places

available during the reference period. To express the occupancy rate as a percentage, the resulting fraction is multiplied by 100. Eurostat provides data on the net occupancy rate at a NUTS3 regional level.

In all cases, we rely on official statistics on the NUTS 2 or, where possible, NUTS 3 level. In some cases, tourism statistics do exist on a more localised level (e.g., the provincial tourism authority of Granada province collects data for Zona Norte). However, we utilise the most localised geographic level available for all pilots to ensure consistency and comparability. As with the indicators of urban and regional development, the pilot areas are likely to have lower levels of tourism activity than the regional average. However, these data still provide an important overview of the surroundings, the type of region the pilot is located in, and the broader tourism potential. We discuss this issue in more detail and propose a solution in Section 6.3.

4.1.2 Google Trends

An alternative approach to estimating pre-pilot tourism activity is to consider Google search trends. The idea behind using Google search trends is that an increase in search activity for a given location can be interpreted as an increase in interest in the location. While this is not a direct measure of tourism activity, it is a proxy for the visibility of or interest in a given area.

To access statistics on Google search trends we make use of Google Trends, an online platform that analyses search queries in Google Search across multiple regions and languages. To get data on each pilot study, we insert keywords that mimic the location as described by pilot (e.g. ”Banska Bystrica” for pilot study 3).Google Trends only provide data for search terms that exceed a certain search frequency threshold. Therefore, we had to rely on keywords that were specific enough to potentially relate to the pilot sites but also general enough to meet the Google Trends frequency threshold. Results for specific place names, such as ”Castril” or ”San Pellegrino in Alpe”, were generally not available. See Table 4 for a full list of locations as described by each pilot. Finally, we consider a time period that spans back to 2016 and lasts until April 2021, the month before the official launch of INCULTUM.

Google Trends does not provide data on the total number of searches for a given search query. Instead, they normalise each data point and scales the popularity of a search term on a scale from 0 to 100, where 100 represents the highest level of interest. That is, the Google Trends data indicates a search term’s popularity relative to the total number of Google searches done at a given time. A positive (or negative) trend does not necessarily mean the term was searched more (or fewer) times but rather that the term is increasing in popularity relative to other searches.

Table 2: Keywords used in Google Trends by pilot study

Pilot	Keywords
1. Spain	Altiplano Granada
2. Portugal	-
3. Slovakia	Banska Bystrica; Banska Stiavnica
4. Italy, Sicily	Trapani; Buseto Palizzolo; Calatafimi-Segesta; Custonaci
5. Italy, Tuscany-Emilia	Garfagnana
6. France	Bibracte
7. Greece	Aoos; Konitsa
8. Albania	Vjosa; Vjose; Permet; Vjosë
9. Ireland	Historic Graves; Connemara; County Cork; County Limerick
10. Sweden	Gotland; Roslagen; Torsö

Note: This table outlines the search terms typed in Google Trends to gather data on the interest for each pilot study. Google Trends only provide data for search terms that exceed a certain search frequency threshold. Search terms for which Google Trends provides no data are excluded from the table.

4.1.3 Social media presence

Pilot studies considered in this analysis may attract more tourists by enhancing their online presence, both through a website and on social media. We investigate whether each pilot had a website and whether they were present on the most popular social media platforms before INCULTUM. In particular, we consider the social media platforms Facebook, YouTube, and Instagram since these are most likely the online platforms through which the pilots can attract most tourists.

4.2 Results for pilot region

4.2.1 Tourist arrivals

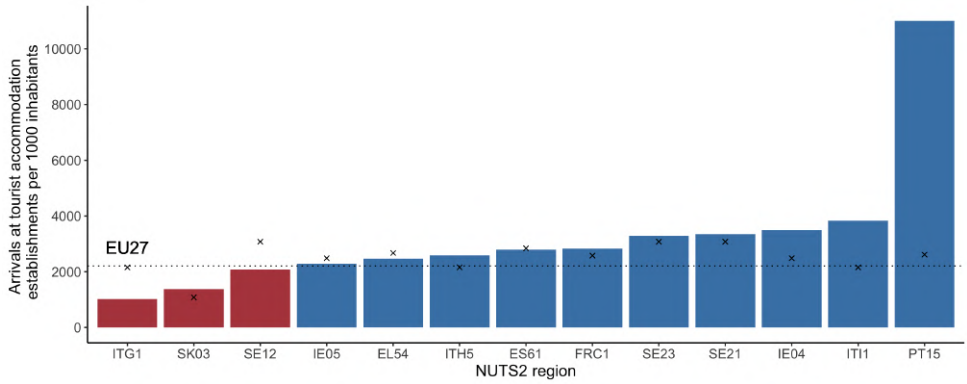
Considering arrivals at tourist accommodation establishments, as illustrated in Figure 9, it seems that the majority of INCULTUM pilot regions have arrivals at tourist accommodation establishments that lie above the respective national average. Furthermore, the vast majority of INCULTUM pilot regions also have arrivals that lie above the EU27 average. This pattern indicates that although, the pilot sites themselves are located in more remote and less-visited areas of those regions, the wider region has an established tourism base that is above the EU-27 average.

Having a well-established tourism offering in the wider region could prove advantageous for the pilots, as they may be able to attract tourists from the more well-developed tourism areas nearby. However, it could also be a challenge to draw tourists away from these well-established tourist areas if the pilot site is appeals to a very different market

segment that the nearby tourist sites. For example, those visiting the Algarve (Portugal) for sun and beach tourism may not be interested in water heritage / historical irrigation systems located more inland.

There are some exceptions where the pilot region is below the EU-27 average with respect to tourism arrivals, including the Roslagen pilot site in Sweden, the pilot in Slovakia, and the pilot in Sicily (Italy). The Slovakia and Sicily (Italy) pilot regions have particularly low levels of arrivals compared to the EU average. This could indicate that these regions tend to attract day visitors rather than overnight visitors, that these regions simply do not have very high levels of tourism activity of any kind, or a combination of both. This could pose a challenge for these pilots, as they are not able to rely on attracting visitors from other tourist sites in the region to the same extent as some of the other pilots. Instead, these pilots will have to draw visitors from further away into a relatively unvisited region.

Figure 9: Arrivals at tourist accommodation establishments



Source: Eurostat (2022b) online data file TOUR_OCC_ARN2.
Note: The bars illustrate the 2018-2019 regional average while the cross represents the 2018-2019 national average. The horizontal dotted line represents the EU27 countries' average level of arrivals at tourist accommodation establishments. Bars are coloured blue if the arrivals at tourist accommodation establishments of the region lies above the EU27 average, and coloured red if it lies below.

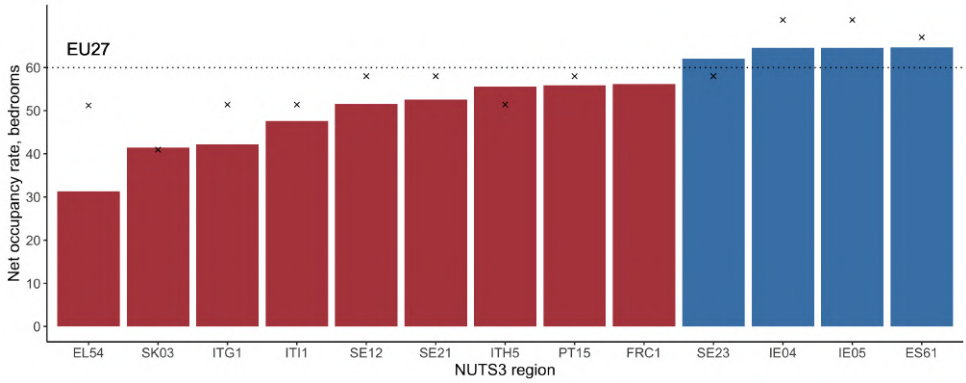
We illustrate the net occupancy rate for bedrooms and for bed places in Figure 10. Both figures depict a similar trend: the net occupancy rate for the majority of INCULTUM regions is below the respective national average and below the EU27 average. This points towards the fact that, pre-INCULTUM, there were more empty bedrooms and bed places among INCULTUM regions when comparing with national and EU27 average net occupancy rates.

This indicates that most of the pilot regions have the capacity for more overnight stays during at least part of the year, even in some regions with high levels of arrivals at tourism accommodation establishments. This implies there is a some degree of underutilisation of existing tourism accommodation infrastructure in at least some of the pilot re-

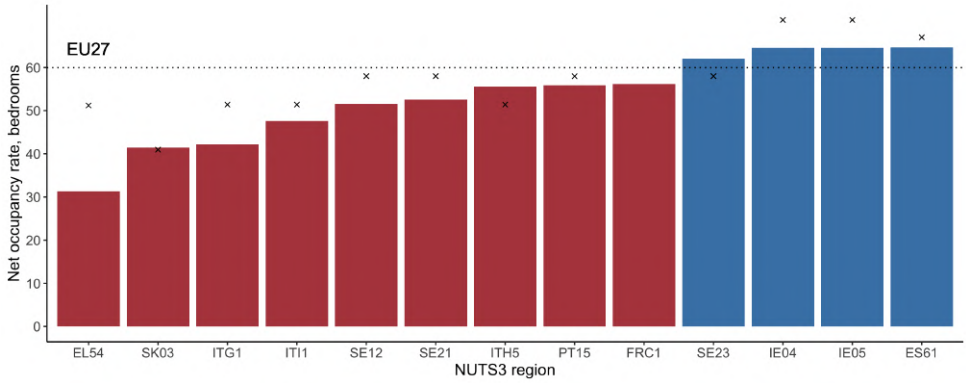
gions. Thus, there is capacity for the pilots and/or their local stakeholders to attract more tourists during the low season or attract more overnight visitors. For the pilots partners in particular, there may be scope to attract some of the existing cohort of day visitors to their pilot sites and convince these day visitors to extend their stay overnight (or over multiple nights) in the pilot region.

Figure 10: Net occupancy rate

(a) Bedrooms



(b) Bed places



Source: Eurostat (2022g) online data file TOUR_OCC_ANOR2.
Note: The bars illustrate the 2018-2019 regional average while the cross represents the 2018-2019 national average. The horizontal dotted line represents the EU27 countries' average net occupancy rate. Bars are coloured blue if the net occupancy rate of the region lies above the EU27 average, and coloured red if it lies below. National average for France is unavailable.

4.2.2 Google Trends

In Figure 11 we illustrate Google search trends for each of the INCULTUM pilot studies. The Portuguese pilot study is not included due to difficulties finding search queries that are representative for the location. We restrict ourselves by showing one figure per pilot study. For those pilot areas that span multiple regions, these trends are merely indicative of the popularity of search terms associated with the broader pilot area. See Figure 17 in Appendix B for an overview of both domestic and worldwide popularity of all keywords listed in Table 2.

This analysis reveals that, pre-INCULTUM, worldwide interest was increasing for two search queries: Aoos and Vjosa. That these two keywords follow a similar trend is not surprising, since both names refer to the Vjosa/Aoos River. The remaining panels in Figure 11 reveal a pattern of stagnation or decline in interest among keywords associated with INCULTUM pilot study regions. These findings suggest that the relative interest in the majority of INCULTUM pilot areas was more or less constant from 2016 until the start of the INCULTUM project. Thus, there is scope for the pilots to work with their local stakeholders to generate interest in both the pilot sites and the wider pilot regions.

4.2.3 Social media presence

Table 3 summarises the online/social media presence for each of the ten pilot studies before INCULTUM. Among the pilot studies, five out of ten had a website and a Facebook page, while three out of ten pilot studies had a Youtube channel and two out of ten was active on Instagram. These statistics suggest that, pre-INCULTUM, the pilot studies had not yet exploited their full online potential by strengthening their social media presence.

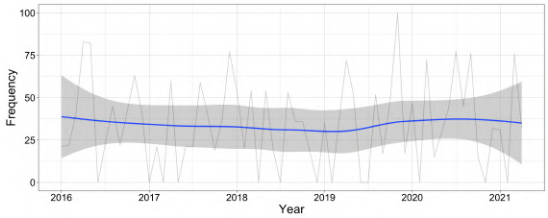
Table 3: Social media presence of pilot studies pre-INCULTUM

Pilot	Website	Facebook	Youtube	Instagram
1. Spain	✓	✓	✓	×
2. Portugal	×	×	×	×
3. Slovakia	✓	✓	Partly [a]	Partly [a]
4. Italy, Sicily	×	×	×	×
5. Italy, Tuscany-Emilia	✓	✓	×	×[b]
6. France	✓	✓	✓	✓
7. Greece	×	×	×	×
8. Albania	×	×	×	×
9. Ireland	✓	✓	✓	✓
10. Sweden	×	×	×	×

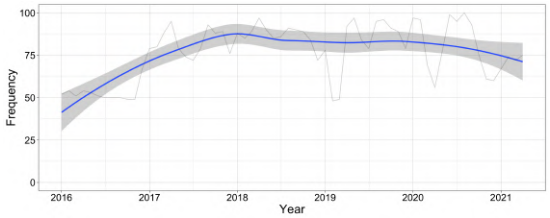
Notes:
[a] Banska Bystrica: ✓, Banska Stiavnica: ×.
[b] Instagram account exists, but no posts were made pre-INCULTUM.

Figure 11: Google search trends for INCULTUM pilot regions

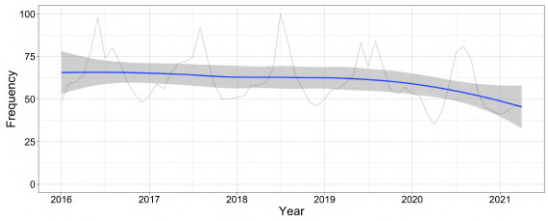
(a) Altiplano Granada



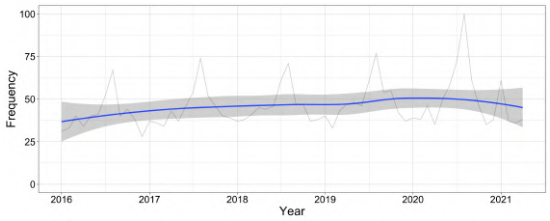
(b) Banska Bystrica



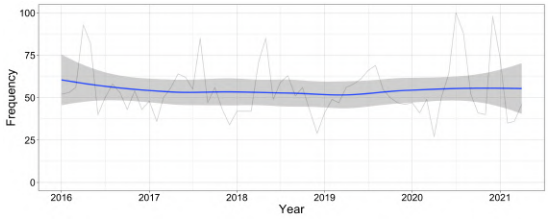
(c) Trapani



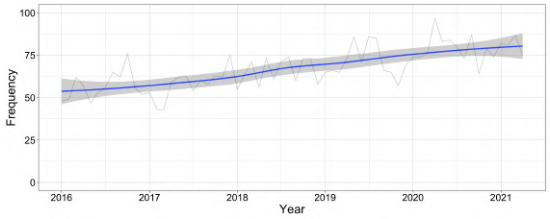
(d) Garfagnana



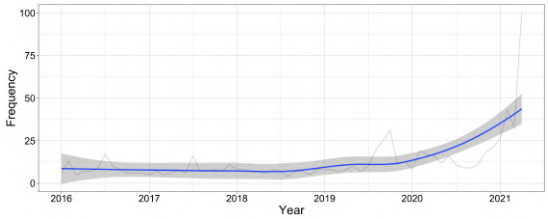
(e) Bibracte



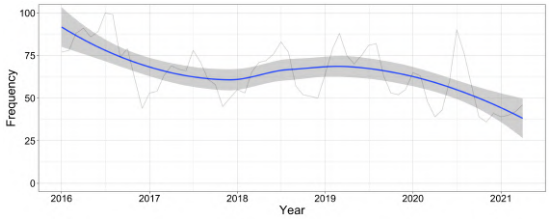
(f) Aoos



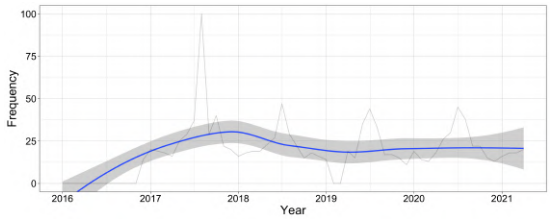
(g) Vjosa



(h) Connemara



(i) Torsö



Source: Google Trends (`https://www.google.com/trends`).
Notes: This figure illustrates Google search trends for a subset of INCULTUM pilot regions. Google Trends does not provide data for keywords that are not sufficiently popular, which explains why some pilot regions are excluded from this figure. Each of the 9 plots shows worldwide popularity of the respective search query.

4.3 Summary of findings

This section has illustrated pre-INCULTUM tourism activity using official statistics from Eurostat. We also investigated the pre-INCULTUM interest in the pilot studies by looking into Google search trends, and finally, we presented an overview of the pre-INCULTUM social media presence of pilot studies.

The findings presented in this section indicate that a majority of INCULTUM pilot regions experienced more arrivals at tourist accommodation establishments per inhabitant than EU27 as well as their respective nation. Exploring the interest of keywords associated with the pilot studies, we found that interest was stagnating for a majority of INCULTUM pilot studies. Finally, we saw that INCULTUM pilot studies had not yet explored their full online potential before INCULTUM.

5 Proposed control regions to be used as counterfactual

In this section, we discuss the methodology and dataset used to identify control regions to be used as a counterfactual. We then present an analysis of pre-INCULTUM trends in tourism activity in these proposed control regions.

5.1 Data and methodology

The aim of selecting control regions is to identify regions and / or tourist attractions that were similar to the pilots before the start of INCULTUM but are not exposed to the innovative actions of INCULTUM. These control regions will serve as a counterfactual. That is, we can compare the trends in tourism activity of the pilot regions and the control regions through the duration of INCULTUM to shed light on the short- to medium-term effects of the pilot actions. The control regions provide insight into what the tourism activity in the pilot regions likely would have been like in the absence of the innovative actions of INCULTUM.

Given that official statistics are not available on a highly localised level, we will utilise attraction-level data from Tripadvisor (2022) to identify control regions. We have identified three potential methods of selecting control regions: (1) geographic proximity to pilot site, (2) similarity of characteristics of attraction(s), (3) synthetic estimation for pilots that were on Tripadvisor before INCULTUM. Tripadvisor is not widely used in all INCULTUM countries (E.g., Albania and Slovakia), so there is not a sufficient number of English-language reviews to be able to match on characteristics of the attraction (e.g., falling into the category of Museum, Sights & Landmarks, and / or Parks & Nature). Another challenge is that few pilots had a presence on Tripadvisor before the start of INCULTUM. Therefore, we will rely primarily on method (1). However, we are in the process of collecting reviews in other languages. If there is sufficient coverage in all countries after this data collection is complete, then we may update our method to be a combination of methods (1) and (2).

The Tripadvisor (2022) data includes information on the type of attraction, location, number of reviews, and brief description of the site, among other information. We focus on the following attraction type categories: Museums, Sights & Landmarks, and Parks & Nature. The attractions in the pilot projects broadly align with at least one of these categories. We identify attractions in the Tripadvisor data that are located in the same ISO 3166-2 subdivision as the pilot sites. The ISO 3166 standard is an internationally recognised standard for identifying the main subdivisions of all countries. These align with the NUTS 2 or NUTS 3 country subdivisions of EU countries, as defined by the European Union. See Table 4 in Appendix A for a complete mapping of pilot regions to

their respective NUTS 2, NUTS 3, and ISO 3166-2 subdivisions.

A key challenge is that some of the pilots are developing a new tourism offering where none existed prior to INCULTUM. Part of these pilots' work in INCULTUM is identifying potential tourist attractions, constructing tourism routes, and finalising plans for these new tourism offerings. Most of this work was still in-progress at the time of writing. Therefore, it is not possible to identify more precise matches of INCULTUM-related tourist attractions and potential control attractions until all tourism offers by all pilots are fully defined. An additional challenge for these cases is that we will be comparing pre-existing tourism offers with similar characteristic to a new tourism offer. The growth rates of tourism activity of will, by their nature, not be the same. We will take this into account to the fullest possible extent in our final analysis.

5.2 Results for control regions

We illustrate the pre-pilot level of tourism activity in the proposed control regions in Figure 12. The red line indicates the average number of Tripadvisor reviews for all attractions in the respective region that were published 2016-2019. For these years, we observe trends consistent with a peak in tourism activity during the high season during the summer months (particularly in August) and a substantial decline in tourism activity during the low season during the winter months (November to March). The blue line indicates the total number of Tripadvisor reviews published in 2020, the first year affected by the COVID-19 pandemic. Some of the proposed control regions were more affected by the reduction in tourism associated with the COVID-19 pandemic than others, particularly during the high season.

The pre-pandemic and pandemic trends are consistent with the expected trends in tourism activity for the pilot regions. It is important to note that there are relatively few reviews written for attractions in the proposed control regions in Albania (Gjirokastër) and Slovakia (Banská Bystrica). As a result, the Tripadvisor data for these control regions may be more sensitive to random fluctuations or random noise in the review data. Furthermore, the trends in tourism activity illustrated in Figure 12 are based on reviews written in English, which could underestimate the degree of national tourism or tourism from neighbouring countries. We are still collecting data for reviews written in other languages. This may help to alleviate the potential problems with the use of the Tripadvisor data for these regions.

We plan to compare the growth in tourism activity on the pilot site level to the growth in tourism activity on the wider regional level to shed light on the short- to medium-term effects of the INCULTUM-related innovation actions. While the Tripadvisor data is not necessarily an precise measure of the level of tourism activity, we argue that it provides

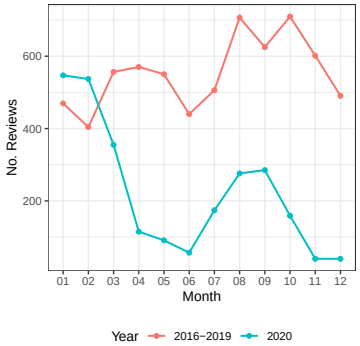
a reasonable proxy for growth in tourism activity in the proposed control regions. If we are able to obtain a sufficient number of non-English language reviews for all proposed control regions, we may also be able to compare the trend in tourism activity at INCULTUM pilot sites to the trend in tourism activity at similar attractions within the same control region. In this case, we would identify ”similar” attractions using the matching by attraction type categories methodology described above.

5.3 Summary of findings

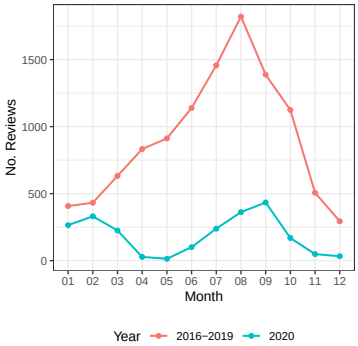
We identify control regions to be used as a counterfactual based on proximity to the pilot site. We propose analysing the control regions using data from Tripadvisor (2022). This data provides several advantages over official statistics: the data is available on a daily basis rather than monthly or annual basis, the data is on the attraction-level and can be aggregated to any geographic level, and the data provides a measures of both the quantity and quality of tourism visits.

Figure 12: Tourism activity in proposed control regions

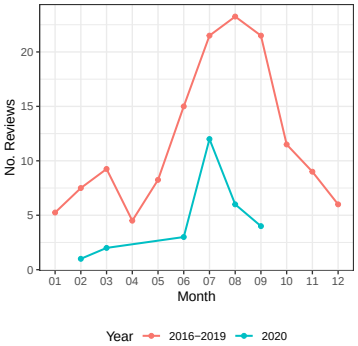
(a) Spain



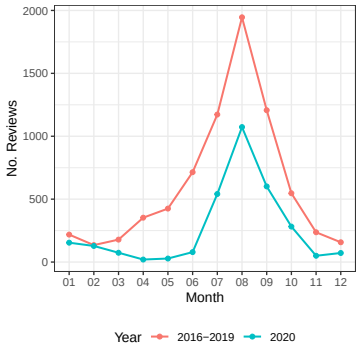
(b) Portugal



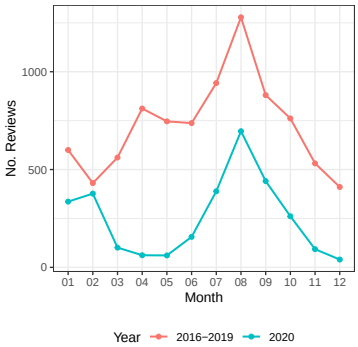
(c) Slovakia



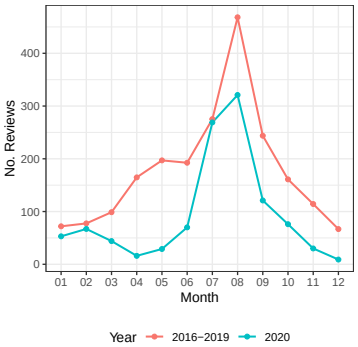
(d) Italy: Sicily



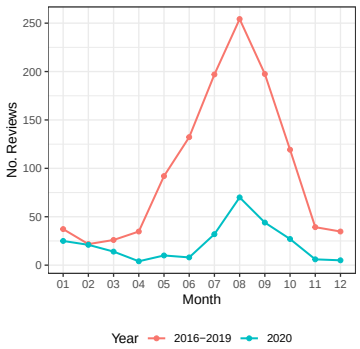
(e) Italy: Tuscany-Emilia



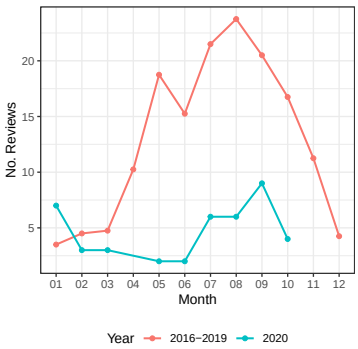
(f) France



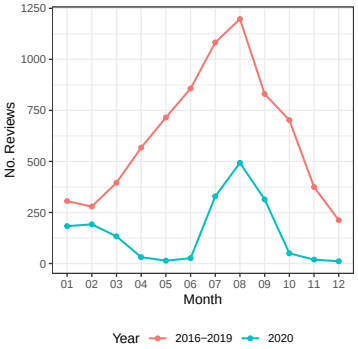
(g) Greece



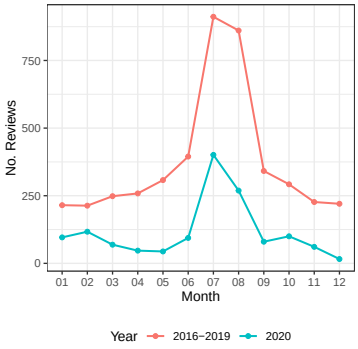
(h) Albania



(i) Ireland



(j) Sweden



Source: Calculations based on Tripadvisor (2022) review data.
Note: The figures illustrate the 2016-2019 mean rating and the 2020 mean rating for reviews written for attractions in the proposed control regions listed in Table 4 in Appendix A.

6 Difficulties

In this section, we discuss the difficulties encountered in carrying out the tasks for this deliverable. First, we discuss the general lack of data collection by pilots prior to the start of INCULTUM. Then, we explain how the baseline data in this report has been affected by the COVID-19 pandemic. Next, we explain the lack of availability of official statistics on a sufficiently localised level. Finally, we discuss challenges that we anticipate in our work moving forward. For each of these challenges, we describe the issue faced and how we have (or plan to) address it.

6.1 Prior data collection by pilots

One of the aims of this deliverable (D3.2) is to present findings from before the pilot phases for destinations where innovative approaches are introduced as part of INCULTUM using pilot study data (Task 3.1.2), among other data sources. However, as discussed in Section 2, many pilot partners did not collect visitor data before the start of INCULTUM. Therefore, our ability to analyse pre-INCULTUM tourism activity in the localised pilot areas has been limited. In addition, since the start of the INCULTUM project, it has become clear that many of the pilot partners had no or very limited prior experience designing and conducting visitor surveys. This has also presented a challenge with respect to completing Task 3.1.2 according to our original plans (identify a shared set of metrics that will apply to all pilots; collect data before, during and after the pilot studies). In order to address this challenge, we have adapted our original plan to include more training and guidance with respect to data collection and designing and conducting visitor surveys.

For example, the original aim of the data workshop (part of Task 2.4, organised by WP3) was to discuss and agree with the partners and invited experts on the mechanisms and tools for data gathering, including statistical and data quality. While the final workshop design still fulfilled this aim, some of the sessions focused on the development of more fundamental data skills. This included a session on developing a strong tourism value proposition that encouraged the pilots to think critically about their unique selling propositions (USPs), gains and adverse effects that could be anticipated through the promotion and development of those USPs, the kind of indicators that could be used to assess the degree to which their INCULTUM-related has achieved those anticipated gains. The workshop also included a session that focused on data planning, monitoring, and evaluation for cultural tourism. This session discussed the role of data in cultural tourism projects, outlined data that should be collected in the project pre-planning, explained data scoping in project planning (setting aims, determining SMART objectives, deciding actions, establishing targets, etc.), and provided best practices for data collection and

management through the duration of the project.

After the workshop, the pilots were asked to reflect on the topics discussed at the workshop and revise their data collection plans. To assist the pilots, we developed a guide on collecting visitor data that outlined a shared set of metrics on pilot site visitors that should be collected by all pilots. This guide outlined both metrics for on-site visitors (to be collected by all pilots) and metrics for digital engagement / online visitors (to be collected if relevant). These metrics represent the minimum data that all pilots should collect through the duration of INCULTUM, though pilots were encouraged to extend or tailor the survey to suit their local needs. This document also provided tailored guidance and recommendations on how pilots could conduct their visitor surveys (e.g., how to reach the visitors, physical copies vs digital copies, frequency of data collection, etc.).

WP3 and the pilot partners were given the opportunity to discuss pilots' challenges, successes, strategies, concerns, etc. the June 2022 consortium meeting. At this stage, many of the pilots had yet to begin their own data collection, and so the WP3 team provided tailored recommendations on how to implement the visitor surveys during these discussions. We anticipate that the first round of data collection (beginning July / August 2022 for most pilots) will be a learning experience. Therefore, we do not expect a high response rate or consistent data collection processes across all pilots during this first phase of testing. For example, some pilots may not be able to obtain many responses to the visitor surveys because the methods of conducting visitor surveys are experimental. We plan to work closely with the the pilots to provide feedback based on their experiences and provide recommendations on how to refine their processes.

The analysis of the impact of INCULTUM (Task 3.2) will need to rely more on external data (not produced by pilots) than anticipated during the INCULTUM project planning process. We have already developed an alternative through the innovative data collection process (discussed in more detail in Section 6.3). Moving forward, the difficulties faced with respect to the collection of pilot data also present opportunities.

For example, we see the potential for a roundtable discussion where pilots can discuss their challenges, successes, strategies, etc. faced during the first round of visitor surveys conducted during the high season of 2022. This could be developed into additional training materials that could be published in the INCULTUM training portal. (Note: this is a potential opportunity that need further thought and development if it is to be implemented. WP3 has not made any final plans or commitments.)

In addition, many of the pilot partners have come to the important realisation that starting "at zero" (e.g., no pre-INCULTUM tourism activity) is not an indicative of a lack of engagement or willingness to contribute. Instead, this demonstrates why participating

in INCULTUM was a relevant step for the pilot partners to take and it provides an important data point from which the pilot partner may develop. For example, it is important for the Portuguese partner to document the absence of guided tours from the Algarve coast to Campina de Faro before the start of INCULTUM. This provides a necessary first step to establish concrete benchmarks for how the Portuguese pilot may change that situation. Any measurable changes compared to the pre-INCULTUM status quo will be vital indicators of success that can be monitored, measured, and analysed by the WP3 and WP7 teams, as well as by the pilot partners themselves even after the INCULTUM project ends.

We see these learning opportunities as positive developments which could have broad impact for local stakeholders and tourism specialists beyond INCULTUM.

6.2 Baseline data affected by COVID-19

As mentioned previously in this report, all of the pilot regions and thus the pre-INCULTUM data were affected by the COVID-19 pandemic. This includes the pre-pilot trends in tourism activity, as well as the urban and regional development.

All INCULTUM pilot countries introduced restrictions on internal movement and international travel controls in response to the COVID-19 pandemic, generally starting from March / April 2020.[3] A majority of the INCULTUM pilot countries had extended periods during which internal movement was restricted and international travel was subject to additional controls. (See Figures 18 and 19 in Appendix C.) Three countries (Albania, Slovakia, and Spain) initially introduced a total border closure, while the other six countries either banned travel from high-risk regions or required travellers from these regions to quarantine before entry. Restrictions on internal movement were relaxed to some degree during the summer of 2020.

These restrictions on travel were long-lasting. Even in the weeks leading up to the launch of the INCULTUM project in May 2021, most of the pilot countries still had restrictions on internal movement. There were two exceptions: (1) Albania had no measures in place and (2) Sweden had reduced measures (recommended closing or reducing volume). All pilot countries had some degree of restrictions on international travel as well, ranging from requiring COVID-19 screening upon entry to a ban on travel from high-risk regions.

[3] Italy experienced the first major outbreak in Europe. The Italian government introduced the first nation-wide lockdown to contain the spread of the virus on 9 March 2020 (Government of Italy, 2020). The WHO declared COVID-19 a pandemic on 11 March 2020 (World Health Organization, 2020). A study by Saglietto et al. (2020) published in early April 2020 showed that all European countries were in a similar situation as Italy, with a time lag of around 1-3 weeks. A UN World Tourism Organization (2020) report published in mid-April estimated that 96% of all destinations worldwide and 93% of destinations in Europe had introduced travel restrictions, ranging from restricting certain tourists by country of origin to partially or completely closing borders to tourists.

As a result of the pandemic, there was a record decline in tourism activity worldwide, with tourism-dependent economies being disproportionately impacted by the pandemic (Behsudi, 2020). To illustrate the effect of the COVID-19 pandemic on tourism activity in the European Union, we analyse the change in tourism activity during the five years preceding INCULTUM (2016-2020). Specifically, we compare the average volume of tourism activity in EU-27 countries in 2016-2019 and compares this to the volume of tourism activity in 2020. The results for the number of tourism arrivals, the number of tourism nights, and the occupancy rate for bedplaces and bedrooms are illustrated in Figure 13.[4]

There was a substantial decline in all measures of tourism activity starting in March 2020 and peaking in April with an almost 100% decline in tourism activity, which is consistent with the timing of the most stringent restrictions on domestic and international travel. While there was some recovery during the high season (July through September), all measures of tourism activity were 25-30% lower in 2020 than the 2016-2019 average. As the winter months approached, many countries re-introduced COVID-related travel restrictions. Tourism activity saw a >75% reduction in 2020 compared to the previous 4-years during the months of November and December. Most of the reduction during the summer months of 2020 was primarily due to a sharp reduction in foreign tourists, as illustrated in Figure 14. While domestic tourism during the high season was still below the 2016-2019 average, this only amounted to an 10% reduction compared to the 70% reduction in international tourism.

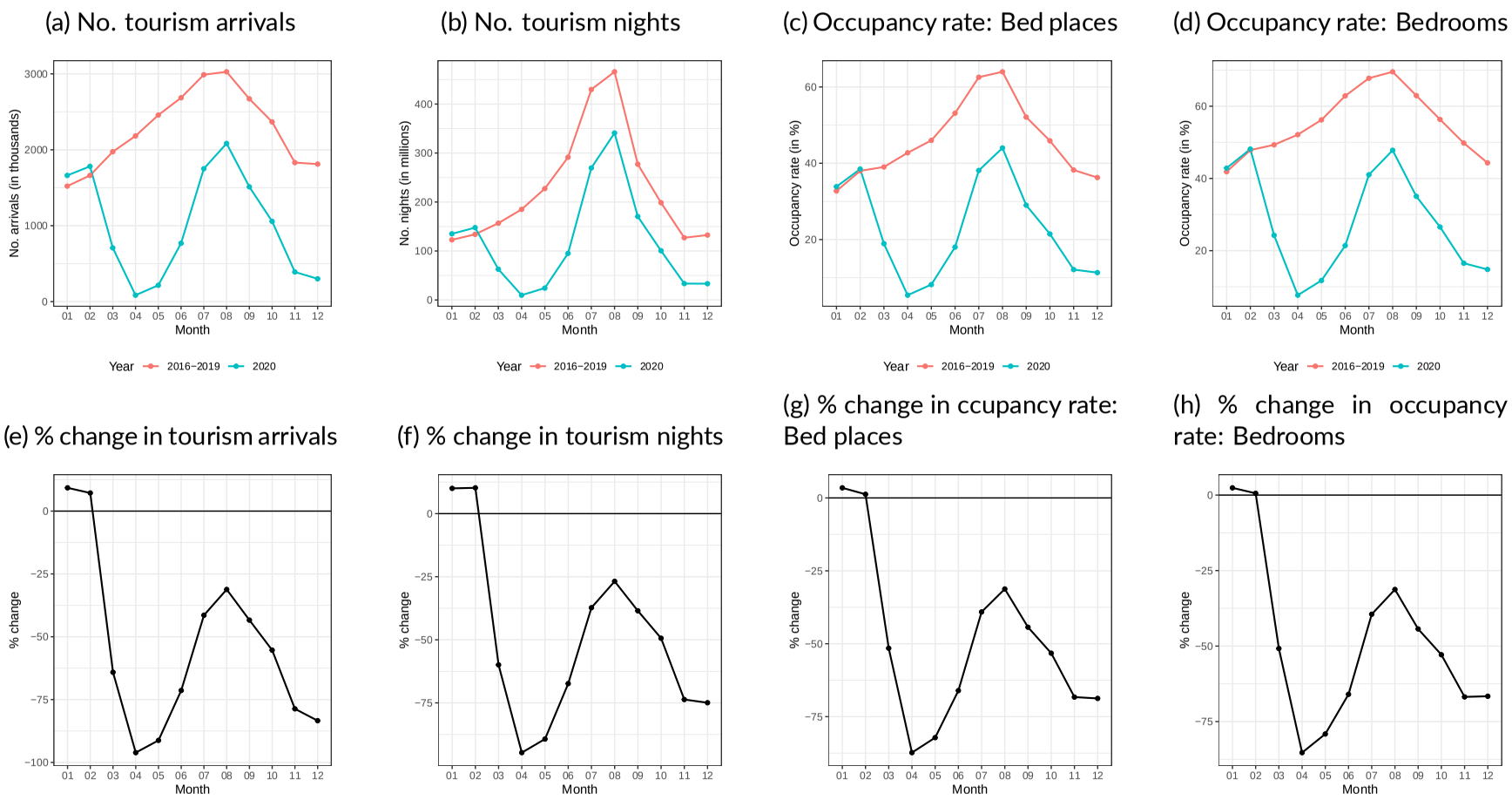
This could be a unique marketing / promotional opportunity for the INCULTUM pilots. There were still some travel restrictions during the start of the project, and we anticipate that many of the tourists visiting INCULTUM sites will be domestic tourists due to their peripheral locations. Therefore, there could be scope for the pilots to attract domestic tourists that are still hesitant to travel internationally, particularly during the high season when more popular urban or beach destinations may be more crowded. This could allow the pilots to obtain greater visibility among domestic tourists than would have been possible if the pandemic had not occurred. On the other hand, domestic tourists may prefer to travel internationally in the years after the COVID-related restrictions are relaxed simply because their choice in tourism destinations was very limited for an extended period of time.

Overall, there is high degree of uncertainty with respect to tourist travel preferences in the post-pandemic period. This could be beneficial or detrimental to the pilots in terms

[4]The number of bed places indicates the number of people who can stay overnight in the beds normally set up in the accommodation establishment, excluding additional beds that may be set up at a customer's request. The number of bedrooms indicates the number of indivisible rental units available in the accommodation establishment.

of attracting visitors. We cannot rule out the possibility that the pilots will be unable to meet all of their KPI targets due to circumstances that are beyond the pilots' control. The analysis of control regions could help to shed light on whether the trends in visitors observed on the pilot-level is consistent with broader trends in tourism and reflective of the performance of the pilots.

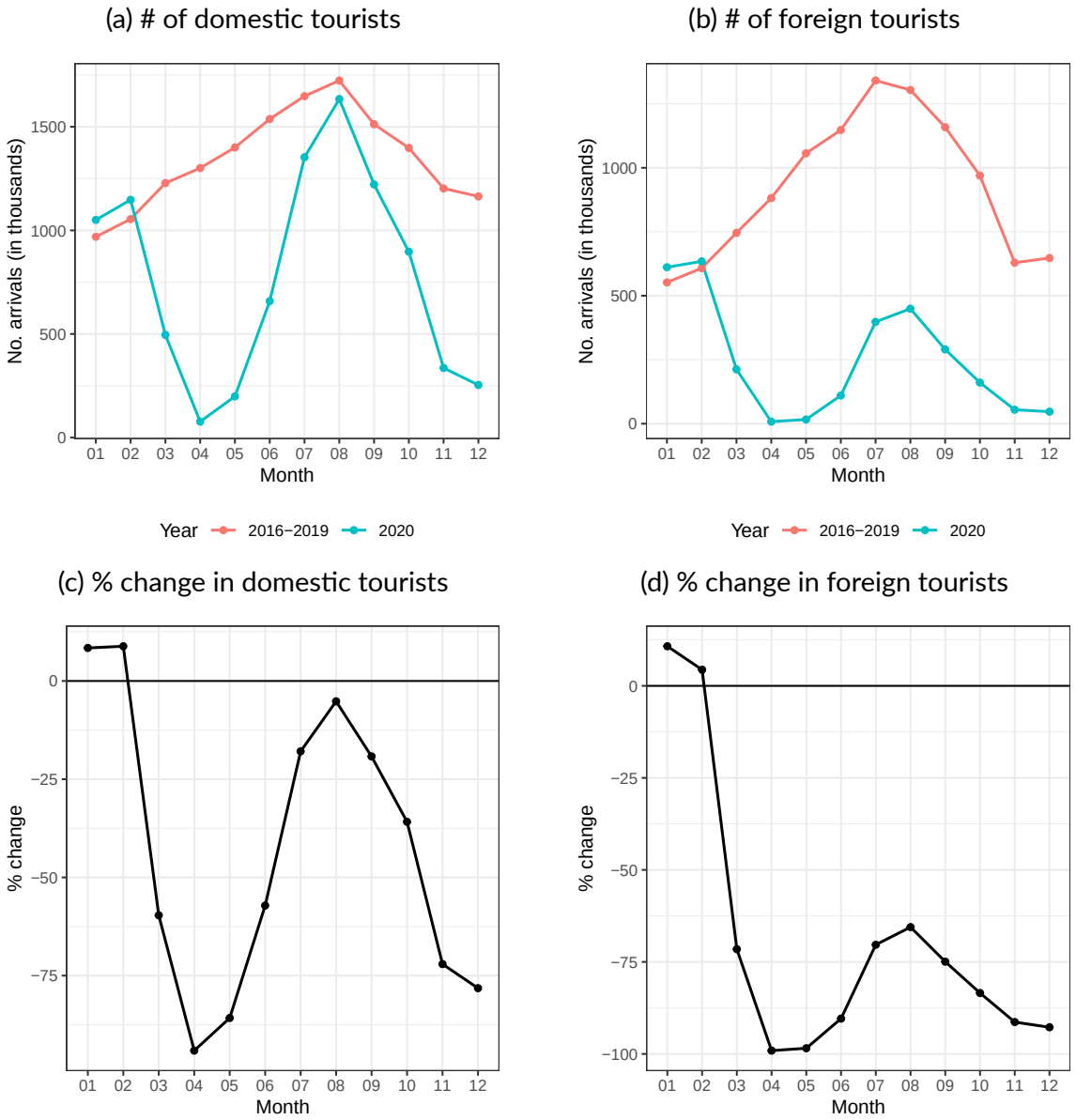
Figure 13: Tourism activity in EU-27, 2016-2019 mean vs 2020



Source: Calculations based on the Eurostat (2022a), Eurostat (2022h), and Eurostat (2022f) online data files (TOUR_OCC_ARM, TOUR_OCC_NIM, and TOUR_OCC_MNOR, respectively).

Note: The figures in the top row illustrate the 2016-2019 mean and the 2020 level for EU-27 countries. The figures in the bottom row illustrate the percentage change from the 2016-2019 mean to the 2020 level.

Figure 14: Foreign vs domestic tourism arrivals in EU-27, 2016-2019 mean vs 2020



Source: Calculations based on data from Eurostat (2022a) online data file TOUR_OCC_ARM.
Note: The figures in the top row illustrate the 2016-2019 mean and the 2020 level for EU-27 countries. The figures in the bottom row illustrate the percentage change from the 2016-2019 mean to the 2020 level.

6.3 Availability of data on disaggregated level

Official statistics on tourism activity across INCULTUM countries is typically only available on a national-, NUTS2-, or NUTS3-level. While more disaggrated data may be available for some of the pilots, we must utilise the most localised geographic level available for all pilots to ensure consistency and comparability of the indicators. We must use data on the same geographic level for all pilots in order to conduct a causal analysis of the impact of the INCULTUM innovations on tourism activity (to be done as part of Task T3.2 *Data analysis*). Furthermore, the more geographically disaggregated data that is consis-

tently available for all pilots (NUTS2- or NUTS3-level data) is generally only available on annual basis, while at least some national data is available on a monthly data.

Therefore, data on tourism activity is not available on a sufficiently disaggregated level or with sufficient frequency to facilitate the measurement and monitoring of tourism activity in the highly localised areas where INCULTUM-related innovations are implemented. This, combined with the difficulties associated with Task 3.1.1 Pilot study data (discussed in Section 6), creates a challenge for completing Task 3.2 Data analysis, as it is not possible to establish a convincing and causal relationship between the innovative approaches introduced by the pilots and cultural tourism without sufficient data.

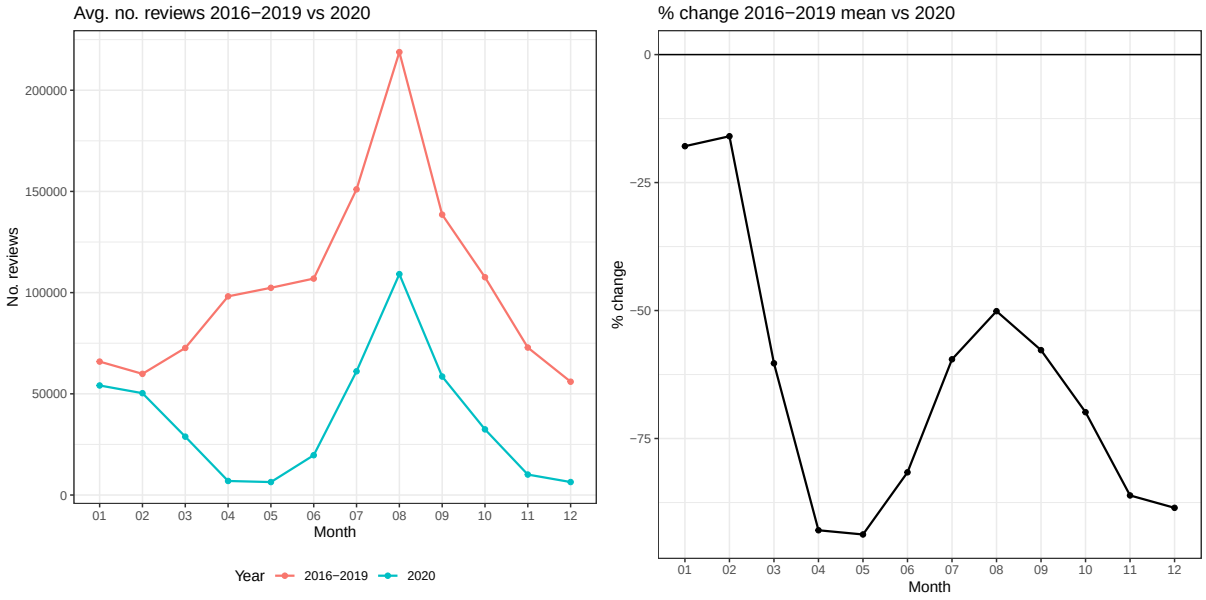
We address this issue by through our innovative data collection process. Specifically, we collected attraction-level data for INCULTUM countries from Tripadvisor. This includes data on the attractions (e.g., location, type of attraction), reviews of the attractions (e.g., rating, date of experience), and users who wrote the reviews (e.g., location, date joined Tripadvisor). Although this data is available on a daily basis, we will likely aggregate to the month-level for future analysis (Task 3.2) because daily data is likely to be very sensitive to random fluctuations or noise (e.g. weather, holidays, etc.).

This data provides very comprehensive coverage of the INCULTUM countries (see Figure 20 in Appendix D for a map of Tripadvisor locations in INCULTUM countries). The data will allow us to monitor trends in both the volume of tourism activity (via the number of reviews) and the quality of experience (via the rating) in the INCULTUM pilot areas. We can also analyse trends in foreign vs domestic tourism and the distance travelled. As mentioned in Section 5, this data has also allowed us to identify control attractions and regions that will be used in Task 3.2 to help shed light on the short- to medium-term effects of the pilots.

In the remainder of this section, we discuss the findings of a validation analysis that demonstrates that the Tripadvisor data is fit for purpose. For this analysis, we compare the monthly trends in tourism activity observed in the Tripadvisor (2022) data for INCULTUM countries to those trends observed in Eurostat statistics for EU-27 countries. We calculate the 2016-2019 mean level of tourism activity (as measured by the number of reviews published during this period) on a monthly basis using the Tripadvisor data, as well as the 2020 level of tourism activity. We illustrate these trends and the percentage change from the pre-COVID mean to the 2020 level in Figure 15. These findings are broadly consistent with the trends in tourism activity in EU-27 countries illustrated in Figure 13.

It is important to note that the Tripadvisor review data is currently limited to reviews written in English, which may be over-representative of foreign tourists. Thus, the trend

Figure 15: Tourism activity in INCULTUM countries, 2016-2019 vs 2020



Source: Calculations based on Tripadvisor (2022) data.
Note: The figure illustrates the 2016-2019 mean number of reviews and the 2020 number of reviews written for attractions in INCULTUM countries.

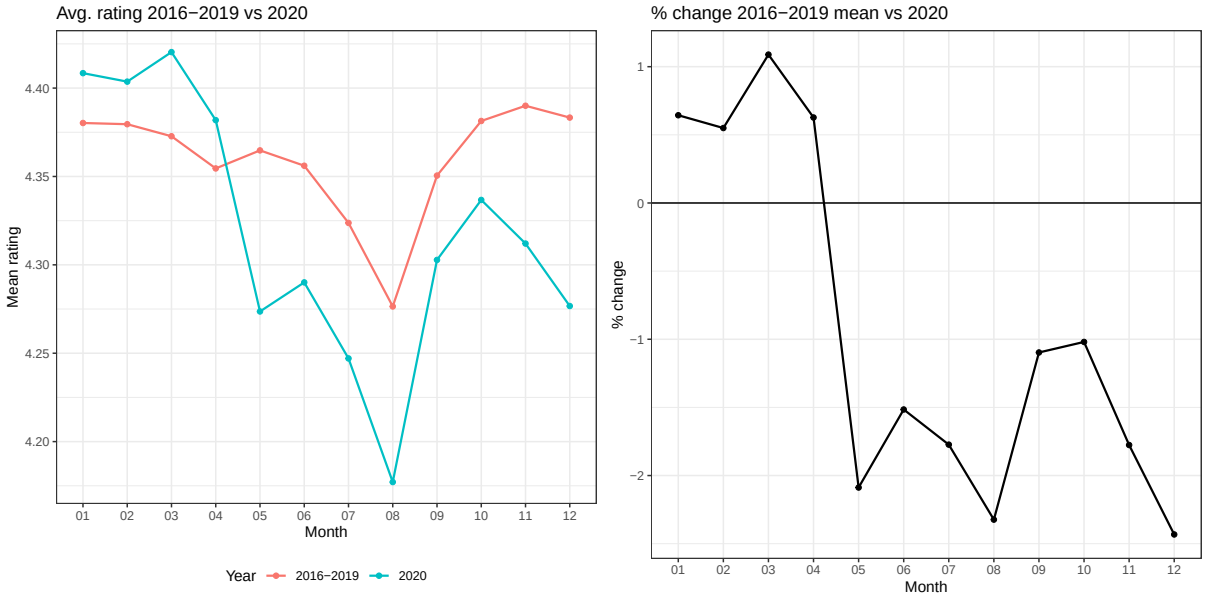
in foreign tourism in the EU-27 illustrated in Figure 14 is likely to be more comparable. In order to address this potential issue with the Tripadvisor data, we have been additionally collecting reviews in the local language and major European languages; though, this data collection process was not complete at time of writing.

The Tripadvisor data provides an additional advantage in that it includes some indicators regarding the quality of visit (or visitor satisfaction with the visit), which is not available in official statistics. In Figure 16, we illustrate the mean rating for attractions in INCULTUM countries in 2016-2019 and compare this to the mean rating in 2020. We observe a notable decline in the quality of visit / the visitor satisfaction beginning in April 2020, which is consistent with the timing of pandemic-related travel restrictions. As of December 2020, these ratings had not returned to pre-pandemic levels.

The complete Tripadvisor dataset includes a wide variety of attraction types. However, the INCULTUM pilots focus on cultural tourism, which more closely align to the Tripadvisor categories Museums, Nature & Parks, and Sights & Landmarks. We repeat the validation analysis using only these subsets of attraction types (see Figure 21 in Appendix D). Our findings with respect to the reduction in cultural tourism activity associated with the onset of the COVID-19 pandemic in 2020 are consistent with our previous findings.

Although this section presents an analysis of tourism activity for the combined INCULTUM countries, this data does allow us to conduct a more highly localised analysis of the pilot areas for Task 3.2 Data analysis. The examples given here are merely used to

Figure 16: Visitor satisfaction in INCULTUM countries, 2016-2019 vs 2020



Source: Calculations based on Tripadvisor (2022) data.
Note: The figure illustrates the 2016-2019 mean rating and the 2020 mean rating for reviews written for attractions in INCULTUM countries.

validate our approach and provide illustrative examples of the kind of detailed analysis that can be done in the future.

6.4 Anticipated challenges for future analysis

The world is in turmoil, and this impacts the travelling and tourism industry now and will continue to affect in the coming years. As a result, our analysis will be influenced as well. In what follows, we outline briefly and discuss the main economic, environmental and safety/security-related concerns, which will likely influence tourism, and hence the activities of INCULTUM.

6.4.1 Economic issues

The overall economic uncertainty affects and will continue influencing people's behaviours in relation to travelling in the near future. The record high inflation (including very high energy prices) and increasing uncertainty about the future economic prospects decrease consumer confidence and change the behaviour of tourists. Markets continue to face various supply chain restrictions, which adds inflationary pressure and causes various delays. Moreover, until recently there has been a significant labour market shortage, which affected particularly badly the travel industry over the summer 2022 (with many flights cancelled, large queues, and overall decrease in travelling comforts). While the labour market shortages may lessen in near future, especially once the economy cools down,

the worsening economic outlooks. The risk of an economic recession in the near future is high, and by adding to the overall uncertainties, remains a serious factor affecting the travelling and tourism industries.

6.4.2 Environmental concerns

The economic factors, in particular the increases in electricity and energy prices, has accelerated environmental considerations. Societies are becoming increasingly aware of the carbon footprint associated with travelling (and with most other activities). Now with energy shortages, it is likely that travel patterns will change. One speculation is that the distance of travelling will decrease or the mode of transportation will change (some may substitute a plane for a train, public transportation for a car, etc.). Related to this discussion is also a range of new policies introduced by governments in order to incentivize the desired behaviour by tourists or decrease the undesired customs. For example, some of the more significant policies are, among others, new limits on the allowed minimum temperature in air-conditioned common spaces in hotels in Spain, or the stopping of operation of saunas in public facilities in a number of communes in Denmark. These and other policy changes will affect the quality of travelling, and hence will also likely influence the frequency or duration of travelling. If tourists change their behaviour to reduce their environmental impact, this could provide an opportunity for the INCULTUM pilots to attract more regional or national tourists who may have previously been likely to travel abroad for their holidays.

6.4.3 Safety and security concerns

Several non-economic concerns remain on the minds of many people. Another wave of COVID-19 is expected in the winter season, as well as a relatively high wave of flu infections. Health related events - in the extreme a pandemic - add uncertainty and decrease travelling intensities. Another source of insecurity is caused by the war in Ukraine, and also the overall rising geopolitical instability, reflected, among others, in how political landscapes are changing towards nationalism and signs of increasing extremism.

7 Conclusion and next steps

This deliverable has presented findings from before the pilot phases for destinations where innovative approaches are introduced and for the proposed control regions. In particular, we discussed the data collection processes being implemented on the pilot-level, we illustrated the urban and regional development and tourism activity of the pilot regions, and we presented the proposed control regions that will be used as a counter-factual to shed light on the short- to medium-term effects of the pilot actions. As such, this deliverable serves as the foundation upon which Deliverable 3.3 *Findings analysis report* will be based.

We also outlined a number of challenges faced during the completion of the deliverable. We identified a number of issues related to data availability, as well as the impact of COVID. We also outlined a number of challenges that we may face as we progress with the remainder of the working package tasks. Where possible, we have discussed solutions to these challenges and ways that we may turn these challenges into opportunities.

To address some of these issues, we plan to work closely with the pilot partners to refine methods of data collection, particularly with respect to visitor surveys. We believe this may be an iterative process, with review and refinement after each period of data collection. This could provide an opportunity to develop recommendations based on pilot experiences. Therefore, we argue that we should consider the pilot learning process as an outcome of the project, since INCULTUM is an innovation project which always entails some degree of risk.

We also plan to work closely with the pilot partners that have a strong digital component. We would like to measure and monitor online engagement and investigate how online engagement leads to travel to the pilot site. We will continue to encourage all pilot partners to enhance their social media engagement and online presence. We will update data on digital engagement on a continuous basis so that we can further understand the online visibility and awareness of pilot projects.

Furthermore, we will continue the supplementary data collection, which involves the collection of Tripadvisor reviews in languages other than English. We believe the Tripadvisor data could play a critical in the analysis to be presented in Deliverable D3.3. *Findings analysis report*, and we want to ensure we have the highest quality data possible to conduct the counterfactual analysis. Now that we have a better overview of the available data (and the data limitations), we will also conduct a more detailed review of potential econometric techniques that could be used to identify causal impact of pilot innovations on tourism activity in the short- to medium-term.

Finally, we will continue to monitor broader economic trends, environmental concerns,

and safety and security concerns. We will analyse how these trends impact tourism activity both across the EU and in the pilot areas. We may have to develop strategies for separating the effect of external factors from the impact of INCULTUM innovations. However, this may not be fully possible. When we provide an assessment of pilots' performance and provide relevant policy recommendations, we will also provide an analysis of how these external factors may negatively impact the pilots' performance.

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A Regional classifications of pilot areas

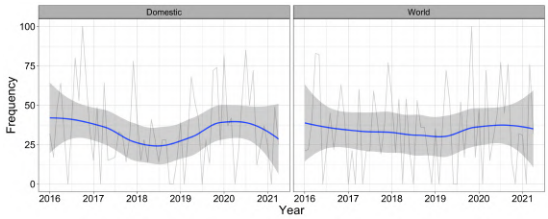
Table 4: Regional classifications of pilot areas

#	Country	Location as described by pilot	NUTS2 region name	NUTS2 region code	NUTS3 region name	NUTS3 region code	ISO 3166-2 Subdivision	ISO 3166-2 code
1	Spain	The Altiplano	Andalusia	ES61	Granada	ES614	Granada	ES-GR
2	Portugal	Campina de Faro	Algarve	PT15	Algarve	PT150	Faro	PT-08
3	Slovakia	Banská Bystrica, Banská Štiavnica	Central Slovakia (Stredné Slovensko)	SK03	Banská Bystrica	SK032	Banská Bystrica	SK-BC
4	Italy	Monti di Trapani, Calatafimi-Segesta, Custonaci, Buseto Palizzolo	Sicilia	ITG1	Trapani	ITG11	Trapani	IT-TP
5	Italy	San Pellegrino, Alpe,	Emilia-Romagna	ITH5	Modena	ITH54	Modena	IT-MO
		Tuscan-Emilian Appennines	Tuscana	ITI1	Lucca	ITI12	Lucca	IT-LU
6	France	Bibracte-Morvan, Morvan	Bourgogne	FRC1	Saône-et-Loire	FRC13	Saône-et-Loire	FR-71
		Regional Natural Park	Bourgogne	FRC1	Nièvre	FRC12	Nièvre	FR-58
7	Greece	Aaos Valley, Konitsa	Epirus	EL54	Ionnina	EL543	Epirus	GR-D
8	Albania	Upper Vjosa Valley, Përmet	Southern Albania	AL03	Gjirokastër	AL033	Gjirokastër	AL-05
9	Ireland	Connemara (Mayo)	Northern & Western Region	IE04	West Region	IE042	Galway	IE-G
		Ballyhoura (County Limerick)	Southern Region	IE05	Mid-West Region	IE051	Limerick	IE-LK
		Ballyhoura (County Cork)	Southern Region	IE05	South-West Region	IE053	Cork	IE-CO
10	Sweden	Torsö	West Sweden	SE23	Västra Götaland County	SE232	Västra Götalands län	SE-O
		Gotland	Småland and the islands	SE21	Gotland County	SE214	Gotlands län	SE-I
		Roslagen	East Middle Sweden	SE12	Uppsala County	SE121	Uppsala län	SE-C

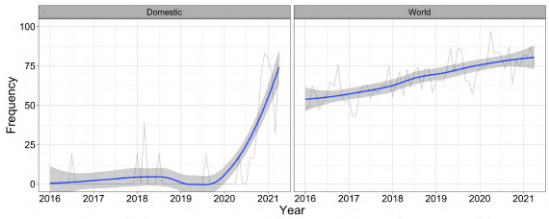
B Google trends analysis of pilot regions

Figure 17: Google search trends for all keywords

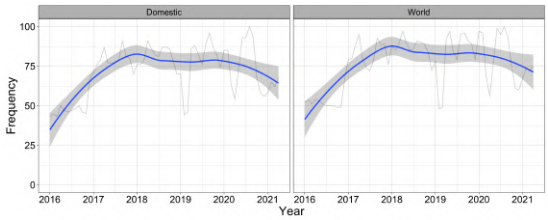
(a) Altiplano Granada



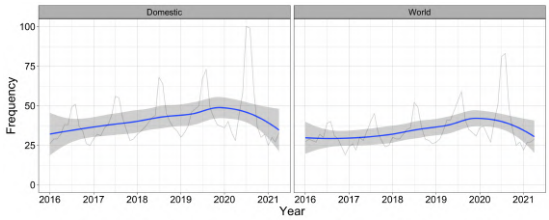
(b) Aoos



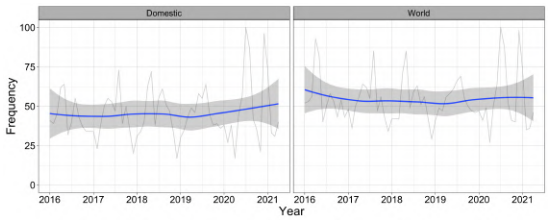
(c) Banska Bystrica



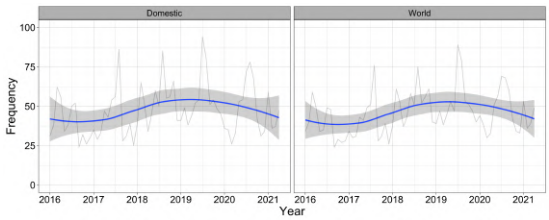
(d) Banska Stiavnica



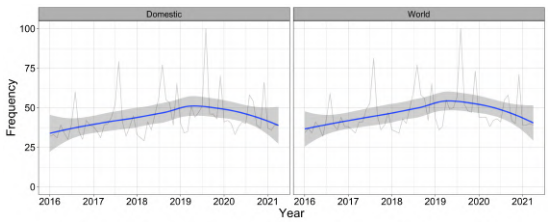
(e) Bibracte



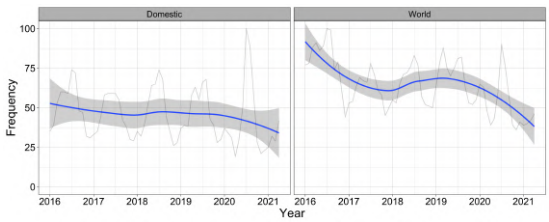
(f) Buseto Palizzolo



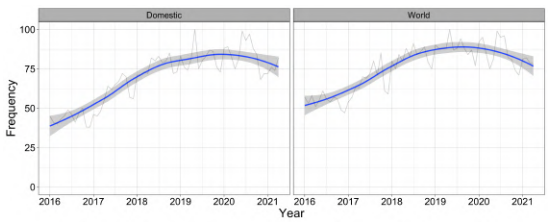
(g) Calatafimi-Segesta



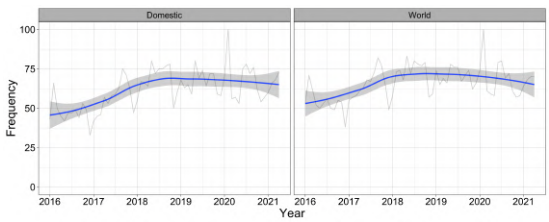
(h) Connemara



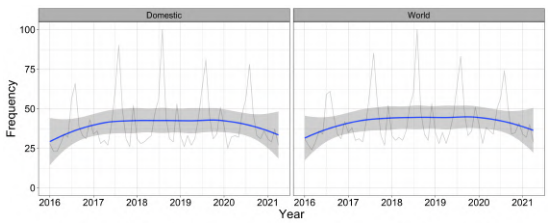
(i) County Cork



(j) County Limerick



(k) Custonaci



(l) Garfagnana

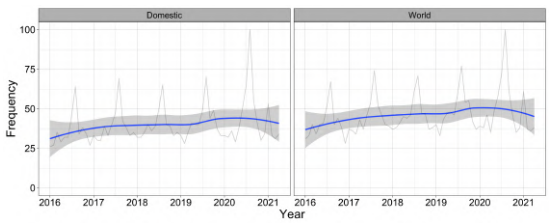
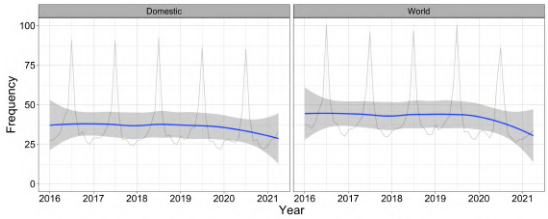
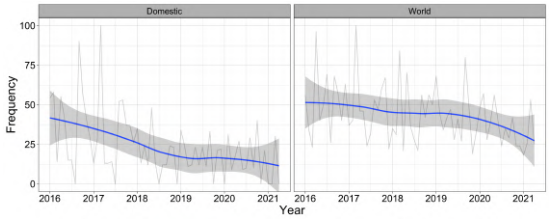


Figure 17: Google search trends for all keywords (continued)

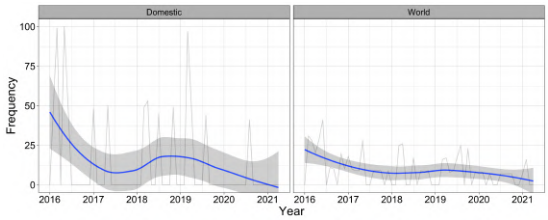
(m) Gotland



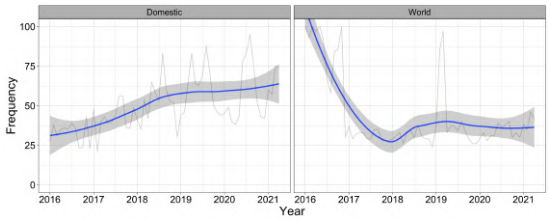
(n) Historic Graves



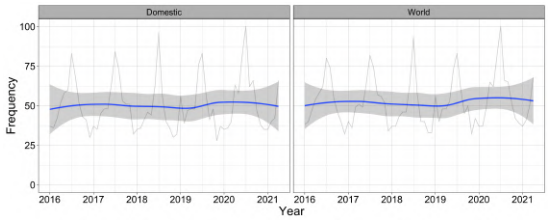
(o) Konitsa



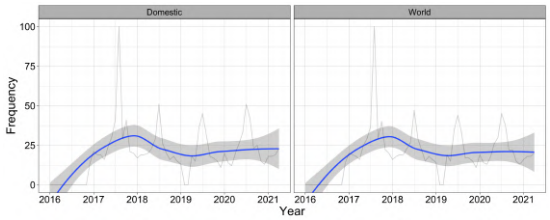
(p) Permet



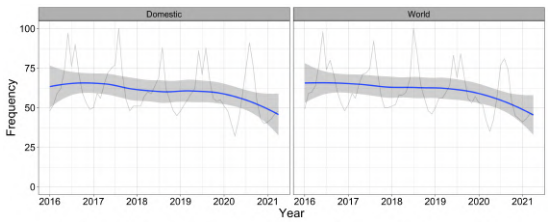
(q) Roslagen



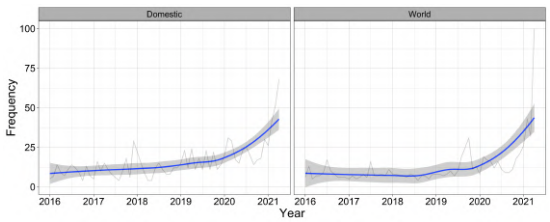
(r) Torsö



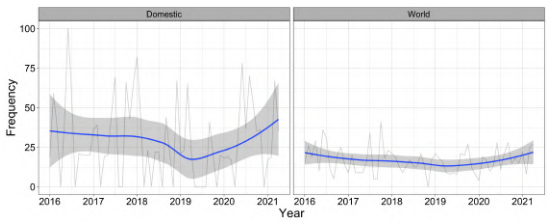
(s) Trapani



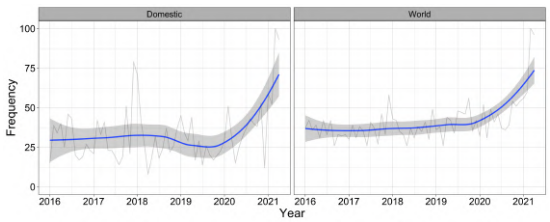
(t) Vjosa



(u) Vjose



(v) Vjosë

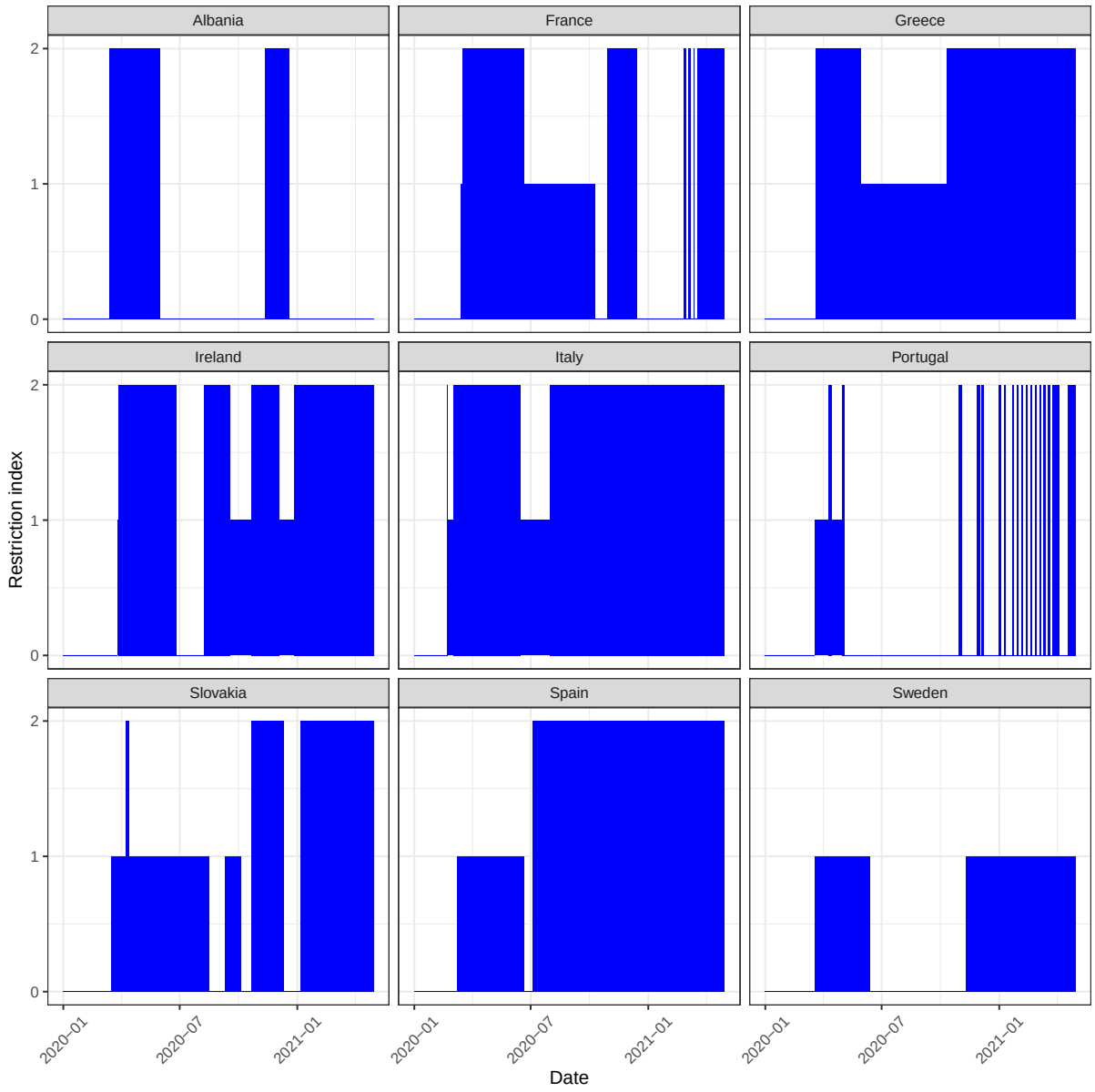


Source: Google Trends (`https://www.google.com/trends`

Notes: This figure illustrates Google search trends for all keywords listed in Table 2. Each panel shows domestic and worldwide interest in the respective search query.

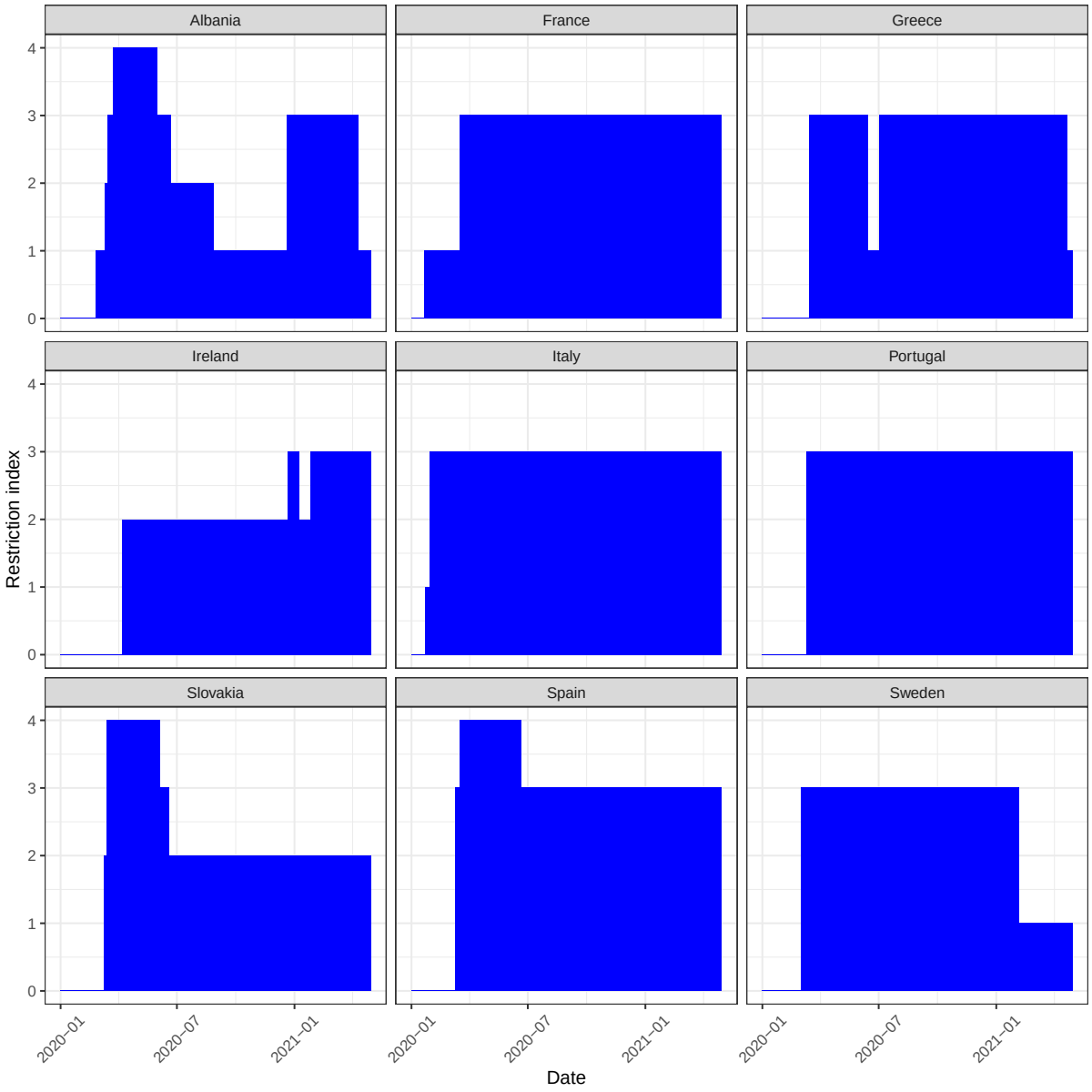
C Restrictions on domestic and international travel

Figure 18: Restrictions on internal movement



Source: Ritchie et al. (2020) data on restrictions on internal movement introduced in response to the COVID-19 pandemic. Index indicates the response level of the strictest sub-region: 0 = No measures, 1 = Recommended closing or reduce volume, 2 = Restrict movement.

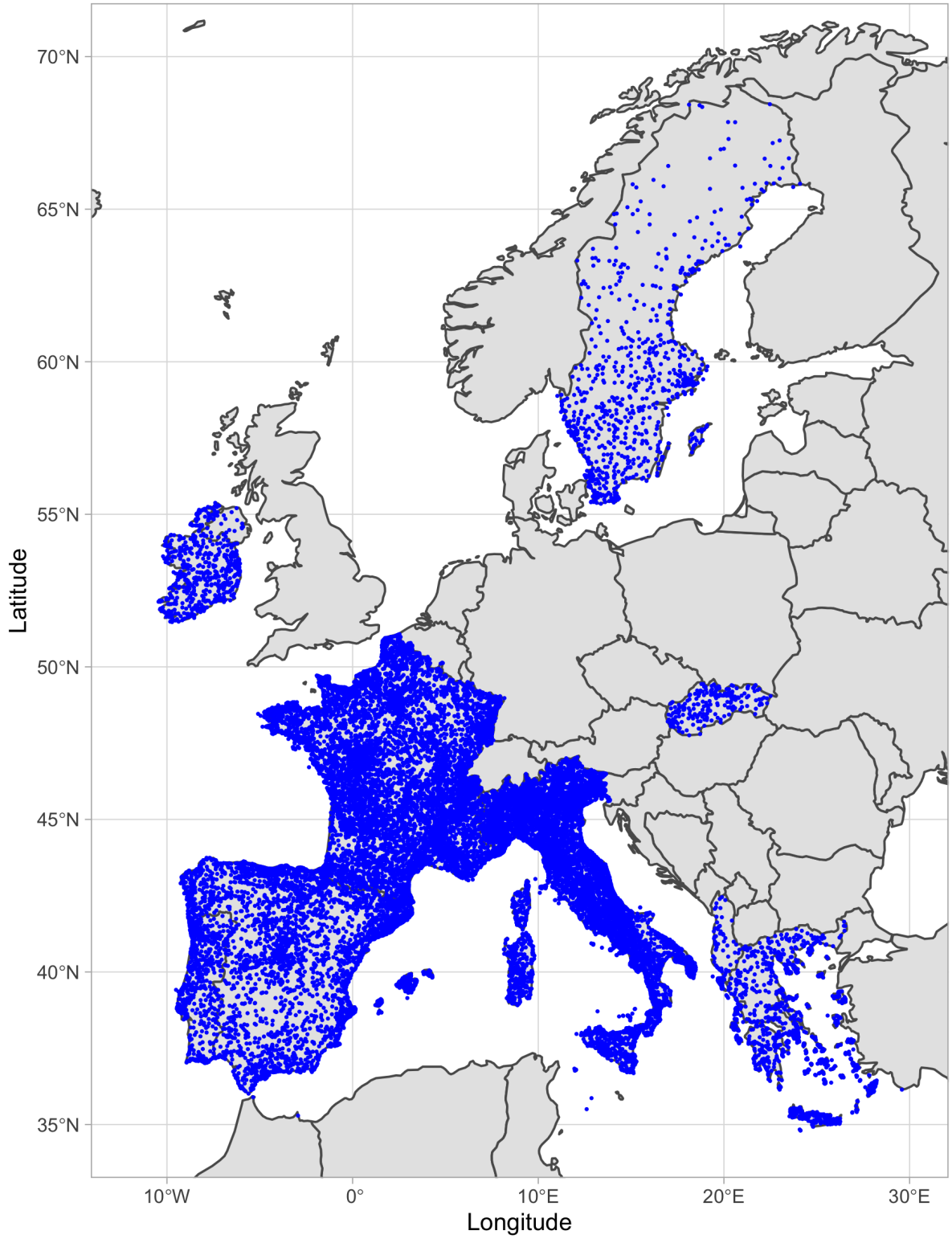
Figure 19: International travel controls



Source: Ritchie et al. (2020) data on international travel controls introduced in response to the COVID-19 pandemic. Index indicates the response level of government policies on international travel controls: 0 = No measures, 1 = Screening, 2 = Quarantine form high-risk regions, 3 = Ban on high-risk regions, 4 = Total border closure.

D Tripadvisor data for INCULTUM countries

Figure 20: Map of Tripadvisor locations in INCULTUM countries



Source: Tripadvisor (2022) data on locations that were reviewed at least once between 01.01.2016 and 01.04.2022, excluding the Canary Islands, the Azores, Madeira, and overseas territories.

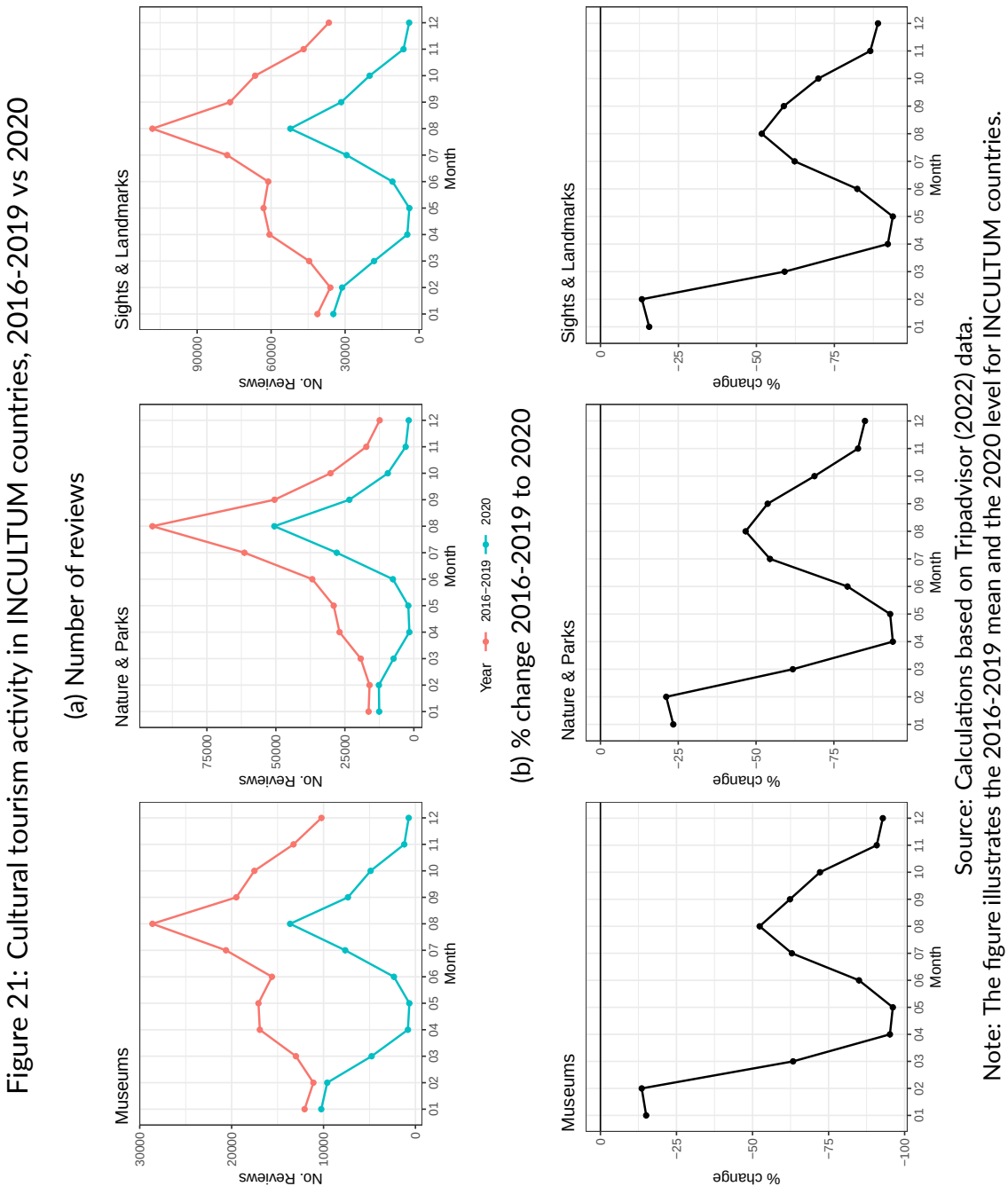


Figure 21: Cultural tourism activity in INCULTUM countries, 2016-2019 vs 2020

Source: Calculations based on Tripadvisor (2022) data.

Note: The figure illustrates the 2016-2019 mean and the 2020 level for INCULTUM countries.