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GLAMMONS

THE CONTRIBUTION OF GLAMS TO LOCAL AND REGIONAL ECONOMIES

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Abstract

The purpose of the paper is to unpack the contribution of GLAMs in the regional economies of a set of selected European countries/regions, where there are available official statistics. Our work aims to delineate the contribution of GLAMs to regional economies, and shed light on that issue, while searching for more data for GLAMs. The working paper therefore makes use of the very few official statistics from Eurostat; additionally, the authors reached a number of National Statistical Authorities in the EU, in order to get official regional statistics for the GLAM sector. Moreover, the paper uses the statistics gathered through the GLAMMONS survey, in order to shed light to the issue of volunteering labour in GLAMs and the overall contribution of volunteers.

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ACRONYMS AND ABBREVIATIONS

ACRONYM	DESCRIPTION
CA	Consortium Agreement
CCI	Cultural and Creative Industry
DEM	Dissemination and Exploitation Manager
EC	European Commission
EM	Ethics Manager
GA	Grant Agreement
NSA	National Statistical Authority
PCT	Project Coordination Team
PMH	Project Management Handbook
PMO	Project Management Office
PSC	Project Steering Committee
QE	Quality Evaluator
QM	Quality Manager
RM	Risk Manager
SB	Supervisory Board
VbA	Value-based Approach
WP	Work Package
WP-L	Work Package Leader

1. Introduction

1.1. Purpose and Scope

The purpose of the paper is to unpack the contribution of GLAMs in the regional economies of a set of selected European countries/regions, where there are available official statistics. Statistical databases concerning GLAMs' economic value are scarce due to a number of reasons. Usually, the databases about GLAMs come either from the Labour Force Survey, the Structural Business Statistics database and some national surveys that are usually initiated and implemented by the respective Ministries of Culture. However, there are some shortcomings in these databases. For instance, the LFS relies on a sample of households to collect data in each member state. This data can be representative of the entire population (on a national scale), but not on the regional scale. In that latter case, results are not accurate, especially in the cases of small and peripheral regions. Moreover, the SBS database includes only a small portion of the GLAMs, as it gathers data from enterprises that have specific legal statuses, like private enterprises or state-owned enterprises (e.g. national museums and libraries), excluding other statuses like non-profit organizations and associations/ NGOs. Furthermore, some very few national surveys regarding GLAMs are very fragmented and most of the time do not represent all GLAMs or they are not done systematically and periodically. One of the very few attempts to gather data and harmonise it (in the case of museums), is done by EGMUS, but again the data collected heavily depends on national classifications, and thus it also represents a fragmented picture (www.egmus.eu).

Thus, our work aims to delineate the contribution of GLAMs to regional economies, and shed light on that issue, while searching for more data for GLAMs. The working paper therefore makes use of the very few official statistics from Eurostat; additionally, the authors reached a number of National Statistical Offices in the EU, in order to get official regional statistics for the GLAM sector.

The main questions that this report has the ambition to provide answers to are the following:

- What is the contribution of the GLAM sector in regional economies in the European area?
- Is there any uneven distribution of GLAMs between urban and rural regions in the European territory?
- How did the GLAMs, as part of the CCIs, weather the Covid-19 pandemic?
- What is the contribution of volunteering labour in GLAMs?

The paper after a thorough research in several national official databases, found some information that can enrich our understanding on the geography of the sector and on the shortcomings of statistical databases for GLAMs.

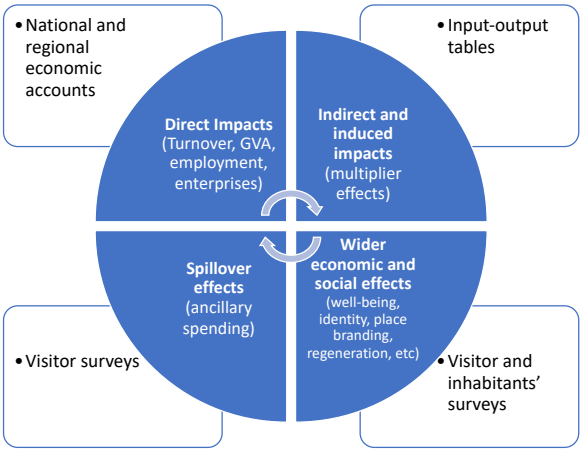
1.2 A conceptual definition of GLAMs' contribution to local and regional economies

GLAMs' function has multiple economic and social effects on the areas where they operate. The following figure (figure 1) gives an overview of that multiplicity of contributions. The first impact of GLAMs' function is the direct economic impact to the local, regional or national economy, through the measurement of the value of GLAMs turnover, employment, Gross Value Added, and number of enterprises.

The first significant problem when dealing with national or regional accounts (on GDP, or employment) is the difficulty to isolate the economic impact of GLAMs, due to the fragmented market structure of the heritage sector and its economic value stemming from a variety of sectors and sub-sectors that range from the conservation and the preservation of historic buildings to several kinds of heritage related activities in the natural environment. Taking into account only the NACE code 91 gives an underestimation of the economic contribution of GLAMs in a national or regional economy, as it fails to acknowledge the several economic contributions made by other sectors that are not solely heritage related but they do contain heritage economic activities (e.g. construction, or education) (CEBR, 2020). That fragmentation applies also to most of the Creative and Cultural Industries.

A number of countries have published reports highlighting the direct contribution of GLAMs to the national economy (Avdikos et al, 2017, DCMS, 2001, Skillset, 2013, Masalin, 2015). However, there are just a couple of reports that attempt to do this at the regional level, as there is a lack of detailed regional accounts. The present report attempts to contribute to this gap, by collecting regional data for GLAMs from a number of national statistical offices in Europe.

Figure 1. The multiple contributions of GLAMs in the economy



A second level of impact of GLAMs on an economy is the indirect and induced impact or the multiplier effects of GLAMs. These kinds of impacts go beyond the direct impact and attempt to measure the wider economic footprint of GLAMs in the economy. The indirect impact refers to the impact made by GLAMs when they purchase goods and services (through their value chain) from other economic sectors (suppliers). These purchases further support output and jobs in these firms and sectors, in multiple rounds in an economy.

Moreover, the induced impact of GLAMs comes from the fact that the workers that receive wages and other employment benefits from the GLAMs or from the GLAMs suppliers (and in turn from their own suppliers) spend these on domestic goods and services in the wider economy. All these support further the gross value added and the employment in an economy. One of the very few studies about the value of indirect and induced impacts of GLAMs on national or regional

economies comes from the Center of Economic and Business Research in the UK (CEBR, 2020, 2018) that was commissioned by the Historic England. In that 2020 report it is highlighted that for every £1 of GVA generated by the GLAM sector in England, an additional £1.50 of GVA is supported in the wider UK economy through indirect and induced multiplier impacts of the sector, and also for every job created in the GLAM sector, an additional 1.74 jobs are supported in the wider UK economy (CEBR, 2020; 6).

The calculation of indirect and induced are heavily dependent upon Input-Output tables and the subsequent generation of multipliers for the GLAM sector. In most of national statistics these I-O tables aggregate the NACE code 91 with other codes (e.g. NACE 90- Creative Arts and Entertainment Activities, or even NACE 93- Gambling and betting activities) and it needs disaggregation in order to use it only for the NACE code 91. Furthermore, I-O tables are difficult to be derived for the regional level (NUTS-2), due to the lack of relevant data and it needs some considerable effort to generate regional multipliers (in the cases that data is available).

A third level of GLAMs economic impact comes from the fact that a number of tourists travel to places in order to visit specific heritage sites or they include heritage sightseeing during trips that have other purposes. These visitors spend resources in the region on food, retail goods, accommodation and the like, the so-called ancillary spending. This increases the income for enterprises in these sectors, which in turn give higher inputs, higher employment and higher revenues (Bowitz and Ibenholt, 2009). Thus, there are reports that describe and analyse the domestic or international overnight heritage -related trips, the value/spendings of GLAMs visits, etc (Cela et al, 2009). These spillover effects of GLAMs can be measured through specific visitor surveys in GLAMs (heritage sites, museums, libraries etc) that some national tourism-related organisations are collecting on a regular basis (Chen and Chen, 2010, Buckley, 2004, Yang and Lin, 2014).

A final level of GLAMs contribution to an economy is the one that considers the wider economic and social effects of GLAMs operation on the individual or on a community of people. These have to do with the connection of GLAMs function with health and well-being (Fujiwara and MacKerron, 2015, Reilly 2015, Pennington *et al* 2017) and the contribution of GLAMs to the processes of local identity formation and the formation of communal values and other values (e.g. commemorative, emotive, educational), attitudes and convictions such as trust, self-determination, tolerance etc (for a comprehensive account of relevant indicators see UNESCO, 2014 and also Bryan et al, 2011). Cost-benefit analysis, Willingness to Pay, Social Return on Investment (SROI), Subjective Wellbeing, Multi-criteria analysis are the main methods for describing these effects of GLAMs and data is usually collected through surveys. Most of these methods attempt to monetize value in order to calculate either the amount an individual would be willing to pay to enjoy a culture good/service (e.g. visit a museum, preserve a heritage site) and on the other hand, the amount of money that would be needed to produce the same level of wellbeing in a person if they had to forego visiting a heritage site (Reilly et al, 2018).

Moreover, the existence of GLAMs, and especially large-scale flagship museums, national galleries and other heritage sites can contribute to the making of local place-branding strategies, and cities can “market” themselves through these flagship projects (e.g. the Guggenheim

museum in Bilbao), that can also raise the land value in their districts and assist processes of urban regeneration, but also gentrification. Also, these projects can attract apart from tourists, other creative, skilled and educated individuals (the creative class) that are looking for relevant amenities that make a lively cultural atmosphere in a city (Florida, 2015).

All the above make of a conceptual framework that describes GLAMs contribution in an economy, either national or regional one.

1.3 Impact of COVID-19 on the CCIs and GLAMs

UNESCO's (2021) report on the Cultural and Creative Industries in the face of COVID-19 is a meta-analysis of existing empirical research on the economic impact of the pandemic on the Cultural and Creative Industries worldwide. The lack of comparable data resulting from the application of uniform standardized measures to measure characteristics of the creative industries referred to in the sections below is also remarked in the report. The report points out the geographical imbalance of the studies reviewed, with the majority examining the pandemic's economic effects in Europe and North America, and the fact that the activities that have been most negatively impacted by public health measures implemented to stop the pandemic, such as music, theatre, museums, and cinemas, are much better covered in the reviewed studies than those that have been less negatively impacted, such as design and creative industries.

Overall, according to the evidence, the CCIs have been hit much harder by the COVID-19 pandemic than by the Global Financial Crisis of 2008 (UNESCO, 2021; IDEA Consult et al, 2021). Additionally, the performance of cultural and creative industries across different countries was found to also be consistently worse than the overall performance of these national economies, showing that the sector as a whole was especially vulnerable to the pandemic and pandemic related measures (UNESCO, 2021). The report estimates that in 2020 there was a US$750bn decrease in the Gross Value Added (GVA) generated by the cultural and creative industries globally relative to 2019 (2021:5), a loss of magnitude of about 1% of the global nominal GDP in 2019, and points out that this is not simply an economic issue, as it represents a "dramatic fall in the overall capacity of the cultural and creative industries to sustain culturally and socially valuable outcomes". The economic impact was not the same across different countries, with losses in revenue of cultural and creative industries in 2020 ranging between approximately 20 to 40% across different countries. Additionally, according to the report, the biggest losses were observed in major urban centres and megacities that have traditionally been locations of CCIs agglomeration. At the level of policy, national variation in support measures offered to the CCIs was also significant (Beltzler et al, 2021).

In terms of employment, the report states that there was a very sharp decrease in employment in the cultural and creative industries "corresponding to upwards of 10 million job losses in the CCIs across the world in 2020" (2021: 24). This was also unevenly distributed, with self-employed, freelance and non-standard workers experiencing higher levels of income loss and unemployment than other categories of cultural and creative workers ((UNESCO, 2021; IDEA Consult et al, 2021), This is most likely an underestimate, as "the EU Labour Force Survey does not consider in its statistics the great number of 'invisible' workers in the CCS: temporary and intermittent workers, persons working under unpaid volunteer programmes and persons holding a second job in the cultural or creative field while maintaining a first main non-cultural occupation.

All these practices are very common in the CCS, resulting in an underestimation in official statistics of the real dimension of the cultural and creative workforce, and as a result also underestimating the real impact of the COVID-19 crisis on the CCS" (IDEA Consult et al, 2021: 16-17). All the evidence suggests that Covid-19 was an emergency that exacerbated both the fragility of the overall CCIs ecosystem (IDEA Consult et al, 2021) and the precarious labour conditions of the sector (Comunian and England, 2020; de Peuter et al, 2023; Shaughnessy, 2023), conditions which are structural, meaning that "that a short-term response is not the only change that might be needed" (Comunian and England 2020: 122).

UNESCO (2021:15) estimates the severity of the impact on different creative and cultural domains on the basis of three characteristics: the degree to which in-person audience activities are important to each domain, the ability of each domain to adapt to physical distancing, and the feasibility of remote working in each one of the domains. Unsurprisingly, cultural and creative industries such as the heritage sector, which have traditionally relied on the physical presence of audiences, and the ones where remote working has been less feasible, such as the performing arts, suffered the sharpest economic losses across different national contexts. Although existing evidence does not focus on the GLAMs as a sector, the UNESCO report (2021:15) concludes that on the basis of the three aforementioned criteria, the domain of Cultural and Natural Heritage suffered significant to extreme disruption, the domain of Visual Arts and Crafts significant disruption, while the domain of Books and Press only suffered some disruption, with Libraries, however, suffering significant disruption due to the reliance of their services on physical presence.

The pandemic's overall long-term implications cannot yet be fully drawn out, but some aspects are already evident at the sectoral level. The lockdown served as a catalyst for expediting previously started processes, such as the delivery of digital and hybrid services. The most clearly significant development in the sector is the rise in the production, distribution and consumption of digital content and services (Navarette, 2021; IDEAS Consult, 2021; UNESCO, 2021). This presents both opportunities and challenges for the CCIs, with the audiovisual sub-sector being optimally positioned to make use of these opportunities (Vlassis, 2021) while sub-sectors such as GLAMs, which have traditionally relied on in-person services face bigger challenges in designing, delivering, and monetizing digital or hybrid products and services or developing in-house the skills necessary for such services, especially when they are small or under-resourced organizations (Wang, 2020). Deliverable 1.5: Pandemic-driven shifts of GLAMs finances and participatory practices: Digital policy and management trends in Europe and Deliverable 1.7: Copyright and open access for GLAMs in the age of COVID-19 address in more depth the particular opportunities and challenges that GLAMs face in this process of digitization.

1.4 Structure of the Document

In the next section we present the methodology and the databases that we collected in order to find an adequate number of National and Regional accounts. Moreover, we also present the pre-processing steps required for preparing homogenous and cleansed data and the methodology applied for overcoming definition deviations of available data fields. Furthermore, we provide details on the methodological approach of the categorization of NUTS2 in regards to their urban and rural typology, as well as details on the descriptive statistics and index analysis utilized. Based on the above, observations and findings on the value of GLAMs in the national and regional economies are detailed in the final section of the document, as well as we show the contribution of volunteering labour in GLAMs, based on the GLAMMONS survey.

1.5 Methodology

1.5.1 Data Collection

Eurostat

Our initial point of reference for obtaining said information was Eurostat, which provided only a subset of the required data, in terms of available years, variables and level of granularity. Specifically, the only relevant R91 available datasets through Eurostat were:

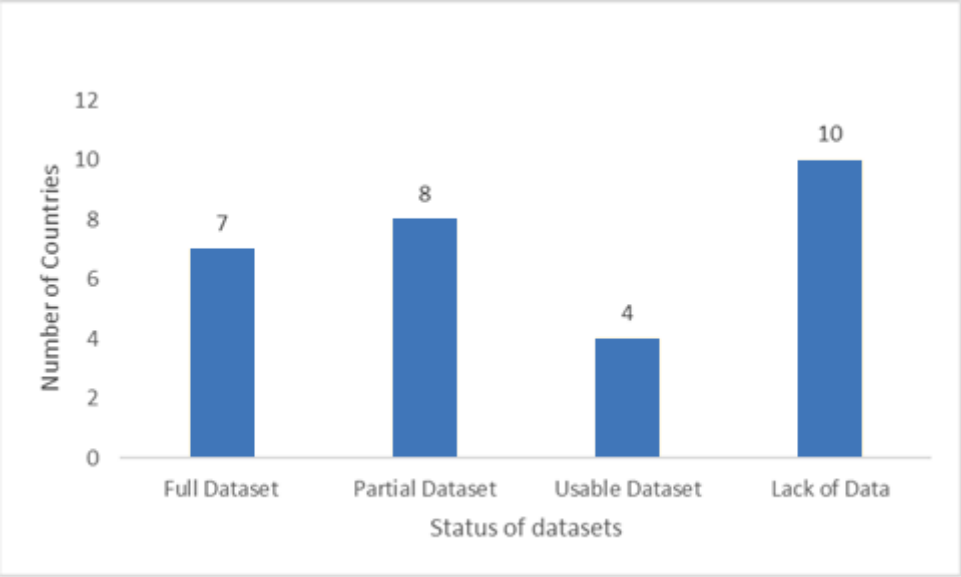
- NACE 91 Cultural employment 2018-2022 per NUTS1
- NACE 91 number of Enterprises number, number of persons employed and Turnover or gross premiums written for 2021 per NUTS1

These datasets were incorporated into our analysis and provided a focal point that would drive comparability among EU 27 countries. That being said, as the above data would not adequately address our research objectives, we expanded our data collection efforts to include the respective national statistical authorities.

National Statistical Authorities

We expanded our data collection exercise, to include public data published at the respective national statistical authority databases and, in cases where the required data were not publicly available, we contacted the authorities directly to request for the defined dataset. In total we reached out to 29 countries, which include the EU 27 countries, as well as the European Economic Area (EEA) countries of UK and Norway. It shall be noted, that in the majority of the countries the data requested were not available and in many the data had only recently started to be collected. The results of this direct data collection exercise are summarized in the following chart:

Figure 1 – Country datasets by status



Source: National Statistical Authorities (NSA)

Where:

- Full dataset includes countries where data was provided for all variables, within the defined timeframes and as per our defined requirements.

- Partial dataset includes countries where data was provided for some variables, within the defined timeframes and as per our defined requirements.

- Usable dataset includes countries where data provided did not meet our defined requirements, but were akin to those, and such were included in our analysis.

- Lack of data includes countries where data were either not available, were not provided within the defined timeframes or where national statistical authorities did not respond to our data gathering request.

Data collection results are further analyzed in the following table:

Table 1 – Data collection results

#	Data Status	Country	Enterprises (No.)	Persons employed (No.)	Turnover (€)
1	Full Dataset	Portugal	R91 - NUTS2	R91 - NUTS2	R91 - NUTS 2
2	Full Dataset	Bulgaria	R91 - NUTS2	R91 - NUTS2	R91 - NUTS 2
3	Full Dataset	Croatia	R91 - NUTS2	R91 - NUTS2	R91 - NUTS 2
4	Full Dataset	Finland	R91 - NUTS2	R91 - NUTS2	R91 - NUTS 2
5	Full Dataset	Greece	R91 - NUTS2	R91 - NUTS2	R91 - NUTS 2
6	Full Dataset	Romania	R91 - NUTS2	R91 - NUTS2	R91 - NUTS 2
7	Full Dataset	Estonia	R91 - NUTS0	R91 - NUTS0	R91 - NUTS 0
8	Partial Dataset	Hungary	R91 - NUTS2	R91 - NUTS2	
9	Partial Dataset	Italy	R91 - NUTS2	R91 - NUTS2	
10	Partial Dataset	Norway	R91 - NUTS2	R91 - NUTS2	
11	Partial Dataset	Republic of Cyprus	R91 - NUTS0	R91 - NUTS0	
12	Partial Dataset	Latvia	R91 - NUTS0	R91 - NUTS0	
13	Partial Dataset	Austria	R91 - NUTS2	R91 - NUTS2	
14	Partial Dataset	Denmark	R91 - NUTS2		

#	Data Status	Country	Enterprises (No.)	Persons employed (No.)	Turnover (€)
15	Partial Dataset	Netherlands	R91 - NUTS2		
16	Usable Dataset	Czech Republic	R91 - NUTS1	R91 - NUTS1	R91 - NUTS1
17	Usable Dataset	Lithuania	R91 - NUTS1	R91 - NUTS1	R91 - NUTS1
18	Usable Dataset	Slovenia		R91 - NUTS2	
19	Usable Dataset	Spain	Museums and Libraries - NUTS2	Museums and Libraries - NUTS2	
20	Lack of Data	Poland			
21	Lack of Data	Germany			
22	Lack of Data	Luxembourg			
23	Lack of Data	Malta			
24	Lack of Data	Slovakia			
25	Lack of Data	Sweden			
26	Lack of Data	Belgium			
27	Lack of Data	France			
28	Lack of Data	UK			
29	Lack of Data	Ireland			

Source: Source: National Statistical Authorities (NSA)

We should note that from the above countries, Estonia, Cyprus and Latvia do not have a NUTS 2 segmentation, which was taken into consideration in the above classification.

For the above available country datasets, the subsequent methodological steps were applied with respective challenges being identified and addressed.

1.5.2 Data pre-processing

In order to bring the data into a format that would allow for consistent and accurate processing, certain data cleansing and validation steps were implemented on the data obtained. Indicatively these include:

- Monetary conversion: In cases where the data were provided at a local currency, these were converted into euros, based on the average conversion rate for our in-scope period.
- Unit conversion: Data were translated into a common unit of measurement (i.e. thousands of persons) to summarize the information and facilitate comparability.

- NUTS Aggregation: In some instances, the data were available in NUTS 3 (e.g. Norway, Finland etc.), hence an aggregation to NUTS 2 was required for comparability purposes.
- Confidential data: In some combinations of variables, years and NUTS 2, the information was classified by the national statistical authority as confidential, hence no numerical value was provided. In such cases, we assumed a value of zero, in order to exercise the most prudent perspective.
- Completeness of time series: From the datasets obtained, there were some instances where the 2021 data were not available, even though previous years. This mainly occurred due to timing issues pertaining to delays in gathering, processing and publishing this data. In such cases, we assumed data consistency between 2020 and 2021 in order to prepare a complete dataset for analysis and comparability purposes. In order to showcase the extent to which this was required, out of the 292 data points obtained for 2021, 147 (50%) of them were populated based on 2020 data.

1.5.3 Data requirements

In order to achieve our research objectives and understand the level of on NACE 91 sector's economic activity and trends, before and after the COVID 19 pandemic, we specified our data requirements to include the following:

Data Variables: Our data analysis targeted key statistical figures that include number of enterprises, employment and turnover, which showcase key metrics of the nature and magnitude of undertaken economic activities. In order to follow a consistent perspective of commonly defined variables, we selected the SBS definitions, which are explained in detail in the relevant methodology section below.

Data Granularity: The above information is required at a NUTS2 level of granularity, as this would facilitate subsequent analysis of respective trends of the R91 activities, based on the rural-urban typology, as explained in the relevant methodology section below.

Data Period: The in-scope period for our analysis included the period 2018 to 2021, in order to understand the magnitude and trends that pre-dated the COVID 19 pandemic as well as the effects of the pandemic on NACE 91 activity.

1.5.4 Variables Consistency

For the purposes of our analysis, we have defined the SBS statistics definitions as the common reference point for our required data. This includes the following definitions for each of the three key variables:

SBS - **Number of enterprises** is defined as a count of the number of enterprises active during at least a part of the reference period. The enterprise is the smallest combination of legal units that is an organizational unit producing goods or services, which benefits from a certain degree of autonomy in decision-making, especially for the allocation of its current resources. An enterprise carries out one or more activities at one or more locations. An enterprise may be a sole legal unit.

SBS - **Number of persons employed** is defined as the total number of persons who work in the observation unit (inclusive of working proprietors, partners working regularly in the unit and

unpaid family workers), as well as persons who work outside the unit who belong to it and are paid by it (e.g. sales representatives, delivery personnel, repair and maintenance teams). It excludes manpower supplied to the unit by other enterprises, persons carrying out repair and maintenance work in the enquiry unit on behalf of other enterprises, as well as those on compulsory military service.

SBS - **Turnover** comprises the totals invoiced by the observation unit during the reference period, and this corresponds to market sales of goods or services supplied to third parties; it includes all duties and taxes on the goods or services invoiced by the unit with the exception of the VAT invoiced by the unit to its customer and other similar deductible taxes directly linked to turnover; it also includes all other charges (transport, packaging, etc.) passed on to the customer. Price reductions, rebates and discounts as well as the value of returned packing must be deducted.

Detailed SBS definitions are available in the following link.

We encountered a significant challenge in our analysis, in regards to the consistency of data types used, which seemed to vary depending on the methodology and perspective followed by each country. While the analysis and graphs presented in our analysis show a common attribute, there are notable differences in the types of data gathered for each country, as shown in the following table. Data obtained that deviate from the above definitions were used without any further alterations or computations, thus accepting any numerical differences deriving from those different definitions.

Table 2 – Variables definitions per Country

#	Country	Enterprises (No)	Persons employed (No)	Turnover
1	Portugal	Number of enterprises	Number of persons employed	Turnover (€) of enterprises
2	Bulgaria	Number of enterprises	Number of persons employed	Turnover
3	Croatia	Number of business entities	Number of employees	Turnover in kunas
4	Finland	Establishments of enterprises (number)	Personnel in establishments of enterprises (staff-years)	Turnover of establishments of enterprises (000's €)
5	Greece	Number of legal entities	Number of employees	Turnover (000's €)
6	Romania	Number of enterprises	Average number of employees	Net Turnover (excluding subsidies)
7	Estonia	Number of enterprises	Average annual number of persons employed	Turnover (000's €)
8	Hungary	Number of local units (pieces)	Number of persons employed	

#	Country	Enterprises (No)	Persons employed (No)	Turnover
9	Italy	Number of active enterprises	Number of persons employed of active enterprises (annual average values)	
10	Norway	Number of enterprises	Employees	
11	Cyprus	Number of enterprises	Employment	
12	Latvia	Economically active enterprises	Average number of employees	
13	Austria	Number of enterprises	Employed persons	
14	Denmark	Number of enterprises		
15	Netherlands	Number of business establishments		
16	Czech republic	Number of active enterprises	Number of persons employed	Net turnover (Revenues, total)
17	Lithuania	Number of enterprises	Number of employees of enterprises (persons)	Income, expenses, profit of enterprises (000's €)
18	Slovenia		Persons in employment	
19	Spain	Total libraries, Museums and Museum Collections	Number of persons employed	

Source: Source: National Statistical Authorities (NSA)

In order to highlight differences among the available datasets, we indicate the following perspective in regards to the number of enterprises:

Countries reporting under the same variable: For Portugal which reported number of enterprises, an enterprise is a legal entity (natural or legal person) that is an organizational unit producing goods or services, which benefits from a certain degree of autonomy in decision-making, especially for the allocation of its current resources. An enterprise carries out one or more activities at one or more locations. Similarly, Lithuania also reports on the number of enterprises, which include public, private companies, state, municipal enterprises, etc., but in this case exclude individual enterprises and natural persons. Finally, Romania also reported on the number of enterprises, which were calculated according to the main activity of enterprises organised as commercial companies, exclusive of private entrepreneurs, public institutions, NGOs and armed forces personnel.

Countries reporting under different variables: Italy for example reported on number of active enterprises, which includes enterprises carrying on economic activities contributing to gross

domestic product at market prices, whereas Latvia reported on economically active enterprises, which includes legal and natural persons, who manufactured products, provided services and/or employed persons either during the whole reference period or only during a part of it.

1.5.5 Descriptive Statistics and index analysis

For the above datasets, sourced both from Eurostat and the respective national statistical authorities, we performed statistical analysis to understand trends and assess whether, how and to what extent did the COVID 19 pandemic affect the R91 sector.

We performed an analysis that focused both on the absolute figures of the variables gathered, as well as the relative changes of those figures between 2018 and 2021. The analysis performed assessed variables from a country perspective, from an urban-rural-intermediate perspective and from a combination of both.

In order to facilitate comparability of the gathered data, for each of the three key variables analyzed, we incorporated additional data into our analysis and created the following indexes:

Table 3 – Indexes analyzed per variable

R91 Variables	Index Name	Index Formula
Number of Enterprises	Average Enterprise Turnover	Turnover (000s EURO) ÷ Number of Enterprises
	Contribution to number of enterprises	Number of enterprises ÷ Total Number of enterprises
Persons Employed	Contribution to employment	Persons Employed ÷ Total employment (Age class 15-64)
Turnover	Contribution to GDP	Turnover (000s EURO) x 10^4 ÷ GDP 000s

Average Enterprise Turnover: This index, in combination with other analyzed data, allows us to understand the composition of the R91 sector, in terms of the sector concentration and size of the participating enterprises.

Contribution to number of enterprises / Contribution to employment: These index, in combination with other analyzed data, allows us to see past the absolute figures of the number of persons employed, and create a common basis for comparison across countries that have significant differences in overall size of populations. Hence, we can understand how significant the R91 sector is for each country, as a proportion of the overall country's number of enterprises and workforce.

Contribution to GDP: is index, in combination with other analyzed data, allows us to see past the absolute figures of Turnover, and create a common basis for comparison across countries that have significant differences in overall size of economic activity.

These indexes were used to perform comparisons between countries for the same year, as well as comparisons of how these indexes changed during the in-scope period of 2018 to 2021.

1.5.6 Cross-validation of data

As part of our analysis, we identified inconsistencies between the available datasets, specifically the ones available from Eurostat and the respective national statistical authority (NSA), which are summarized in the below table:

Table 4 – Comparison of R91 number of enterprises: Eurostat – NSA (2021)

R91 Enterprises Number				
Country	**Eurostat**	**NSA**	**NSA / Eurostat**	**NSA Dataset Variable**
Italy	Not Available	1031		Number of active enterprises
Norway	Not Available	390		Number of enterprises
Croatia	29	422	14,55	Number of business entities
Cyprus	18	57	3,17	Number of enterprises
Denmark	111	257	2,32	Number of enterprises
Netherlands	1616	3615	2,24	Number of business establishments
Spain	2764	6044	2,19	Total libraries & Museums and Museum Collections
Austria	218	360	1,65	Number of enterprises
Hungary	364	392	1,08	Number of local units (pieces)
Bulgaria	51	53	1,04	Number of enterprises
Slovenia	110	113	1,03	Number of enterprises
Romania	287	290	1,01	Number of enterprises
Czechia	147	148	1,01	Number of active enterprises
Latvia	46	46	1,00	Economically active enterprises
Lithuania	27	27	1,00	Number of enterprises
Portugal	317	317	1,00	Number of enterprises
Estonia	25	23	0,92	Number of enterprises
Greece	609	506	0,83	Number of legal entities
Finland	85	67	0,79	Establishments of enterprises (number)

Source: Source: National Statistical Authorities (NSA)

Such deviations can be attributed to the provisional nature of many of the Eurostat figures, as well as the different basis of units reflected in each dataset, as the Eurostat table reports number of enterprises, whereas some countries report under a different basis, as shown in the above table. That being said, we also noted certain deviations that may not be adequately explained by this reasoning, for example:

Spain - Number of enterprises (2021): Based on the Eurostat table, we noted that Spain reported a provisional figure of 2.764 “enterprises – number”, compared to the respective country data which showcases 6.044 enterprises for 2021, which include 1.474 museums and museum collections and 4.570 libraries. Do note that this is an expected figure, as there were no available data for 2021 museums and museum collections, we assumed their number will remain equal to 2020. The level of deviation highlights a potential issue on the underlying data and the need for stronger coordination.

1.5.7 ESPON Classification

In order to assess potential correlations in trends of the R91 sector compared to the urban and rural typology, a relevant classification of NUTS 2 had to be incorporated into our analysis.

In 2010 Eurostat published an urban-rural typology for NUTS 3 regions (Eurostat, 2010), following a similar approach as OECD (2010). Thus, regions are classified by the share of the population living in urban and rural areas rather than on the basis of territorial characteristics, such as land use. Apart from this typology, Eurostat does not publish an urban-rural typology at NUTS 2 level, and as such alternative classifications were utilised.

Specifically, we incorporated the ESPON (link), which is based on the NUTS 3 Eurostat classification and uses the distribution of the population over different types of NUTS 3 regions as a criterion for classifying NUTS 2 regions. This classification allocates each NUTS 2 into one of the following categories:

- Predominantly urban: A NUTS 2 region that includes considerably more people living in urban NUTS 3 regions than in rural NUTS 3 regions. Additionally, a NUTS 2 region is considered predominantly urban if the difference between the percentages of the population living in urban and rural NUTS 3 regions that are part of that NUTS 2 region exceeds a certain threshold value. These threshold values are determined in such a way that in each country the percentages of the population living in urban and rural regions at NUTS 2 level are as close as possible to those at the NUTS 3 level.
- Predominantly rural: Equivalent rules and criteria to the above apply (vice versa).
- Intermediate: A NUTS 2 region where a large share of the population lives in the intermediate NUTS 3 region. It shall be noted that a seemingly intermediate NUTS 2 region might be classified as predominantly urban, if it includes a city with more than 500,000 inhabitants and if the proportion of the population living in urban NUTS 3 regions exceeds that of living in rural NUTS 3 regions.
- It is important to note that there were certain challenges in using the ESPON categorization in our analysis. The ESPON database employs NUTS from 2006, while our data utilized the current 2016 NUTS segmentation. Consequently, there were instances where the current NUTS 2 regions were not available in the ESPON database (FI1B Helsinki-Uusimaa, NO0B Svalbard og Jan Mayen etc.), or followed a different

NUTS structure (e.g.Helsinki was included in FI1C in 2006, but appears as a separate NUTS FI1B in 2016). In such cases, we took into consideration the aforementioned ESPON methodology and implemented our professional judgement to classify those instances where such deviations were identified.

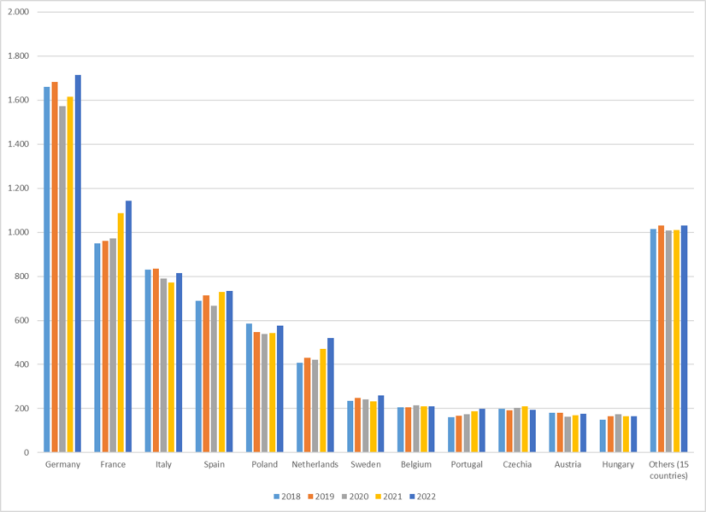
2. The Contribution of GLAMs in the National and Regional Economies of selected European Countries

2.1 Cultural Employment in CCIs and the GLAMs

Before focusing on the GLAM sector, a look at CCIs will shed some light on the ways creative and cultural industries have weathered the Covid-19. Based on the available Labour Force Survey data in the Eurostat database, we analyzed trends of cultural employment at a country level, for EU27 countries from 2018 to 2022. The findings highlight the impact of the Covid19 pandemic.

- During the period from 2018 to 2022, the total CCI labour force across the EU27 indicated a small increase of 6%, rising from 7,27 million in 2018 to 7,73 million in 2022.
- However, during 2019-2020 we see a decline of 3% across EU27 countries, as 18 countries either showed a decrease or consistent figures, with Hungary showing an outlier increase of 7% (Figure 2)
- 12 countries in terms of total cultural workforce maintained their positions from 2018 to 2022, with minor rearrangements in their ranking. These countries accounted for approximately 87% of the total labour force in the EU27 and include Germany, France, Italy, Spain, Poland, the Netherlands, Sweden, Belgium, Portugal, Czechia, Austria and Hungary.
- Germany solidified its position as the leader in the European cultural labour force, experiencing a 3% increase from 2018 to 2022. Following Germany, France and Italy maintained their positions as the leaders in terms of labour force figures from 2018 to 2022. These countries consistently displayed strong labour force statistics throughout the analysed period, consistently ranking among the top three countries. The following table showcases the above trends and provides a comparison among these top 12 countries, with the remaining 15 countries of EU27 being grouped as “Others”.

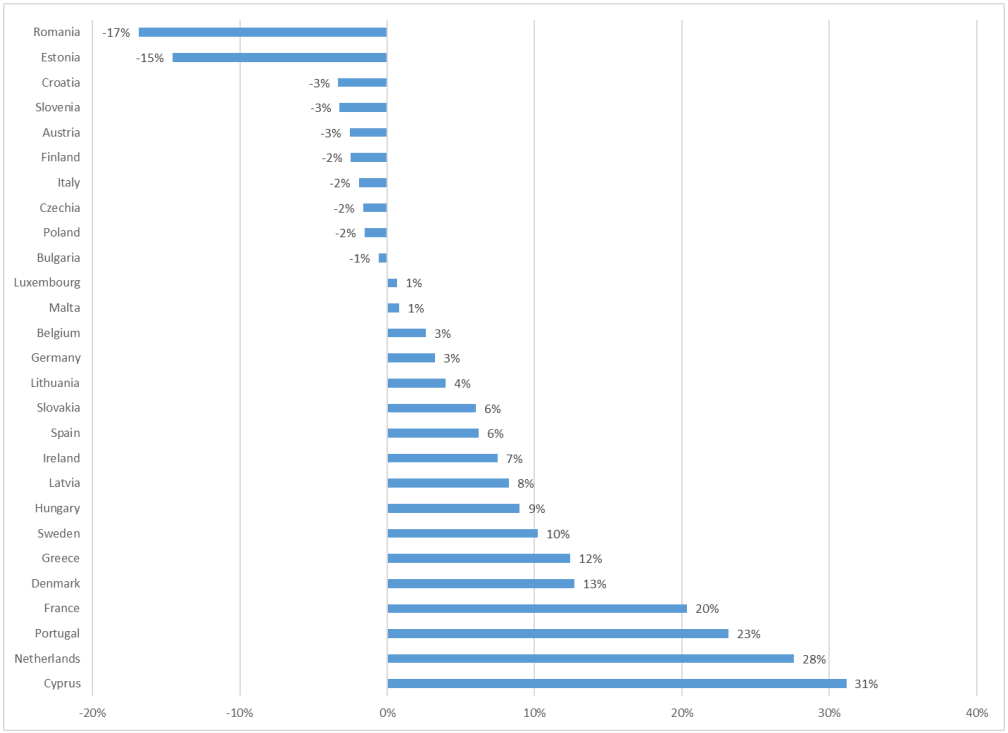
Figure 2 – Cultural Employment: Workforce by country and year (2018-2022)



Source: Eurostat

- Cyprus, the Netherlands, Portugal and France stand out as the countries that have witnessed the most significant percentile increases of CCI employment from 2018 to 2022. These countries demonstrated growth rates exceeding 20%, with Cyprus leading the pack with an 31% increase. These advancements in the cultural workforce highlight the commitment and success of these countries in fostering and expanding cultural employment opportunities.
- Romania experienced the greatest reduction in labour force, with a substantial decline of 17% in CCI employment.

Figure 3 – Cultural Employment CCIs: Workforce change per country (2018-2022)

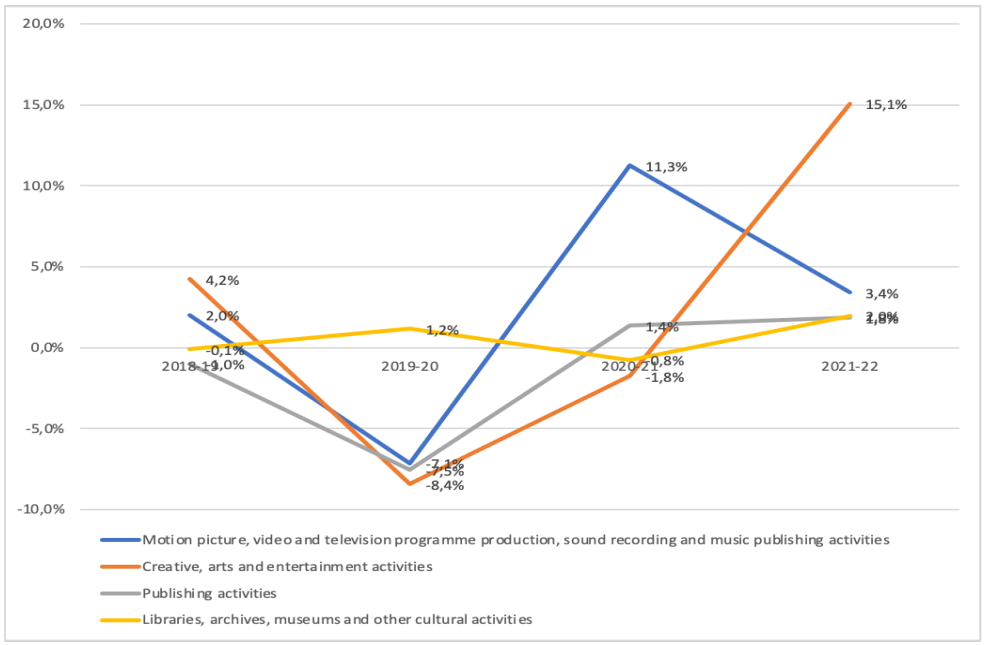


Source: Eurostat

Moreover, looking at a number of cultural sectors we see the following:

The sector that has lost more than 8% of its workforce during the first year of the pandemic (2019-2020) is R90 (Creative, arts and entertainment activities), followed by R58 (Publishing activities) and R59 (Motion picture, video etc.). These sectors were severely impacted by the pandemic, due to the national lockdowns that caused major disruptions in cultural production. The total CCIs lost about 3% in the same period of time. GLAMs (R91) showed a slight increase during 2019-2020, and a subsequent slight decrease between 2020-2021. However, almost all sectors show increases in their workforce from 2018 to 2022, except for the publishing activities that keep losing workforce probablydue to the increasing digitalization of publishing.

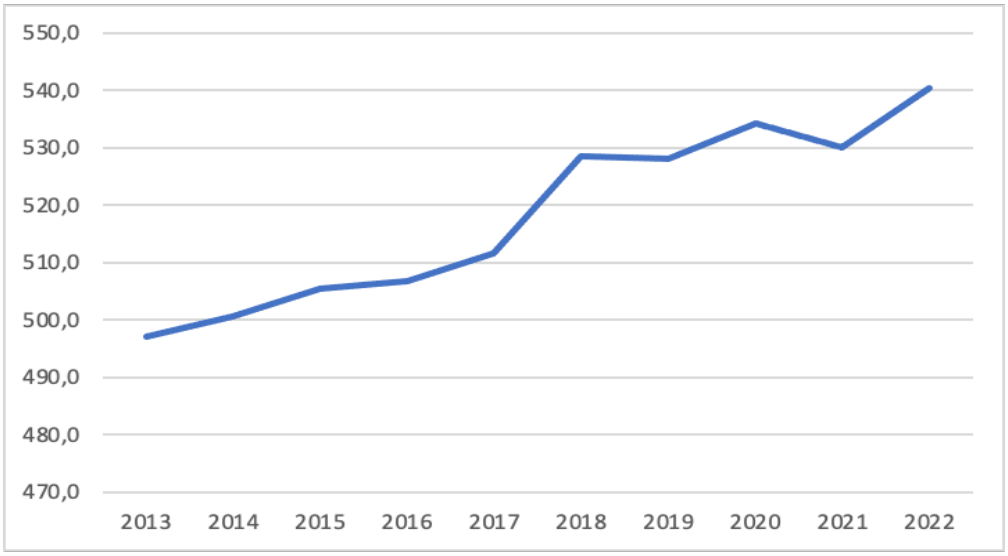
Figure 4 – Sectoral employment (R58 R59 R90 R91): Annual changes per year (2019-2022)



Source: Eurostat

Overall, the number of persons that are working in the GLAMs sector has a steady increase from 2013 and on, as the following figure shows. In 2022 GLAMs seem to employ 540.500 persons in the EU27, while in 2018 they had 518.500 employees and in 2013were employing 497.000 persons.

Figure 5 – GLAMs: Workforce per year EU27 (2013-2022)

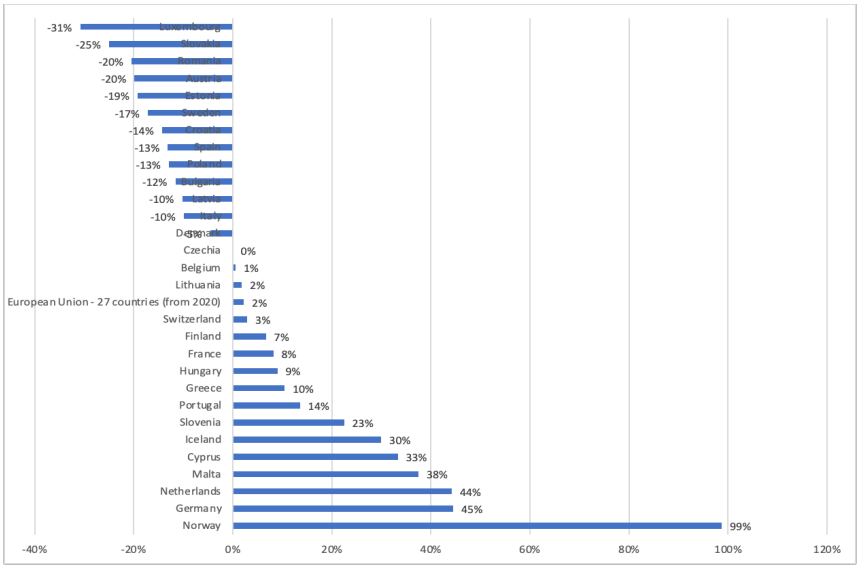


Source: Eurostat

Moreover, looking at how GLAMs in European countries weathered through the Covid-19 pandemic, the following figure reveals that while there are some Northern/ Central European and Mediterranean countries have increased employment between 2018-2022 (such as Norway,

Germany, Netherlands, Slovenia, Hungary, Malta, Greece, Portugal), some others have decreased significantly their workforce in GLAMs, especially countries in the Balkans and the East/ SouthEast Europe (Slovakia, Romania, Estonia, Poland, Bulgaria, Latvia).

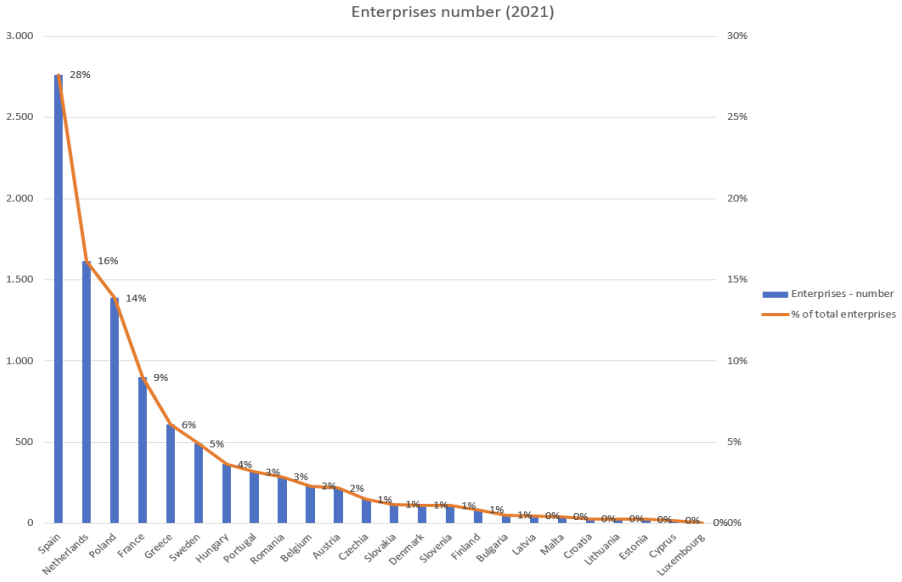
Figure 6 – Cultural Employment GLAMs: Workforce change per country (2018-2022)



Source: Eurostat

Moreover, turning into the SBS database in Eurostat for the GLAM sector (R91) which contains information for the number of enterprises and the turnover at a country level, but only for 2021 and not for previous years, we see that Spain, Netherlands, and Poland emerge as the countries with the largest number of enterprises for NACE R91 within the EU27. Together, they account for over half (58%) of the total enterprises recorded in the EU.

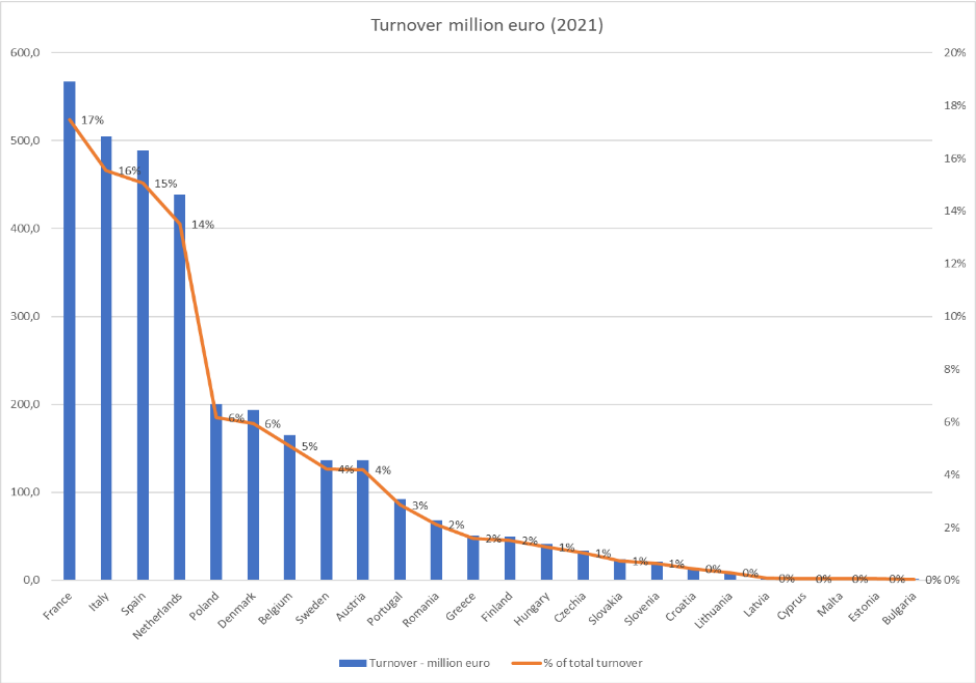
Figure 7 – GLAMs: SBS - Number of enterprises per country (2021)



Source: Eurostat

Furthermore, looking at the data for the turnover, France, Italy, Spain, and the Netherlands demonstrate the highest turnover in million euros for 2021 in the context of NACE R91. These countries have excelled in generating substantial revenue and economic output from enterprises operating within this industry.

Figure 8 – GLAMs: SBS - Turnover per country (2021)



Source: Eurostat

2.2 GLAMMONS database: National and regional accounts for the GLAM sector

Based on the data collected from the respective National Statistical Authorities, we identified overall trends as well as areas of focus in the national scale, before looking at the regional scale:

- Data Availability and Comparability Challenges: It is important to note that not all attributes have data available for every EU27 country, resulting in a lack of homogeneity and reduced comparability in assessing trends. This limitation highlights the need for improved data collection and reporting mechanisms to ensure comprehensive and consistent analysis across all countries within the EU.
- Positive Trend in Number of Enterprises: Among the 18 countries studied, a majority of 14 countries exhibited an increase in the number of enterprises within the R91 sector. This positive trend indicates growth and potential in the sector. Norway, Cyprus, and Greece experienced the largest increases, with growth rates of 191%, 73%, and 19% respectively. Spain and the Netherlands emerged as the countries with the highest numbers of enterprises, accounting for 69% of the total enterprises in the R91 sector among the 18 countries studied in 2021.
- Increase in Persons Employed: Out of the 17 countries with available data, 9 countries demonstrated an increase in the number of persons employed in the R91 sector. Similar

to the number of enterprises, Norway recorded the most significant increase, with a remarkable growth rate of 211%. Greece and Austria followed with increases of 77% and 51% respectively. Notably, in these countries, the rate of increase in persons employed exceeded the rate of increase in the number of enterprises, indicating the growth of larger and more substantial enterprises within the sector.

- Turnover Analysis Limitations: The turnover attribute was only available for 9 out of the 18 countries studied, making it less representative of the overall trends within the EU27 region. Nevertheless, among the countries with available data, 5 countries showed an increase in turnover. Greece exhibited the largest increase of the 9 countries, with a substantial growth rate of 63%. Estonia and Romania also achieved notable increases in turnover, with growth rates of 46% and 39% respectively. It is interesting to observe that Estonia and Romania achieved significant turnover growth while experiencing relatively lower proportional increases in the number of enterprises and persons employed. This suggests that these countries may have implemented operational efficiencies within the R91 industry, likely in response to the challenges posed by the COVID-19 pandemic.

2.2.1 Regional Statistics: Number of persons employed

According to the datasets collected through the 16 National Statistical Offices, the total number of persons employed in GLAMs (NACE R91) in 2021 is 67.385 persons, while in 2018 there were 68.441 persons employed (a decrease of 2%).

Moreover, looking at the case of Spain, where the information of the number of persons employed is coming from a national database (Ministry of Culture) that contains only libraries and museum organizations with all possible legal statuses (from private enterprises to associations, not-for-profit enterprises, etc) and also looking at the SBS database that is available in Eurostat for 2021, and contains all GLAM organizations that have specific legal statuses (mostly state-owned GLAMs or private ones- as private enterprises), we see two different pictures. Although the former database contains only museums and libraries, the number of persons employed is 20.379 (2021), whereas in the SBS-Eurostat database the number of persons employed in GLAMs is 11.670 in Spain (2021). The same applies for Austria, Slovenia, Latvia and Croatia. The information from national culture databases compared to the information from the SBS-Eurostat database is extremely different for 2021 (Slovenia-National Info: 3.580, SBS info: 365, Austria 8.100- 2.019, Latvia: 4.514-128, Croatia: 6.979-274). Thus, the information we usually get from the SBS database on employment, or number of enterprises and turnover for the GLAM sector is always a small proportion of the reality and that has to do with the inability of the SBS database to include information for GLAMs that have a variety of legal statuses (especially the not-for-profit ones). On the other hand, comparing employment data from the national databases with statistics from the Labour Force Survey, we see that the LFS database gives even higher numbers from the national databases (e.g. Spain, Austria, Croatia etc.).

Given that, we can roughly estimate that the number of persons employed in all GLAMs in the EU can be at least 4-5 times the information we get from the SBS database, that is 320.000-400.000 persons, compared to 80.000 persons for 2021 from the SBS database. That estimation is closer to the number of workforce given through the Labour Force Survey, that is 530.000 employees for 2021. That means that official statistical databases, like SBS, take into consideration only market-oriented or state-owned enterprises, and exclude non-profit ones or associations, charities, university owned archives and libraries, etc. However, as the following

table shows, that latter group can account for a lot more GLAM-initiatives than the official picture gives us.

Table 5 – GLAMS: Persons employed number – Comparison Eurostat – NSA (2021)

	NSA-Sum of 2018	NSA-Sum of 2021	Diff. % 2018 - 2021	SBS-2021	Diff. National db to SBS db
Austria	5.371	8.100	51%	2.019	4,0 times
Bulgaria	94	121	29%	same	
Croatia	7.074	6.979	-1%	274	25,5 times
Czech Republic	660	640	-3%	same	
Estonia	45	48	7%	same	
Finland	254	246	-3%	same	
Greece	1.772	3.137	77%	same	
Hungary	2.931	2.606	-11%	same	
Italy	11.383	11.596	2%	same	
Latvia	4.883	4.514	-8%	128	35,3 times
Lithuania	710	653	-8%	315	2,1 times
Portugal	1.936	2.627	36%	same	
Republic of Cyprus	159	172	8%	same	
Romania	1.761	1.986	13%	same	
Slovenia	3.568	3.580	0%	365	9,8 times
Spain	25.840	20.379	-21%	11.670	1,7 times
Total	68.441	67.385	-2%		

Source: Eurostat / National Statistical Authorities (NSA)

Moreover, the following table shows the distribution of employment in GLAMs in urban, intermediate and rural NUTS2 regions in the respective 16 countries, between 2018 and 2021. In general, from 2018 to 2021, the workforce was reduced by 1.056 persons (-2%), as indicated before. GLAMs located in urban regions lost about 9% of employment in that period, while GLAMs in intermediate regions had no change and those in rural regions gained about 12%.

Furthermore, GLAMs in urban regions concentrate 44% of the workforce, whereas GLAMs in intermediate and rural regions, have 28% and 27% of the employment, respectively (2021).

Table 6 – GLAMs: Persons employed number - Distribution by EPSON (2018 – 2021)

	2018	2021	%
Urban	32997	30003	-9%
Intermediate	18999	19044	0%
Rural	16445	18338	12%
Total	68441	67385	-2%

Source: Eurostat

Moreover, when comparing that data of NACE R91 regional employment, against regional total employment data, we see that the overall contribution of GLAMs' employment in regional economies varies between 0,01% to 0,56%. In more details, the share of GLAMs employment to the total regional employment in urban regions decreases slightly from 2018 (0,10%) to 2021 (0,09%), whereas in intermediate regions remains the same (0,07%), and it slightly increases in rural regions (from 0,07% to 0,08%). Overall, the share of GLAMs employment in total regional employment is higher in urban regions than in intermediate and rural ones. However, all these shares are very small when looking at the share of other CCIs in regional economies. This has to do partially with the under-documentation of GLAMs employment in either national databases or in the SBS database, that most of the times include only GLAMs with specific legal statuses (e.g.state-owned GLAMs)

Table 7 – GLAMs: Persons employed number – Urban NUTS2 per Country (2018 – 2021)

Country	ESPON	R91 2018	R91 2021	Total Employment 2018	Total Employment 2021	R91/ Total 2018	R91/ Total 2021
Austria	Urban	3.972	4.269	1052900	1059000	0,38%	0,40%
Croatia	Urban	1.749	1.786	369000	355600	0,47%	0,50%
Finland	Urban	108	134	1316100	1333600	0,01%	0,01%
Greece	Urban	629	1.889	1359000	1473500	0,05%	0,13%
Hungary	Urban	820	512	820600	847900	0,10%	0,06%
Italy	Urban	5.035	5.371	11956400	11504500	0,04%	0,05%
Portugal	Urban	1.428	1.863	1374800	1370500	0,10%	0,14%
Romania	Urban	639	686	1139600	1135500	0,06%	0,06%
Slovenia	Urban	2.045	2.046	461500	463200	0,44%	0,44%

Country	ESPON	R91 2018	R91 2021	Total Employment 2018	Total Employment 2021	R91/ Total 2018	R91/ Total 2021
Spain	Urban	16.572	11.447	13744800	14017300	0,12%	0,08%
Total	Urban	32.997	30.003	33594700	33560600	0,10%	0,09%

Source: Eurostat / National Statistical Authorities (NSA)

Table 8 – GLAMs: Persons employed number–Intermediate NUTS2 per Country (2018 – 2021)

Country	ESPON	R91 2018	R91 2021	Total Employment 2018	Total Employment 2021	R91/ Total 2018	R91/ Total 2021
Austria	Intermediate	503	1.122	1183100	1175900	0,04%	0,10%
Bulgaria	Intermediate	74	105	1869800	1829200	0,00%	0,01%
Czech Republic	Intermediate	660	640	5146800	5066100	0,01%	0,01%
Greece	Intermediate	543	569	877000	852000	0,06%	0,07%
Hungary	Intermediate	259	284	589200	647900	0,04%	0,04%
Italy	Intermediate	5.065	4.913	7887200	7708800	0,06%	0,06%
Latvia	Intermediate	4.883	4.514	873300	822000	0,56%	0,55%
Lithuania	Intermediate	710	653	1323700	1309800	0,05%	0,05%
Portugal	Intermediate	228	394	1733800	1752800	0,01%	0,02%
Republic of Cyprus	Intermediate	159	172	389700	417000	0,04%	0,04%
Spain	Intermediate	5.915	5.678	4218100	4245800	0,14%	0,13%
Total	Intermediate	18.999	19.044	26091700	25827300	0,07%	0,07%

Source: Eurostat / National Statistical Authorities (NSA)

Table 9 – GLAMs: Persons employed number – Rural NUTS2 per Country (2018 – 2021)

Country	ESPON	R91 2018	R91 2021	Total Employment 2018	Total Employment 2021	R91/ Total 2018	R91/ Total 2021
Austria	Rural	896	2.709	2005100	1996700	0,04%	0,14%
Bulgaria	Rural	20	16	1199200	1157500	0,00%	0,00%

Country	ESPON	R91 2018	R91 2021	Total Employment 2018	Total Employment 2021	R91/ Total 2018	R91/ Total 2021
Croatia	Rural	5.325	5.193	1261100	1293600	0,42%	0,40%
Estonia	Rural	45	48	622400	616100	0,01%	0,01%
Finland	Rural	146	112	1148700	1135900	0,01%	0,01%
Greece	Rural	600	679	1515100	1497300	0,04%	0,05%
Hungary	Rural	1.852	1.810	3000800	3039500	0,06%	0,06%
Italy	Rural	1.283	1.313	2742100	2635900	0,05%	0,05%
Portugal	Rural	280	370	1506400	1499500	0,02%	0,02%
Romania	Rural	1.122	1.300	7242100	6532200	0,02%	0,02%
Slovenia	Rural	1.523	1.534	500400	491100	0,30%	0,31%
Spain	Rural	3.353	3.254	1173400	1229900	0,29%	0,26%
Total	Rural	16.445	18.338	23916800	23125200	0,07%	0,08%

Source: Eurostat / National Statistical Authorities (NSA)

2.2.2 Regional Statistics: Number of Enterprises

Based on the available national databases for NACE91 in 16 countries (Table 10), we see that the total number of enterprises of the GLAM sector are 13.655 for 2021, with a slight 3% increase from 2018 (13.264 enterprises). Cyprus, Portugal, Austria and Greece have the largest increases in the number of enterprises, while only Lithuania and Latvia documented decreases. From the 13.655 enterprises (2021), 55% of them are located in urban regions, 23% are in intermediate regions and 22% are in rural regions. Thus, 45% of GLAMS are located outside urban regions, in rural and intermediate regions.

As seen in the previous section about the different pictures we get from the different databases, the same applies to the number of enterprises in the GLAMs sector. Again, some national culture databases include all GLAM organizations (like Austria, Croatia, Denmark, Netherlands, Cyprus, Spain), while the SBS database contains only the ones with specific legal statuses, and that results in some deviations. Like Croatia, where the number of all GLAMs in a national database we got from the National Statistical Office contains 422 GLAMs, whereas the relevant number in the SBS database is 29 organizations. As such, the total number of enterprises in the GLAM sector from the SBS database is 12.000 entities, whereas that number should be 2-3 times less than the actual number in the EU (from 24.000- 36.000 entities).

Table 10 – GLAMS: Number of enterprises – Comparison between Eurostat – NSA (2021)

Country	Sum of 2018	Sum of 2021	%	SBS-2021	Diff. National db to SBS db
Austria	293	360	23%	218	1,7 times
Bulgaria	49	53	8%	same	
Croatia	416	422	1%	29	14,6 times
Czech Republic	147	148	1%	same	
Denmark	253	257	2%	111	2,3 times
Estonia	21	23	10%	same	
Finland	57	67	18%	same	
Greece	427	506	19%	same	
Hungary	410	392	-4%	same	
Italy	989	1031	4%	n/d	
Latvia	49	46	-6%	same	
Lithuania	30	27	-10%	same	
Netherlands	3535	3615	2%	1.616	2,2 times
Portugal	234	317	35%	same	
Republic of Cyprus	33	57	73%	18	3,2 times
Romania	271	290	7%	same	
Spain	6050	6044	0%	2.764	2,2 times
Grand Total	13264	13655	3%		

Source: Eurostat / National Statistical Authorities (NSA)

Table 11 shows the differences of the number of enterprises between different types of regions for 2018 and 2021, where GLAMs in urban regions have gained about 3% of new enterprises, intermediate regions gained 1% and the rural ones have gained 4%. GLAMs in urban regions have 55% of the total enterprises, while in intermediate regions we find 23% of the total number of enterprises and in rural ones 22%.

Table 11 – GLAMs: Number of enterprises - Distribution by EPSON (2018 – 2021)

	2018	2021	%
Urban	7286	7531	3%
Intermediate	3109	3133	1%

Rural	2869	2991	4%
Total	13264	13655	3%

Source: Eurostat

Moreover, when comparing that data of NACE R91 number of enterprises (NUTS2), against regional total number of enterprises data, we see that the overall contribution of GLAMs' number of enterprises in regional economies varies between 0,02% to 0,65%. There are very minor changes between 2018 and 2021, as the total shares in all three categories of regions remain the same. Overall, the share of GLAMs number of enterprises in relation to the total number of enterprises in NUTS 2 regions is higher in urban regions (0,11%) than in intermediate (0,07%) and rural ones (0,1%). However, all these shares are very small when looking at the share of other CCIs in regional economies. This has to do partially with the under-documentation of GLAMs number of enterprises in either national databases or in the SBS database, that most of the times include only GLAMs with specific legal statuses (e.g. state-owned GLAMs).

Table 12 – GLAMs: Number of enterprises – Urban NUTS2 per Country (2018 – 2021)

Country	ESPON	R91 2018	R91 2021	Total Enterprises 2018	Total Enterprises 2020	R91/ Total 2018	R91/ Total 2021
Austria	Urban	97	109	117.112	119.588	0,08%	0,09%
Croatia	Urban	32	33	50.985	58.236	0,06%	0,06%
Denmark	Urban	70	72	91.736	93.958	0,08%	0,08%
Finland	Urban	23	24	138.604	144.613	0,02%	0,02%
Greece	Urban	99	186	282.440	285.884	0,04%	0,07%
Hungary	Urban	98	101	188.433	199.050	0,05%	0,05%
Italy	Urban	406	435	2.125.670	2.118.838	0,02%	0,02%
Netherlands	Urban	2.925	3.025	1.262.079	1.412.869	0,23%	0,21%
Portugal	Urban	98	139	312.425	319.517	0,03%	0,04%
Romania	Urban	56	48	127.237	132.960	0,04%	0,04%
Slovenia	Urban	70	70	87.861	89.874	0,08%	0,08%
Spain	Urban	3.382	3.359	2.129.481	2.170.937	0,16%	0,15%
Total		7.356	7.601	6.914.063	7.146.324	0,11%	0,11%

Source: Eurostat / National Statistical Authorities (NSA)

Table 13 – GLAMs: Number of enterprises – Intermediate NUTS2 per Country (2018 – 2021)

Country	ESPON	R91 2018	R91 2021	Total Enterprises 2018	Total Enterprises 2020	R91/ Total 2018	R91/ Total 2021
Austria	Intermediate	81	95	116.142	117.831	0,07%	0,08%
Bulgaria	Intermediate	39	44	238.120	236.272	0,02%	0,02%
Czech Republic	Intermediate	147	148	1.086.766	1.114.052	0,01%	0,01%
Greece	Intermediate	116	111	177.222	178.396	0,07%	0,06%
Hungary	Intermediate	37	43	92.582	104.874	0,04%	0,04%
Italy	Intermediate	358	361	1.434.309	1.411.842	0,02%	0,03%
Latvia	Intermediate	49	46	112.729	103.969	0,04%	0,04%
Lithuania	Intermediate	30	27	230.218	285.195	0,01%	0,01%
Netherlands	Intermediate	610	590	146.324	158.526	0,42%	0,37%
Portugal	Intermediate	49	56	327.264	340.466	0,01%	0,02%
Republic of Cyprus	Intermediate	33	57	59.820	62.634	0,06%	0,09%
Spain	Intermediate	1.560	1.555	639.579	646.619	0,24%	0,24%
Total		3.109	3.133	4.661.075	4.760.676	0,07%	0,07%

Source: Eurostat / National Statistical Authorities (NSA)

Table 14 – GLAMs: Number of enterprises – Rural NUTS2 per Country (2018 – 2021)

Country	ESPON	R91 2018	R91 2021	Total Enterprises 2018	Total Enterprises 2020	R91/ Total 2018	R91/ Total 2021
Austria	Rural	115	156	192.671	195.498	0,06%	0,08%
Bulgaria	Rural	10	9	117.618	117.062	0,01%	0,01%
Croatia	Rural	384	389	140.485	158.737	0,27%	0,25%
Denmark	Rural	183	185	166.988	170.801	0,11%	0,11%
Estonia	Rural	21	23	80.053	87.445	0,03%	0,03%
Finland	Rural	34	43	118.023	118.915	0,03%	0,04%
Greece	Rural	212	209	308.207	277.159	0,07%	0,08%
Hungary	Rural	275	248	354.480	386.566	0,08%	0,06%

Country	ESPON	R91 2018	R91 2021	Total Enterprises 2018	Total Enterprises 2020	R91/ Total 2018	R91/ Total 2021
Italy	Rural	225	235	500.222	495.755	0,04%	0,05%
Portugal	Rural	87	122	307.944	307.450	0,03%	0,04%
Romania	Rural	215	242	389.424	423.964	0,06%	0,06%
Slovenia	Rural	43	43	64.211	65.788	0,07%	0,07%
Spain	Rural	1.108	1.130	171.629	173.893	0,65%	0,65%
Total		2.912	3.034	2.911.955	2.979.033	0,10%	0,10%

Source: Eurostat / National Statistical Authorities (NSA)

2.3 Volunteering labour in GLAMs

2.3.1 Literature review and case studies

Existing data on volunteering does not provide an overview of the size and function of voluntary labour in the entirety of the CCIs, or different sub-domains, or a timeline from which trends may be inferred. Existing surveys tend to be ad hoc, do not necessarily collect data that is representative at the national level, and tend to measure volunteer participation in specific sub-domains like libraries, cultural organisations, museums and galleries. At the macro level, a reliable estimate of the number of volunteers in the cultural sector as a whole would be valuable as it would allow us to map the socioeconomic and cultural profiles of people who are volunteering in the CCIs as a whole, in different sub-domains of the CCIs and, in the GLAM sector in particular. Such data would not only be useful at the macro policy level but would also be useful at the meso level of the organisation, as it would allow organisations to attract, involve and manage volunteers more effectively and productively.

Empirical academic research on volunteering in the cultural and creative sectors mostly consists of case studies and smaller scale, qualitative or sub-sectoral, research[1]. This is supplemented by research on the voluntary or third sector as well as leisure studies (Lockstone-Binney et al, 2010) which has contributed to the conceptualisation and analysis of types of volunteering. This body of work has identified three kinds of leisure volunteering. Casual volunteering, project-based volunteering consisting of "a short-term, reasonable complicated, one-off or occasional, though infrequent, creative undertaking" (Stebbins, 2004: 7), and volunteering as serious leisure, which involves "the systematic pursuit of a hobby or a volunteer activity sufficiently substantial and interesting in nature for the participants to find a (non-work) career therein acquiring and expressing a combination of its special skills, knowledge and experience" (Stebbins, 2004: 5). Both project-based volunteering and serious leisure offer potential for building community. Finally, a wealth of research, primarily in the field of psychology, concentrates on the micro level

[1] See, indicatively, Holmes, Lockstone-Binney, Smith, & Shipway (2022), Stebbins and Graham (2004), Forbes, Findlay-King, Macfadyen and Nichols, (2017). Forkert (2016). Holmes (2003), Holmes and Slater (2012), Howlet et al (2005), Howlet (2002).

of the individual and examines individual motivations for engaging in voluntary activities, an object of analysis which is beyond the scope of this report.

Evidence from the 2000s onwards, albeit fragmented, indicates that volunteering in the cultural sector and the GLAMs has been steadily increasing (Howlett, 2002; Howlett et al, 2005; Forkert, 2016; Forbes et al, 2017; Ray, 2009; Williams, 2014, 2018). In the context of increasing scarcity of funding in the GLAM sector as well as the imperative to increase community involvement and co-creation, cultural organisations turned to volunteer labour both as an economic resource in the form of unpaid labour and as a social resource which could provide valuable links to communities which had not been traditionally reached by GLAMs. In the wider CCIs, voluntary labour and more formalised internships gradually became normalised as a form of a first step for young graduates in the hope of getting employment in the crowded and competitive labour markets (Kompatsiaris, 2015; Reagan Shade and Jacobson, 2015; Precarious Workers Brigade and Carrot Workers Collective, 2014). The tensions created by these differing imperatives have been acknowledged in the literature and have led to recommendations that voluntary positions should not be treated by cultural organisations as job substitutions, that organisations provide appropriate volunteer support (induction, role description, supervision, training) and recognition, that volunteer recruitment should be inclusive so as to reflect the composition of local communities, and that volunteers are incorporated into the decision-making processes of cultural organisations.

Volunteering labour in GLAMs: two cases

As highlighted before, data for volunteering labour in GLAMs is extremely scarce and only a few official reports unpack that issue. One of them comes from the Association of Public Libraries[2] in the Netherlands, which states that the number of volunteers in libraries has grown from 16.563 persons in 2017 to 23.068 persons in 2021. Surprisingly, there are 3,3 volunteers for every person employed in public libraries in the Netherlands, and about 166 volunteers per library, for 2021. Translating the volume of volunteering work into FTE, these 23.068 volunteers represent 2.115 FTE jobs, that is about 48% more than the paid employees' work in these libraries. Thus, labour performed in Dutch public libraries is about 1,5 times more than the official statistics show, but about one third of it is unpaid.

Table 15 - Public libraries in the Netherlands, persons employed and volunteers

	2017	2018	2019	2020	2021
Number of libraries	*149*	*146*	*145*	*140*	*139*
Total registered users (in 000s)	*3704*	*3655*	*3620*	*3492*	*3382*
Total number of persons employed	*6682*	*6743*	*6908*	*6851*	*7042*
Number of full-timers	*704*	*694*	*667*	*685*	*696*
Number of part-timers	*5978*	*6049*	*6241*	*6166*	*6346*
Number of full-time equivalents	*4193*	*4213*	*4251*	*4228*	*4449*

[2] The figures in this table are based on a survey among all public libraries in the Netherlands that are members of the Association of Public Libraries (VOB)

	2017	2018	2019	2020	2021
Number of volunteers	*16563*	*19776*	*22713*	*22627*	*23068*
Ratio of volunteers to total number of persons employed *	2,5	2,9	3,3	3,3	3,3
Volunteers per library *	111	135	157	162	166
Number of full-time equivalents of Volunteers *	1518	1813	2082	2074	2115
Ratio of FTE of volunteers to FTE persons employed *	36%	43%	49%	49%	48%

- (*): own calculations, for the calculation of the number of FTE of volunteers we used that on average a volunteer spends 3 hours per week in a library doing voluntary work (for a 36 hour per week FTE) (Vrijwilligers in de bibliotheek, 2017[3]).

Looking at another report on the role of volunteers in libraries in the Netherlands (Vrijwilligers in de bibliotheek, 2017), we find some interesting insights:

- The main reasons for using volunteers is to expand the services offered by libraries (e.g. additional services for low literacy and vulnerable groups in society, more extensive programming, extending opening hours) and especially their desire to fulfil a social role in the local societies.
- The report states that volunteers can be used for additional tasks, or they can take over tasks from paid employees, leaving them time to perform innovative or more complex tasks. However, the issue of labour displacement comes into the discussion here, and it should be taken into consideration, when planning policies for boosting volunteerism.
- Most volunteers are 70+ and women, which is in keeping with the existing evidence on the UK (Howlett, 2002; Howlett et al, 2005; Ray, 2009; Williams, 2014, 2018) as well as with data on respondents' level of voluntary engagement in the heritage sector in the Special Eurobarometer 466 Report (2017). Libraries have the most difficulty finding volunteers who are digitally literate, as it is younger people, who are not easy to recruit and often do not want to commit themselves to certain activities for a long time, that have higher levels of digital literacy.

Another example about volunteering labour comes from the case of Spain and a database that contains information on volunteering labour in libraries and museums. The following table shows the proportion of volunteers and non-paid employees (e.g. interns) in Spanish libraries, where we have demarcated the information according to the three types of regions (predominantly urban, intermediate and predominantly rural). We see that the share (in FTEs) of those two types of volunteers and interns are between 3%-5%, where in predominantly urban regions we have slightly more volunteers and interns (5%), than in the intermediate (4%) and rural regions (3%).

Table 16 - Number of paid/unpaid employees and volunteers in libraries, Spain

[3] The report states that: A volunteer in a library where between 1-29 volunteers work, works an average of 2 hours a week. In a library with 30 volunteers or more, the volunteers are active on average 4 hours a week.

NUTS 2 Regions	Total Paid Employees (in FTE)	Non-paid employees (in FTE)	Volunteers (in FTE)	% Volunteers	% Volunteers and non-paid employees
Cataluña	2.061,98	5	140,25	7%	7%
Comunidad de Madrid	1.622,90	2,16	0,25	0,2%	0,2%
Comunidad Valenciana	980,05	73,26	17,84	2%	9%
Andalucía	1.532,37	52,75	32,75	2%	6%
País Vasco	665,08	3,25	3,20	0,5%	1%
Aragón	331,22	0,21	2,58	1%	1%
Canarias	347,04	6,37	2,10	1%	2%
Ceuta	25	-	-	-	-
Melilla	18	-	-	-	-
Total Urban Regions	**7583,6 (67%)**	**143,0 (67%)**	**199,0 (74%)**	**3%**	**5%**
Cantabria	142,45	3,85	0,10	0%	3%
Comunidad Foral de Navarra	174,68	2	-	-	1%
Región de Murcia	284,99	5,96	1,40	0,5%	3%
Castilla y León	796,24	1,50	2,03	0,2%	0,3%
Galicia	545,75	43,32	42,57	8%	16%
La Rioja	65,39	3	-	-	5%
Illes Balears	216,49	2,10	2	1%	2%
Principado de Asturias	253,25	0,05	0,35	0%	0%
Total Intermediate Regions	**2479,24 (22%)**	**61,78 (29%)**	**48,45 (18%)**	**2%**	**4%**
Extremadura	386,75	2	7,86	2%	3%
Castilla-La Mancha	786,42	7	14,30	2%	3%
Total Rural Regions	**1173,17 (11%)**	**9 (4%)**	**22,16 (8%)**	**2%**	**3%**
Grand Total	**11.236,01**	**213,78**	**269,61**		

Museums Spain (Ministerio de Cultura y Deporte (2022), ESTADÍSTICA DE MUSEOS Y COLECCIONES MUSEOGRÁFICAS- 2020, División de Estadística y Estudios, Secretaría General Técnica Ministerio de Cultura y Deporte, Espania)

Approximately the same tendency we also see in public museums in Spain (table 17), where the ones located in urban regions have about 14,8% volunteers and interns, while the intermediate regions have a share of 10% and the rural ones a share of 7,5%.

Table 17 – Number of paid/unpaid employees and volunteers in public museums, Spain

NUTS 2 Regions	No. Of museums	No. Of employees	% paid staff	% Non-paid staff	% Volunteers
Cataluña	118	1283	*	*	*
Comunidad de Madrid	131	3527	93,1	1,3	5,6
Comunidad Valenciana	239	1642	85,8	6,6	7,6
Andalucía	166	1819	87,2	2,4	10,4
País Vasco	63	727	85,7	2,3	12
Aragón	79	515	82,5	6	11,5
Canarias	43	392	96,5	1,5	2
Ceuta	4	26	88,5	7,7	3,8
Melilla	9	62	62,9	35,5	1,6
Total urban regions	**852**	**9993**	**85,2**	**7,9**	**6,8**
Cantabria	13	181	95	3,9	1,1
Comunidad Foral de Navarra	13	99	65,6	6,1	28,3
Región de Murcia	34	283	94,3	2,5	3,2
Castilla y León	118	919	92,1	6,6	1,3
Galicia	83	744	92,5	5,9	1,6
La Rioja	16	95	95,8	4,2	0
Illes Balears	58	365	96,5	1,5	2
Principado de Asturias	51	205	87,8	7,8	4,4
Total intermediate regions	**386**	**2891**	**90**	**4,8**	**5,2**
Extremadura	49	442	98,6	1,4	0
Castilla-La Mancha	187	1182	86,4	5,4	8,2
Total rural regions	**236**	**1624**	**92,5**	**3,4**	**4,1**
Grand Total	**1474**	**14508**	**88,1**	**6**	**5,9**

Source: Museums Spain (Ministerio de Cultura y Deporte (2022), ESTADÍSTICA DE MUSEOS Y COLECCIONES MUSEOGRÁFICAS- 2020, División de Estadística y Estudios, Secretaría General Técnica Ministerio de Cultura y Deporte, Espania)

However, when we categorize the information according to the population of the city/village, and not according to the type of region, we see a different picture: the smaller the city/village the more interns and volunteers it gathers. Cities that can be regarded as capitals for their region and large cities (with more than 100.000 inhabitants) have less interns and volunteers than small and medium sized cities. Especially cities with less than 25.000 inhabitants have 16,3% interns and volunteers, while when we look at smaller ones and villages, that share can go up to 27,1% and 26,9%, respectively. Although there is no information about the contribution of that unpaid labour to museums (in terms of FTE), we can see that in smaller cities and communities, citizens tend to engage in their local communities through volunteering work in museums. As seen from the number of employees per museum, museums in smaller cities and communities are small ones with fewer employees than those located in large urban areas. Thus, volunteering labour in those small museums can be important for the every-day functioning of the museums. However, there is no information and bibliography about the actual contribution of volunteers in GLAMs.

Table 18 – Number of paid/unpaid employees and volunteers in public museums, Spain – Categorized per city/village population

	No. Of museums	**No. Of employees**	**No. of employees per museum**	**% paid staff**	**% Non-paid staff**	**%Volunteers**	**% Non-paid and volunteers**
Capital of the region	402	8645	21,5	94,9	1,5	3,6	5,1
more than 100.000 inhabitants	64	630	9,8	95,4	2,1	2,5	4,6
25.001-100.000 inhabitants	223	1606	7,2	92	5,4	2,6	8
10.001-25.000 inhabitants	223	1132	5	83,7	7,8	8,5	16,3
2001- 10.000 inhabitants	302	1680	5,5	72,9	6,1	21	27,1
up to 2000 inhabitants	260	815	3,1	73,1	16,8	10,1	26,9

Source: Museums Spain (Ministerio de Cultura y Deporte (2022), ESTADÍSTICA DE MUSEOS Y COLECCIONES MUSEOGRÁFICAS- 2020, División de Estadística y Estudios, Secretaría General Técnica Ministerio de Cultura y Deporte, Espania)

2.3.2 Volunteers in GLAMs: the GLAMMONS survey

The GLAMMONS project designed and implemented and online survey addressed to GLAMs in Europe, in order to shed light to various aspects of GLAMs operation, governance, openness, effects of digitalization etc. The survey was communicated to almost all major international, European and national GLAMs associations and organizations (like IFLA, ICOM, NEMO) that included it and promoted it through their members' databases, websites, newsletters and through their social media accounts, between mid-March and beginning of September 2023. Although, we have promoted as much as we could the survey's questionnaire, that received 253 total responses and after cleaning the database for duplicates and other invalid responses, we ended up with 223 valid responses, which cannot be regarded as a representative sample of European GLAMs, but it can only give an indication about demographics and various other inputs and outputs in GLAMs.

In these 223 valid responses we found 62 GLAMs (28%) that regularly use volunteers in various quantities. The following tables summarizes the responses. In total, these 62 GLAMs have 1.266 FTE paid jobs (either full-time or part-time) and about 68 FTE that are coming from volunteers, that is 5% on top of the paid labour. Moreover, the sample that uses volunteers has on average 20 employees (FTE) and they also engage 1,1 volunteers, per unit (GLAM). Looking at the regional geography of the sample, we see some large deviations between urban, intermediate and rural regions. For instance, GLAMs in urban regions employ on average 37 employees (FTE), while that number drops as we move to intermediate and rural regions (11 and 8 FTE, respectively). On the other hand, the share of unpaid labour to paid labour is higher in rural regions (13%), than in intermediate (8%) and urban regions (4%).

Table 19 – GLAMMONS Survey: Number of paid/unpaid employees and volunteers

	No of GLAMs	Volunteering Labour in FTE	Paid Labour in FTE	Vol. Labour FTE/No. of GLAMs	Paid Labour FTE/No. of GLAMs	Vol. Labour/ Paid FTE
Urban	25| 40%	35	914	1,4	37	4%
Intermediate	21| 34%	18	228	0,9	11	8%
Rural	16| 26%	16	124	1,0	8	13%
	62| 100%	68	1266	1,1	20	5%

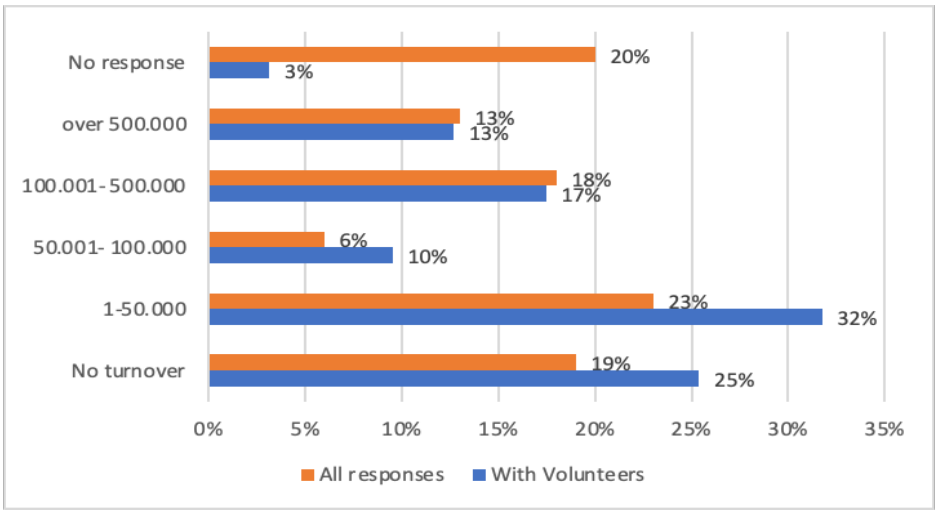
Source: GLAMMONS Survey

Furthermore, some other demographics of the sample of GLAMs that uses volunteers, reveal the following:

- The median of their annual visitors is 8.500, whereas the relevant median of the total sample in the survey is 87.000 visitors.
- Their year of establishment is 1982 (median), while the respective year of the total sample is 1971.

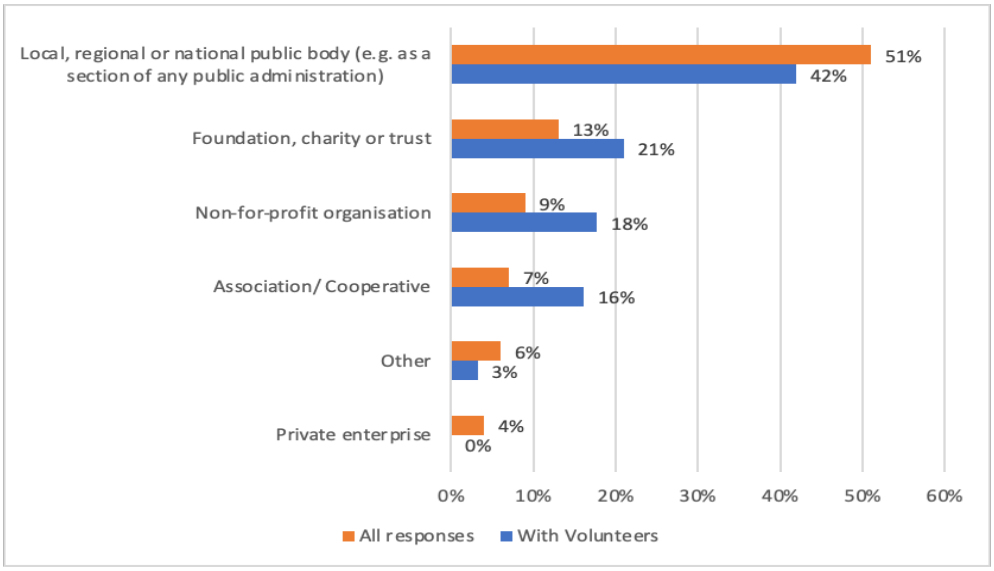
- One fourth of them report no turnover (19% in the total sample), whereas 32% have an annual turnover between 1-50.000 euro (23% in the total sample, Figure 9).
- 42% of those that use volunteers are state-owned bodies (either, locally/regionally or nationally), 21% are foundations, charities or trusts, 18% have other non-for-profit legal status and 16% are associations or cooperatives (Figure 10).

Figure 9 – GLAMMONS Survey: Percentile of volunteers per Organization's Annual Turnover



Source: GLAMMONS Survey

Figure 10 – GLAMMONS Survey: Percentile of volunteers per Organization's legal status

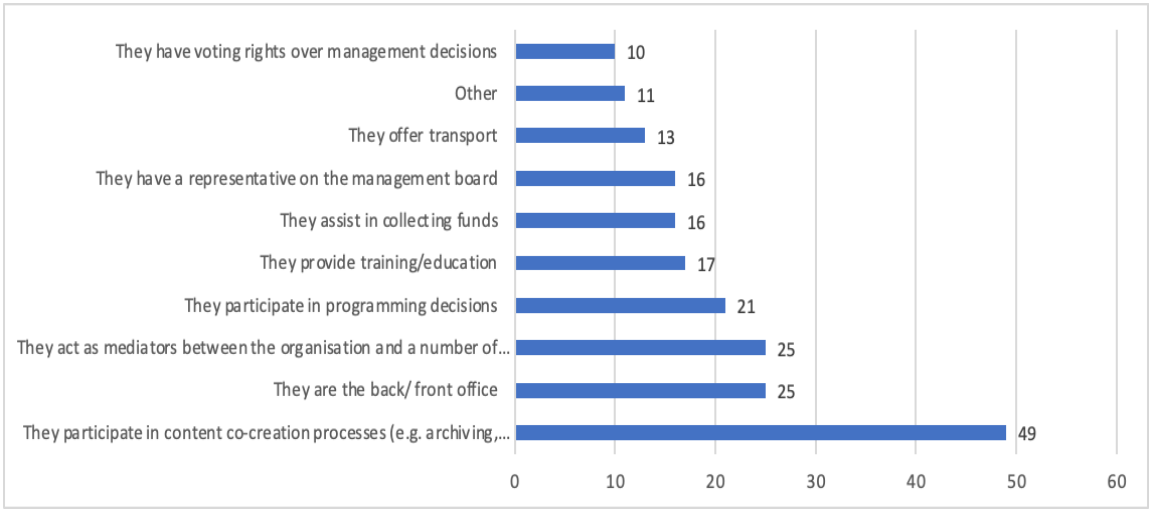


Source: GLAMMONS Survey

Another question in the survey asked for the ways that the volunteers engage with the GLAMs (multiple answers). Figure 11 summarizes the findings from the pool of GLAMs that employ non-paid volunteers. It seems that a large number of volunteers (79%) participate in various co-

creation processes in GLAMs, while a considerable share of them works as the back or the front office of the organization (40%). 11 out of the 62 GLAMs that use volunteers also responded that they have no full-time or part-time employees, so they heavily rely on volunteering labour. These are mainly small museums and libraries in rural regions with an average of 2.386 annual visitors. Interestingly, there are a number of GLAMs among those that use volunteers, that have given to the volunteers an enriched role In the management of the organization (volunteers with voting rights 16%, volunteers with representative in the management board, 26%) or in the programming processes of it (35%), while about 40% of them use also volunteers as mediators between the organization and a respective community. All these qualitative information shows that for a small portion of GLAMs volunteering labour performs either regular work (front/back office, collecting funds, offering transportation, etc.), or it has a more central role in decision-making processes over the overall management or in the programming of the organization's content and on the development of an organic connection with specific communities.

Figure 11 – GLAMMONS Survey: Ways that volunteers engage with the GLAMs



Source: GLAMMONS Survey

In that respect, we need more evidence, both quantitative and qualitative, in order to analyse and better understand the role of volunteers in GLAMs, and especially in small organisations, where volunteers seem to play a vital role in producing heritage value and impact and they can be considered as the backbone of these community-led organisations. It is especially these GLAMs where volunteers are the 'core' community that safeguards local heritage and seems to apply more commons-oriented practices in managing the community and the common heritage. Apart from economic value of cultural goods and services, volunteering creates broader social benefits locally, such as sense of belonging, acceptance of social diversity, intergenerational contacts and social capital (Jagodzińska et al., 2015). Furthermore, volunteering may serve as a vehicle for promoting inclusion of marginalized and underrepresented groups, helping volunteers to develop new skills, build their confidence/self-esteem and increase their sense of well-being (Stukas et al. 2014). Additionally, volunteering can be crucial in enabling and furthering community engagement and participation in cultural organisations (Melville, 2013). These impacts cannot be easily captured through conventional economic impact instruments and thus, hybrid cross-disciplinary methodologies need to be further developed and tested in the field (e.g.

drawing on psychology and ethnography). Moreover, these community-based commons-oriented GLAMs seem to be the most vulnerable ones in terms of financial survival. Thus, further research into the advantageous return from community involvement in the work of small-scale heritage/culture institutions is imperative, in order to generate 'hard evidence' of the direct and spillover socio-economic effects on their surroundings (e.g. benefits for mental health, creativity and innovation).

3. Conclusions

The following conclusions can be drawn from the previous analysis of various statistics:

1. Official statistics on GLAMs performance and economic impact are scarce, especially about the direct economic impact in national or regional economies. The diversity of GLAMs, in terms of legal statuses (many NGOs, associations, charities etc), does not allow official statistics (like those coming from the SBS database) to grasp the full picture of GLAMs, as official statistics most of the times take into account specific legal statuses of enterprises (like private ones, or state-owned enterprises). This is a bias which is also reflected in the arts management literature, where bigger, more institutional, cultural organisations have traditionally been the object of analysis of the empirical research (Chang, 2010).
2. There is a need for a uniform way of measuring the contribution of GLAMs in national and regional economies, and for that there should be established a European survey that can address the diversity of the sector, not only in terms of the legal status of GLAMs, but also in terms of unpaid labour, given the fact that volunteers play a role in the function of the sector.
3. We propose that a harmonized pan-European survey of the direct and indirect impact of GLAMs in the economy, should be initiated by the EC and Eurostat, in cooperation with the national Ministries of Culture, as these Ministries seem to be the most aware of what happens in the field of GLAMs and more importantly, they are the regular financial contributors of GLAMs. That being said, the national Ministries of Culture need to acknowledge the diversity of GLAMs ownership (from state-owned to association and NGO-owned) and the various decision-making arrangements, in order to have an inclusive approach, when planning and conducting surveys.
4. As seen from the analysis of the regional statistics, GLAMs located in urban regions lost about 9% of employment between 2018-2021, while GLAMs in intermediate regions had no change and those in rural regions gained about 12% of employment. Moreover, GLAMs in urban regions concentrate 44% of the total workforce, whereas GLAMs in intermediate and rural regions, have 28% and 27% of the employment, respectively.
5. The overall contribution of GLAMs' employment in regional economies varies between 0,01% to 0,56% in the 16 countries under investigation. The share of GLAMs employment in total regional employment is higher in urban regions (0,09%, 2021) than in intermediate (0,07%, 2021) and rural ones (0,08%, 2021).
6. GLAMs in urban regions have gained about 3% of new enterprises between 2018-2021, intermediate regions gained 1% and the rural ones have gained 4%. GLAMs in urban

regions have 55% of the total enterprises, while in intermediate regions we find 23% of the total number of enterprises and in rural ones 22%.

7. The overall share of GLAMs number of enterprises in relation to the total number of enterprises in NUTS 2 regions is higher in urban regions (0,11%) than in intermediate (0,07%) and rural ones (0,1%).
8. The share of volunteer labour in GLAMs as seen from the GLAMMONS survey is about 5% of the total FTE, while GLAMs in rural regions have a bigger share of volunteer labour to paid labour (13%) than GLAMs in intermediate (8%) and urban regions (4%). This is also evident in other accounts, such as statistics that measure volunteering labour in museums in Spain; the smaller the city/village, the more interns and volunteers it gathers. GLAMs that use volunteers are usually small entities, with fewer visitors than those that do not use volunteers.

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