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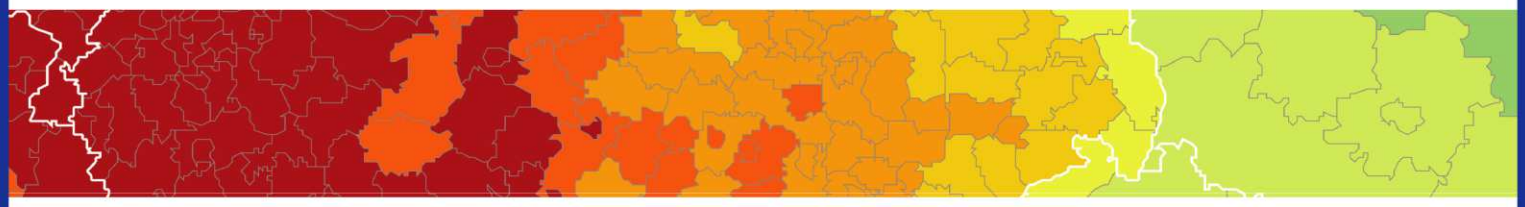

# Material Cultural Heritage as a Strategic Territorial Development Resource: Mapping Impacts Through a Set of Common European Socio-economic Indicators

Targeted Analysis

**Final Report**

27/09/2019

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This delivery does not necessarily reflect the opinion of the members of the ESPON 2020 Monitoring Committee.

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# Foreword

**Material Cultural Heritage as a Strategic Territorial Development Resource: Mapping Impacts Through a Set of Common European Socio-economic Indicators**

The EHHF's (European Heritage Heads Forum) Task Force on Economy and Statistics (TF) has a mandate "To create a common methodology for collecting economic data of cultural heritage". The main aim of the Task Force is to formulate, at the European level, clear indicators on the socioeconomic contribution of immovable cultural heritage. When I became Chairman of the EHHF in 2015, we were grappling with the challenge to develop a method for measuring the socio-economic impact based on existing statistical data held by the national statistical institutes and EUROSTAT.

By 2017 the TF members had developed the basis for a methodological approach to calculate socio-economic impact. But we lacked the funding to carry out large-scale data collections and calculations. The ESPON Targeted Analysis offered us just such an opportunity and a selected number of the TF members applied for a Targeted Analysis.

This Targeted Analysis is focused on the use of a 'value creation chain' model and using existing statistics. The Targeted Analysis is a group effort from the EHHF Stakeholders. Each Stakeholder has compiled and located national statistical data on material cultural heritage. VVA and KEA European Affairs as service providers have been responsible for the development of the methodology, the design and the implementation of the data collection, the analysis of the data and the reporting as contractors to ESPON EGTC for this project. All Stakeholders have contributed to the outputs and deliverables of VVA and KEA European Affairs which has resulted in the current Final Report. The Flemish and the Norwegian stakeholders have post-edited the Final Report. Erminia Sciacchitano from the European Commission has advised and contributed to the editing of the Final Report.

With this Report we can, in fact, present the first study of the socio-economic economic impact based on public statistics. Of course, the method needs to be refined and the quality of public statistics need to be improved.

I thank all Stakeholders for the exceptional work done and data delivered. We thank the ESPON EGTC for financing the Targeted Analysis and we thank VVA and KEA European Affairs for compiling and calculating data.

*Terje Nypan (Dr). Lead Stakeholder. Technical Director, Directorate for Cultural Heritage. Norway.*

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# Abbreviations

| | |
|---|---|
| CCI | Cultural and Creative Industries |
| CCS | Cultural and Creative Sector |
| CH | Cultural Heritage |
| CHCfE | Cultural Heritage Counts for Europe, research report (2015) |
| COFOG | Classification of the functions of government |
| DISCO | Discovering the Archaeologists of Europe, research report (2013) |
| EBLIDA | European Bureau of Library Information and Documentation Associations |
| EGMUS | European Group on Museum Statistics |
| EHHF | European Heritage Heads Forum |
| ESPON | European Territorial Observatory Network |
| ESSnet - CULTURE | European Statistical System Network on Culture |
| EU | European Union |
| EUROSTAT | European Statistical Office |
| EYCH2018 | European Year of Cultural Heritage 2018 |
| FTE | Full Time Equivalent |
| GDP | Gross Domestic Product |
| GIS | Geographic information system |
| GVA | Gross Value Added |
| ICT | Information and communications technology |
| ISCO | International Standard Classification of Occupations |
| JRC | Joint Research Centre |
| MCH | Material Cultural Heritage |
| NA | National Account |
| NACE | Statistical classification of economic activities in the European Community |
| NSA | National Satellite Account |
| NSI | National Statistical Institute |
| NUTS | Nomenclature of Territorial Units for Statistics |
| OMC | Open Method of Coordination |
| SBS | Structured Business Statistics |
| TOR | Terms of References |
| UIS | UNESCO Institute for Statistics |

# Executive summary

## Policy context

Cultural heritage is one of Europe's greatest strengths and it forms an integral part of the life of its citizens. According to the 2017 Special Eurobarometer on Cultural Heritage, more than seven in ten respondents (73%) live near some form of cultural heritage. Cultural heritage is recognised not only as a source of knowledge, social wellbeing, sense of belonging and community cohesion but also as an essential part of Europe's socio-economic capital. Whilst cultural heritage is inherited from the past, in many ways it also forms a "living" cultural resource which stimulates a wide range of economic activities as it spills over into the wider economy. Cultural heritage is also contributing to society through its impact in terms of employment and contribution to Gross Domestic Product.[1]

During the last decade, policymakers have increasingly acknowledged the role of cultural heritage as a strategic resource for sustainable territorial development and economic growth, as reflected in several European policy documents.[2] They have also recognised the need for a more integrated and cross-sectorial approach towards cultural heritage, which is streamlined in different (European) policy areas like cohesion policy, research and innovation, environmental policy and neighbourhood and foreign policy. The Council also called on member States and the Commission to 'improve the collection and analysis of qualitative evidence and quantitative data, including statistics, on cultural heritage' in May 2014. While progress has been made in the production of European culture statistics, for example Eurostat's cross-sectoral database can help to identify general trends (i.e. employment in the cultural sector or visits of cultural heritage sites), it is not tailored to capture all important aspects, such as public expenditure, occupations and other economic aspects on cultural heritage. The Decision of the European Parliament and of the Council on the European Year of Cultural Heritage 2018 has therefore renewed the impetus for European policy and actions in support of cultural heritage, also in relation to 'improving the collection and analysis of qualitative evidence and quantitative data, including statistics on the social and economic impact of cultural heritage.' Lastly, evidence-based policy making is one of the four key principles of the European Framework for Action on Cultural Heritage adopted by the European Commission to

[1] See also: Cultural Heritage Counts for Europe, 2015.

[2] See for instance at European Union level the Council conclusions on cultural heritage as a strategic resource for a sustainable Europe (2014/C 183/08), the Communication from the Commission to the European Parliament, the Council, the European economic and Social Committee and the Committee of the Regions Towards an integrated approach to cultural heritage for Europe (COM/2014/0477 final), the Council conclusions on the need to bring cultural heritage to the fore across policies in the EU (2018/C 196/05) and the New European Agenda for Culture (COM(2018)267). The Council of Europe has also adopted the Recommendation on the European Cultural Heritage Strategy for the 21st century (CM/Rec(2017)1).

provide concrete actions to maintain the legacy of the European Year of Cultural Heritage 2018, as anticipated in the New European Agenda for Culture.[3]

Despite recent efforts to improve cultural heritage statistics, such as the work carried out by the Economic Task Force of the European Heritage Heads Forum or the European Commission, it is still a challenge to fully capture the significance of its impact in the economy and society.[4] Standardised quantitative data and metrics (including EUROSTAT data) only offer a partial picture of the economic relevance of cultural heritage and its impact in other economic sectors. Existing economic impact studies on cultural heritage are limited in thematic (e.g. stand-alone heritage sites) or geographic scope (e.g. specific regions/countries) with the clear limitation that their approach and results cannot be generalised. Therefore, there is an urgent need to establish a common framework in Europe to collect harmonised and comparable data on cultural heritage, in order to fully capture its contribution to the wider economy and the society.

## Objectives and scope

Contributing to the European Framework for Action on Cultural Heritage, this study has aimed to quantify the economic impact of material cultural heritage over the past five years by establishing a set of indicators which are comparable at European level and subsequently performing data collection and analysis of these indicators in 11 selected countries/regions. The geographical scope of the study includes Austria, Brussels, Flanders, Italy, the Netherlands, Norway, Portugal, Romania, Slovakia, Slovenia, Sweden. The data collection and analysis have been carried out at national and regional level, where possible up to Nomenclature of Territorial Units for Statistics (NUTS) 2 level.

The current study builds on the research carried out by the Economic Task Force of the European Heritage Heads Forum (Nypan, 2015; Vanhoutte, 2019) and the European Commission (notably KEA 2015 and Cultural Heritage counts for Europe 2015). In this sense, the present study is a first step towards the development of a common monitoring system for data collection, processing and delivery across countries/regions.

## Theoretical and methodological framework

The value chain approach has been employed as a theoretical framework to identify economic activities that are dependent on Material Cultural Heritage. The systemic approach offered by the value chain approach allows for a holistic picture of the economic relevance of Material Cultural Heritage in the local and national economies. As a result, the economic impact of Material Cultural Heritage is quantified in selected economic sectors/activities: archaeology,

[3] More information is available at: https://ec.europa.eu/culture/content/european-framework-action-cultural-heritage_en; https://ec.europa.eu/culture/news/new-european-agenda-culture_en.
[4] More information on the work of the EHHF is available at: http://www.ehhf.eu/economic-taskforce.

architecture, museums, libraries and archives activities, tourism, construction, real estate, ICT and insurance. The study has considered the following economic indicators in the selected countries/regions so as to assess the contribution of Material Cultural Heritage to society: employment, gross value added and turnover.[5] The study also considered the value of heritage volunteering and public expenditure in the heritage sector.

## Main research findings

The box below presents the total impact of Material Cultural Heritage in stakeholder countries/regions in 2016 (in absolute values and compared to other sectors of the economy).

*Total impact of MCH in stakeholder countries/regions, 2016*

- **Employment:** 549,003 Full Time Equivalent;[6]
- **Turnover:** EUR 83,985.4 million;
- **Gross Value Added:** EUR 32,445.6 million;[7]
- **Value of volunteering:** EUR 171.2 million; and
- **Public expenditure in the heritage sector:** EUR 447.9 million.

Comparing the impact of Material Cultural Heritage to the wider economy:

- **Employment:** 2.1% of the total business economy except financial and insurance activities and 5.0% of the total services economy (NACE codes H-N and S95), similar to the contribution made by the entire subsectors of support activities for transportation, cleaning activities or private security activities;
- **Turnover:** 1.0% of the total business economy except financial and insurance activities and 4.0% of the total services economy (NACE codes H-N and S95), similar to the contribution made by the entire subsectors of support activities for transport, legal and accounting activities or wired telecommunication activities;
- **GVA:** 1.6% of the total business economy except financial and insurance activities and 3.4% of the total services economy (NACE codes H-N and S95), similar to the contribution made by the entire subsectors of activities of head offices, engineering activities and related technical consultancy or business and other management consultancy activities.

*Source: elaboration of the service provider (2019) based on national databases and Eurostat*

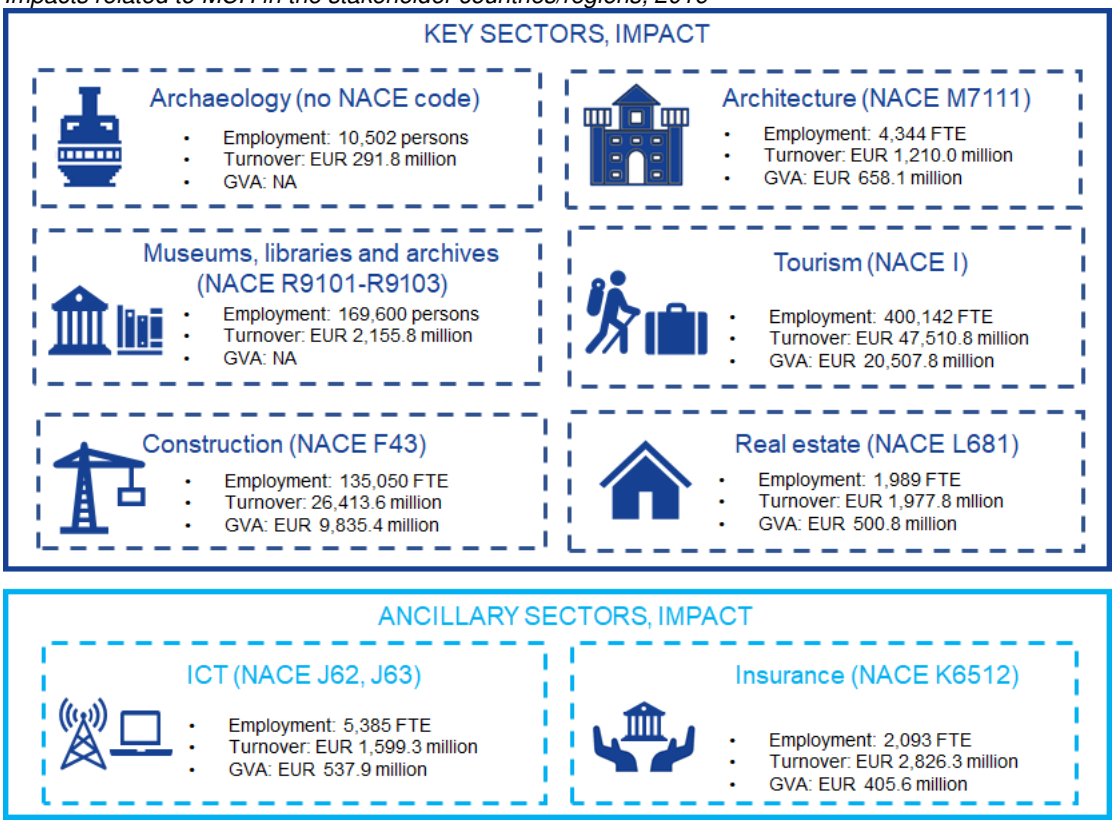
[5] It is acknowledged that these are indicators relevant only for private companies, for the public sector other indicators such as expenditure as measure for the value of output are commonly used. However, as in this study mainly the contribution of private companies is considered (except for in the part of public expenditure in the heritage sector), these indicators are used throughout the study.

[6] In addition, there were 180,102 persons employed in archaeology and museums, libraries and archives. Because of lack of data availability, these persons cannot be expressed in terms of Full Time Equivalent.

[7] Because of lack of data availability, it was impossible to estimate the Gross Value Added of archaeology and museums, libraries and archives.

The figure below summarises the impacts related to Material Cultural Heritage in all stakeholder countries/regions per sector/activity in 2016. Considering the relative importance of each sector/activity in the total impact of Material Cultural Heritage, the largest impacts come from tourism and construction. A clear picture is provided on the impacts on the turnover, more than for the other impact indicators, as, for turnover, there is comparable data for all sectors/activities: tourism provides more than half of the total turnover, while construction provides just under a third of the total turnover. The other six sectors/activities provide together 12.0% of the total turnover; of these smaller sectors, insurance is the largest and archaeology the smallest.

*Impacts related to MCH in the stakeholder countries/regions, 2016*[8]



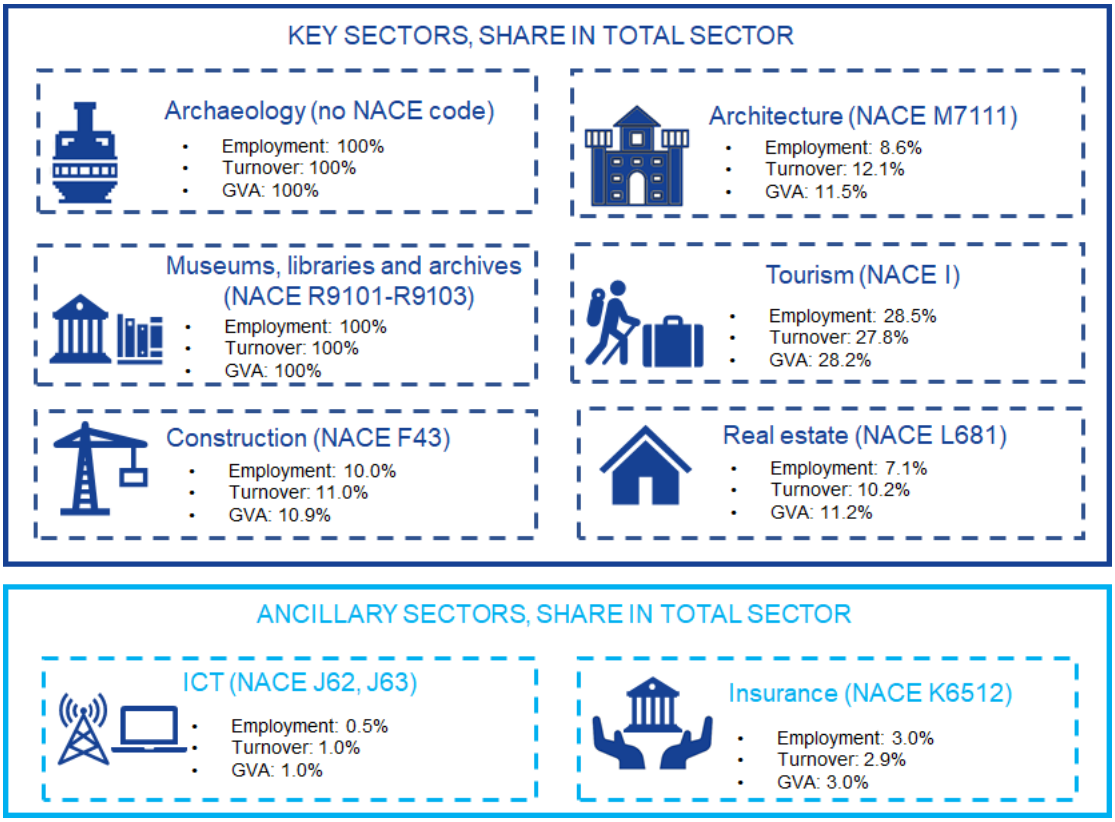

*Source: elaboration of the service provider (2019) based on national databases and Eurostat*

To put these impact figures into perspective, the figure below presents the share of the impact related to Material Cultural Heritage in the total sector/activity. These shares relate to the coefficients that have been used to isolate the share that can be attributed to MCH as part of the impact analysis. Archaeology and museums, libraries and archives activities are fully related to MCH and therefore by default 100%. For tourism, this relates to the share of leisure tourists in the total number of tourists, which is almost 30%. For architecture, construction and real estate this relates to the number of pre-1919 dwellings in the total number of dwellings and this share is approximately 10%. For ICT and insurance this relates to the expenditure of

[8] Employment figures for archaeology are from 2014.

museums, libraries and archives in these sectors and, consequently, these shares are significantly lower, between 0.5% and 3% for all three indicators.

*Share of the impacts related to MCH in the total sector/activity in the stakeholder countries/regions, 2016*[9]




*Source: elaboration of the service provider (2019) based on national databases and Eurostat*

These key findings demonstrate the importance of Material Cultural Heritage for territorial development. Beyond its intrinsic value, Material Cultural Heritage matters in economic terms as it fuels locally rooted employment and generates economic activities.

It is important to note that the numerical findings presented are conservative estimates for the following main reasons:

- Only the most important sectors as distinguished through the value chain approach and for which data availability allowed for an accurate analysis, and not every sector/activity where Material Cultural Heritage potentially has an effect, have been included in the analysis;
- There were limited data availability issues in certain sectors/activities and countries/regions;
- The estimates for two of the sectors (insurance and ICT) are based on (estimates of) the expenditure of museums, libraries, archive and other heritage institutions in these

[9] Employment figures for archaeology are from 2014.

sectors. The study has only considered expenditures for which it is certain that these have been made, while likely additional expenditures have been made.

In other words, this study cannot be considered and was not aimed to provide a full "impact assessment" as generally understood with this term, but rather an *exploratory research* into the main impacts of Material Cultural Heritage identifying the main data gaps and needs for future research which has also resulted in a framework for a monitoring system which can be used to refine the methodology to capture the full contribution of Material Cultural Heritage in future research.

## Recommendations

The availability of reliable and comparable data on the economic impact of cultural heritage is critical to support evidence-based policy making. However, this study has shown that cultural heritage statistics remain confronted with specific challenges, such as the inadequacy of current statistical metrics and lack of comparable data to estimate the contribution of Material Cultural Heritage to some economic activities. This study proposes a blueprint for a common monitoring system to capture the impact on Material Cultural Heritage in the wider economy, but further resources and efforts are needed to refine and operationalise this blueprint at European, national and regional level. In this context, the study also puts forward a set of operational recommendations to improve the data collection process and the measurement of the economic impact of Material Cultural Heritage.

### Development of concepts and definitions

- Engage with national heritage institutions, experts and cultural heritage practitioners to elaborate a **common definition** of cultural heritage for statistical purposes, for instance through the Commission expert group set up by the Framework for Action on Cultural Heritage or the European Heritage Heads Forum;
- Encourage and support the **dialogue between National Statistical Institutes** and the **Agencies responsible for heritage inventories** to explore the possibility to establish a common operational definition of Material Cultural Heritage for statistical purposes, building on the definition provided by this study.

### Improve data collection

Explore the possibility for the European institutions, including EUROSTAT, in coordination with National Statistical Institutes to:

- Propose amendments to the existing **international statistical classifications** to introduce or amend classification codes in relation to cultural heritage when a revision of these classifications will take place;
- Improve **coverage of data** regarding non-profit employment and volunteering;

- Revise the current **data collection scheme** (including the sampling methods for surveys) to include additional indicators related to cultural heritage (e.g. percentage of tourists travelling for cultural heritage purposes);
- Discuss the possibility of collecting data at lower level both **for Statistical classification of economic activities in the European Community (NACE) and Nomenclature of territorial units for statistics (NUTS)** classifications and make these data also publicly available, in order to more precisely estimate the impact of Material Cultural Heritage on regional/local level;
- Reinforce the current **cooperation with relevant stakeholders** such as the representatives of museums and other heritage institutions to gather data on the contribution of cultural heritage organisations to the economy;
- Engage with cultural heritage organisations, Non-Governmental Organisations, volunteering organisations and business and professional associations to **address statistical gaps** in official statistics, particularly in relation to employment and other economic data. However, this would entail an agreement on a common framework of measurement including the key data to be regularly collected ensuring quality and comparability.

**Foster capacity building and dissemination of data**

- Set up **training schemes and capacity building sessions** for heritage organisations, statistical authorities including the development of manuals and guidelines on how to collect and analyse data;
- Make additional efforts in relation to **accessibility and dissemination of data** especially in relation to EU funded initiatives.

**Future research**

- Explore the possibility of setting up a **National Satellite Account** on cultural heritage to facilitate intensive data standardisation, timely monitoring and analysis of data to estimate the contribution of cultural heritage to the economy and society;
- Improve **inter-country collaboration** (for instance under the leadership of the European Commission's Cultural heritage Expert Group or the European Heritage Heads Forum) to explore the possibility to introduce a European satellite account for cultural heritage, under the aegis of Eurostat;
- Create an **Open Method of Coordination Expert Group, under the European Agenda for Culture,** to exchange good practices and develop recommendations on measuring the impact of culture including cultural heritage in the economy and society;
- Explore the use of alternative sources for data collection, specifically the use of **big data** (e.g. social media, online purchase, EUROSTAT pilot project on the use of Wikipedia page views on World Heritage Sites and the cultural gems app launched by the Joint Research Centre);
- Ensure EU and national **funding for future research** in the field.

# 1. Introduction

The purpose of this study is to provide empirical evidence on the impact of material cultural heritage (MCH) on the economy in 11 European countries/regions and to suggest a set of indicators as a basis for a monitoring system on the economic impact of MCH in Europe.

## 1.1 Context to the study

Cultural heritage is one of Europe's greatest strengths and is an integral part of the life of European citizens. According to the 2017 Special Eurobarometer on Cultural Heritage, more than seven in ten respondents (73%) live near some form of cultural heritage. Cultural heritage is recognised not only as a source of knowledge, of a sense of belonging and of community cohesion but also as an essential part of Europe's socio-economic capital. It is now widely recognised that regional attractiveness is closely linked to cultural features and the symbolic dimension of spaces, and it is unquestioned that cultural heritage contributes to regions' *genius loci,* which makes them distinctive and unique" (Graham et. al., 2009; Alberti et. al., 2012; Amion and Locum, 2016). While on the one hand cultural heritage is inherited from the past, it is in many ways also a contemporary and "living" cultural resource which stimulates a wide range of economic activities and spills over into the wider economy. For instance, heritage sites are increasingly accessible to the public for place-based consumption and activities such as research, learning, working and recreation, greatly enhancing the potential of an area to derive economic benefits, for instance in terms of employment and contribution to GDP (EDORA, 2009, Cultural Heritage Counts for Europe 2015).

Recent studies suggest that cultural heritage contributes to attracting social capital (Backman and Nilsson, 2016) and it is an important pull factor that influences the location and investment decisions of firms (Amion and Locum, 2010; Kourtit et. al., 2013; TBR and NEF, 2017). Cultural heritage (physical and immaterial) is also closely related to the experience and knowledge economy and can be a source or a base for creative thinking and an inspiration for other products or services, further enhancing entrepreneurship, innovation and regional competitiveness (KEA, 2009).

During the last decade, policymakers have increasingly acknowledged the role of cultural heritage as a strategic resource for sustainable territorial development. This is reflected in several European policy documents adopted by many European institutions, more recently The Rome Declaration (25 March 2017), the Council of Europe Recommendation of the Committee of Ministers to Member States on the European Cultural Heritage Strategy for the 21st century (CM/Rec(2017)1), the European Commission Communication on Strengthening European Identity through Education and Culture (COM(2017) 673), the Council conclusions on the need to bring cultural heritage to the fore across policies in the EU (2018/C 196/05), the New European Agenda for Culture (COM(2018)267). Cultural heritage has been gradually streamlined in different policy areas, like the EU cohesion policy (more than 90 regions have

included culture and cultural heritage as part of their Smart Specialisation Strategy), research and innovation, neighbouring and foreign policy, thus, showing the growing strategic importance the topic has gained on the European agenda. Several initiatives at European level contribute to the general appraisal of cultural heritage at European, national, regional and local level (such as the European Heritage Days[10], the European Heritage Label[11], the European Heritage Awards[12]). The Decision of the European Parliament and of the Council on a European Year of Cultural Heritage (2017/864) in 2018 gave further impetus to EU policy and actions in support of cultural heritage and also to research efforts to improve the collection and analysis of qualitative evidence and quantitative data, including statistics, on the social and economic impact of cultural heritage.

Despite efforts to improve cultural heritage statistics, such as the work carried out by the Economic Task Force of the European Heritage Heads Forum (EHHF), it is still not possible to fully capture the significance of its impact in the economy and society. Standardised quantitative data and metrics (including EUROSTAT data) only offer a partial picture of the economic relevance of cultural heritage. This contributes to the conclusion that "the contribution of cultural heritage to society in terms of value creation, skills and jobs, and quality of life is underestimated."[13]

There are conceptual and methodological challenges in measuring the value of the output of non-industrial sectors (such as museums, galleries and libraries) and the estimates are rarely comparable across countries, as pointed out in a feasibility study on data collection and analysis in the cultural and creative sectors in the EU (KEA 2015). Furthermore, most of the studies assessing the impact of cultural heritage are limited in both geographical and thematic scope. Several studies tend to focus on stand-alone heritage sites, specific regions (e.g. Ruijgrok 2006; Lazrak et al. 2011) or countries (e.g. Oxford Economics, 2013 and 2016; Ortus Economic Research, 2017). Hence, it is difficult to generalise their results.

The lack of reliable, comparable and timely data makes it more difficult for policymakers to make informed decisions and to justify investments in the sector, given that it is competing with many other domains of activity for scarce public resources. Therefore, there is an urgent need to collect more data on cultural heritage and establish a common framework of measurement in Europe to fully capture its contribution to the wider economy and its evolution over time. Collected evidence would allow policymakers to conceive better territorial development strategies that make full advantage of the potential of cultural heritage to create employment

[10] For more information http://www.europeanheritagedays.com/Home.aspx.
[11] For more information https://ec.europa.eu/programmes/creative-europe/actions/heritage-label_en.
[12] For more information http://www.europeanheritageawards.eu/.
[13] Decision of the European Parliament and of the Council on a European Year of Cultural Heritage (2017/864), Recital 5.

and business opportunities, as well as to advocate the importance of cultural heritage to those outside the cultural sector. Evidence-based policy making, including through cultural heritage statistics, is one of the four pillars of the European Framework for Action on Cultural Heritage adopted by the European Commission to provide concrete actions to maintain the legacy of the EYCH2018.

This project was submitted to ESPON by the Economic Task Force of the EHHF in order to establish a common methodological framework to collect economic indicators that are comparable across nations. The members of the Task Force acted as Stakeholders in this study and contributed to the study outcomes in several ways by (1) defining the research questions, (2) providing guidance in methodological discussions, (3) helping to collect data, (4) opening up their networks, and (5) sharing knowledge on MCH and societal impacts.

## 1.2 Objectives and scope of the study

The primary objective of this study is to quantify the economic impact of material cultural heritage over the past five years by establishing a set of indicators which are comparable at European level and by performing data collection in 11 selected countries and regions: Austria, Brussels, Flanders, Italy, the Netherlands, Norway, Romania, Portugal, Slovenia, Slovakia, Sweden which reflects the countries represented by the stakeholders of this project. In addition, Italy and Portugal have been included as proposed by the service provider. This guarantees a balanced geographical distribution in the data collection and recommendations adapted to the European diversity.

More specifically, this study aims to:

1. Define the economic impacts of material cultural heritage and defining the specific economic sectors to which it contributes;
2. Measure the economic impact of material cultural heritage at the territorial level, quantifying this impact as much as possible while considering reliability and validity;
3. Compare the results of the impact analysis within and between countries/regions;
4. Develop a monitoring system that aims to maintain regular surveillance over the MCH impact indicators.

The economic impact of MCH is quantified in selected economic sectors/activities, notably archaeology, architecture, museums, libraries and archives activities, tourism, construction, real estate, Information and Communication Technology (ICT) and insurance. The data collection is carried out at national and regional level, where possible up to NUTS 2 or NUTS 3 level.[14] A full overview of all the NUTS regions per country/region is available in Annex I. The

[14] NUTS (Nomenclature of Territorial Units for Statistics) is a system used by EUROSTAT and NSIs to designate the geographical level of collected data.

study uses an operational definition of Material Cultural Heritage to map the baseline population in each of the countries/regions under scope, see Section 2.1 for more details on this operational definition.

The current study builds on the research carried out by the Economic Task Force of the European Heritage Heads Forum (EHHF) and the European Commission (notably KEA 2015; Cultural Heritage Counts for Europe 2015). The study represents an *exploratory* research exercise which contributes to the stock-taking of available data to capture the contribution of MCH to regional development and the wider economy and develops the first step towards a common monitoring system to ensure uniformity in data collection, processing and delivery in Europe.

The study proposes a blueprint of the indicators that are necessary for the implementation of a monitoring system and a proposal for systematic data collection (at territorial level) in the selected countries/regions to ensure high-quality data collection, processing and delivery. The blueprint should be considered as a first step towards the production of reliable, comparable and up-to-date statistics at European level which would allow for the quantification of the economic contribution of MCH to territorial development. The study also puts forward a set of operational recommendations to improve cultural heritage statistics across Europe.

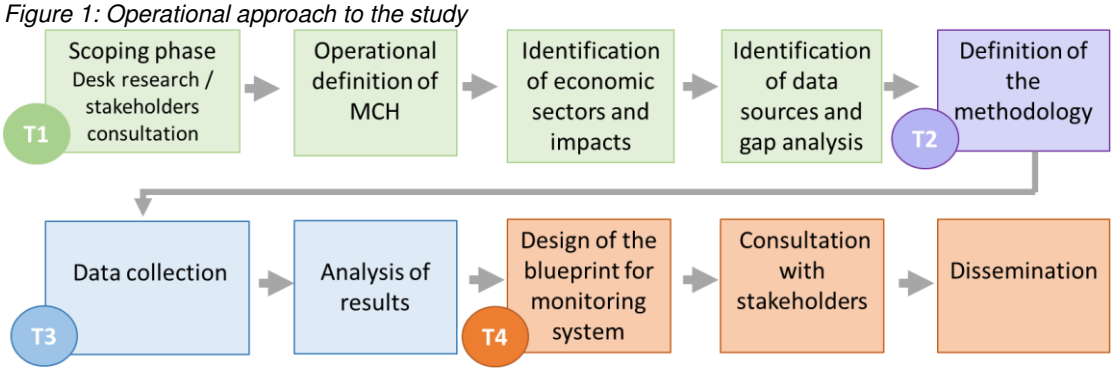
While this study focuses solely on the economic impacts of MCH, it should be underlined that MCH generates other types of impacts such as cultural, social and environmental impacts which contribute to the well-being, social interaction and quality of life of citizens.[15] Other research studies could complement the current one to provide policymakers with a holistic perspective on the impact of MCH on society.

[15] See also: Cultural Heritage counts for Europe report, 2015; Wellbeing and the Historic Environment by Historic England (2018).

## 1.3 Operational approach to the study

The research trajectory consisted of four phases (see Figure 1 for a visualisation).

*Figure 1: Operational approach to the study*




*Source: elaboration of the service provider (2018)*

In the **scoping phase** desk research on similar studies and other relevant research reports on assessments of the economic impact of MCH and consultation of experts, who were members of the Stakeholder Committee and external experts contracted by the service provider, was executed. This phase resulted in the theoretical framework of the study including value chain approach, the operational definition of MCH, the preliminary selection of economic sectors/activities to be considered, as well as relevant data sources and potential gaps. In the second phase the **methodological framework** was designed, consisting of the selection of economic sectors/activities and the definition of indicators to measure the economic impacts, as reported in the incipient report. In the third phase **data collection activities and analysis of impacts** was carried out. In the final phase a blueprint was designed for a monitoring system.

During the research process regular progress and review meetings with ESPON EGTC and the Stakeholder Committee were held to present and discuss emerging findings. These are documented by minutes provided by ESPON EGTC. The engagement of the Stakeholder Committee has also been crucial in facilitating the data collection and ensuring the usefulness of the analysis and recommendations delivered in the study.

## 1.4 Structure of the report

The report is structured as follows:

- **Section 1 – Introduction** this section introduced the reader to this study and provides background information on the context, objectives and scope, operational approach of the study as well as the structure of the report;
- **Section 2 – Theoretical framework**: this section establishes an operational definition of MCH, describes the economic activities and sectors linked to MCH through the value chain approach, and presents the indicators to be used to assess the economic impact of MCH;

- **Section 3 – Methodological framework**: this section presents the methodology for the calculation of the baseline population of Material Cultural Heritage and the calculation of the economic impact that can be related to MCH;
- **Section 4 – Data Analysis per sector/activity:** provides the main analytical results of the study, i.e. the impact of MCH by sector/activity for all countries/regions under consideration;
- **Section 5 – Conclusions and recommendations**: provides a synthesis of the research and a consideration of the implications of the study results from a policy and operational perspective, including a set of operational recommendations in respect of future monitoring and further research;
- **A Scientific Annex** is provided as a separate document containing the following annexes:

    - Annex I Overview of NUTS levels per country/region
    - Annex II Operational definition of MCH
    - Annex III Country fiches on the regulatory framework of MCH
    - Annex IV Value chain approach
    - Annex V Method of measurement for the coefficients
    - Annex VI Complete database of the baseline data on MCH
    - Annex VII Regional distribution of MCH per country/region
    - Annex VIII Complete database of the socio-economic indicators
    - Annex IX Detailed data analysis per sector/activity
    - Annex X Meta data fiches
    -
    - Annex XII Overview of sources used for the project
    - Annex XIIII Overview of interviews conducted during the project
    - Annex XIV References

# 2. Theoretical framework

This section presents the theoretical framework applied in this study including the operational definition of MCH, the approach used to identify and select the economic sectors/activities linked to MCH and the indicators used to measure the economic impact of MCH.

## 2.1 Operational definition of MCH

In Europe, there is a common understanding that (material cultural) heritage is what is considered worth preserving and transmitting to future generations due to its *heritage value*, such as archaeological, historical, architectural, or aesthetic value (Vanhoutte, 2019). However, each country/region outlines its own set of criteria and processes to designate, conserve, maintain, communicate and transmit MCH by cultural heritage laws which reflect national or regional traditions (Klamer et. al., 2013). Since this study is carried out across nations a common definition is needed to map a comparable baseline population of MCH. Therefore, the following *operational* definition has been applied:

*Box 1: Operational definition of MCH in the context of this study*

Objects of immovable (e.g. archaeological sites, cultural landscapes, etc.) and movable (e.g. paintings, books, etc.) nature recognised as having heritage value in each country/region according to three types of recognition:

1. Listed (included in national and/or regional inventories, the latter understood as sources made available by public authorities at national and regional level where MCH is recorded) as having heritage value and legally protected (this also comprises the sites listed in the UNESCO World Heritage List);
2. Listed (included in national and/or regional inventories) as having heritage value but not legally protected;
3. Historical building stock.[16]

This operational definition also includes places which are publicly accessible and where movable MCH objects are stored/exhibited, namely archives, libraries and museums.

*Source: Elaboration of the service provider and the Stakeholder Committee (2018)*

See Annex II for a more detailed discussion of the operational definition.

It should be noted that some objects might fall under several categories of the operational definition, which may lead to some double counting. This is the case for the following categories in particular:

[16] In the context of this study, pre-1919 dwellings have been used as a proxy for the historical building stock based on data available at European level by EUROSTAT – 2011 Census database (https://ec.europa.eu/CensusHub2/query.do?step=selectHyperCube&qhc=false). This information is not without limitations (for instance the Census refers to 2011 data and includes only dwellings), but it has been selected because of its comparability across all countries/regions and its availability up to NUTS 3 level.

- Pre-1919 dwellings, some of which are also listed and protected immovable MCH;
- UNESCO Word Heritage Sites, some of which are also listed and protected immovable MCH as individual objects.

To avoid double-counting listed and protected buildings are not included in the equation. The reason for this is that listed- and protected buildings are mainly built before 1919, and pre-1919 dwellings are also included in the equation, this last category also includes listed- and protected buildings. Therefore, pre-1919 dwellings are considered while the listed and protected buildings are left out to avoid double counting. This also means listed and protected buildings dated after 1919 are also left out, but these are not that many and are better left out than ending up in a double-counting error.

This operational definition is an attempt to find the common denominator in different law systems across Europe.[17] It is based on the research paper of Terje Nypan (in Van Balen and Vandesande, 2015) and further elaborated in the Stakeholder Committee.

It should be stressed that this is an *operational* definition to be used within the context of this study and not a *theory-driven* definition of MCH. This operational definition does not always reflect national traditions and legislation in each country/region, for instance, not all pre-1919 dwellings are labelled as heritage per se by the competent authorities in some countries/regions (e.g. the Netherlands and Flanders). The operational definition includes age (i.e. pre-1919) as a proxy to recognise heritage value. The rationale is that the study captures what people and communities consider having heritage value, not only what is listed by authorities – which is sometimes larger than what is *labelled* as such, usually by experts in a top-down approach – and that it provides a more inclusive appreciation of the richness (and diversity) of European cultural heritage. In this sense, the study takes into consideration developments in heritage discourse following the Council of Europe Framework Convention on the Value of Cultural Heritage for Society (Faro, 2005). This convention sets out the responsibilities and involvement of individuals and communities regarding cultural heritage. Since then, several scholars questioned the established value typologies and evaluation methods usually employed by experts to identify *what* heritage is (rather than *why* heritage is valuable) and they have called for wider and more inclusive participation in assessing heritage value (Fredheim and Khalaf, 2016; Klamer and Mignosa, 2019). It is increasingly acknowledged that the recognition of heritage value should result from a participatory process which is also open to non-experts, considering the strong relation between heritage and its surrounding place, local communities

[17] The main sources used to identify relevant heritage laws include the HEREIN System (http://www.herein-system.eu/), the UNESCO Database of National Cultural Heritage Laws (http://www.unesco.org/culture/natlaws/) and the Compendium of cultural policies and trends (https://www.culturalpolicies.net/web/index.php).

and social practices (Hawke, 2010; European Commission, 2018). Historic building stock is part of the *genius loci* in the countries/regions where it is located, and it contributes to the quality of life of citizens and to making the country/region a more attractive place for its inhabitants and visitors.[18]

## 2.2 The value chain approach

MCH stimulates activities which in turn trigger economic transactions which have an impact on the local and national economy. In the context of this study, it has been important to identify which economic activities are dependent on MCH, which economic impacts MCH generates, and what the linkages between MCH and the wider economy are.[19]

The value chain approach offers a theoretical background to these aims and it forms the basis for identifying the economic sectors/activities linked to MCH. A value chain is defined as: 'a sequence of activities during which value is added to a new product or service as it makes its way from invention to final distribution' (Botkin and Matthews, 1992, p. 26). The value chain model is used as a framework to delineate economic sectors. This includes not only the identification of the steps in the value chain but also an in-depth analysis of the interrelations between actors that cooperate to create economic value. This framework can be applied to a wide range of sectors even though it requires some adjustments for non-industrial sectors, such as cultural heritage, where the classical conception of economic value creation does not entirely apply.

The value chain approach has already been applied to cultural heritage in several studies. For instance, the ESS-net Culture report 2012 distinguishes between activities related to producing, disseminating and preserving heritage (core functions) and the activities of education and management/regulation that are linked to heritage (support functions). More recent studies (IDEA Consult et. al., 2017; Vanhoutte 2019) identify four core functions, namely, creation, production, dissemination/trade and exhibition/reception, and several support functions (e.g. research/education and management/regulation) as well as activities related to other economic sectors for the supply of ancillary goods and services.

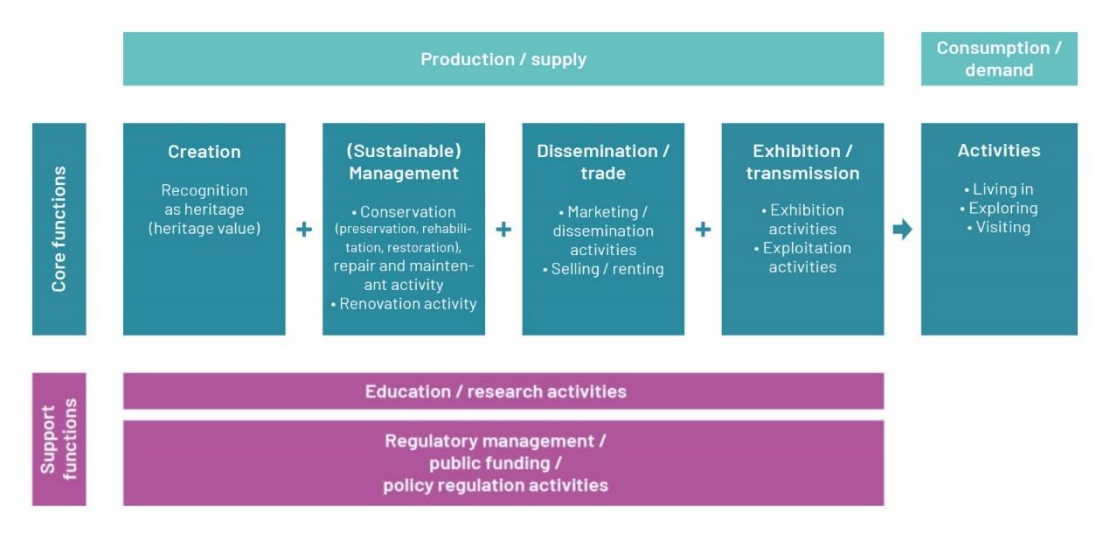
The MCH value chain model proposed in this study is represented in Figure 2 and consists of the core functions (1) creation, (2) management, (3) dissemination/trade, and (4) exhibition/transmission and the support functions (1) education/research activities and (2)

[18] The recommendation on the protection of the historic urban landscape adopted during the UNESCO General Conference in 2011 also stresses that urban areas are one of the most abundant and diverse manifestations of common cultural heritage. Further information is available at: https://whc.unesco.org/en/hul/.

[19] An economic activity is defined as "the activity of producing, buying, or selling products or services" (Source: Cambridge Dictionary)

regulatory management/public funding/policy regulation activities, as well as ancillary goods and services. Further details are provided in Annex IV.

*Figure 2: MCH value chain*




*Source: Elaboration of the service provider and the Stakeholder Committee (2019)*

This model is different compared to other models so as to better reflect the specificities of MCH. Some functions of the value chain need to be interpreted in a way that takes into consideration that MCH is a non-reproducible resource inherited from the past. Hence the creation function should be understood as the recognition of an object as heritage and the production function should be understood as management of MCH.[20] Activities related to the consumption/use of MCH (such as heritage-led tourism) should be considered as an integral part of the value chain, since users' expenditures on MCH sites and in the local economy generate important economic impacts at territorial level (e.g. local hospitality business). These activities form the demand side of the chain. Further, this study does not only focus on business activities and relations amongst firms, like traditional value chain models mostly do, but also includes economic activities carried out by other actors who play a key role in the value creation process of MCH, these actors being not-for-profit and public sector organisations. Not-for-profit heritage organisations, often active on a local level and run by volunteers, play an important role in all the core functions of the MCH value chain to manage and raise awareness on local heritage (e.g. BOP Consulting for HLF, 2011). Moreover, the contribution of volunteers is often vital to the proper functioning of many archives, libraries and museums. The European Group on Museum Statistics (EGMUS) data suggests that volunteers can represent between 30% and 70% of all museum staff in European countries.[21] A large amount of MCH is owned by the public sector and several activities, such as conservation, trade and exploitation, are heavily regulated

[20] While sustainability is desired for MCH management, it is not always achieved, therefore it has been put into brackets.
[21] Source: https://www.egmus.eu/nc/nl/statistics/complete_data/.

by competent authorities at national, regional or local level to ensure the conservation/enhancement of the public value of MCH. Those not owned by the public sector often receive public funding. The public funding is not only compensating for conservation and maintenance but is also acting as a leverage for private investments (IDEA Consult et. al., 2017).[22]

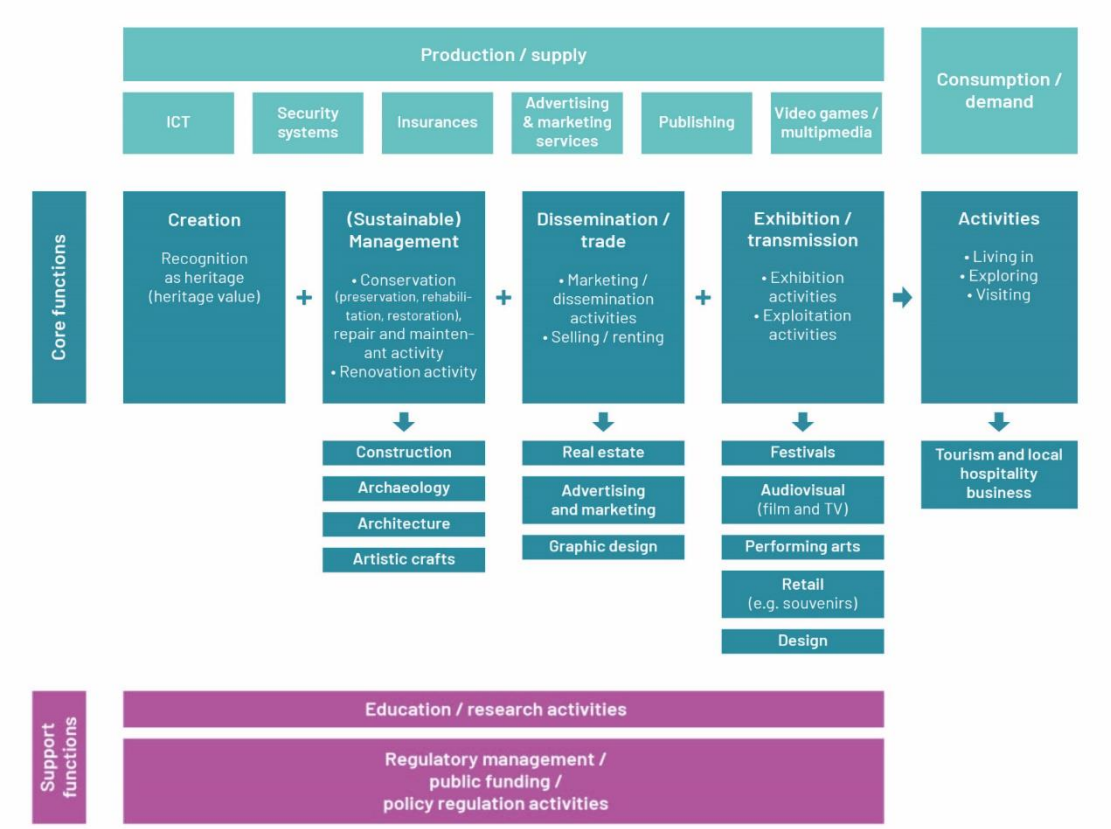
The systemic approach offered by the value chain approach allows for a holistic picture of the economic relevance of MCH in the local and national economies beyond the activities of conservation, dissemination and exhibition that are traditionally associated with MCH. The model shows that some activities overlap with other value chains and economic sectors, for instance specialised construction and real estate.

The value chain model used in this study does not lead to a full economic impact assessment as understood in other evaluation studies.[23] This would require the assessment of the additionality created by MCH, on top of external factors such as the effects of broad national or regional economic growth trends or the impact caused by the interaction with other sectors (e.g. general growth in tourism). However, current data are not of sufficient quality (e.g. in terms of definitions, reliability and comparability) to support such a detailed economic analysis. One can wonder whether a full economic impact assessment can ever be reached, as it is hardly possible to identify the substitutes of MCH to calculate the opportunity cost of MCH.

Figure 3 conceptualises the key economic sectors/activities related to the (core and supporting) functions and the ancillary goods and services of the MCH value chain. This categorisation is conceptual and the boundaries between the sectors/activities are not clear-cut, e.g. advertising can also be related to exhibition and transmission. The model allows for the identification of the economic sectors/activities to be included in the quantitative analysis of this study.

[22] The public good characteristics of heritage are considered as the rationale for public intervention to correct market failure connected to the existence of positive externalities, as heritage assets may typically generate a range of important benefits for society which are not fully reflected in market transactions (Rizzo and Throsby, 2006; Towse, 2010).
[23] See for example: M. Florio *Applied Welfare Economics; cost-benefit analysis of projects and policies,* Routledge (2014).

*Figure 3: Linking functions to economic sectors/activities*




*Source: Elaboration of the service provider and the Stakeholder Committee (2019)*

The following sectors/activities for which sufficient data of a high enough quality was available are retained:

- Sectors/activities related to the core functions of the value chain:
    - Archaeology;
    - Architecture;
    - Museums, libraries and archives activities;
    - Tourism;
    - Construction; and
    - Real estate.
- Sectors/activities related to the ancillary goods and services:
    - Information and Communications Technologies (ICT); and
    - Insurance.

A detailed description of each activity/sector is presented in Section 4. The following sectors/activities were excluded from the quantitative analysis:

- **Cultural and Creative Industries (CCI) sub-sectors**: no data has been found to allow for the isolation of economic impacts generated by MCH in all the countries/regions and the timeframe of the study did not allow for the investment of resources on extensive data collection for this sector;

- **Retail:** the retail sector has been excluded due to the complexity in terms of how the whole sector is structured and how it is interlinked with MCH (e.g. souvenir shops inside heritage sites but also independent souvenir shops providing products linked to MCH). This goes beyond the scope of the current study and would require a longer timeframe and better data;
- **Education/research activities:** while very important in terms of financing/contribution to the MCH value chain, data were not readily available.

Following the scope of the study and the operational definition of MCH, trade activities related to the commercial market of arts and antiquities (dominated by actors such as art galleries and auction houses) have not been covered by the study.

## 2.3 Economic impacts and indicators

This study will primarily focus on measuring the economic impact of MCH in the above identified private sectors through three key indicators:

- Employment (in FTE),
- Turnover, and
- Gross Value Added (GVA).

In addition, the study will also consider the following indicators to complement the analysis:

- Value of heritage volunteering (both in terms of estimated FTE and estimated monetary value);
- Expenditure by the public sector on MCH (investments by public authorities on cultural services and spending on conservation, restoration, repair and maintenance for protected constructions).

As such, this analysis is not limited to profit value creation but also includes non-profit value creation.

# 3. Methodological framework

## 3.1 Calculation of baseline population of Material Cultural Heritage

To isolate the share of the economic sectors/activities to Material Cultural Heritage, a baseline population of MCH has been established through desk research of national databases following the operational definition described in Section 2.1.

Given the diversity of the national data sources (see Annex III for the Country fiches describing the regulatory frameworks on cultural heritage in the different countries/regions), a data collection template has been developed to compile the data in a uniform and coherent database. This template allows to record, filter and analyse data for:

- Country/region;
- Category of MCH;
- NUTS level (up to level 3 where possible).

The result of this exercise can be found in Annex VI, which presents a complete database of the baseline data on MCH for all countries/regions; this document also shows an overview per country/region of the stock of MCH per category.

The mapping of the baseline population of MCH has produced updated and comparable figures on the stock of MCH in the covered countries/regions. In the first place, the results of this mapping have been used to develop the coefficients necessary to calculate the share of the economic impact related to MCH (see Section 3.2 and the Annex VIII in the Technical Annex document). To be able to use this baseline population for calculations based on comparable data, the MCH population has been divided into two categories:

1. **Core Categories used for economic analysis**: listed and legally protected objects (immovable), listed and legally protected objects (movable), pre-1919 dwellings and archives, libraries and museums;
2. **Other categories**: UNESCO World Heritage sites, listed but not protected objects (immovable) and listed but not protected objects (movable).

The first category is included in the impact analysis, as it consists of categories of MCH that are comparable across all countries/regions. The second category is included in the mapping to provide a full overview of what each country/region considers as their heritage, but it is not included in the impact analysis since the categories are not comparable across all countries/regions and including it in the impact analysis could result in a biased and unbalanced analysis.

Most listed and protected buildings are older than pre 1919 dwellings and are therefore also counted in this category. When adding these two categories it will lead to some double counting. Since few of the protected buildings are built after 1919, this study only uses pre 1919 dwellings to avoid double counting. It should be noted that dwellings are not perfect as a category because one dwelling can consist of many constructions, and not all MCH are dwellings.

For each of the economic sectors/activities, the impact has been related to different categories of MCH. While in some cases the analysis considers the total immovable or movable MCH, in other cases, it focuses on the impact of specific types of MCH to make the impact analysis as precise as possible. Table 1 presents an overview of which category of MCH is related to each activity/sector.

*Table 1: Sectors/activities and related categories of MCH*

| Activity/sector | Category of MCH associated to activity/sector |
|---|---|
| Archaeology | Immovable MCH – specific subcategories related to archaeology |
| Architecture | Pre-1919 dwellings and listed and protected immovable MCH |
| Museums, libraries and archives activities | Museums; movable MCH |
| Tourism | All categories of MCH |
| Construction | Pre-1919 dwellings and listed and protected immovable MCH |
| ICT | Immovable MCH – specific subcategories that could make expenditures in ICT, archives, libraries and museums |
| Insurance | Immovable and movable MCH – specific subcategories that could make expenditures in insurance, archives, libraries and museums |
| Real estate | Pre-1919 dwellings and listed and protected immovable MCH |

*Source: elaboration of the service provider (2019)*

An overview of the main data sources is presented in Table 2.

*Table 2: Sources for mapping the baseline population of MCH*

| Elements of the operational definition of MCH | Source | Comments |
|---|---|---|
| Listed and protected objects (immovable and movable) | National and regional MCH lists and inventories | In most countries/regions, there are established systems and tools used for the inventory of MCH which are publicly available. This is usually the case for immovable MCH and sometimes for movable MCH. Where such a list does not exist for movable MCH, the number of objects in museums' collections have been used as a proxy. These databases have been explored on the national and regional levels. |
| | National statistics | National statistics can complement the information included in the national and regional MCH inventories, most importantly in relation to the number of objects in museum collection which has been used as a proxy for movable MCH in certain countries/regions. |
| UNESCO World Heritage Sites | UNESCO World Heritage List | The UNESCO World Heritage List contains all the protected World Heritage sites for all the countries/regions covered by this study. |
| Historic building stock | EUROSTAT Census 2011 | EUROSTAT Census 2011 provides data on the building stock (dwellings) in Europe on NUTS 3 level, including various characteristics such as age; this study has used pre-1919 dwellings as the category to designate the historic building stock. |
| Number of museums, archives and libraries | National statistics | Data on the number of these institutions at the national level is usually provided by National Statistical Institutes in their cultural statistics. |
| | EGMUS Database | EGMUS can complement the information included in national statistics in relation to the number of museums, while there is also other data in the database which has been used for the economic analysis of the category 'museums, libraries and archives activities' (e.g. number of visitors, number of tickets sold, expenses, etc.) |

*Source: elaboration of the service provider (2019)*

For several countries/regions, additional sources have been used when data for one of the categories was not available in the sources mentioned in Table 2 (see Annex XI for a full overview of the sources that have been used to establish the baseline population of MCH).

The data collection exercise has identified some general *limitations* regarding the representativeness and comparability of certain data regarding the baseline population of MCH:

- Data sources at the national level are based on **different specific definitions of MCH** incorporating different categories leading to potential comparability issues. However, all countries/regions, in essence, measure the same phenomenon: *what they consider to be cultural heritage*. In addition, the solution provided to this issue is the introduction of a common operational definition of MCH (see Section 2.1) which is applied across all countries/regions;

- In several inventories or registers, **all MCH objects are counted as "one" regardless of the category, size, value and importance of the object**. Consequently, for instance, a small church of local importance carries the same weight as a large monumental complex of national importance. Although, in the context of this study, it has not been possible to fully overcome this limitation, the solution provided to counter some of its effects is to include only relevant categories of MCH per economic sector or activity in the impact analysis and, where possible, to separate the impact between different categories;
- Objects can also have mother-daughter relations as one object can be part of another object; the solution to this problem is the repartition of the components of the objects;
- For many of the categories in several countries/regions, it has not been possible to make **timeseries of the mapping**. The reasons for this include that, firstly, several data sources are formed by online databanks that are continuously updated instead of yearly downloadable databases; this is especially the case for movable MCH. In addition, several other data sources only provide data for the most recent year. As it is assumed that the population of MCH has not undergone substantial changes during the last five years, the solution that has been provided in this study to counter this difficulty is to map the baseline population of MCH for the most recent year available for each of the categories only;
- **Not all publicly available data sources provide data at NUTS 3 level.** This is especially the case for Austria, the Netherlands and Italy where most of the data is available at NUTS 2 level. In these counties, NUTS 2 regions are established administrative regions, while the NUTS 3 regions are only used by NSIs and Eurostat to collect data. This means that other organisations (e.g. sector associations) do not have data available at NUTS 3 level. This problem has not been possible to overcome in the context of this study but has been considered as not posing major problems for the impact analysis as it only affects a few MCH categories in three of the considered countries.

The mapping also highlighted challenges specific to several countries/regions:

- In **Austria**, no database of **movable MCH** exists as most movable MCH in Austria is owned by museums and the Catholic church (including monasteries) and not all these institutions have complete lists of their moveable heritage ownings. It has not been possible to overcome this limitation in this study. Therefore, Austria has not been considered in the analysis of impact of movable MCH;
- In **Portugal**, the **NUTS3 regions** have changed considerably since 2011 (year of the census of pre-1919 dwellings). The pre-1919 dwelling stock of Portugal has therefore only been mapped on NUTS 2 level;

- Most UNESCO World Heritage sites are large and therefore span across multiple NUTS 3 and NUTS 2 regions. Therefore, the number of UNESCO World Heritage Sites has only been collected on NUTS 0 (national) level for this study and the category has not been considered in the impact analysis.

## 3.2 Calculation of economic impact

In order to calculate the economic impact that can be related to MCH, the aim has been to use coefficients and NACE codes as much as possible because this is the most efficient method allowing for most comparable results, even though it does present certain accuracy issues. This approach of using coefficients, also referred to as 'keys' in other studies has been used to capture the economic impact related to MCH before, see for instance the study by Nypan (2015) that forms the underlying reference for this project. However, in some cases alternatives will have to be found since NACE codes don't exist or coefficients cannot be calculated (e.g. insurance, ICT). The main methodological framework of the study is summarised in Table 3.

*Table 3: Overview of key characteristics of the selected sectors*

| Activity/ sector | Related NACE Code | Economic impacts | Impact indicators | Coefficient |
|---|---|---|---|---|
| Archaeology | None | Employment | Number of employees (in FTE) | 100%, fully related to MCH |
| | | Value of production | Turnover (in EUR million) | |
| | | | Gross Value Added (GVA) (in EUR million) | |
| Architecture | M71.1.1 – architectural activities | Employment | Number of employees (in FTE) | <100%, share of pre-1919 dwellings in total dwellings |
| | | Value of production | Turnover (in EUR million) | |
| | | | Gross Value Added (GVA) (in EUR million) | |
| Museums, libraries and archives activities | R91.0.1 – Library and archives activities<br>R91.0.2 –Museums activities<br>R91.0.3 – Operation of historical sites and buildings and similar visitor attractions | Employment | Number of employees (in FTE) | 100%, fully related to MCH |
| | | Value of production | Turnover (in EUR million) | |
| | | | Gross Value Added (GVA) (in EUR million) | |
| Tourism | I55 – Accommodation<br>I56 – Food and beverage service activities | Employment | Number of employees (in FTE) | <100%, share of tourists traveling for leisure purposes |
| | | Value of production | Turnover (in EUR million) | |
| | | | Gross Value Added (GVA) (in EUR million) | |
| Construction | F43 – Specialised construction activities | Employment | Number of employees (in FTE) | <100%, share of pre-1919 dwellings in total dwellings |
| | | Value of production | Turnover (in EUR million) | |
| | | | Gross Value Added (GVA) (in EUR million) | |
| ICT | J62 – Computer programming, consultancy and related activities<br>J63 – Information service activities | Employment | Number of employees (in FTE) | <100%, based on expenditure in the sector by MCH actors (website development and digitalisation of collections) |
| | | Value of production | Turnover (in EUR million) | |
| | | | Gross Value Added (GVA) (in EUR million) | |
| Insurance | K65.1.2 – Non-life insurance | Employment | Number of employees (in FTE) | <100%, based on expenditure in the sector by MCH actors |
| | | Value of production | Turnover (in EUR million) | |
| | | | Gross Value Added (GVA) (in EUR million) | |
| Real estate | L68.1 – buying and selling activities | Employment | Number of employees (in FTE) | <100%, share of pre-1919 dwellings in total dwellings |
| | | Value of production | Turnover (in EUR million) | |
| | | | Gross Value Added (GVA) (in EUR million) | |

*Source: elaboration of the service provider and the Stakeholder Committee (2019)*

Indicators are expressed as absolute values for the sectors/activities which are fully related to MCH. For sectors which are not fully related to MCH, the coefficient represents the share of the sector/activity which is related to MCH. In these particular cases, indicators are expressed as absolute values as well as a share of the respective sector/activity. The economic impacts in the ICT and insurance sectors were calculated on the basis of expenditures by MCH actors and not on the basis of coefficients.

The following box provides an overview of the definitions of economic terms as they are understood in the context of this study.

*Box 2: Overview of definitions of economic terms used in the study*

**Value of production:**

- **Turnover** for private companies: total amount invoiced by a company during the reference period: this corresponds to the total value of market sales of goods and services to third parties.[24]
- **Expenditure** for the public sector: total expenses made by a government organisation (total salaries of the organisation can serve as a proxy).
- **Gross Value Added (GVA)**: macroeconomic term measuring the contribution of economic operators to an economic sector or the wider economy; calculated as output (at basic prices) minus intermediate consumption (at purchaser prices, value of the goods and services consumed as inputs during the production process.[25]).[26] For individual companies it is called value added at factor cost, which can be defined as gross income from operating activities after adjusting for operating subsidies and indirect taxes.[27]

[24] https://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Turnover_-_SBS.
[25] https://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Intermediate_consumption.
[26] https://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Gross_value_added.
[27] https://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Value_added_at_factor_cost.

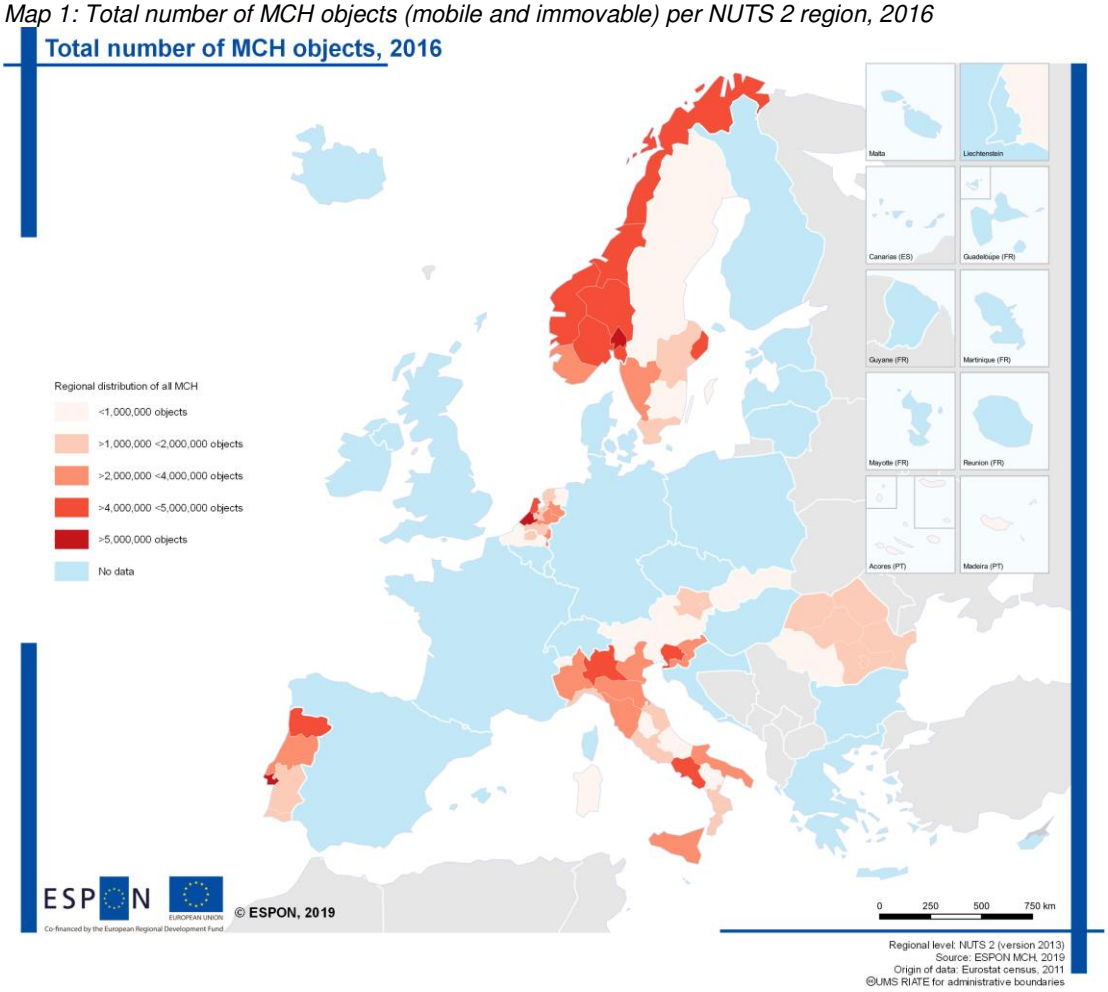
# 4. Data analysis

This section provides the results of the analysis on the economic impact of material cultural heritage in all European countries/regions in scope of this report. Each section contains a summary of impact, a description of the sector/activity, the impact analysis itself, and the impact in comparison to total MCH impact. The focus lies on the main results, while Annex IX presents details on the methodology per sector/activity. Firstly, the regional distribution of the MCH stock is presented below.

## 4.1 Regional distribution of MCH

To show the distribution of the different categories on the level of NUTS 2 regions, several maps have been created. All of these maps show absolute figures; below maps are presented, not only for the total of all categories of MCH together, but also for the categories for which the most comparable data has been compiled (pre-1919 dwellings and museums, libraries and archives). Map 1 shows the total number of MCH objects per NUTS 2 region in 2016.

*Map 1: Total number of MCH objects (mobile and immovable) per NUTS 2 region, 2016*

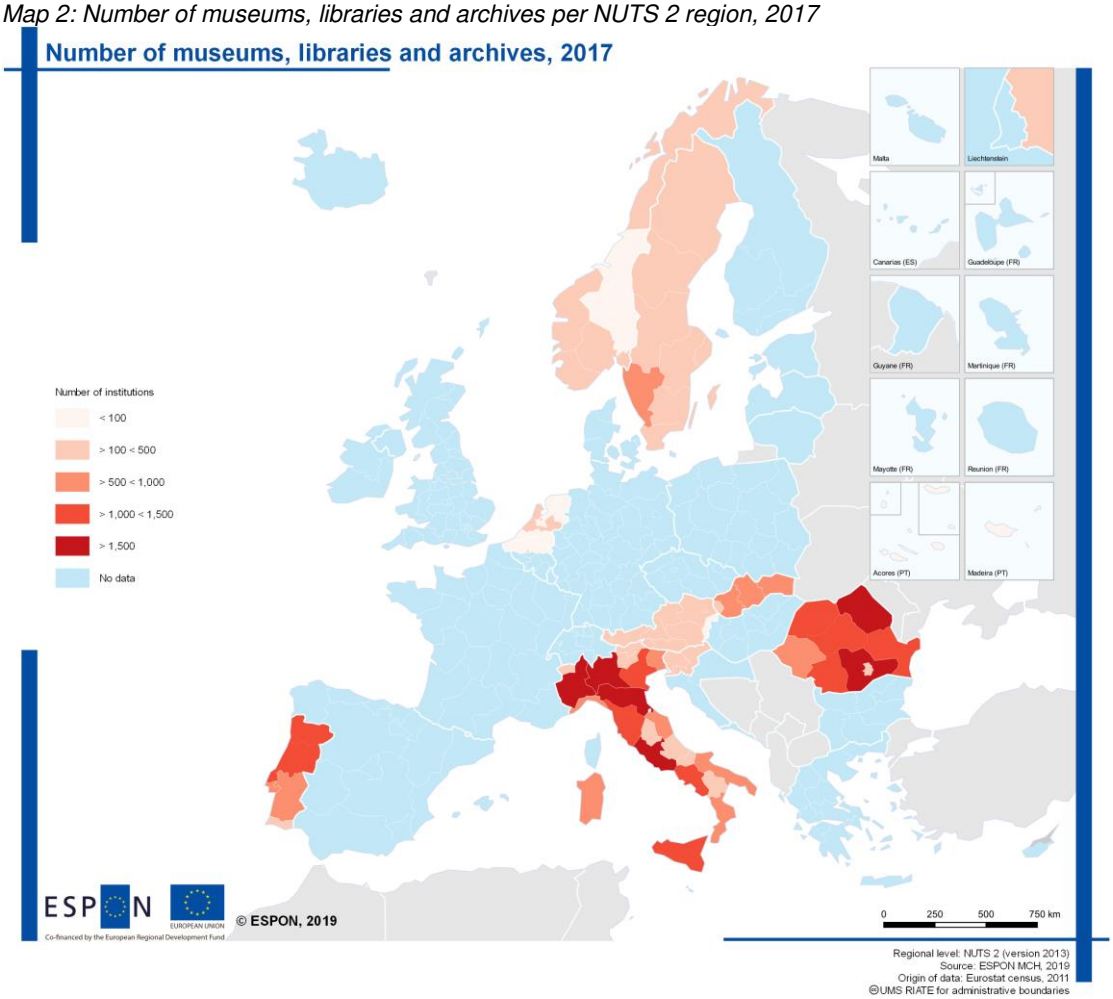



*Source: elaboration of the service provider (2019) based on national databases and Eurostat*

Map 1 shows that the regions with most MCH are found in northern Portugal, Norway, parts of Italy parts and the (south)West of the Netherlands, while the lowest number of all MCH objects

can be found in Sweden, Slovenia and parts of Romania. However, it is important to note that most data used for this map is based on various national databases and that some differences in the numbers may be explained by various standards of mapping and definitions used rather than actual differences in presence of MCH.

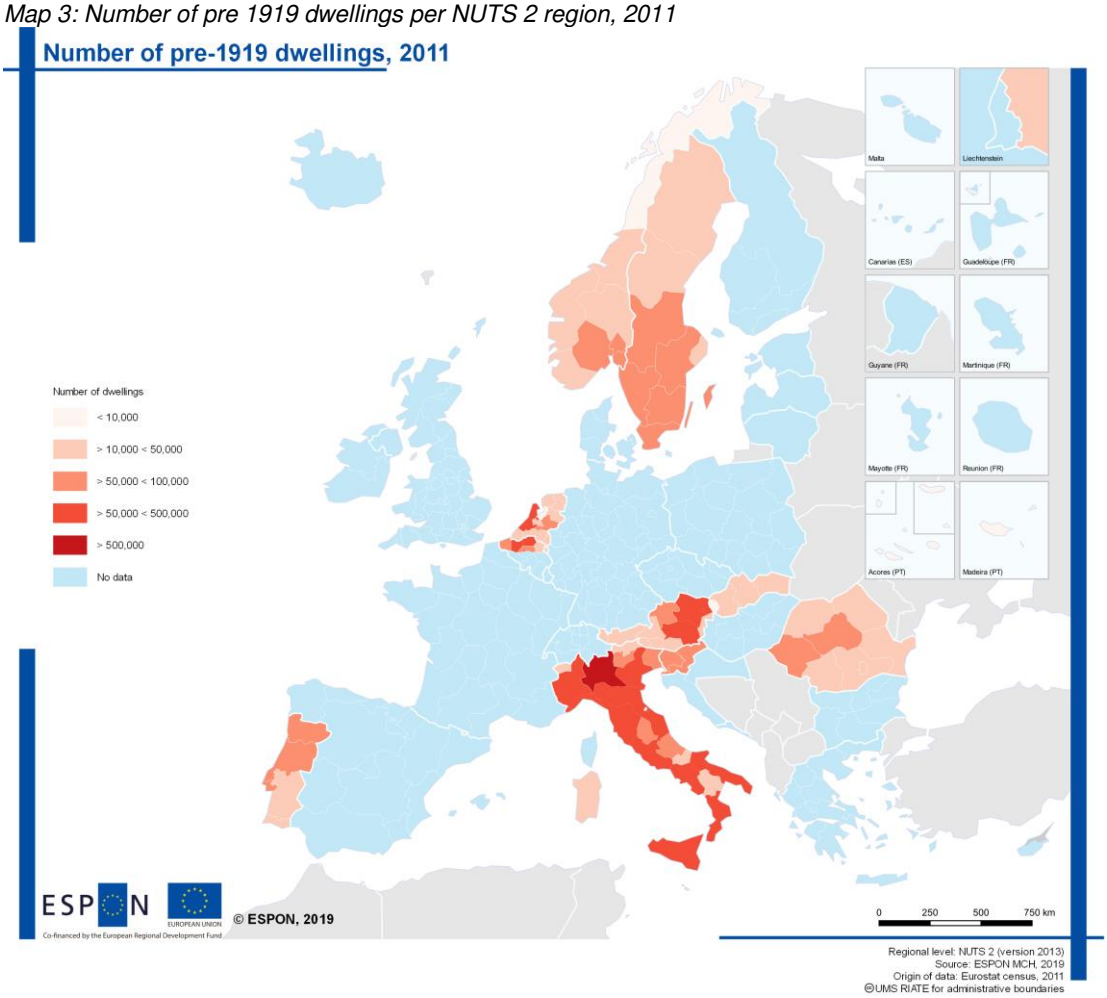
*Map 2: Number of museums, libraries and archives per NUTS 2 region, 2017*




*Source: elaboration of the service provider (2019) based on national databases*

Map 2 shows that the regions with most museums, libraries and archives can be found in northern Portugal, and large parts of Italy and Romania; while the lowest number of all MCH objects can be found in Flanders, Brussels and the North of the Netherlands. It is interesting to see that while for both all MCH and museums, libraries and archives, large concentrations are found in some regions of Portugal and Italy, that Norway (all MCH) has been replaced by Romania (museums, libraries and archives) as country with regions having a large concentration. For Map 2, the same caveat as for Map 1 applies, as all data is based on national databases.

*Map 3: Number of pre 1919 dwellings per NUTS 2 region, 2011*




*Source: elaboration of the service provider (2019) based on Eurostat*

Map 3 shows that most of the pre-1919 dwellings can be found in most parts of Italy, the West of the Netherlands and Belgium, while the lowest number of all MCH objects can be found in parts of Norway, Sweden and Romania. Compared to Map 2 (museums, libraries and archives), it is interesting to see that there is a lower population in Romania and a higher population in (East) Austria. In comparison to the other maps above, it should be noted that for Map 3, the data is more comparable as all data comes from the same Eurostat database (2011 census).

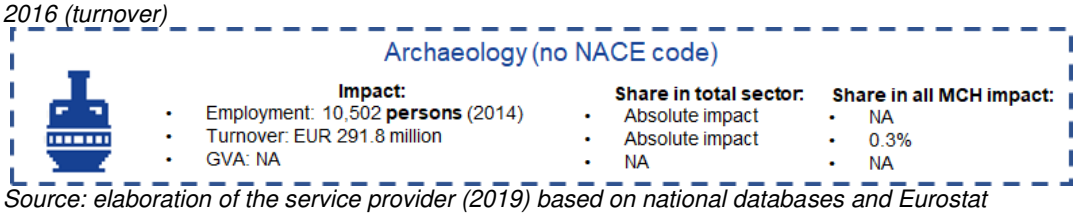
## 4.2 Economic impact in main sectors/activities

### 4.2.1 Archaeology

#### 4.2.1.1 Summary of impact

Figure 4 summarises the impact of archaeology. It presents the total impact for one year (2016, but employment figures are for 2014), as well as the share of this impact in the particular sector/activity (absolute impact for archaeology) and the share in the total MCH impact. For details on the calculations, see Section 4.2.1.3.

*Figure 4: Summary of impact of archaeology in the stakeholder countries/regions, 2014 (employment), 2016 (turnover)*




*Source: elaboration of the service provider (2019) based on national databases and Eurostat*

#### 4.2.1.2 Description of the activity

Archaeological activities are an essential part of the MCH value chain and are often regulated by national laws. The activities in this sector are often triggered by various construction activities which requires a wide variety of different actions to make sure potential MCH is not lost in the process. These activities include archaeological excavations, cataloguing, conservation, early assessment analysis, studies and research on MCH, educational activities and archaeological surveys related to archaeological sites and associated objects. These activities are carried out chiefly by archaeologists. While there is no common legal definition of who can be called an "archaeologist" in Europe, the contemporary definition refers to professionals who conserve and manage MCH. In this sense, archaeologists are not only field workers but can play different roles such as advisers to governments and private enterprises, teachers and researchers (in schools, universities) or work as museum curators.

#### 4.2.1.3 Impact analysis

This subsection provides the results from the impact analysis summarising the impact of MCH on the sector/activity. For more information on the methodology and the indicators and data used, see Section 4.2.1 of Annex IX.

Estimations from the DISCO Project show that in 2014 10,502 archaeologists were active in the stakeholder countries/regions. This estimation includes both archaeologists employed in the private and public sector and both self-employed archaeologists and employees of a company/institution. It is unknown how these 10,502 archaeologists are spread out across these different categories. Moreover, it should be noted that there are also people employed in archaeological activities who are not archaeologists themselves (supporting staff), but these are left out of the equation for this study due to limited data being available. However, this is the best approximation that could be made for the number of employees in organisations executing archaeological activities. This estimation is therefore to be considered as a minimum impact on employment. It is not possible to provide time series as the number is based on the results of a survey conducted on a one-off basis for the DISCO Project. As the figure is a head count and the average working time of archaeologists is not known, the estimation cannot be provided in terms of FTE jobs.

As the archaeological sector is not captured in a separate NACE code, data on the turnover generated by archaeology is not readily available, so calculations need to be done in order to estimate this number.

- The estimated total salary costs have been calculated by multiplying the number of archaeologists by the average salary of archaeologists (all based on data from the DISCO Project);
- The estimated total expenditure of archaeological companies has been calculated by applying the tested rule-of-thumb which considers that salary expenditure typically represents approximately 60% of the total operating costs of archaeological organisations;[28]
- The middle point between the total salary costs and total expenditure of archaeological companies and organisations has been used as a proxy for the turnover.

See Table 4 for the results of these calculations.

*Table 4: Estimated salary costs and estimated total expenditure of archaeological companies and other institutions in stakeholder countries/regions, 2017*

| Stakeholder country/region | Estimated gross salaries (million EUR) | Estimated total expenditure of archaeology companies or other institutions (million EUR) | Estimated turnover (million EUR) |
|---|---|---|---|
| Austria | 34.4 | 57.4 | 45.9 |
| Brussels | - | - | - |
| Flanders | 15.6 | 26.0 | 20.8 |
| Italy | 47.5 | 79.3 | 63.4 |
| Netherlands | 52.8 | 88.2 | 70.5 |
| Norway | 37.1 | 61.9 | 49.5 |
| Portugal | 11.1 | 18.5 | 14.8 |
| Romania | 6.0 | 10.0 | 8.0 |
| Slovakia | 2.1 | 3.5 | 2.8 |
| Slovenia | 5.0 | 8.3 | 6.7 |
| Sweden[29] | 7.1 | 11.8 | 9.5 |
| **Total** | **218.6** | **365.1** | **291.8** |

*Source: own elaboration of the service provider (2019) based on: https://www.discovering-archaeologists.eu/national_reports/2014/transnational_report.pdf*

Following the methodology presented in Section 4.2.1 of Annex IX, the turnover generated by archaeology in 2017 can be estimated depending on the assumption of the contractual relationships of the archaeologists (self-employment vs. direct employment). In details:

[28] P. Hinton and D. Jennings (2007), 'Quality management of archaeology in Great Britain: present practice and future challenges', in W.J.H. Willems and M. Van den Dries (eds.) *Quality Management in Archaeology*: Oxford: Oxbow Books, pp. 100-112.

[29] Data for Sweden based on archaeological employment in FTE, from: https://tillvaxtverket.se/statistik/kulturella-och-kreativa-naringar/kreametern---statistik/foretagsekonomiska-matt.html and the average estimated aggregate salary costs of the other countries/regions in Table 9 for the average salary.

- If it were assumed that all archaeologists are independent/self-employed, the turnover generated in the stakeholder countries/regions would be estimated at EUR 218.6 million in 2017.
- If it were assumed that all archaeologists are employees, the value of production generated in the stakeholder countries/regions would be estimated at EUR 365.1 million in 2017.

The average value of these two figures is EUR 291.8 million, which is used as the best estimate for the turnover generated by archaeology in the stakeholder countries/regions in 2017 with an error margin of 27%.

It is important to note that this figure is based on 2014 data from the DISCO Project and the estimation for 2017 has only been corrected in terms of inflation. As mentioned in discussions with archaeology experts during interviews, the proposed estimation is the only appropriate estimate that can be made at this point, as further updates of the data collection would require to redesign and re-implement the surveys done by the DISCO Project. As further detailed in Section 4.2.1 of Annex IX, due to extensive data limitation, it has not been possible to estimate the GVA generated by archaeology.

#### 4.2.1.4 Impact in perspective: compared to total MCH

In order to give a broader picture of the impact of this sector/activity, this subsection provides insights on how the total impact of archaeology relates to the total impact of MCH for all sectors/activities. In addition, a comparison with the wider economy is provided for all sectors/activities together in Section 5.1.5.

**Employment impacts**

Due to differences in the unit of measurement of the data, (the data on employment for archaeology is expressed in number of archaeologists, whereas the data for the other sectors/activities is expressed in FTE), it is not possible to provide the exact contribution that archaeology makes in the total employment that can be attributed to MCH. Nonetheless, considering that 560,466 FTE has been estimated the other MCH sectors/activities, it is clear that archaeology contributes only to a limited extent (1.9% if each archaeologist would work full-time, but this is not realistic, so the actual contribution will be even lower).

**Turnover impacts**

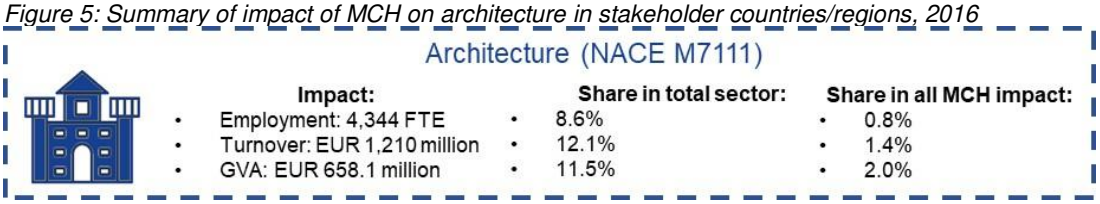
Archaeology turnover of EUR 291.8 million forms 0.3% of the total turnover that can be attributed to MCH making it the smallest activity/sector, again pointing towards a limit contribution to the overall MCH impact.

### 4.2.2 Architecture

#### 4.2.2.1 Summary of impact

Figure 5 summarises the impact of MCH on architecture. It presents the total impact related to MCH for one year (2016), as well as the share of this impact in the particular sector/activity and the share of the impact in the total MCH impact. For details on the calculations, see Section 4.2.2.3.

*Figure 5: Summary of impact of MCH on architecture in stakeholder countries/regions, 2016*




*Source: elaboration of the service provider (2019) based on national databases and Eurostat*

#### 4.2.2.2 Description of the activity

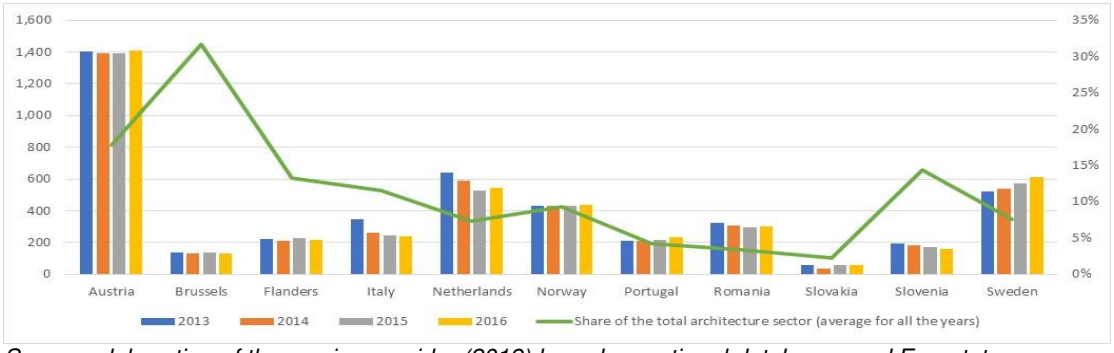
Architectural activities are mainly consulting work carried out by architectural firms in relation to MCH (e.g. project design and technical consultancy, town and city planning, spatial planning, landscape architecture, garden design and planning and assessment studies). These activities are often in demand when refurbishing MCH, conserving a monument or transforming a building from one activity to another.

#### 4.2.2.3 Impact analysis

This subsection provides the results from the impact analysis summarising the impact of MCH on the sector/activity. For more information on the methodology and the indicators and data used, see Section 4.2.2 of Annex IX. The coefficient used for the impact analysis in this chapter is the share of pre-1919 dwellings in the total number of dwellings. This coefficient has been used on Eurostat data for the total architecture sector.

The employment in architecture in 2016 that can be attributed to MCH has been estimated at 4,344 FTE. Table 14 in Annex IX provides the overview of the impacts in all the countries/regions for the years 2013-2016. Figure 6 shows the same information in a chart.

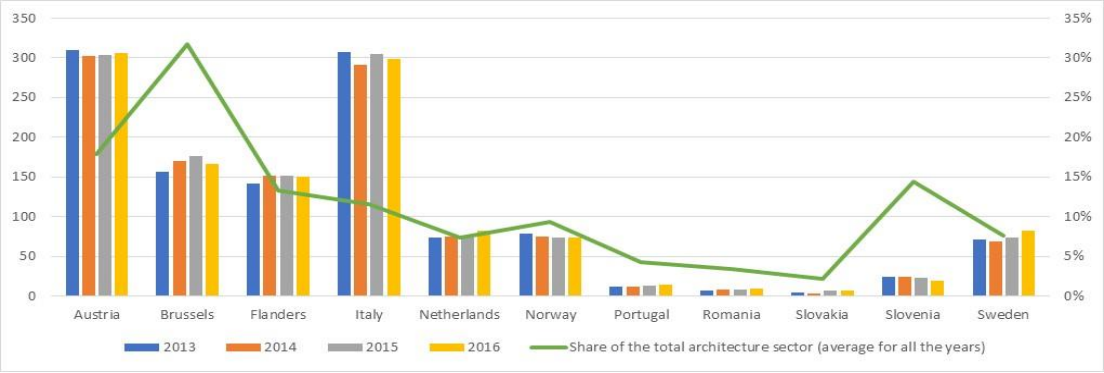
*Figure 6: Estimated employment (FTE) in stakeholder countries/regions, share of the total architecture sector that can be attributed to MCH*




*Source: elaboration of the service provider (2019) based on national databases and Eurostat*

The turnover of architecture in 2016 that can be attributed to MCH has been estimated at EUR 1,210.0 million. Table 15 in Annex IX provides the full overview of the impacts in all the countries/regions for the years 2013-2016. Figure 7 shows the same information in a chart.

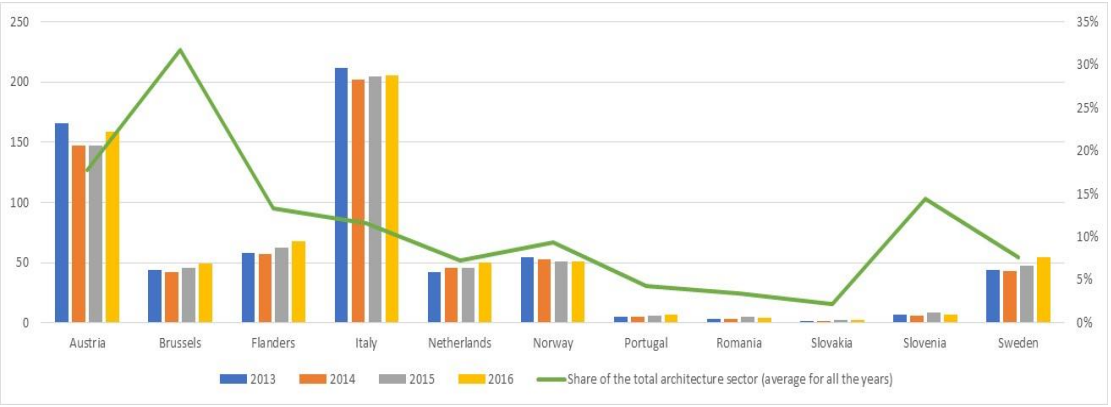
*Figure 7: Estimated turnover (EUR million), share of the total architecture sector that can be attributed to MCH*




*Source: elaboration of the service provider (2019) based on national databases and Eurostat*

The share of the total GVA of architecture in 2016 that can be attributed to MCH has been estimated at EUR 658.1 million. Table 16 Annex IX provides an overview of the impacts in all the countries/regions for the years 2013-2016. Figure 8 shows the same information in a chart.

*Figure 8: Estimated GVA (EUR million), share of the total architecture sector that can be attributed to MCH*




*Source: elaboration of the service provider (2019) based on national databases and Eurostat*

#### 4.2.2.4 Impact in perspective: compared to total MCH

In order to give a broader picture of the impact of this sector/activity, this subsection provides insights on how the total impact of architecture that can be related to MCH relates to the total impact of MCH for all sectors/activities. In addition, a comparison with the wider economy is provided for all sectors/activities together in Section 5.1.5.

**Employment impacts**

Employment in architecture that can be attributed to MCH (4,344 FTE) forms 0.8% of the total employment that can be attributed to MCH making it the fourth largest activity/sector.

**Turnover impacts**

The turnover of architecture that can be attributed to MCH (EUR 1,210.0 million) forms 1.4% of the total turnover that can be attributed to MCH making it the third smallest activity/sector.

**GVA impacts**

The GVA of architecture that can be attributed to MCH (EUR 658.1 million) forms 2.0% of the total GVA that can be attributed to MCH making it the third largest activity/sector.

### 4.2.3 Museums, libraries and archives activities

#### 4.2.3.1 Summary of impact

Figure 9 summarises the impact of museums, libraries and archives activities. It presents the total impact for one year (2016), as well as the share of this impact in the particular sector/activity (absolute impact for museums, libraries and archives activities) and the share of the impact the total MCH impact. For details on the calculations, see Section 4.2.3.3.

*Figure 9: Summary of impact of museum, libraries and archives activities in stakeholder counties/regions, 2016*


*Source: elaboration of the service provider (2019) based on national databases and Eurostat*

#### 4.2.3.2 Description of the activities

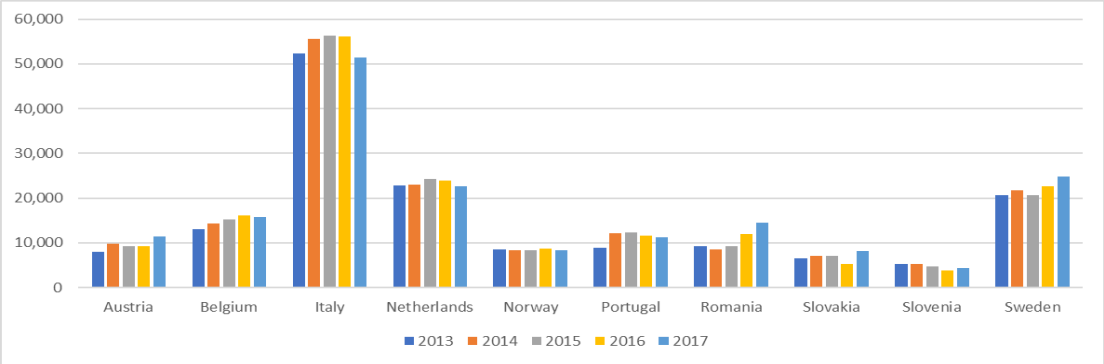
Museums, libraries and archives carry out activities related to all functions of the MCH value chain, particularly in relation to (sustainable) management and exhibition of movable MCH. In most cases, movable MCH is collected, conserved, repaired, maintained, researched and displayed to the public by institutions like museums, archives and libraries. A first contribution in terms of employment is formed by professionals, including curators, archivists and librarians, who are employed to take care of these collections. Next to this, conservators/restorers are employed to take care of the conservation of movable artworks (or artistic components of immovable MCH, for example in the case of wall paintings and frescoes). Lastly, exhibition and transmission activities are mostly carried out through permanent or temporary exhibitions of the collections, sometimes against the payment of a fee (tickets), which forms another economic impact.

#### 4.2.3.3 Impact analysis

This subsection provides the results from the impact analysis summarising the impact of MCH on the sector/activity. For more information on the methodology and the indicators and data used, see Section 4.2.3 of Annex IX.

In 2016, 169,600 people were employed in libraries, archives, museums and other cultural activities (NACE R91). Table 19 in Annex IX presents data for all the years and all the countries/regions. Figure 10 shows the same information in a chart. Data on FTE is not available and, given the lack of information on the average working time of people active in the sector, it is not possible to provide an estimation.

*Figure 10: Number of employees in libraries, archives, museums and other cultural activities (NACE R91) (headcount)*




*Source: Eurostat - Cultural employment by NACE Rev. 2 activity [cult_emp_n2]*

Turnover can only be estimated for museums based on data of the total expenses which is available from the EGMUS database. As the country-time series show extensive gaps, the average value has been used as proxy. Following this approach, the turnover is estimated at EUR 2,155.8 million for 2016, see Figure 5 for all countries/regions.

*Table 5: Estimated turnover of museums (EUR million)*

| | Yearly average | Estimated total, 2013-2017 |
|---|---|---|
| Austria | 342.4 | 1,712.0 |
| Belgium | 22.0 | 110.0 |
| Italy | 170.4 | 852.0 |
| Netherlands | 973.8 | 4,869.0 |
| Norway | 459.9 | 2,299.5 |
| Portugal | 17.6 | 88.0 |
| Romania | N/A | N/A |
| Slovenia | 49.5 | 247.5 |
| Slovakia | 63.7 | 318.5 |
| Sweden | 56.5 | 282.5 |
| **Total** | **2,155.8** | **10,779.0** |

*Source: EGMUS database*

In addition to having a positive impact in terms of direct contribution in employment and turnover, these activities also have a positive indirect impact on the ICT and/or insurance sector. Collected data indicates that approximately 50% of expenditure is normally allocated to staff salaries. This would leave an estimated one billion for other expenditures.[30]

[30] Calculated for the year 2016 based on available data and data estimated based on available previous years; no data has been found for Brussels and Romania.

#### 4.2.3.4 Impact in perspective: compared to total MCH

In order to give a broader picture of the impact of this sector/activity, this subsection provides insights on how the total impact of museums, libraries and archives activities relates to the total impact of MCH for all sectors/activities. In addition, a comparison with the wider economy is provided for all sectors/activities together in Section 5.1.5.

**Employment impacts**

The exact share of direct MCH employment that can be attributed to museum, library and archive activities in terms of FTE jobs cannot be calculated because data are only available in headcounts. However, comparing the 169,600 persons employed in the museum, library and archive subsector to the total of 560,446 FTE for the total number for the other sectors/activities, it is clear that museum, library and archive activities are one of the largest contributors to employment in the sector. Moreover, the people employed in libraries, archives, museums and other cultural activities (NACE R91, 169,600) represent 0.4% of the total employed population (see Table 6 for all the stakeholder countries).

*Table 6: People employed in museums, libraries and archives as share of total employment*

| Country | People employed in libraries, archives, museums and other cultural activities (NACE R91), 2016 | Total number of people employed, 2016 | Share of total employed population (percentage), 2016 |
|---|---|---|---|
| Austria | 9,300 | 2,778,445 | 0.3 |
| Belgium | 16,100 | 2,802,427 | 0.6 |
| Italy | 56,200 | 14,547,328 | 0.4 |
| Netherlands | 23,900 | 5,598,998 | 0.4 |
| Norway | 8,700 | - | - |
| Portugal | 11,600 | 3,115,885 | 0.4 |
| Romania | 11,900 | 3,978,093 | 0.3 |
| Slovakia | 5,300 | 1,526,626 | 0.3 |
| Slovenia | 3,900 | 604,234 | 0.6 |
| Sweden | 22,700 | 3,203,909 | 0.7 |
| **Total** | **169,600** | **38,155,945** | **0.4** |

*Source: elaboration of the service provider based on Eurostat - Cultural employment by NACE Rev. 2 activity [cult_emp_n2] and Eurostat: Annual enterprise statistics by size class for special aggregates of activities (NACE Rev. 2) [sbs_sc_sca_r2] – People employed in Total business economy; repair of computers, personal and household goods; except financial and insurance activities.*

**Turnover impacts**

The turnover of museum, library and archive activities (EUR 2,155.8 million on average per year) forms 2.6% of the total turnover that can be attributed to MCH making it the fourth largest activity/sector.

### 4.2.4 Tourism

#### 4.2.4.1 Summary of impact

Figure 11 summarises the impact of MCH on tourism. It presents the total impact related to MCH for one year (2016), as well as the share of this impact in the particular sector/activity and in the total MCH impact. For details on the calculations, see Section 4.2.4.3.

*Figure 11: Summary of impact of MCH on tourism in stakeholder counties/regions, 2016*


*Source: elaboration of the service provider (2019) based on national databases and Eurostat*

#### 4.2.4.2 Description of the sector

MCH has a significant impact on tourists' decisions to visit a place and heritage is considered by some experts as the single most important resource for international tourism (Graham et. al., 2000). According to the UNWTO (2018, p.25), culture (including cultural heritage) is the primary reason to travel for a core market of tourists (approximately 30% of tourists). Numerous studies have investigated the effects of heritage on tourism in economic terms and the contribution of heritage to regional attractiveness, for instance in terms of increased tourists' ancillary spending on the local economy in sectors such as restaurants, hotels and traditional products and services (e.g. HLF, 2010; Ecorys, 2012; Realdania and Incentive, 2015; Oxford Economics, 2013 and 2016; Menon 2017 and 2018).

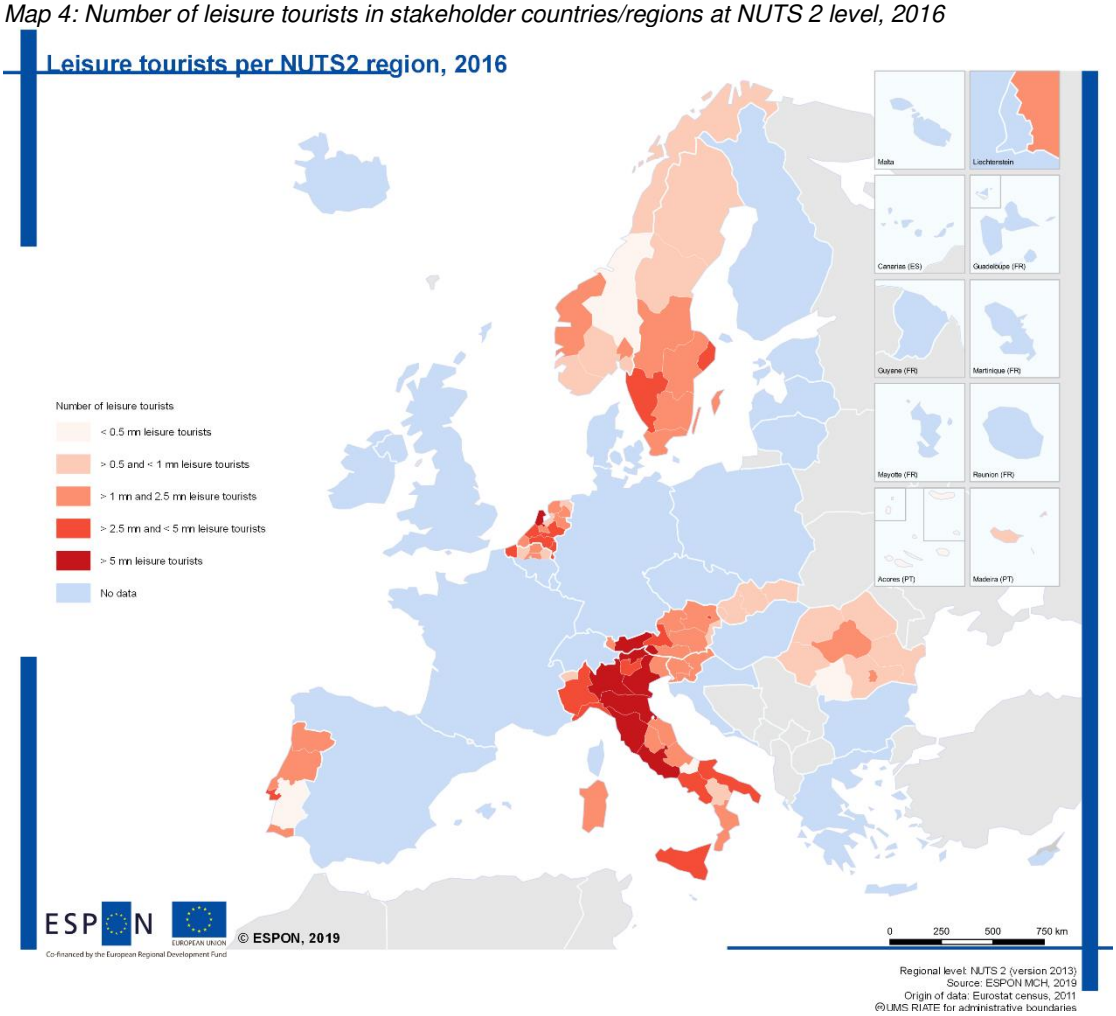
#### 4.2.4.3 Impact Analysis

This subsection provides the results from the impact analysis summarising the impact of MCH on the sector/activity. For more information on the methodology and the indicators and data used, see Section 4.2.4 of Annex IX. The coefficient used for the impact analysis in this chapter is the share of leisure tourists in the total number of tourists. This coefficient has been used on Eurostat data for the total tourism sector.

Map 4 provides a visual representation of the distribution of tourists traveling for leisure purposes in the covered countries/regions on NUTS 2 level.[31]

[31] Estimated by multiplying the total number of tourists per NUTS 2 region and the share of expenditure done by tourists travelling for holidays, leisure and recreation purposes.

*Map 4: Number of leisure tourists in stakeholder countries/regions at NUTS 2 level, 2016*



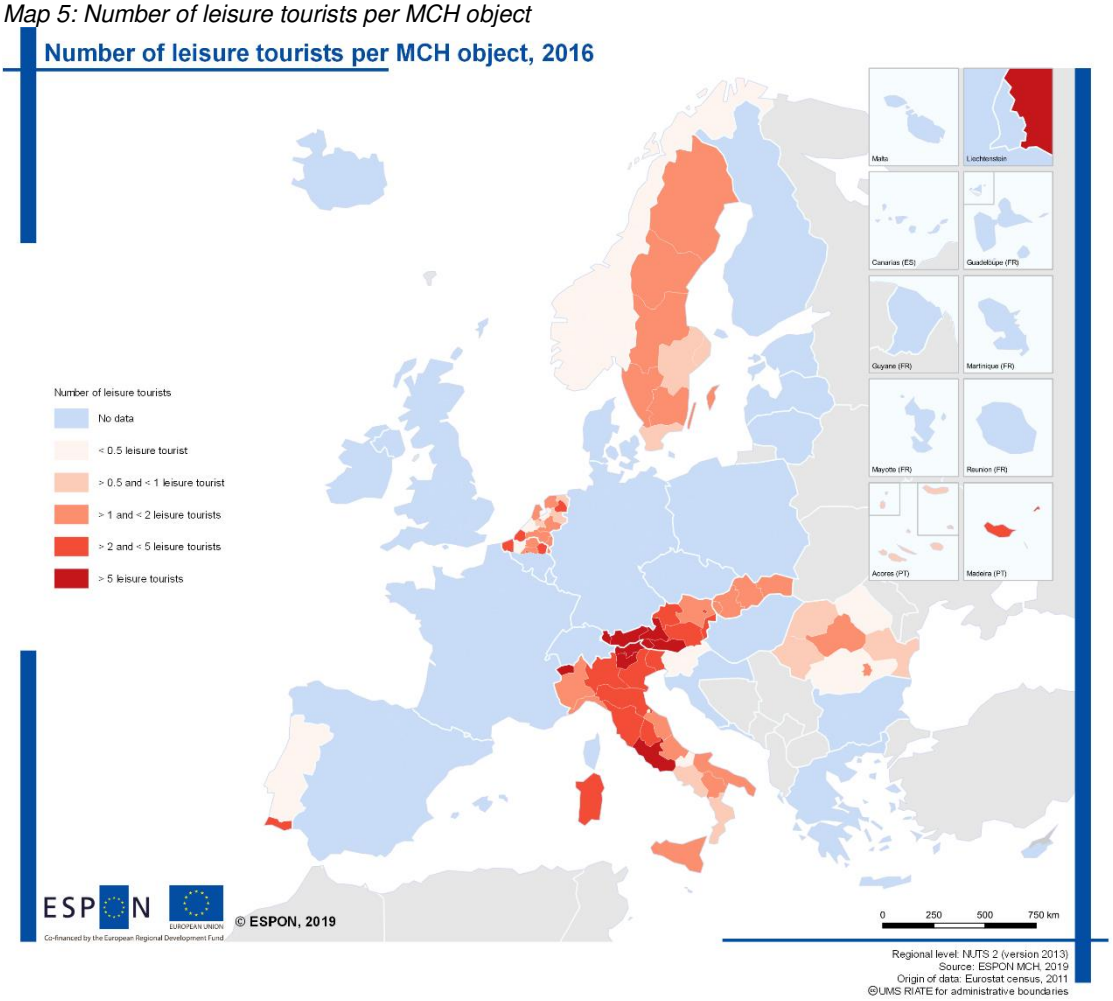

*Source: elaboration of the service provider (2019), based on national databases and Eurostat – Arrivals at tourist accommodation establishments by NUTS 2 regions [tour_occ_arn2]*

Within the selected countries for this study, most leisure tourists are going to Italy, the south(west) of the Netherlands, Belgium and the south of Sweden. Comparing the presence of leisure tourists to the distribution of MCH, Map 5 presents the number of leisure tourists per MCH, which has been calculated using the following formula:

$$\frac{\text{Number of leisure tourists per NUTS2 region}}{\text{Number of MCH objects per NUTS2 region}}$$

Comparing this map to Map 4, the regions with the highest number of leisure tourists also have the highest number of leisure tourists per MCH object (i.e. Italy, the south(west) of the Netherlands, Belgium and the south of Sweden). This seems to suggest that the number of leisure tourists is in line with the number of MCH objects, possibly pointing towards the importance of MCH objects for leisure tourists.

*Map 5: Number of leisure tourists per MCH object*




*Source: elaboration of the service provider (2019), based on national databases and Eurostat – Arrivals at tourist accommodation establishments by NUTS 2 regions [tour_occ_arn2]*

Table 7 presents the estimated expenditure of leisure tourists. Data has been drawn from Eurostat and national databases based on the share of tourists travelling for holidays, leisure and recreation.

*Table 7: Estimated expenditure of tourists travelling for holidays, leisure and recreation (EUR million)*

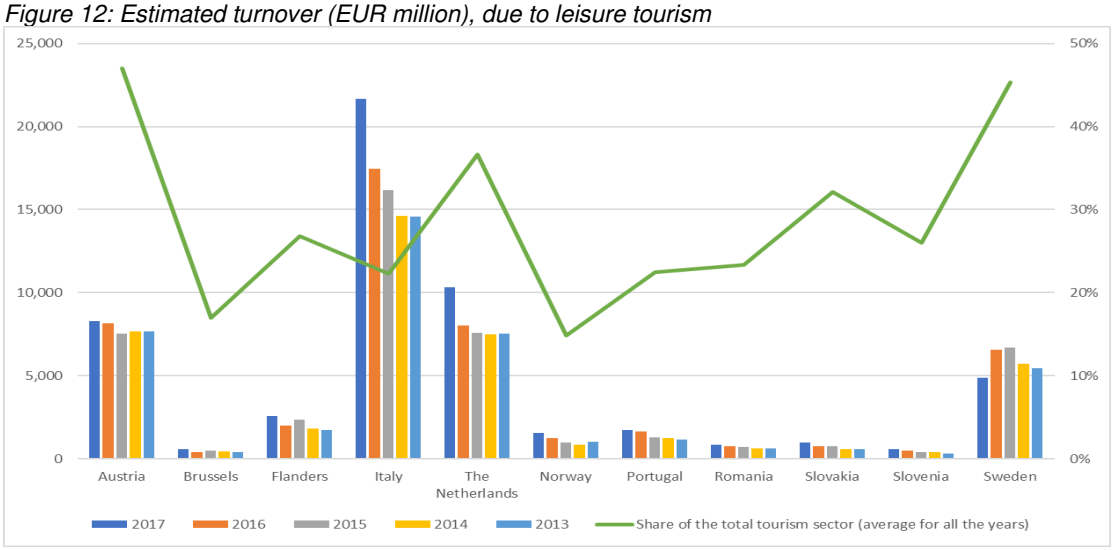
| | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|
| Austria | 25,578 | 25,940 | 27,018 | 27,697 | 29,077 |
| Brussels | 2,468 | 2,809 | 2,687 | 2,232 | 2,882 |
| Flanders | 5,518 | 6,174 | 7,398 | 5,978 | 8,334 |
| Italy | 26,219 | 26,307 | 29,110 | 31,391 | 38,960 |
| Netherlands | 13,596 | 13,494 | 13,653 | 14,434 | 18,540 |
| Norway | 2,678 | 1,877 | 2,290 | 3,029 | 3,319 |
| Portugal | 2,083 | 2,253 | 2,341 | 2,971 | 3,128 |
| Romania | 1,156 | 1,128 | 1,267 | 1,408 | 1,570 |
| Slovakia | 1,088 | 1,024 | 1,338 | 1,344 | 1,772 |
| Slovenia | 532 | 640 | 642 | 746 | 884 |
| Sweden | 9,792 | 10,256 | 12,045 | 11,840 | 8,794 |
| **Total** | **90,708** | **91,902** | **99,789** | **103,070** | **117,260** |

*Source: elaboration of the service provider (2019) based on national databases and Eurostat*

The specific impact on accommodation and food and beverage service activities needs to be identified by isolating the amount spent on these economic activities by tourists travelling for

holidays, leisure and recreation. These data are available for Austria, Brussels, Flanders, Italy, Norway and Slovenia. For the other countries/regions, the average share of these six countries has been used. Based on these shares, it is estimated that EUR 47,510.8 million has been spent on accommodation, food and beverage by tourists travelling for leisure purposes in the considered countries/regions in 2016. This figure is used as a proxy for the turnover of the sector that can be attributed to MCH and amounts to 28% of the turnover of the total sector. Table 32 in Annex IX presents data for all the years and all the countries/regions. Figure 12 presents the same information in a chart.

*Figure 12: Estimated turnover (EUR million), due to leisure tourism*

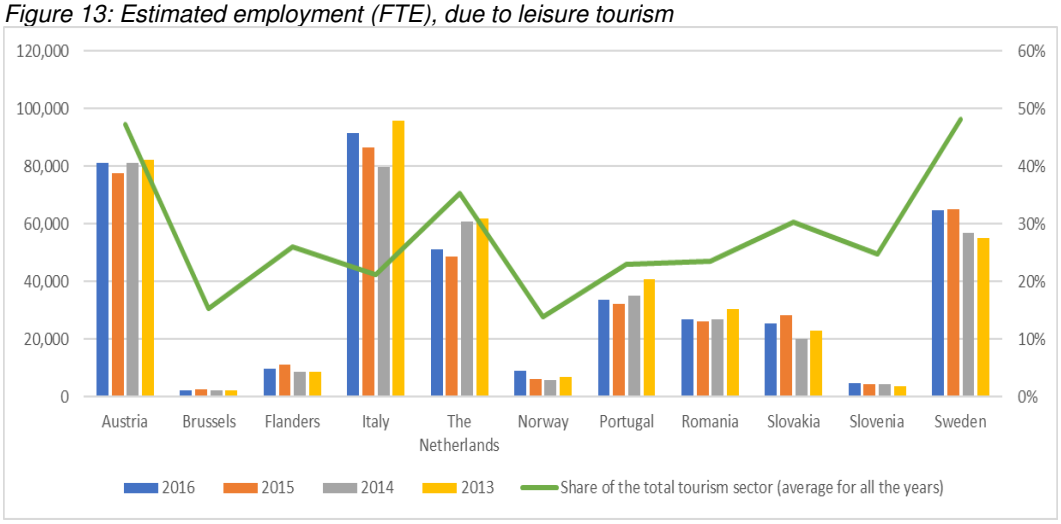



*Source: elaboration of the service provider (2019) based on national databases and Eurostat*

Using the turnover per FTE of the total sector and applying this ratio to the estimated impact of leisure tourists in the accommodation and food and beverage service activities, it is estimated that this expenditure contributed to 400,142 FTE in 2016, which is 29% of total FTE in the sector. Table 34 in Annex IX provides for data for all the years and all the countries/regions.

Figure 13 shows the same information in a chart.

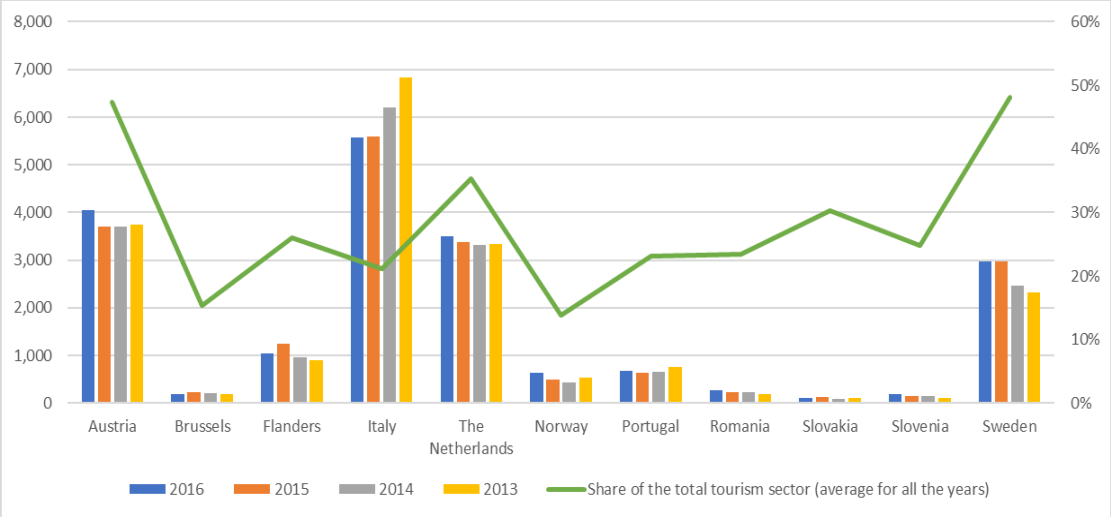
*Figure 13: Estimated employment (FTE), due to leisure tourism*



*Source: elaboration of the service provider (2019) based on national databases and Eurostat*

Furthermore, it is estimated that the GVA that can be attributed to leisure tourism in 2016 amounted to 20,507.8 EUR million, which is 28.2% of the GVA of the total sector. Table 35 in Annex IX presents data for all the years and all the countries/regions. Figure 14 shows the same information in a chart.

*Figure 14: Estimated GVA (EUR million), due to leisure tourism*




*Source: elaboration of the service provider (2019) based on national databases and Eurostat*

#### 4.2.4.4 Impact in perspective: compared to total MCH

In order to give a broader picture of the impact of this sector/activity, this subsection provides insights on how the total impact of tourism that can be related to MCH relates to the total impact of MCH for all sectors/activities. In addition, a comparison with the wider economy is provided for all sectors/activities together in Section 5.1.5.

**Employment impacts**

Employment in the tourism sector that can be attributed to MCH (400,142 FTE) forms 72.9% of the total employment level that can be attributed to MCH making it the largest activity/sector.

**Turnover impacts**

The turnover of the tourism sector that can be attributed to MCH (EUR 47,510.8 million) forms 56.6% of the total turnover that can be attributed to MCH making it the largest activity/sector.

**GVA impacts**

The GVA of the tourism sector that can be attributed to MCH (EUR 20,507.8 million) forms 63.2% of the total GVA that can be attributed to MCH making it the largest activity/sector.

### 4.2.5 Construction

#### 4.2.5.1 Summary of impact

Figure 15 summarises the impact of MCH on construction. It presents the total impact related to MCH for one year (2016), as well as the share of this impact in the particular sector/activity and in the total MCH impact. For details on the calculations, see Section 4.2.5.3.

*Figure 15: Summary of impact of MCH on construction in stakeholder counties/regions, 2016*

Construction (NACE F43)

| Impact: | Share in total sector: | Share in all MCH impact: |
|---|---|---|
| • Employment: 135,050 FTE | • 10.0% | • 24.6% |
| • Turnover: EUR 26,413.6 million | • 11.0% | • 31.5% |
| • GVA: EUR 9,835.4 million | • 10.9% | • 30.3% |

*Source: elaboration of the service provider (2019) based on national databases and Eurostat*

#### 4.2.5.2 Description of the sector

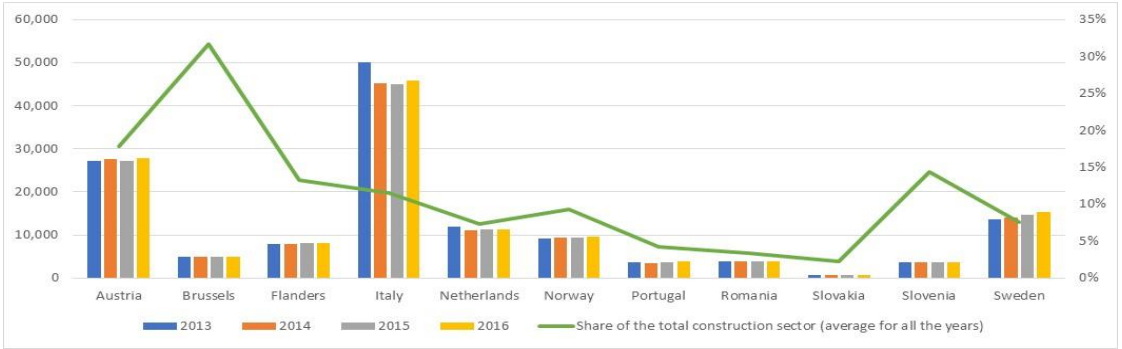
In relation to immovable MCH, interventions beyond day-to-day maintenance of buildings such as physical rehabilitation, repair and renovation activities are usually carried out by specialised companies in the construction sector, which in some countries/regions have to be publicly certified to perform their work according to strict rules and norms (depending on the legal framework).

#### 4.2.5.3 Impact analysis

This subsection provides the results from the impact analysis summarising the impact of MCH on the sector/activity. For more information on the methodology and the indicators and data used, see Section 4.2.5 of Annex IX. The coefficient used for the impact analysis in this chapter is the share of pre-1919 dwellings in the total number of dwellings. This coefficient has been used on Eurostat data for the total construction sector.

The share of employment in the construction sector in 2016 that can be attributed to MCH has been estimated at 135,050 FTE. Table 39 in Annex IX provides the overview of the impacts in all the countries/regions for the years 2013-2016. Figure 16 shows the same information in a chart.

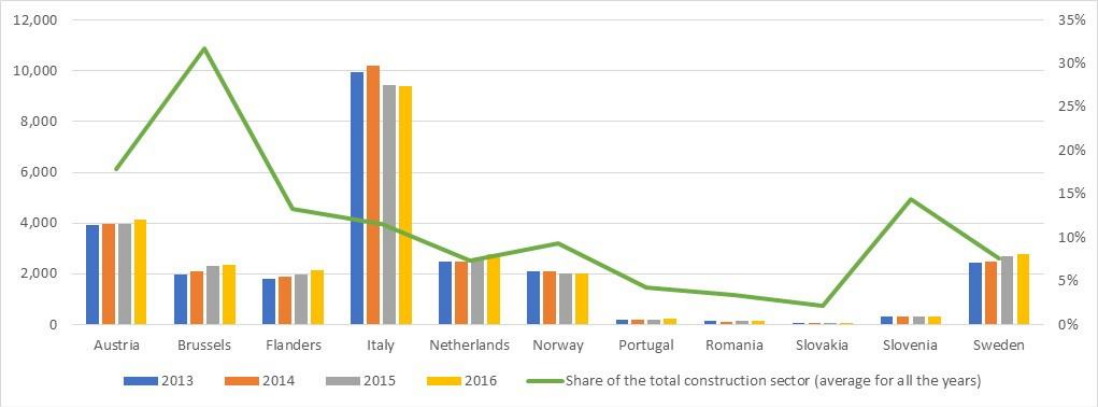
*Figure 16: Estimated employment (FTE), share of the total construction sector total that can be attributed to MCH*




*Source: elaboration of the service provider (2019) based on national databases and Eurostat*

The share of the turnover in the construction sector in 2016 that can be attributed to MCH has been estimated at EUR 26,413.6 million. Table 40 in Annex IX provides the overview of the impacts in all the countries/regions for the years 2013-2016. Figure 16 shows the same information in a chart.

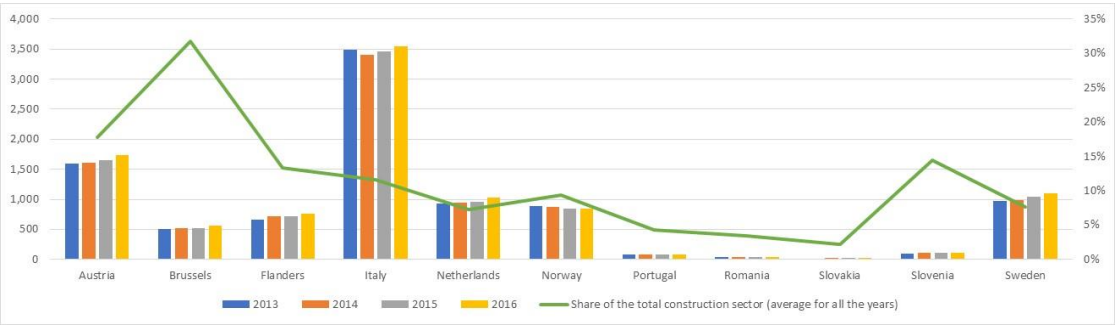
*Figure 17: Estimated turnover (EUR million), share of the total construction sector total that can be attributed to MCH*




*Source: elaboration of the service provider (2019) based on national databases and Eurostat*

The share of the GVA of the construction sector in 2016 that can be attributed to MCH has been estimated at EUR 9,835.4 million. Table 41 in Annex IX provides the overview of the impacts in all the countries/regions for the years 2013-2016. Figure 18 shows the same information in a chart.

*Figure 18: Estimated GVA (EUR million), share of the total construction sector total that can be attributed to MCH*




*Source: elaboration of the service provider (2019) based on national databases and Eurostat*

#### 4.2.5.4 Impact in perspective: compared to total MCH

In order to give a broader picture of the impact of this sector/activity, this subsection provides insights on how the total impact of construction that can be related to MCH relates to the total impact of MCH for all sectors/activities. In addition, a comparison with the wider economy is provided for all sectors/activities together in Section 5.1.5.

**Employment impacts**

Employment in the construction sector that can be attributed to MCH (133,050 FTE) forms 24.6% of the total employment level that can be attributed to MCH making it the second largest activity/sector (after tourism).

**Turnover impacts**

The turnover of the construction sector that can be attributed to MCH (EUR 26,413.6 million) forms 31.5% of the turnover that can be attributed to MCH making it the second largest activity/sector (after tourism).

**GVA impacts**

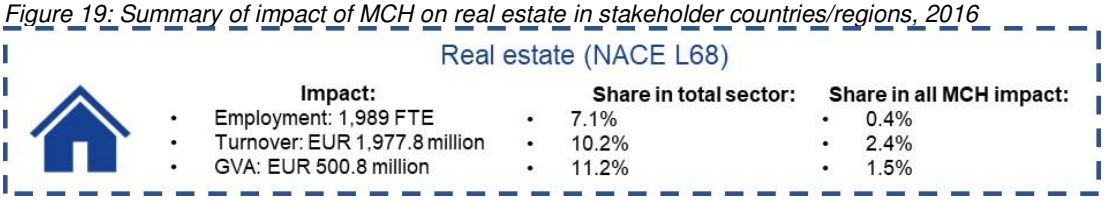
The GVA of the construction sector that can be attributed to MCH (EUR 9,835.4 million) forms 30.3% of the total GVA that can be attributed to MCH making it the second largest activity/sector (after tourism).

### 4.2.6 Real estate

#### 4.2.6.1 Summary of impact

Figure 19 summarises the impact of MCH on real estate. It presents the total impact related to MCH for one year (2016), as well as the share of this impact in the particular sector/activity and the total impact of MCH. For details regarding the calculations, see Section 4.2.6.3.

*Figure 19: Summary of impact of MCH on real estate in stakeholder countries/regions, 2016*




*Source: elaboration of the service provider (2019) based on national databases and Eurostat*

#### 4.2.6.2 Description of the sector

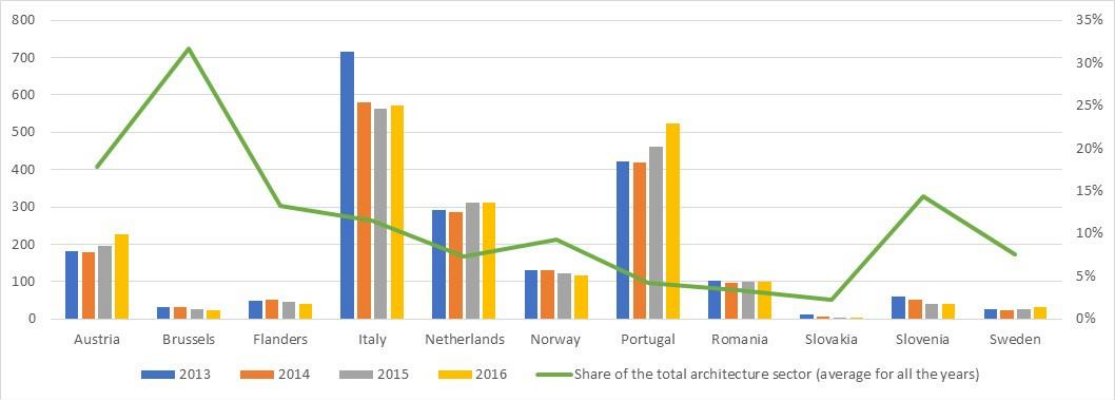
Real estate activities related to immovable MCH (the selling and renting of heritage property) are part of the trade function of the MCH value chain. Professionals employed by the sector include real estate agents, traders and property managers working as independents or in real estate agencies. Impacts on the real estate sector in this study do not include effects of MCH on housing prices as this aspect has already been extensively analysed in previous studies.

#### 4.2.6.3 Impact analysis

This subsection provides the results from the impact analysis summarising the impact of MCH on the sector/activity. For more information on the methodology and the indicators and data used, see Section 4.2.6 of Annex IX. The coefficient used for the impact analysis in this chapter is the share of pre-1919 dwellings in the total number of dwellings. This coefficient has been used on Eurostat data for the total real estate sector.

The share of employment in the real estate sector in 2016 that can be attributed to MCH has been estimated at 1,989 FTE. Table 50 in Annex IX provides the overview of the impacts in all the countries/regions for the years 2013-2016. Figure 20 shows the same information in a chart.

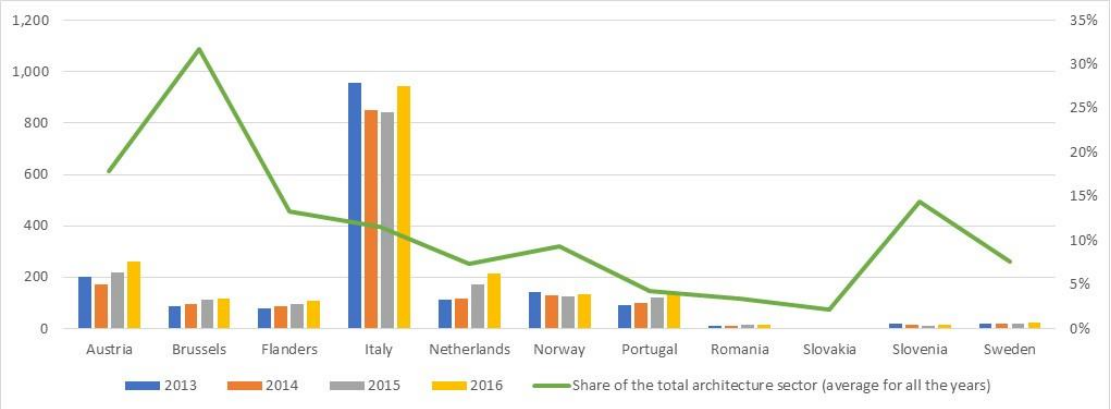
*Figure 20: Estimated employment (FTE), share of the total real estate sector that can be attributed to MCH*




*Source: elaboration of the service provider (2019) based on national databases and Eurostat*

The share of the turnover of the real estate sector in 2016 that can be attributed to MCH has been estimated at EUR 1,977.8 million. Table 51 in Annex IX provides the overview of the impacts in all the countries/regions for the years 2013-2016. Figure 21 shows the same information in a chart.

*Figure 21: Estimated turnover (EUR million), share of the total real estate sector that can be attributed to MCH*




*Source: elaboration of the service provider (2019) based on national databases and Eurostat*

Data from Slovenia indicates that transactions concerning pre-1919 buildings represent approximately 20% of the total number of transactions. It is assumed that 10% of the total value transaction contributes to the sector turnover (for example, as fees to real estate agents). Therefore, it is estimated that the sales of pre-1919 buildings amounted to EUR 20.5 million in turnover in Slovenia in 2017 contributing to 18% of the turnover of all buying and selling activities (NACE code L681), see Table 8.

*Table 8: Estimated contribution to buying and selling activities sector (L681) in Slovenia*

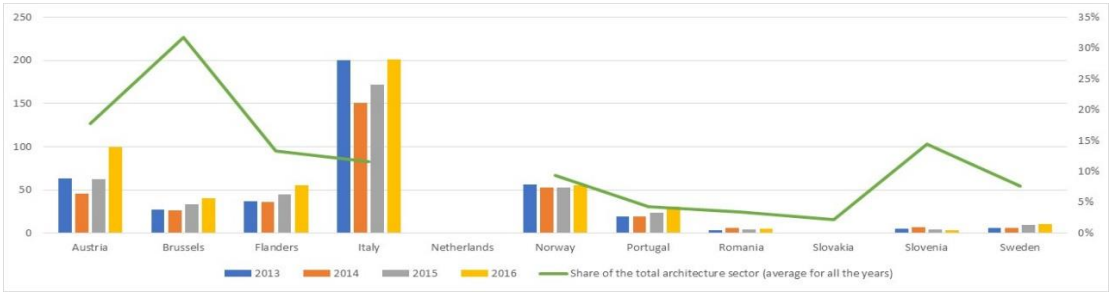
| | Value of transactions (EUR million) | Estimated contribution to the sector (EUR million) | Share of turnover of the sector |
|---|---|---|---|
| 2013 | 98,000.7 | 9,800.1 | 8% |
| 2014 | 89,146.6 | 8,914.7 | 9% |
| 2015 | 209,175.1 | 20,917.5 | 23% |
| 2016 | 168,883.2 | 16,888.3 | 14% |
| 2017 | 205,417.0 | 20,541.7 | 18% |

*Source: elaboration of the service provider (2019) based on data from the Surveying and Mapping Authority of Slovenia*

The convergence of the two estimates (20% for the number of transactions involving pre-1919 buildings and 17% for the share of pre-1919 dwellings in the total number of dwellings) seems to indicate the validity of the coefficient used in this study for the real estate sector. However, additional data for the other countries/regions is required to further test and validate this approach.

The share of the GVA of the real estate sector in 2016 that can be attributed to MCH has been estimated at EUR 500.8 million. Table 52 in Annex IX provides the overview of the impacts in all the countries/regions for the years 2013-2016. Figure 22 shows the same information in a chart.

*Figure 22: Estimated GVA (EUR million), share of the total real estate sector that can be attributed to MCH*




*Source: elaboration of the service provider (2019) based on national databases and Eurostat*

#### 4.2.6.4 Impact in perspective: compared to total MCH

In order to give a broader picture of the impact of this sector/activity, this subsection provides insights on how the total impact of real estate that can be related to MCH relates to the total impact of MCH for all sectors/activities. In addition, a comparison with the wider economy is provided for all sectors/activities together in Section 5.1.5.

**Employment impacts**

Employment in the real estate sector that can be attributed to MCH (1,989 FTE) forms 0.4% of the total employment level that can be attributed to MCH making it the smallest activity/sector.

**Turnover impacts**

The turnover of the real estate sector that can be attributed to MCH (EUR 1,977.8 million) forms 2.4% of the total turnover level that can be attributed to MCH making it the smallest activity/sector.

**GVA impacts**

The GVA of the real estate sector that can be attributed to MCH (EUR 500.8 million) forms 1.5% of the GVA that can be attributed to MCH making it the smallest activity/sector.

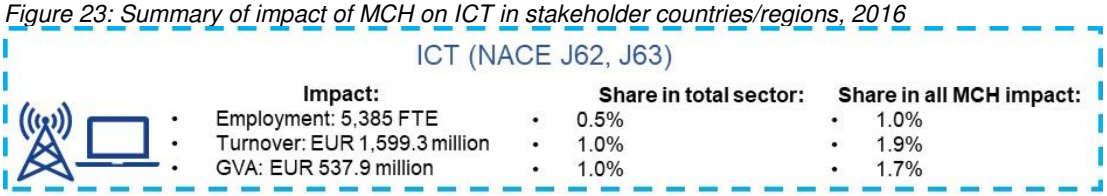
## 4.3 Economic impact in ancillary sectors/activities

### 4.3.1 ICT

#### 4.3.1.1 Summary of the impact

Figure 23 summarises the impact of MCH on ICT. It presents the total impact related to MCH for one year (2016), as well as the share of this impact in the particular sector/activity and in the total impact of MCH. For details regarding the calculations, see Section 4.3.1.3.

*Figure 23: Summary of impact of MCH on ICT in stakeholder countries/regions, 2016*




*Source: elaboration of the service provider (2019) based on national databases and Eurostat*

#### 4.3.1.2 Description of the sector

Following the digital shift, there is growing demand for ICT services (both software and hardware) for MCH. As such, ICT companies are an important supplier in the MCH value chain. The spectrum of services provided to MCH is very large. Most importantly, archives, libraries, museums and other cultural heritage sites use ICT services to build websites and to digitalise their collections. In addition, digital solutions, technologies and devices are increasingly used by these institutions to enhance visitors' experience.

#### 4.3.1.3 Impact analysis

This subsection provides the results from the impact analysis summarising the impact of MCH on the sector/activity. For more information on the methodology and the indicators and data used, see Section 4.3.1 of Annex IX. The coefficient used for the impact analysis in this chapter is based on the expenditure of institutions on website maintenance and the digitalisation of collections. This coefficient has been used on Eurostat data for the total ICT sector.

As mentioned before, the collected data for museums activities, although not complete for all the countries/regions, suggests that museums spend approximately 1% of their annual budget on their website, amounting to EUR 23.3 million in 2016, see Table 9 for data for all the countries/regions. The average expenditure per museum has also been provided by dividing the estimated amount by the number of museums in each country/region.

*Table 9: Estimated annual expenditure of museums on website maintenance, 2016*

| | Total budget in 2016 (EUR million) | Estimated amount allocated to website (EUR million) | Average expenditure per museum (EUR) |
|---|---|---|---|
| Austria | 346 | 3.5 | 4,632 |
| Brussels | - | - | - |
| Flanders | - | - | - |
| Italy | 194 | 1.9 | 455 |
| Netherlands | 1,055 | 10.6 | 15,334 |
| Norway | 489 | 4.9 | 17,000 |
| Portugal | 62 | 0.6 | 426 |
| Romania | - | - | - |
| Slovakia | 62 | 0.6 | 2,986 |
| Slovenia | 46 | 0.5 | 1,680 |
| Sweden | 54 | 0.5 | 715 |
| **Total** | **2,308** | **23.3** | |

*Source: elaboration of the service provider (2019) based on national databases and Eurostat*

The average expenditure on website development per country/region can be applied to libraries, archives and other MCH sites in each country/region to estimate the expenditure of other institutions assuming that these institutions spend the same amount as museums on average. The main limitation is that there is no information on the share of these institutions that possesses a website. Hence, three scenarios are provided: 25%, 50% and 75% of the institutions having a website. It should be noted that even assuming that three quarters of these institutions have a website, the general impact on the sector would be limited. Because, even in this scenario, less than EUR 600 million would have been spent on websites. This would amount to 0.3% of the total ICT sector turnover in the covered countries/regions.

Table 10 presents the estimated expense on websites of all institutions for all the stakeholder countries/regions.

*Table 10: Estimated annual expenditure of archives, libraries and other MCH sites on website maintenance (in million)*

| | Total number of archives, libraries and other MCH sites[32] | Average expenditure (EUR) | Estimated expense in different scenarios (EUR million) | | |
|---|---|---|---|---|---|
| | | | 25% | 50% | 75% |
| Austria | 14,317 | 4,632 | 16.6 | 33.2 | 49.7 |
| Brussels | 350 | 5,404* | 0.5 | 0.9 | 1.4 |
| Flanders | 11,863 | 5,404* | 16.0 | 32.1 | 48.1 |
| Italy | 20,428 | 455 | 2.3 | 4.6 | 7.0 |
| Netherlands | 16,331 | 15,334 | 62.6 | 125.2 | 187.8 |
| Norway | 7,373 | 17,000 | 31.3 | 62.7 | 94.0 |
| Portugal | 7,425 | 426 | 0.8 | 1.6 | 2.4 |
| Romania | 21,866 | 5,404* | 29.5 | 59.1 | 88.6 |
| Slovakia | 18,743 | 4,000 | 14.0 | 28.0 | 42.0 |
| Slovenia | 13,061 | 1,247 | 5.5 | 11.0 | 16.5 |
| Sweden | 105,989 | 715 | 18.9 | 37.9 | 56.8 |
| **Total** | | | **198.1** | **396.2** | **594.3** |

*Source: elaboration of the service provider (2019) based on national databases and Eurostat*

[32] See Section 4.3.1.1 of the Technical Annex for an overview of how this number has been calculated.

** No data on average expenditure (see Table 9), the average of the other countries has been taken as an estimation*

Another area of expenditure for museums, libraries and archives is the digitalisation of their collections. Data from the Enumerate survey suggests that a large share of these organisations is engaged in digitalisation and that part of these activities is outsourced. The survey provides figures for both incidental expenses and recurrent expenses linked to digitalisation. 2015 data can be used to estimate the total spending on the process.

Box 3 provides the methodology used to scale up the survey results.

*Box 3: Scale up approach*

**Step 1: Isolate the number of museums, libraries and archives that are engaged in digitalisation**

The share of respondents by category and country/region from the ENUMERATE survey that is engaged in digitalisation has been multiplied by the total number of museums, libraries and archives in each country/region.

**Step 2: Calculate the average outsourced cost**

The average outsourced cost has been calculated by multiplying the average share of outsourced costs by the average total cost. This has been done separately for incidental and structural costs and each category of organisation and each country/region.

**Step 3: Scale up the survey results**

The average outsourced costs have then been multiplied by the number of museums, libraries and archives in each country/region that is active in digitalisation (see Step 1).

*Source: elaboration of the service provider (2019)*

In this way, it has been estimated that in 2015 EUR 945.8 million has been spent by archives, libraries and museums as structural outsourced costs, see Table 11.

*Table 11: Estimated structural outsourced expenses in digitalisation of MCH of archives, libraries and museums (EUR 1,000, 2015)*

| | Archives | Libraries | Museums | Total |
|---|---|---|---|---|
| **Austria** | 908 | 119,282 | 7,028 | **127,218** |
| **Brussels** | 10 | 19,125 | 358.5 | **19,494** |
| **Flanders** | 35 | 34,950 | 358.5 | **35,344** |
| **Italy** | 505 | 275,756 | 24,765 | **301,026** |
| **Netherlands** | 25,959 | 86,274 | 2,184 | **114,417** |
| **Norway** | 3,286* | 2,648* | 4,743* | **10,677** |
| **Portugal** | 1,858 | 12,383 | 2,973 | **17,214** |
| **Romania** | 988* | 4,313 | 5,364* | **10,664** |
| **Slovakia** | 43,673* | 3,451* | 1,091* | **48,215** |
| **Slovenia** | 121 | 633 | 1,238 | **1,992** |
| **Sweden** | 523 | 250,646 | 8,445 | **259,615** |
| **Total** | **77,867** | **809,461** | **58,548** | **945,876** |

*Source: elaboration of the service provider (2019) based on national databases and ENUMERATE data*
** No data on average expenditure, the average of the other countries/regions has been taken as an estimation*

The survey also provides data on incidental outsourced costs. These costs amount to approximately EUR 1 billion, although the survey does not allow to place this expenditure in a precise year. On average over the period 2013-2017 these costs amount to a total of EUR 257.3 million yearly, see Table 12.

*Table 12: Estimated yearly incidental outsourced expenses in digitalisation of MCH of archives, libraries and museums (EUR 1,000, 2015)*

| | Archives | Libraries | Museums | Total |
|---|---|---|---|---|
| **Austria** | 53 | 19,880 | 1,144 | **21,078** |
| **Brussels** | 23 | 14,344 | 30 | **14,397** |
| **Flanders** | 79 | 26,213 | 29 | **26,321** |
| **Italy** | 120 | 56,405 | 7,076 | **63,600** |
| **Netherlands** | 4,019 | 22,194 | 390 | **26,603** |
| **Norway** | 839* | 958* | 639* | **2,437** |
| **Portugal** | 393 | 2,686 | 265 | **3,344** |
| **Romania** | 252* | 1,078 | 723* | **2,054** |
| **Slovakia** | 11,154* | 1,249* | 147* | **12,550** |
| **Slovenia** | 60 | 260 | 267 | **586** |
| **Sweden** | 123 | 81,841 | 2,339 | **84,303** |
| **Total** | **17,115** | **227,109** | **13,050** | **257,274** |

*Source: elaboration of the service provider (2019) based on national databases and ENUMERATE data*
** No data on average costs, the average of the other countries/regions has been taken as an estimation*

Adding the estimated structural outsourced expenses (Table 11) and estimated yearly incidental outsourced expenses (Table 12) together, in total, an estimated EUR 1.2 billion has been invested by museums, libraries and archives on outsourced digitalisation services on average per year, see Table 13.

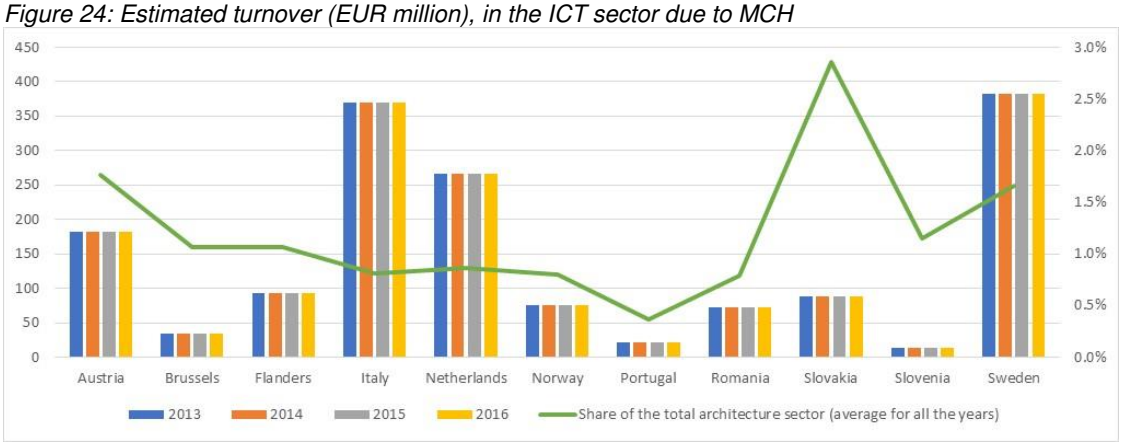
*Table 13: Estimated total outsourced expenses in digitalisation of MCH of archives, libraries and museums (EUR 1,000, 2015)*

| | Archives | Libraries | Museums | Total |
|---|---|---|---|---|
| **Austria** | 961 | 139,162 | 8,172 | **148,296** |
| **Brussels** | 33 | 33,469 | 388 | **33,891** |
| **Flanders** | 114 | 61,163 | 388 | **61,665** |
| **Italy** | 625 | 332,161 | 31,840 | **364,626** |
| **Netherlands** | 29,978 | 108,468 | 2,574 | **141,020** |
| **Norway** | 4,125* | 3,606* | 5,382* | **76,932** |
| **Portugal** | 2,251 | 15,069 | 3,238 | **20,558** |
| **Romania** | 1,340* | 5,391 | 6,087* | **12,718** |
| **Slovakia** | 54,826* | 4,701* | 1,238* | **60,765** |
| **Slovenia** | 181 | 893 | 1,505 | **2,579** |
| **Sweden** | 646 | 332,487 | 10,784 | **343,918** |
| **Total** | **94,983** | **1,036,570** | **71,597** | **1,203,150** |

*Source: elaboration of the service provider (2019) based on national databases and ENUMERATE data**
*No data on average costs, the average of the other countries/regions has been taken as an estimation*

Adding the estimated expenditures for both websites and digitalising collections together, it is estimated that in 2016, MCH contributed EUR 1,599.3 million in turnover which amounts to 1.0% of the ICT sector turnover. Table 61 in Annex IX provides the overview of the impacts in all the countries/regions for the years 2013-2016. Figure 24 shows the same information in a chart.

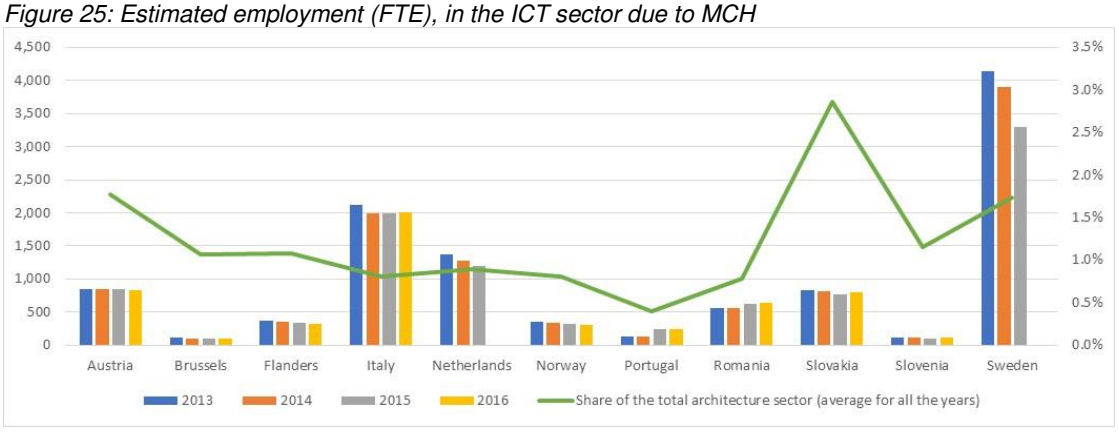
*Figure 24: Estimated turnover (EUR million), in the ICT sector due to MCH*




*Source: elaboration of the service provider (2019) based on national databases and Eurostat*

Using the share of the estimated expenditure in the turnover of the ICT sector, it is estimated that the employment in the ICT sector in 2016 that can be attributed to MCH was 5,385 FTE. Table 60 in Annex IX provides the overview of the impacts in all the countries/regions for the years 2013-2016. Figure 25 shows the same information in a chart.

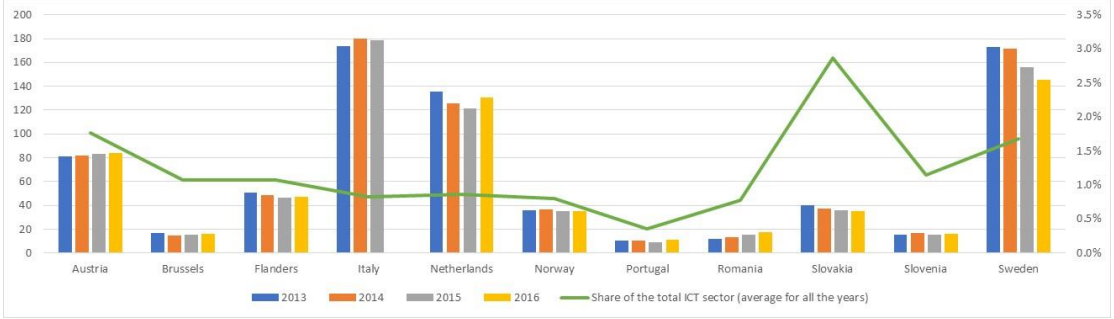
*Figure 25: Estimated employment (FTE), in the ICT sector due to MCH*




*Source: elaboration of the service provider (2019) based on national databases and Eurostat*

The share of the GVA of the ICT sector in 2016 that can be attributed to MCH has been estimated at EUR 537.9 million. Table 62 in Annex IX provides the overview of the impacts in all the countries/regions for the years 2013-2016. Figure 26 presents the same information in a chart.

*Figure 26: Estimated GVA (EUR million), in the ICT sector due to MCH*




*Source: elaboration of the service provider (2019) based on national databases and Eurostat*

#### 4.3.1.4 Impact in perspective: compared to total MCH

In order to give a broader picture of the impact of this sector/activity, this subsection provides insights on how the total impact of ICT that can be related to MCH relates to the total impact of MCH for all sectors/activities. In addition, a comparison with the wider economy is provided for all sectors/activities together in Section 5.1.5.

**Employment impacts**

Employment in the ICT sector that can be attributed to MCH (5,385 FTE) forms 1.0% of the total employment level that can be attributed to MCH making it the third largest activity/sector.

**Turnover impacts**

The turnover of the ICT sector that can be attributed to MCH (EUR 1,599.3 million) forms 1.9% of the total turnover that can be attributed to MCH making it the second smallest activity/sector.

**GVA impacts**

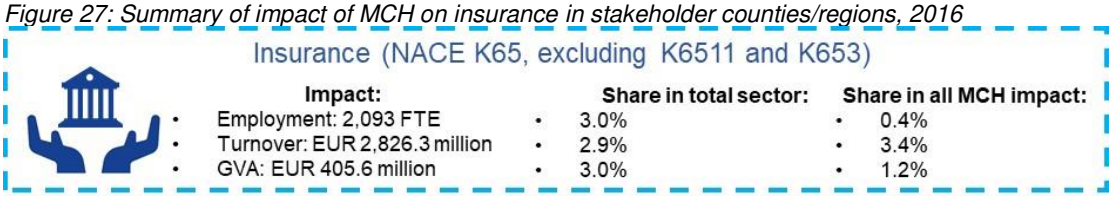
The GVA of the ICT sector that can be attributed to MCH (EUR 537.9 million) forms 1.7% of the total GVA that can be attributed to MCH making it the third smallest activity/sector.

### 4.3.2 Insurance

#### 4.3.2.1 Summary of the impact

Figure 27 summarises the impact of MCH on insurance. It presents the total impact related to MCH for one year (2016), as well as the share of this impact in the particular sector/activity and the total impact of MCH. For details regarding the calculations, see Section 4.3.2.3.

*Figure 27: Summary of impact of MCH on insurance in stakeholder counties/regions, 2016*




*Source: elaboration of the service provider (2019) based on national databases and Eurostat*

#### 4.3.2.2 Description of the sector

Immovable and movable MCH objects are commonly insured. As such, insurance companies are important suppliers of the MCH value chain. There seems to be a link between the value of the insurance and the type of MCH (e.g. national or international importance vs. regional or more local importance) and the conservation status (originally constructed vs. altered). Moreover, for movable MCH, specialised insurance policies are important to cover the risks related to exhibitions and the mobility of collections.

#### 4.3.2.3 Impact analysis

This subsection provides the results from the impact analysis summarising the impact of MCH on the sector/activity. For more information on the methodology and the indicators and data used, see Section 4.3.2 of Annex IX. The coefficient used for the impact analysis in this chapter is the share of pre-1919 dwellings in the total number of dwellings. This coefficient has been used on Eurostat data for the total insurance sector (after the part of the insurance sector relating to the insurance of buildings has been isolated). In addition, the expenditure of museums on the insurance of their collections has been used.

As discussed in section 4.2.3.3, it is estimated that museums spent approximately one billion on expenditures other than staff salaries. It is important to note that even if this whole amount were allocated to insurance, which of course is not the case, it would still correspond to only 1% of the total non-life insurance sector.

*Box 4: Insurance of museums in the Netherlands*

In the Netherlands, there is an indemnity scheme organised by the Cultural Heritage Agency, called the *indemniteitsregeling* which allows Dutch museums that organise exhibitions and borrow collections from abroad to use this scheme to cover part of the required insurance. Consequently, museums using this scheme spend less money on their insurance premiums.

In 2016, the collections making use of this scheme were worth approximately EUR 1.6 billion. The total value of the insurance for these collections was approximately EUR 13.8 million. After calculating the reduction due to the scheme, museums spent approximately EUR 8.9 million to cover insurance costs.
Although not providing a complete picture of the expenditure of museums on insurance in the Netherlands (as it only covers museums that organise exhibitions with works of art borrowed from abroad having successfully applied for the scheme) and although not necessarily comparable to the expenditure of museums on insurance in other countries/regions, this data is interesting as it supports the picture of a low expenditure on insurance by museums.

In Sweden, there is a similar scheme, called *Utställningsgaranti* (exhibition warranty).

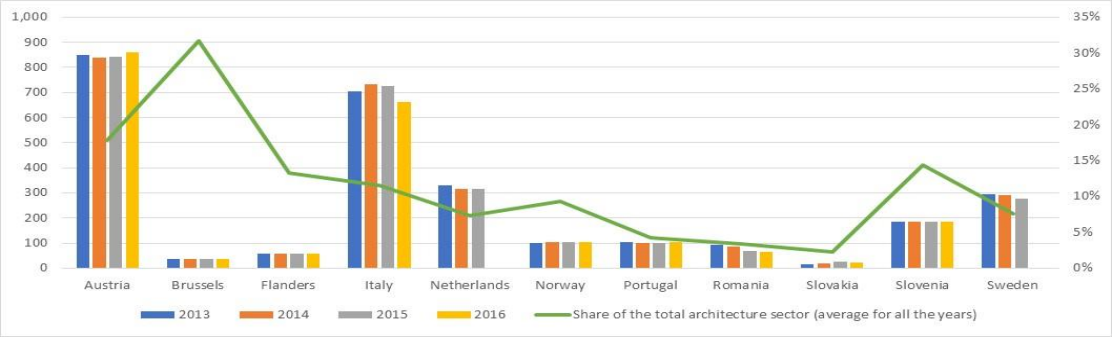
*Source: Rijksdienst voor Cultureel Erfgoed, https://erfgoedmonitor.nl/onderwerpen/indemniteit*

With regard to property insurance, this represents approximately 30% of the total premium of the non-life insurance subsector and approximately EUR 25 billion on average per year for the period 2013 – 2016.[33] The share of employment in the insurance sector in 2016 that can be attributed to MCH has been estimated at 2,093 FTE. Table 68 Annex IX provides the overview

[33] Source: Insurance Europe, Key facts – annual issue and Eurostat.

of the impacts in all the countries/regions for the years 2013-2016. Figure 28 shows the same information in a chart.

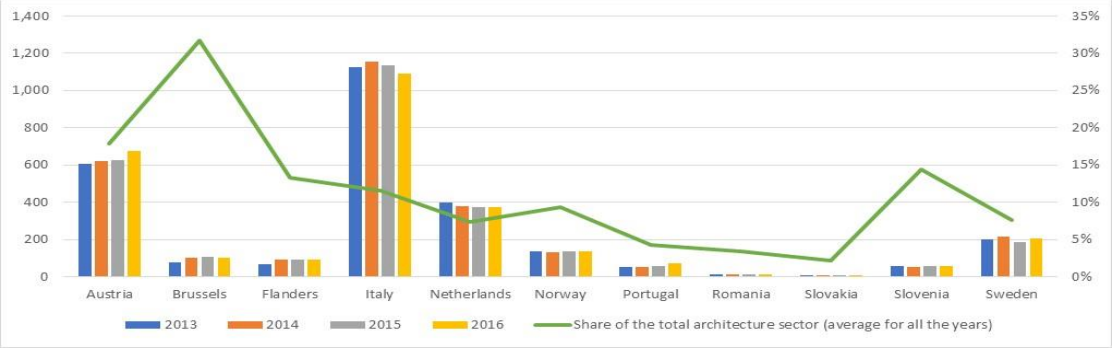
*Figure 28: Estimated employment (FTE), total of the insurance sector that can be attributed to MCH*




*Source: elaboration of the service provider (2019) based on national databases and Eurostat*

The share of the turnover of the insurance sector in 2016 that can be attributed to MCH has been estimated at EUR 2,826.3 million. Table 69 in Annex IX provides the overview of the impacts in all the countries/regions for the years 2013-2016. Figure 29 shows the same information in a chart.

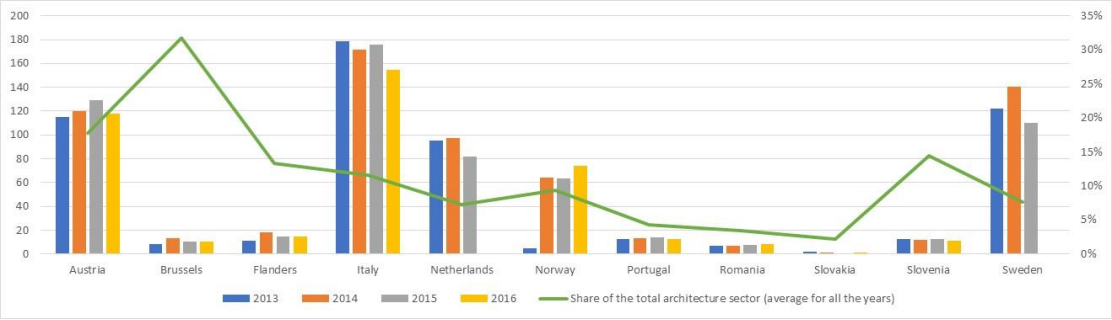
*Figure 29: Estimated turnover (EUR million), total of the insurance sector that can be attributed to MCH*




*Source: elaboration of the service provider (2019) based on national databases and Eurostat*

The share of the GVA of the insurance sector in 2016 that can be attributed to MCH has been estimated at EUR 405.6 million. Table 70 in Annex IX provides the overview of the impacts in all the countries/regions for the years 2013-2016. Figure 30 shows the same information in a chart.

*Figure 30: Estimated GVA (EUR million), total of the insurance sector that can be attributed to MCH*




*Source: elaboration of the service provider (2019) based on national databases and Eurostat*

Considering both the expenditure of museums on insuring their collections and property insurance for pre-1919 dwellings, a yearly impact ranging between EUR 3.5 billion and EUR 4 billion has been estimated.

#### 4.3.2.4 Impact in perspective: compared to total MCH

In order to give a broader picture of the impact of this sector/activity, this subsection provides insights on how the total impact of insurance that can be related to MCH relates to the total impact of MCH for all sectors/activities. In addition, a comparison with the wider economy is provided for all sectors/activities together in Section 5.1.5.

**Employment impacts**

Employment in the insurance sector that can be attributed to MCH (2,093 FTE) forms 0.4% of the total employment level that can be attributed to MCH making it the second smallest activity/sector.

**Turnover impacts**

The turnover of the insurance sector that can be attributed to MCH (EUR 2,826.3 million) forms 3.4% of the total turnover that can be attributed to MCH making it the third largest activity/sector.

**GVA impacts**

The GVA of the insurance sector that can be attributed to MCH (EUR 405.6 million) forms 1.2% of the total GVA that can be attributed to MCH making it the smallest activity/sector.

## 4.4 Other indicators

### 4.4.1 Public expenditure

The public sector plays an important role in the MCH value chain. Heritage is a public good and several activities (e.g. conservation, trade and exploitation) are regulated by competent authorities at national (e.g. cultural ministries, national heritage agencies), regional or local level. Many of the institutions involved in managing MCH are either full public sector organisations, or dependent on public funding and subsidies for their functioning. Furthermore, the economic valorisation of MCH is to a large extent dependent on public financial investment both at national and regional level, as well as on the opportunities that the regulatory framework offers for this (IDEA Consult et. al., 2017).

Eurostat provides figures concerning general government expenditure by functions (classified based on the 'Classification of the functions of government', COFOG).[34] Considering the scope

[34] Source: Eurostat, General government expenditure by function (COFOG) [gov_10a_exp].

of this study, the most relevant government function is Cultural services (GF0802). This function includes:

- Provision of cultural services;
- Administration of cultural affairs;
- Supervision and regulation of cultural facilities;
- Operation or support of facilities for cultural pursuits (libraries, museums, art galleries, theatres, exhibition halls, monuments, historic houses and sites, zoological and botanical gardens, aquaria, arboreta, etc.);
- Production, operation or support of cultural events (concerts, stage and film productions, art shows, etc.); and
- Grants, loans or subsidies to support individual artists, writers, designers, composers and others working in the arts or to organisations engaged in promoting cultural activities.[35]

Table 72 in Annex IX provides an overview of national expenditure on cultural services. In total, public authorities invested EUR 35,144.0 million on cultural services; this represents less than 1% of total public expenditure.

To give an indication of the spending on Material Cultural Heritage specifically, some figures are available from the HEREIN Crowdfunding collection of background variables done in 2016 by the EHHF Economic Taskforce, see Table 14. The total spending by all government levels on the conservation, restoration, repair and maintenance for protected constructions was EUR 447.9 million in 2015.

*Table 14: Budget for conservation, restoration, repair and maintenance spent by all government levels for protected constructions, 2015*

| Country | Budget (EUR) |
|---|---|
| Austria | - |
| Brussels | 12,507,182.0 |
| Flanders | 63,097,181.7 |
| Italy | - |
| Netherlands | 154,218,231.0 |
| Norway | 41,381,209.0 |
| Portugal | - |
| Romania | - |
| Slovakia | 8,046,797.0 |
| Slovenia | 11,249,461.1 |
| Sweden | 157,429,980.0 |
| **Total** | **447,930,041.8** |

*Source: European Heritage Heads Forum, HEREIN Crowdfinding (23/06/2016)*

[35] This function includes national, regional or local celebrations provided they are not intended chiefly to attract tourists. This function excludes: cultural events intended for presentation beyond national boundaries, national, regional or local celebrations intended chiefly to attract tourists and production of cultural material intended for distribution by broadcasting. Source: https://ec.europa.eu/eurostat/documents/3859598/5917333/KS-RA-11-013-EN.PDF.

### 4.4.2 Value of volunteering

The contribution of volunteers is vital to many archives, libraries, museums and other MCH institutions. Their contribution can be quantified in terms of potential FTE jobs and costs savings for the institutions where they volunteer. The value of these savings can be estimated by multiplying the FTE of volunteering by the minimum salary in the country. However, data on the number of people volunteering in organisations that are active in all steps of the MCH value chain is scarce.

Currently, only for museums complete data exists in the EGMUS database. However, it should be noted that data is available for different years (from 2011 to 2017) and therefore it is not possible to provide an estimation for a specific year. Therefore, the quantification should be considered as an indicative value of the contribution of volunteers to museums activities. Except for Norway and Sweden, for which FTE of volunteers was available, for the other countries/regions only the number of volunteers was available. It is assumed that a weekly average of four hours for 32 weeks has been spent by volunteers on their activities.[36] It follows that the formula to estimate the FTE of volunteers is:

$$\frac{\text{Number of volunteers} * 4 \text{ hours} * 32 \text{ weeks}}{38 \text{ hours} * 32 \text{ weeks}}$$

Using the minimum salary, Table 15 shows that the estimated total volunteers' value amounts to EUR 171.2 million.

*Table 15: Estimated volunteers' contribution to museums activities*

| Country/region | Number of volunteers | Estimated FTE of Volunteers | Minimum salary (EUR) | Estimated value of volunteering (EUR) |
|---|---|---|---|---|
| Austria | 3,508 | 369 | 1,500 | 6,646,736.8 |
| Belgium | 1,550 | 163 | 1,519 | 2,974,246.3 |
| Italy | 16,405 | 1,727 | 1,580 | 32,740,926.3 |
| Netherlands | 34,895 | 3,673 | 1,526 | 67,272,942.3 |
| Norway | - | 202 | 4,000 | 9,696,000.0 |
| Portugal | 535 | 56 | 611 | 413,244.3 |
| Romania | - | - | 251 | - |
| Slovakia | 237 | 25 | 398 | 119,405.2 |
| Slovenia | 285 | 30 | 794 | 286,045.2 |
| Sweden | - | 2,362 | 1,800 | 51,019,200.0 |
| **Total** | **57,415** | **8,608** | **15,501** | **171,168,746.5** |

*Source: EGMUS database, national sources and Eurostat Monthly minimum wages - bi-annual data [earn_mw_cur]*

[36] This assumption is based on a series of national reports published by the European Commission in the period 2006 – 2010.
See: http://ec.europa.eu/citizenship/about-the-europe-for-citizens-programme/studies/index_en.htm.

# 5. Key findings and recommendations

In this section, the key findings from the analysis of this study are summarised. In addition, several sector-specific recommendations are provided regarding the setting up of a monitoring system and lastly, several more high-level recommendations are made.

## 5.1 Key findings on the economic impact of MCH

This subsection presents in sequence, the findings of the current study on: the total economic impact that can be attributed to MCH; the economic impact that can be attributed to MCH per sector/activity; these impacts as share of the total sector/activity and these impacts as share of the sector/activity in the total impact of MCH.

### 5.1.1 Total economic impact of MCH

Adding the impacts of MCH in all sectors/activities together, the total impact that can be related to MCH in 2016 has been estimated at:

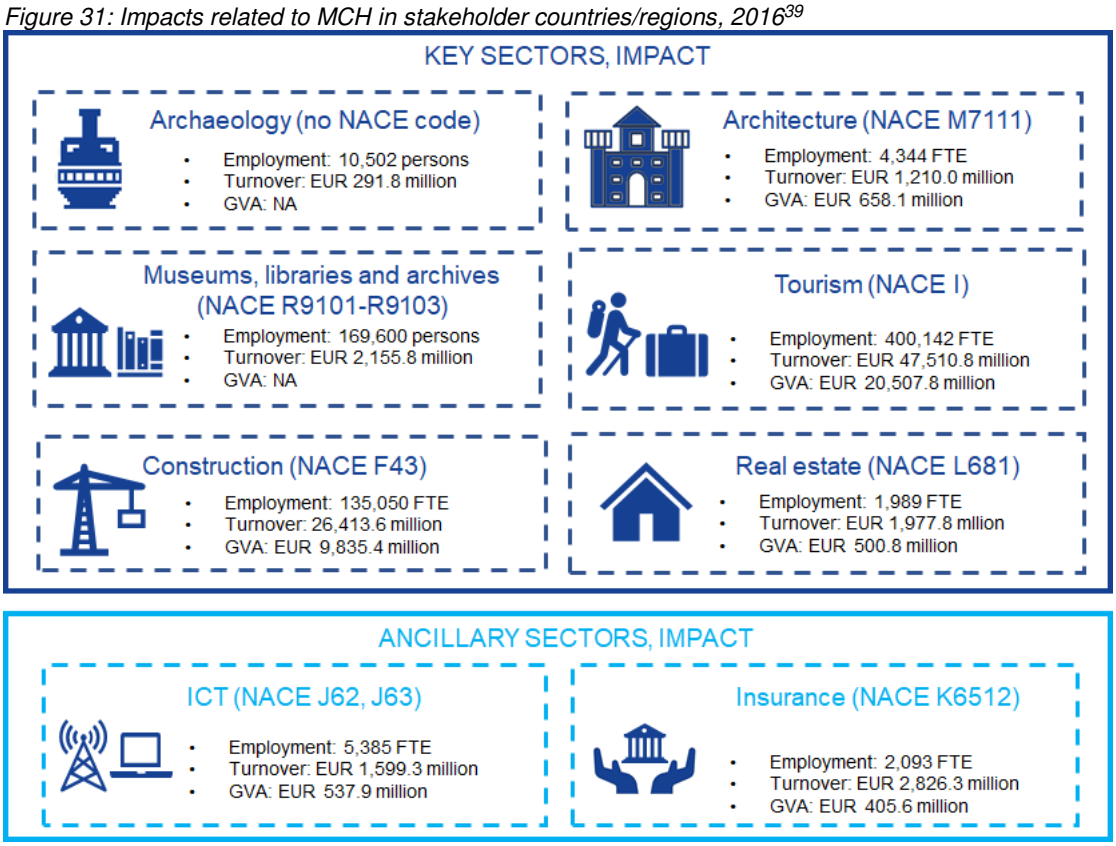
- **Employment:** 549,003 FTE;[37]
- **Turnover:** EUR 83,985.4 million;
- **GVA:** EUR 32,445.6 million;[38]
- **Value of volunteering:** EUR 171.2 million; and
- **Public expenditure in the heritage sector:** EUR 447.9 million.

### 5.1.2 Impacts per sector/activity

Figure 31 presents the impacts on the key sectors and ancillary sectors related to MCH in 2016. For data regarding time series and impacts in individual countries/regions, Section 4.

[37] In addition, there were 180,102 persons employed in archaeology and museums, libraries and archives. Because of lack of data availability, these persons cannot be expressed in terms of Full Time Equivalent.
[38] Because of lack of data availability, it was impossible to estimate the Gross Value Added of archaeology and museums, libraries and archives.

*Figure 31: Impacts related to MCH in stakeholder countries/regions, 2016*[39]



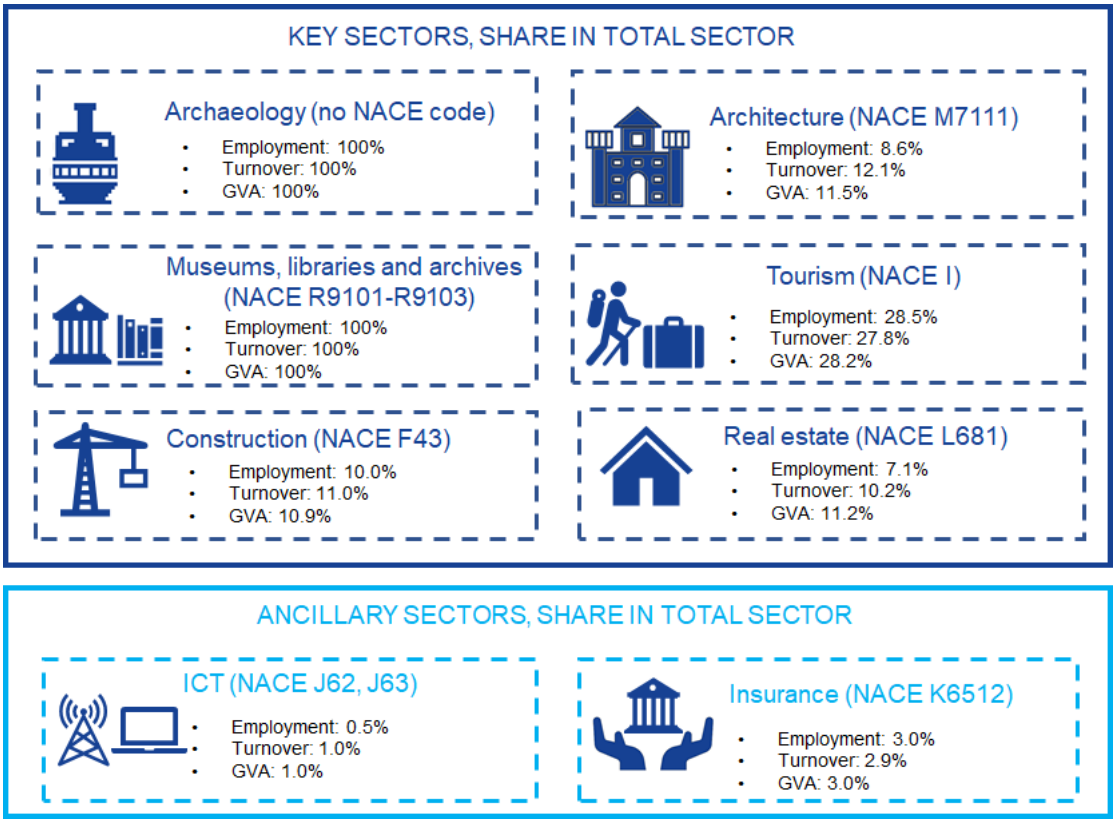

*Source: elaboration of the service provider (2019) based on national databases and Eurostat*

### 5.1.3 Impacts as share of total sector/activity

To put these impact figures into perspective, Figure 32 presents the share of the impact related to MCH in the total sector/activity. These shares relate to the coefficients that have been used to isolate the share that can be attributed to MCH as part of the impact analysis. Archaeology and museums, libraries and archives activities are fully related to MCH and therefore by default 100%. For tourism, this relates to the share of leisure tourists in the total number of tourists, which is almost 30%. For architecture, construction and real estate this relates to the number of pre-1919 dwellings in the total number of dwellings and this share is approximately 10%. For ICT and insurance this relates to the expenditure of museums, libraries and archives in these sectors and, consequently, these shares are significantly lower, between 0.5% and 3% for all three indicators.

[39] Employment figures for archaeology are from 2014.

*Figure 32: Share of the impacts related to MCH in the total sector/activity in stakeholder counties/regions, 2016*[40]



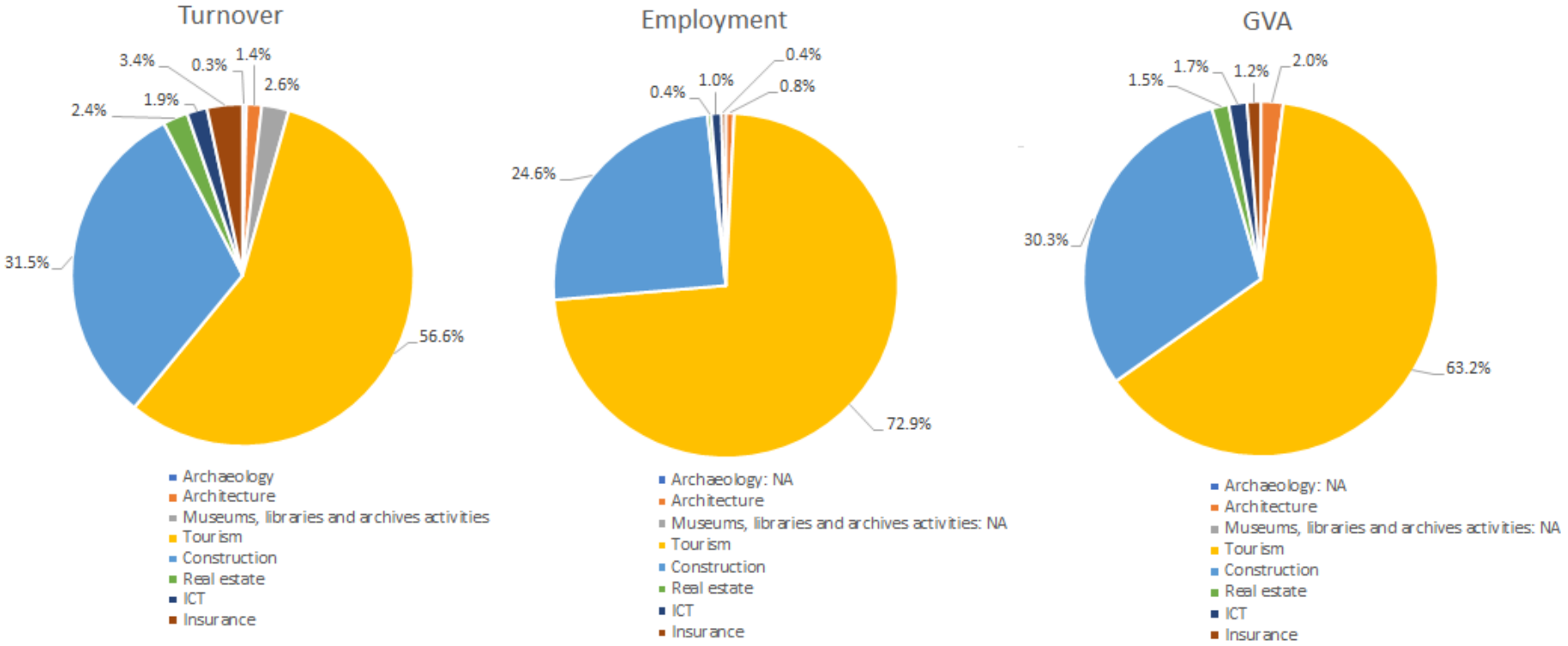

*Source: elaboration of the service provider (2019) based on national databases and Eurostat*

### 5.1.4 Impacts as share of the sector/activity in the total impact of MCH

In this section, the share of each sector's/activity's impact as a percentage of total MCH impact is presented (see Figure 33). This figure confirms the earlier point suggesting that the largest impacts come from tourism and construction. A clear picture is provided on the impacts on the turnover, more than for the other impact indicators, as there is comparable data for all sectors/activities: tourism provides more than half of the total turnover, while construction provides just under a third of the total turnover. The other six sectors/activities provide together 12.0% of the total turnover; of these smaller sectors, insurance is the largest and archaeology the smallest.

[40] Employment figures for archaeology are from 2014.

*Figure 33: Share of the impacts of each sector/activity in total impact of MCH in stakeholder counties/regions, 2016*




*Source: elaboration of the service provider (2019) based on national databases and Eurostat*

### 5.1.5 Impacts compared to the wider economy

Comparing the impact of MCH to the wider economy:

- **Employment:** 2.1% of the total business economy except financial and insurance activities and 5.0% of the total services economy (NACE codes H-N and S95), similar to the contribution made by the entire subsectors of support activities for transportation, cleaning activities or private security activities;
- **Turnover:** 1.0% of the total business economy except financial and insurance activities and 4.0% of the total services economy (NACE codes H-N and S95), similar to the contribution made by the entire subsectors of support activities for transport, legal and accounting activities or wired telecommunication activities;

  **GVA:** 1.6% of the total business economy except financial and insurance activities and 3.4% of the total services economy (NACE codes H-N and S95), similar to the contribution made by the entire subsectors of activities of head offices, engineering activities and related technical consultancy or business and other management consultancy activities.

## 5.2 From limitations towards a monitoring system

A well-functioning monitoring system requires the supply of all relevant data; however, the analysis has shown that for most of the sectors/activities, data is missing, incomplete or not comparable. Consequently, for each sector/activity, several steps need to be taken in order to develop a monitoring system. This section summarises the key indicators that should be prioritised by sector/activity, as well as main recommendations in order to collect these.

Key limitations based on the data collection exercise for this study are presented in Section 5.2.1 and then the actual framework for the monitoring system based on these limitations is presented in Section 5.2.2.

### 5.2.1 Limitations

This section presents the general limitations that have been encountered over the course of the data collection undertaken for this study.

In relation to the mapping of the baseline population of MCH, some challenges have been identified regarding the availability, accessibility and comparability of data:

- **Availability**: traditionally, documenting (and listing) heritage assets has been mostly related to immovable cultural heritage, in particular to buildings or groups of buildings. Information on movable cultural heritage is more difficult to retrieve. Furthermore, it has been difficult to retrieve time series for data allowing to monitor the evolution over time;
- **Accessibility**: data on total and historical/heritage building stock is not widely available in public data (hence the use of EUROSTAT census/dwellings as a proxy in this study);

- **Comparability**: while a common operational definition of MCH has been used in the study, there are significant differences between countries/regions and data sources between the different countries/regions are not connected, so the cross-country/region comparison of data on heritage assets is not without limitations.

Regarding economic data, current official classification systems are not adapted to fully capture the impact of MCH, in particular:

- **NACE classification:**
  - Considerable discrepancy between the activities directly related to cultural heritage and the coverage/data availability in terms of statistical data (ESSnet-Culture report, 2012);
  - Lack of NACE-codes for some activities (e.g. archaeology completely lacking, no full data for museums, libraries and archives activities);
  - Partial overlap between some activities and the corresponding NACE-code, which makes it difficult to estimate and isolate the share of related indicators which pertain to material cultural heritage (e.g. NACE code M71.11 “Architectural activities” includes architectural consulting activities such as building design and drafting, town and city planning and landscape architecture which can be related to both material cultural heritage and buildings or landscapes not considered as heritage);
  - Spread of one activity over different NACE-codes (e.g. restoration of movable material cultural heritage is covered both by NACE-code R90.03 “artistic creation” which includes “the restoring of works of art such as paintings” but also by NACE-code C33.19 “repair of equipment” which includes “the restoring of […] other historical musical instruments”);
  - Some NACE-codes were not represented in the Structural Business Statistics for the years under study, e.g.R90 “Creative, arts and entertainment activities” and R91 “Libraries, archives, museums and other cultural activities” are covered by the Business Demography but are not included in. However, this problem will no longer occur in the future since data are available as from 2018;
  - Publicly available data sources usually only provide data at NUTS0 level making it difficult to estimate the impact on regional and local levels.

- **ISCO classification**: ISCO codes also do not fully capture all the professions related to MCH; only three professions can be fully considered as related to heritage (262 librarians, archivists and curators, 265 creative and performing artists, 343 artistic, cultural and culinary associate professionals);

- **COFOG (Classification of the Functions of Government)**: Code 08.20 “Cultural services” is too broad and it is not possible to isolate expenditure on cultural heritage.

Other observations that have been made over the course of the data collection for this study:

- No harmonised data on volunteering exists: EUROSTAT-LFS only covers paid jobs;
- Scarce time coverage: no time series for several economic indicators (e.g. data for archaeology which is based on a one-off survey);
- Scarce accessibility: difficulty to retrieve data without support from NSIs and other organisations;
- Difficulties to isolate data directly pertaining to MCH (e.g. data related to cultural heritage tourism).

### 5.2.2 Framework for a monitoring system

Based on the limitations mentioned in the previous paragraph and to monitor the relevant indicators to calculate the impact of MCH, this project has developed a system in the form of meta-data fiches in Excel where details are listed per indicator. Annex X presents these data fiches setting out for each indicator:

- Relevance;
- Unit of measure;
- Periodicity of collection;
- Geographical coverage;
- NUTS level;
- Data source;
- Collection method;
- Collecting authority;
- Compiling authority;
- Strengths; and
- Weaknesses.

In addition, these meta data fiches provide information on the necessary formulas that have to be used once the indicators are collected in order to estimate the impact of MCH. Comparing these fiches to what has been done in this study, it become clear that the fiches only constitute an ideal situation and are far from the current situation. In order to reach this ideal situation, Table 16 summarises the major steps that need to be taken in order to develop a more coherent and systematic data collection method and assessment of the impacts of MCH.

*Table 16: Suggestions per sector/activity for the development of a monitoring system*

| Sector/Activity Context | Step 1 | Step 2 | Step 3 |
|---|---|---|---|
| **Archaeology:**<br>**Given the lack of an associated NACE code for archaeology, data on related activities is not collected consistently across countries/regions. Moreover, the archaeology profession is not uniformly organised and regulated, making comparison between countries/regions more challenging.** | Map and standardise the definition of the archaeology profession and archaeological activities used in different countries/regions. | Collect key indicators (FTE, turnover and GVA). | Include archaeology in the NACE and ISCO frameworks. |
| **Architecture:**<br>**The methodology used in this study to estimate the impact of MCH on architecture is to use the share of pre-1919 dwellings in total dwellings as a coefficient. In order to go beyond this approach, additional data would be required.** | Define the type of MCH that should be considered for the impact on architecture and the kinds of impacts MCH has. In particular, establish the difference in architecture works on pre-1919 dwellings and listed and protected buildings compared to other buildings. | Collect relevant data. Architecture companies could be surveyed to identify the share of their revenue derived from works on MCH. | |
| **Museums, libraries and archives activities:**<br>**Museums, libraries and archives are not fully integrated in most economic data collection schemes, and if they are, not as a separate subcategory. Moreover, not all these institutions properly keep track of all necessary economic indicators, or at least they do not make this information publicly available.** | Track revenue streams (e.g. public subsidies, donations, tickets sold, etc.). | Track expenditure of museums, libraries and archives to assess the contribution of these organisations to other sectors such as ICT and insurance. Existing methodologies and data collection exercises could be used to this end (e.g. EGMUS project). | |
| **Tourism:**<br>**The part of tourism that is specifically linked to MCH consumption is particularly challenging to isolate. Existing data collection exercises distinguish at the most between business and leisure purposes. In rare cases, further distinction is made between tourists and cultural tourists, however, different definitions of cultural tourism exist preventing comparability of the data across countries. Finally, even if a visitor is travelling for business purpose, it cannot be excluded that he/she will be consuming MCH. It seems particularly difficult if not impossible to capture all the potential situations leading to MCH consumptions. Hence, choices need to be made.** | Create a unique definition of tourists travelling to consume MCH. One option would be to list the activities that are considered consumption of MCH and to survey tourists to find out how many of them engage in these kinds of activities. | Gather data on the main activities conducted by tourists, the reason(s) for their travel and the amounts spent on different types of activities and services in order to isolate the impact of MCH and of MCH related tourism. For instance, gsm data from tourists could be used to track activities/locations/spending (this has been done successfully for Norway already). | Track specific heritage expenses of tourists, for instance entrance fees of heritage sites. |

| | | | |
|---|---|---|---|
| **Construction:**<br>**The methodology used in this study to estimate the impact of MCH on the construction sector is to use the share of pre-1919 dwellings in total dwellings as a coefficient. In order to go beyond this approach, additional data would be required.** | Define the type of MCH that should be considered for the impact on construction and the kinds of impacts MCH has. In particular, establish the difference in construction works on pre-1919 dwellings and listed and protected buildings on the one hand and works other buildings on the other hand. | Collect relevant data. Construction companies could be surveyed to identify the share of their revenue derived from works on MCH. | Collect and publish key indicators (FTE, turnover and GVA) on lower levels (NUTS) in order to better estimate the impact on local and regional levels. Gather information through surveys on the share of construction works on renovation/reconstruction versus works on new buildings. |
| **Real estate:**<br>**Market data concerning the real estate sector is scarce and a substantial data gathering effort should be conducted. While in the context of this study the effects of MCH on the real estate market price have not been covered, monitoring frameworks could be developed to also include this impact. Hence, it is important to define the scope of the monitoring exercise.** | Define the scope of the monitoring framework. Impacts that could be included are buying and selling activities, impact on the management of MCH, impact on market price. | Collect key market information concerning monumental houses: number of transactions and total value of transactions. If possible, distinguishing between pre-1919 dwellings and listed and protected buildings on the one hand and other buildings on the other hand. | Publish additional data in one central location: share of transactions that used services provided by real estate agents, average price of real estate service (expressed in % of transaction cost), square metres sold and average cost per square metre. If possible, distinguishing between pre-1919 dwellings and listed and protected buildings on the one hand and other buildings on the other hand. |
| **ICT:**<br>**For this study, the approach has been to use the impact in the ICT sector formed by the expenditure of museums, libraries, archives and other MCH institutions. However, the actual impact on the ICT sector is much bigger and fast developing (e.g. apps). Moreover, not all these institutions properly keep track of detailed records of their expenditure per category, or at least they do not make this information publicly available.** | Define the type and scope of the ICT activities and services that need to be considered (e.g. websites, ICT local network, management platforms, digital resources, digitalisation of content, etc.).<br>Define the types of MCH for which expenses should be tracked (e.g. museums, libraries, archives, listed and protected buildings, dedicated applications, etc.). | Establish which share of the institutions actually make use of ICT services. | Track the expenses of these institutions. The methodology used by the EGMUS and Enumerate projects could be used as a blueprint. |
| **Insurance:**<br>**Insurance schemes vary greatly from country/region to country/region and for the different types of MCH. Furthermore, sector figures are incomplete and would need to be integrated. Like for ICT, a mapping of MCH spending on insurance would be needed as well.** | Define the types of MCH for which expenses should be tracked (e.g. museums, libraries, archives, listed and protected buildings, etc.). | Map the insurance schemes existing for different types of MCH and in different countries/regions.<br>Develop a mapping of insurance premiums applied by insurance companies depending on the building age and heritage/non-heritage nature of buildings to refine the calculations. | Track insurance expenses. The methodology used by the EGMUS project (i.e. survey of museums focusing on their expenses in the relevant area) could be used. |

## 5.3 Recommendations

Cultural heritage is acknowledged as a key strategic resource by decision-makers (as stressed in several EU policy documents notably the Decision of the European Parliament and of the Council on a European Year of Cultural Heritage 2018 and the European Framework for Action on Cultural Heritage). Perhaps more importantly, this feeling is shared by European citizens. According to the 2017 Special Eurobarometer on Cultural Heritage, more than eight in ten respondents (84%) think cultural heritage is important to them personally, and more than seven in ten (71%) stated that living close to places related to Europe's cultural heritage can improve people's quality of life and sense of belonging to Europe.

This study has provided evidence that MCH generates economic impact across many economic sectors/activities. In essence, MCH is interwoven with the economic fabric of European countries/regions and its cities, for instance through leisure tourism related to MCH or adaptive reuse and renovation works on MCH (pre-1919 dwellings). The availability of reliable and comparable data on the economic impact of cultural heritage is critical to support evidence-based policy making (for instance to support public investment in cultural heritage) as well as to provide evidence when advocating the economic relevance of cultural heritage to those outside the sector. In the last decade, there have been several efforts to improve cultural heritage statistics in Europe, for instance the work carried out by the EUROSTAT ESSnet-Culture group, the European Commission (e.g. KEA 2015) and the European Heritage Head Forum Economic Taskforce. Building on the results of these efforts, this study aims to further contribute to improve data collection and analysis by proposing a theoretical and methodological framework to determine and calculate the economic impact of MCH as well as a blueprint for a common monitoring system at territorial level. However, the study shows that cultural heritage statistics remain confronted with certain specific challenges:

- **Difficulty in finding common concepts and definitions across countries/regions**: while there is a common understanding that (material cultural) heritage is considered what is worth preserving and transmitting to future generations due to its heritage value, each country/region outlines its own set of criteria and processes to designate, conserve, maintain, communicate and transmit MCH in national/regional cultural heritage laws;
- **Inadequacy of current statistical metrics**: the study faced a certain lack of recognition of relevant economic activities or occupations related to material cultural heritage in the current classification systems. For instance, there is no NACE code for archaeological activities and no ISCO code for the archaeologist profession. Furthermore, data regarding economic activities needs to be collected from different NACE codes by extracting the share that can be related to MCH using a coefficient – which is difficult to estimate precisely.

- **Difficulty to capture the economic value of non-profit actors related to cultural heritage**: for instance: there is no common system to collect and analyse data about cultural heritage volunteers in Europe;
- **Comparability issues**: when economic data were available in some countries/regions from non-official data sources (e.g. reports from sector associations), data were not always comparable amongst countries/regions due to the lack of a common framework of measurement;
- **Lack of data to estimate the contribution of MCH to some economic activities**. For instance, as the value chain model shows, several economic activities of cultural and creative industries can be related to MCH (e.g. artistic crafts, advertising, design, audio-visual); however, the study found no available data to estimate the share that can be related to MCH;
- **Difficulty in finding data for lower NUTS levels**, especially in combination with the necessary NACE levels in order to isolate the impact related to MCH. Usually, data either exists at the necessary NACE levels or at the necessary NUTS levels, but not on both, creating problems to calculate the exact impact that can be related to MCH on regional/local level;
- **Limited accessibility and availability of data to map the heritage building stock**, specifically a lack of data necessary to create time series for several categories of MCH (e.g. for movable heritage).

Based on the above, the study shows that further resources and efforts are needed at European and national level to refine and operationalise a common monitoring system. The magnitude of this task turned out to be too big to be completed in the timeframe of this study considering the lack of available data and resources. This requires more coordinated efforts at European level to overcome the gaps and the limitations encountered in the data collection process. To this aim, in this final section the study puts forwards a set of operational recommendations to improve the data collection process and measurement of the economic impact of MCH.

Below, the study proposes a set of operational recommendations to address the identified gaps and improve the overall economic statistics on cultural heritage taking into consideration already existing initiatives and the work already carried out in the field.

#### 5.3.1.1 Development of concepts and definitions

Finding a common ground to elaborate a **common operational definition** of MCH proved to be a challenge considering the different legislative and methodological approaches used by each country/region. The development of shared concepts and definitions at European level would benefit from additional cooperation amongst relevant stakeholders. It is proposed to the European institutions to:

- Engage with **national heritage institutions, experts and cultural heritage practitioners** to elaborate a common definition of cultural heritage for statistical purposes which could improve its measurement and the comparability of data. For instance, the definition of cultural heritage used in official statistics at European level (notably the definition mentioned in the ESS-net culture report 2012) could consider the revised value-chain model for MCH put forward by this study. The Heritage Forum (a Commission expert group set up by the Framework for Action on Cultural Heritage) or the EHHF could be a suitable platform for this purpose;
- Encourage and support the dialogue with NSIs and agencies responsible for the management of heritage inventories to explore the possibility to establish **a common operational definition of MCH** based on the extended definition provided by this study. This will facilitate data collection and comparability of data across countries/regions in relation to the baseline population (stock) of MCH. It can also include the possibility to define a new standard unit of immovable MCH, for instance taking the surface of objects into consideration.

#### 5.3.1.2 Improve data collection

Taking into consideration the challenges and limitations faced by the study, it is suggested to explore the possibility for the European institutions including EUROSTAT, in coordination with NSIs to:

- Propose amendments to the existing **international statistical classifications** to introduce or amend codes in relation to cultural heritage when a revision of the classifications will take place. For instance, a specific code for archaeological activities could be introduced in the current classification system for economic activities (NACE); more levels of details can be foreseen in the occupational codes (ISCO) e.g. include the profession of archaeologist; the current classification system for public expenditure on culture (COFOG) could isolate cultural heritage expenditures, while currently it only distinguishes cultural services of which cultural heritage expenditures only forms a small part. The COICOP classification of individual consumption by purpose could introduce household expenditures on maintenance/renovation of cultural heritage in the cultural consumption section;
- Improve coverage of data regarding **non-profit employment and volunteering**;
- Revise the current **data collection scheme** (including the sampling methods for surveys) to include additional indicators related to cultural heritage (e.g. percentage of tourists travelling for cultural heritage purposes);
- Discuss the possibility of **collecting data at a lower detail level for both NACE and NUTS** and making these data also publicly available on these lower levels, in order to more precisely estimate the impact of MCH on regional/local level;

- Reinforce the current **cooperation with relevant stakeholders** such as the representatives of museums and libraries (EGMUS and EBLIDA) to gather data on their contribution to the economy (employment, turnover and GVA);
- Engage with **cultural heritage organisations**, NGOs, volunteering organisations and business and professional associations to address statistical gaps in official statistics, particularly in relation to employment and economic data. However, this would entail an agreement on a common framework of measurement including the key data to be regularly collected ensuring quality and comparability.

In relation to data collection to map the population (stock) of MCH, the study suggests to national heritage organisations, in coordination with NSIs to:

- Map the stock of MCH on a yearly basis and publish yearly overviews to keep track of the changes of the stock over time (if possible, in the English language);
- Engage with national property registers to facilitate the collection of data related to heritage building stock (e.g. pre-1919 buildings).

#### 5.3.1.3 Foster capacity building and dissemination of data

To improve long-term capacity of practitioners who are responsible for cultural heritage statistics and for assessing the economic impacts of cultural heritage, the study recommends to EU institutions and/or national authorities to set up **training schemes and capacity building sessions** including the development of manuals and guidelines on how to collect and analyse data. Capacity building could be tailored for different target groups;

- NSIs: capacity building could focus on improving data collection, data analysis skills, use of harmonised methodologies in relation to the specificity of MCH. This need emerged from the interaction with NSIs that took place during the study;
- Policy makers in public government or agencies: training schemes could support data analyses and interpretation for policy making;
- Cultural organisations and association to improve data collection.

Additional efforts could be made in relation to accessibility and dissemination of data:

- Include a strong **dissemination component in collecting data** to facilitate accessibility of data for the wider public raising awareness about the contribution of MCH to the economy. Concrete actions could include dedicated sections on the EUROSTAT and/or NSI websites or a yearly publication dedicated to cultural heritage statistics including thematic tables on employment, business and value of heritage volunteering;
- Engage with **existing initiatives** such as the Heritage Forum and EHHF to further motivate national stakeholders to engage in data collection.

#### 5.3.1.4 Future research

To further develop the methodological framework proposed by the current study, it is recommended to the EU institutions and/or national authorities to:

- Explore the possibility of setting up a **National Satellite Account** (NSA) on cultural heritage to facilitate the standardisation of data collection, monitoring of data over time and data analysis to estimate the contribution of cultural heritage to the economy and society. Satellite Accounts capture the full contribution of economic activities/sectors to the economy and are especially useful for new and non-traditional sectors, such as cultural heritage. Another major advantage is that it allows reliable comparisons across countries/regions. In certain countries, there is already a Satellite Account for culture, but specific Satellite Accounts for cultural heritage could even more precisely capture its impact to the economy;
- Improve **inter-country collaboration** (for instance under the leadership of the Heritage Forum or the EHHF) to explore the possibility to introduce a European SA for cultural heritage;
- Create an **Open Method of Coordination (OMC) Expert Group** to support future research on measuring the impact of culture including cultural heritage in the economy and society;
- Explore the use of alternative sources for data collection, specifically the use of **Big Data**. Data retrieved by Big Data providers could be useful to create insights on digital practices in relation to cultural heritage (for instance social media and online purchases). This could complement the EUROSTAT pilot project on the use of Wikipedia page views on World Heritage Sites. Collaboration with existing initiatives could be explored, for instance the Cultural gems app launched by the JRC;[41]
- Ensure EU and national **funding for future research** in the field. Specific action lines within the upcoming programmes in the next Multi Annual Financial Framework could be foreseen (for instance within Horizon Europe)

[41] https://culturalgems.jrc.ec.europa.eu/

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- Rome Declaration (25 March 2017)

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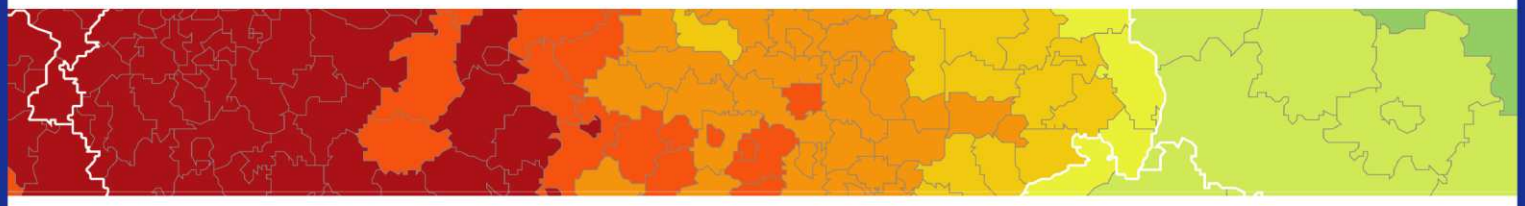

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