

## The website of the Manacor History Museum as a tool for accessibility

María José Rivas Antequera, María Magdalena Salas Burguera

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### Abstract

The Manacor History Museum renewed its website in 2018, and since then it played a decisive role in the accessibility actions carried out at the museum. Perhaps one of the most relevant actions is the creation of a section where users can find each of the actions aimed at physical, visual, auditory and cognitive accessibility that take place in the center.

Web tools such as voice memos, downloadable content or accessible databases allow the museum to reach any audience more directly. Being closer to the public means being more accessible too.

It is necessary to allocate resources to the web because it will open the doors of the museum, and this possibility must represent a goal for all institutions.

### 1. Introduction

Web development is only thirty years old,<sup>(1)</sup> and during this time it evolved from a static space where administrations, institutions, companies and individuals communicated their contents on a computer screen to an environment where they create new usability models that connect to users from any mobile device.

After the health crisis caused by covid-19, websites went past beyond the role of being a “showcase” of activities and became windows through which users could enter museums while their doors were closed. This reality supports the idea of websites as a place accessible to people who can access the network through a device from anywhere and at any time.

Nowadays it is important that museum teams are committed to their digital image, that is to say, to the creation and care of their own space on the Internet—their website. And not only as a virtual space that serves as a notice board for activities and content, but as spaces open to technology that allow us to reach more people.

Should a website be a reflection of its museum? Or, conversely, can this website be an alternative site? Or maybe a complementary one? Each one of these answers takes us to a different place when planning our website development strategy. Obviously, without losing sight of the fact that a website can be the anteroom and the final enticement for a visit to the museum's physical facilities.

Maxene Granze reminds us that “museums should ask themselves what digital tools can be used to display their collection, looking for frames and stories beyond a list based on images, or resorting to an exhibition format. The digital realm has enough unique attributes to be treated separately.”<sup>(2)</sup> And we would add that each museum can leave its mark on these tools, using their own collection—which is unique—as a pillar.

In this article, we will explain how the renovation of the website of the Manacor History Museum was articulated in 2018 trying to capture the museum’s character, and how it is used to make the institution more accessible.

## 2. Some data to put us in context. Websites and museums in Mallorca

In Spain, the first Internet connection dates back to 1990, and was made through a network for exclusive use by academic institutions and researchers (Pérez, J., Fría, Z. and Urueña, A. 2018: 25). It would still take twenty more years for the Internet to become part of the everyday life of a high percentage of the Spanish society<sup>(3)</sup> due to the following four main situations:

- The liberalization of the telecommunications service.
- More affordable rates to access the network.
- The acquisition of more electronic devices compatible with an Internet connection.
- Arrival of the Internet on mobile (2004-2014)<sup>(4)</sup>.

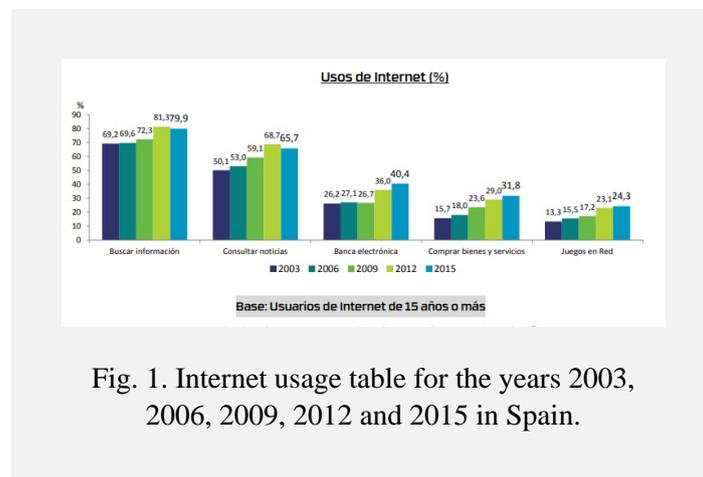


Fig. 1. Internet usage table for the years 2003, 2006, 2009, 2012 and 2015 in Spain.

In Spain, at the beginning of the 21st century, most Internet connections were related to the search for information, and in recent years (as of 2015) online shopping and leisure platforms have been gradually increasing. This last fact also has to do with access to the Internet through mobile phones, which extends the spectrum of network users to a large part of the population.

In recent years the use of the Internet has increased to the following levels:

Población que ha usado Internet en los últimos tres meses por edad (%)						
	2020	2019	2018	2017	2016	2015
<b>Hombres</b>						
<b>Total (de 16 a 74)</b>	93,2	90,7	86,6	85,5	82,5	80,3
De 10 a 15	--	--	--	--	--	--
De 16 a 24	99,9	99,2	98,3	98,1	98,6	98,2
De 25 a 34	99,6	98,2	97,0	96,0	96,3	93,4
De 35 a 44	98,8	97,0	96,4	95,9	93,3	90,5
De 45 a 54	96,5	92,6	89,6	89,7	85,4	82,8
De 55 a 64	88,6	87,2	78,1	74,5	68,4	66,5
De 65 a 74	70,5	63,7	51,2	47,6	40,6	37,2
<b>Mujeres</b>						
<b>Total (de 16 a 74)</b>	93,2	90,7	85,6	83,7	78,6	77,1
De 10 a 15	--	--	--	--	--	--
De 16 a 24	99,6	99,0	98,7	97,9	98,2	98,9
De 25 a 34	99,7	97,6	98,4	96,5	95,7	95,7
De 35 a 44	99,2	97,8	96,8	95,8	93,3	92,8
De 45 a 54	97,7	96,2	92,5	90,9	84,3	81,2
De 55 a 64	90,3	85,8	74,1	73,2	61,4	56,5
De 65 a 74	68,9	63,5	47,1	40,2	29,4	26,1
<b>Brecha de género (hombres - mujeres)</b>						
<b>Total (de 16 a 74)</b>	0,0	0,0	1,0	1,8	3,9	3,2
De 10 a 15	--	--	--	--	--	--
De 16 a 24	0,3	0,2	-0,4	0,2	0,4	-0,7
De 25 a 34	-0,1	0,6	-1,4	-0,5	0,6	-2,3
De 35 a 44	-0,4	-0,8	-0,4	0,1	0,0	-2,3
De 45 a 54	-1,2	-3,6	-2,9	-1,2	1,1	1,6
De 55 a 64	-1,7	1,4	4,0	1,3	7,0	10,0
De 65 a 74	1,6	0,2	4,1	7,4	11,2	11,1

Fig. 2. Table of the population that used the Internet in the years 2015-2020 in Spain

The table above(5) shows that access to the network has grown exponentially in the last five years. We can see that all age ranges of both men and women up to 64 y.o. graze or exceed 90% of Internet use. It is in the population over 65 y.o. where the digital divide is most evident, although it is important to note that Internet usage from 2015 to 2020 has tripled in both women and men. The data from the Spanish National Statistics Institute do not include the Internet use of people over 74 y.o. This fact must be acknowledged because age groups are the most affected by the digital divide.

The previous data show us the progress of the use of the Internet in almost all areas of society. In addition to being an information search platform, the Internet is a new communication channel where dialogues take different forms from those already known.

In the field of museums, their websites were originally designed, as in most government institutions, to offer basic information such as opening hours, location and ticketing prices, among others. Many became “fossilized” over the last decade, like an outdated poster hanging on a wall. Joan Santacana and Nayra Llonch remind us: “Imagery, for a growing sector of cultural tourism, is acquired through the Internet; therefore, it is necessary to ask ourselves: have we looked at our website? Is it a static and outdated flyer posted on the web? Is it able to excite? Does it raise expectations? Is it an original and functional website? This is the first thing to review, as the web is after all our first showcase. Cultural tourism moves, in an increasing percentage, under the impulses of computer mouses” (Santacana and Llonch, 2008: 35). Now we can add that, in addition to the cultural tourism sector, a large part of the community closest to a museum are those behind the mobile devices that visit their website.

The website is a platform created by museums with specific objectives that may vary according to the mission of each museum, among which we can highlight the following options:

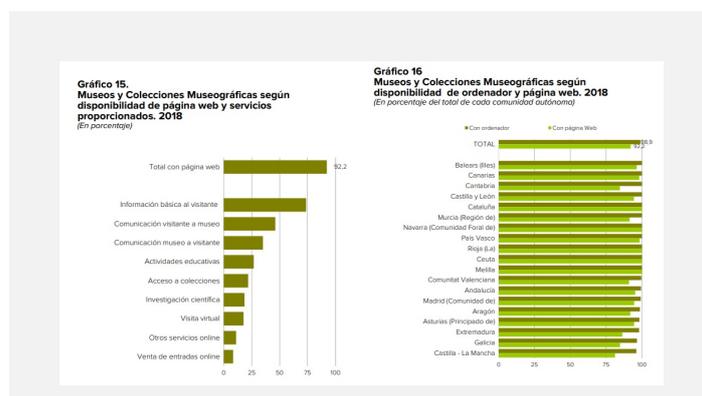


Options can be multiple because the versatility of a website makes it possible to turn them into a digital space that the museum can imagine and create to meet certain objectives. All this without forgetting that it will be a projected image of the museum to a network of almost five billion users.<sup>(6)</sup> The Internet and web platforms have movement, change and autonomy as backbones in their idiosyncrasy, and this allows us to have at our disposal a useful tool to develop the museum’s mission.

Javier Pantoja offers us the following reflection:<sup>(7)</sup> “Let’s think of museums in which visiting them seems impossible without the intervention of a digital device, let’s say a touch screen, smartphone, tablet or augmented reality, even reaching an extreme scenario in which it may be virtualized in person. Let’s also think of those museums that stayed happily anchored in the past as justification for their bold and functional fight against technology. Isn’t there some middle ground in between, loaded with practicality and purpose? Can this tension become traumatic only at its extremes? Experience tells us that it is at least complicated to have a non-tumultuous relationship with technology. However, its daily use, and more so in the digital era, seems to suggest the opposite.” Finding usefulness and purpose in a website is one of the aspects that every museum, no matter how small, should work on and include in its strategy. From there, it will be possible for them to create their own digital ecosystem.

The digital universe is based on sharing, and museums are incidentally born with the premise of sharing knowledge. Hence, it is important for museological institutions to have their own digital space in order to have an open channel for the transmission of all the knowledge they generate.

The latest statistics with data on museums’ websites in Spain are from 2018 and were collected by the Ministry of Culture. Currently, and especially after the crisis following the covid-19 pandemic, the data would be remarkably different. As it can be seen in the graphs below, 98.9% of museums have a computer available in their equipment, and 92.2% have a website—however, it is not clear in this percentage whether it is their own website or it depends on the administration that manages the museum<sup>(8)</sup>.



Museums and museographic collections according to website availability and services provided, and museums and museographic collections according to computer and website availability. Year 2018

The services provided by websites focus on providing basic information to the visitor. Far behind comes the museum's communication with the visitor and vice versa, and even farther lie educational activities, access to collections, and research or virtual visits, which are relegated to less than 25%. Surely, the health crisis has reversed some of these data, such as the topic of virtual visits or the education section, which rose due to museums' closure during the lockdown period.

The Manacor History Museum is governed by Law 4/2003, of 26 March, on Museums of the Balearic Islands, developed in Decree 38/2019,<sup>(9)</sup> of May 17, which establishes the general principles and complementary regulations regarding museums and museographic collections of the Balearic Islands.

We want to see from the optic of the current regulations whether museographic institutions are obliged to implement web platforms as their own communication tool, or how important technology or digitization should be in their development. For this reason, a search was made in the Decree 38/2019, of 17 May, with keywords such as "web," "digital," "Internet," "technology," "ICT," "innovate," "innovation" and "accessibility." The results were as it follows:

Palabras	Web	Digital	Internet	Tecnología	TIC	Innovar Innovación	Accesibilidad
Veces que aparecen en el texto	0	1	0	0	0	0	1

Fig. 5. Table with the word search that was carried out through the Decree 38/2019, of 17 May.

Author: María José Rivas.

It is clear that the 2019 legislation was already born out of date, because while reading the text it seems that the relationship between the digital world and museums does not exist, nor should it be regulated. Shouldn't we expect that in the 21st century legislation would consider that a museum must have an accessible digital platform to facilitate access to all people for research, consultation, teaching, dissemination and public enjoyment?

The Insular Council of Mallorca provided us with a list of the institutions considered museums or collections on the island of Mallorca.<sup>(10)</sup> In total there are 64 institutions, out of which 12 do not even have a website, 25 do have their own website, and in 27 the museum institution's information is on the website of a higher administration that manages it.

The Manacor History Museum is one of the 25 museographic institutions on the island of Mallorca that does have its own website. Since then, this platform has served us to implement face-to-face digital changes to our facility and collections. Our website has kept growing as the institution found a place to support part of its accessibility strategy. The process has been long and is not concluded yet, because, as we explained above, a website cannot be understood as a static space. Changes are within the very nature of the web, and that's the path we're currently on.

### 3. Manacor History Museum

### 3.1. General information about the museum

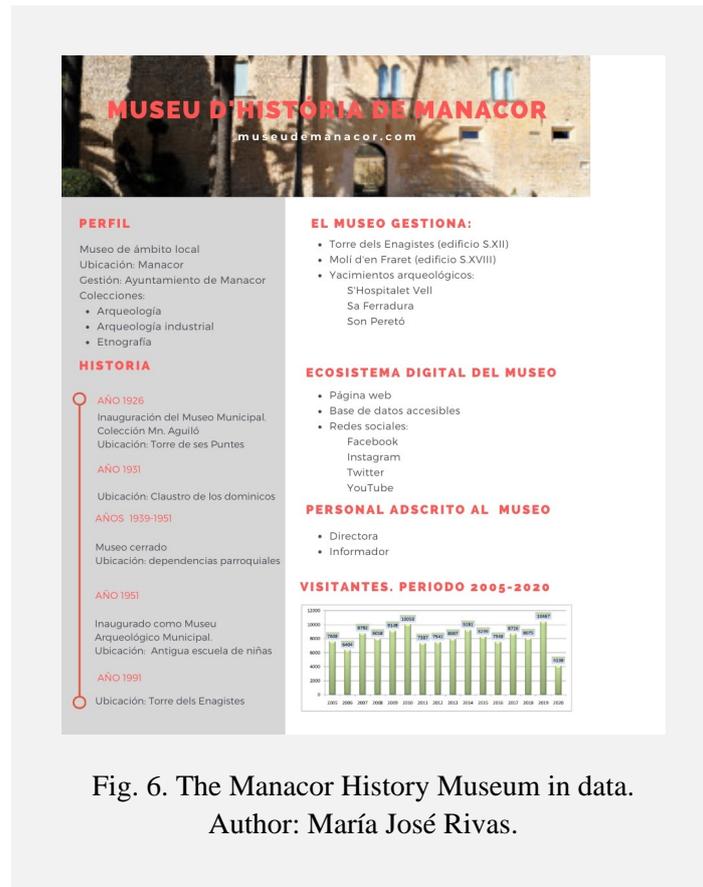


Fig. 6. The Manacor History Museum in data.  
Author: María José Rivas.

### 3.2. The website of the Manacor History Museum

The Manacor History Museum is managed by its municipality. It is located in the municipality of Manacor and it is the most prominent museum in the Eastern side of Mallorca. This is why it can be defined both as a local and a territorial museum—firstly, because it is managed by the Manacor City Council, and secondly, because its impact extends to neighboring municipalities too.

Before 2018, the museum’s page had its own website, managed by the Insular Council of Mallorca. Its main problems were the following:

- Problems accessing the page because it was not loading on certain computers. The connection from tablets and mobile phones was non-existent.
- Museum staff could not modify the page or update its contents—any content change had to go through the IT department of the Insular Council of Mallorca.
- The website was not designed in an accessible way—use of non-contrasting colors, non-accessible font type and size, non-downloadable contents (texts and images).

The decision to renew the website was made with the intention of correcting previous drawbacks. Furthermore, the museum team understood that the website could be a fundamental platform to implement some of the actions in terms of accessibility.

The museum's new website was launched in 2018 (<https://museudemanaacor.com/en>), and the design was carried out by the Mallorcan company Mopis Web.<sup>(11)</sup> The renewal of the museum website was a task that involved the joint work of the museum team and the company that designed it.

The most relevant changes were the following:

- The removal of animations based on Adobe Flash Player and Java Script. By doing this, the page could load faster and from any device.
- A new design bearing in mind the contrast between the page's base color and that of the text to make it easier to read.
- The adaptation of some of the texts on the page.
- Voice notes from texts of the sections of the permanent exhibition were uploaded to make them more accessible for people with vision problems or for anyone who prefers listening to reading. These voice notes are a meeting point between the website and the face-to-face visit. When a person clicks on a QR code, they enter the website and are able to download texts and some images of the room. In addition, users can see digital models of some of the objects in the display cases. It is there where the website becomes a support platform for face-to-face visits.
- The website is one of the entry portals to the museum's virtual collection.
- The museum team can modify and update the content and images on the page.
- The education section has been expanded from 2018 to the present day. Activities and teaching resources can be found there.
- We have used the web to host an accessible database that helps us contain all the information (videos, voice notes, drawings, texts, links) of the accessible panels that are in the archaeological sites of S'Hospitalet Vell and Son Peretó (<https://accessible.museudemanaacor.com/api/en/place/3>).
- A section dedicated to accessibility was created (<https://museudemanaacor.com/en/museum/accessibility>) where in addition to finding each of the actions aimed at physical, visual, auditory and cognitive accessibility, users can download the PFDs with the museum's accessibility plan and all accessibility assessments that have been done in the museum, as well as articles related to this topic as well.

All this required specific resources. The following tables show the investment of the museum's budget and internal work(12) that was dedicated to the website during 2018, 2019 and 2020.

RECURSOS INVERTIDOS EN LA RENOVACIÓN Y MANTENIMIENTO DE LA PÁGINA WEB			
ACCIONES	GASTOS	GASTOS	GASTOS
	AÑO 2018	AÑO 2019	AÑO 2020
Diseño de la página web, alquiler de hosting y dominio	2.145,44 €		
Mantenimiento de la web		319 €	604,20 €
Colección virtual (Sketchfab)		2.100 €	
Traducciones	235,31 €	366 €	305,32 €
<b>TOTAL</b>	<b>2380,75 €</b>	<b>2785 €</b>	<b>909,52 €</b>

HORAS INVERTIDAS EN LA RENOVACIÓN Y MANTENIMIENTO DE LA PÁGINA WEB			
ACCIONES	HORAS	HORAS	HORAS
	AÑO 2018	AÑO 2019	AÑO 2020
Documentación	100	20	10
Grabación de notas de voz	20		10
Reuniones	10	2	2
Formación	10	3	3
<b>TOTAL</b>	<b>140</b>	<b>25</b>	<b>25</b>

Fig. 7. Tables of the resources used for the renewal of the web. Author: María José Rivas.

### 3.3. Web results. A world beyond data...

This article does not aim to make an evaluation of the quantitative data given by the analysis of the website, which is undoubtedly a necessary tool to get to know the visitors behind the screens. The new website allowed us to quantify the visits we receive. Through the Google Analytics platform, we now get information about our virtual audience and the routes they take on the page. We have not yet created any evaluation indicators beyond the analytics offered by the Google page—this is a pending task.

However, we can say that during the more than four years that the page has been running, it has been visited by more than 40,000 users and viewed more than 100,000 times.

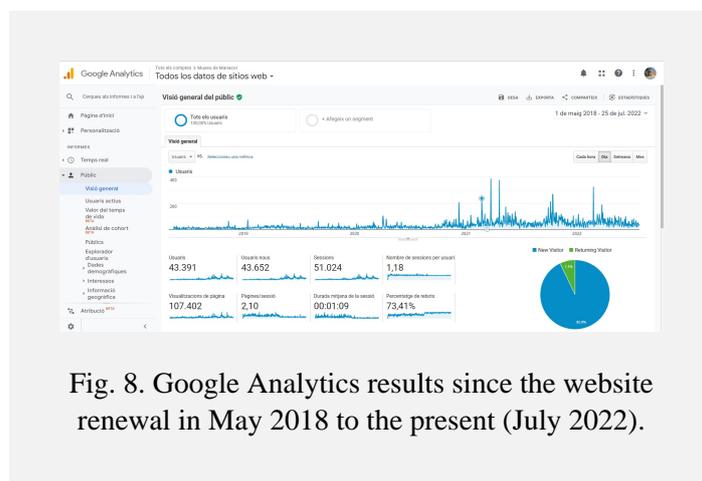


Fig. 8. Google Analytics results since the website renewal in May 2018 to the present (July 2022).

Beyond the data, at the Manacor History Museum we believe that our website is the right instrument for actions that open us up to the rest of society and are sometimes difficult to quantify, such as, for example:

The web is a platform that helps us fulfill the accessibility chain.<sup>(13)</sup> In 2018 the museum was evaluated by PREDIF.<sup>(14)</sup> Reports issued to us explained that it was important for disabled people or groups to have truthful information about the accessibility measures they would encounter if they visited a museum or monument.<sup>(15)</sup> From that moment on, the museum thought that the website would be the place where anyone could find all the actions carried out in the field of accessibility. This is the main reason why the accessibility section was created within our website.

Accessibility also consists of small actions that open doors to the nearby community. This is the case of the city's schoolchildren, who represent almost a third of the museum's annual visitors. During these years, we realized that the most visited section on the web is the one dedicated to education, and for this reason actions have been designed so that the educational community has a place on the digital platform to start or continue their relationship with the museum through games, online workshops and dossiers adapted to understand the permanent exhibition rooms and their historical and local context.

Being accessible entails many variants, without losing sight of compliance with current legislation as a fundamental right for people and groups with disabilities as the main objective and to which specific actions must be allocated. An example is compliance with the WCAG 2.0 standards for accessibility on websites, which requires at least 5 points out of 10—our museum's website scores 7. From the very beginning, it was clear that accessibility is a matter of rights, and that it is important to have the regulations in place to comply with them.

### **3.4. The future**

Perhaps currently museographic institutions reach a virtual audience in most cases through social networks, but in recent years we have become aware of the importance of the website as a museographic space, which is not subject to algorithms, nor invaded by advertising spaces. At the Manacor History Museum, our website is the platform for disseminating the museum's range of activities and it is also a space open to the nearest community, to groups with disabilities, to people who cannot access the building as of now, to researchers who want to visit the museum and are looking for some information on it, and so on. The options that our website grants us are as many as the number of people visiting it.

The future does not exist, but as public institutions we are responsible for planning it, and within this planning it is important to allocate resources for proposals that can make both our website and our museum more accessible. Some of the proposals we hope to implement in the coming years are the following:

- Creating a section on the website where some of the temporary exhibitions produced by the museum have their own space. This aspect is part of the principle of sustainability, since many of the exhibitions generated without a catalog are worthless. In the future we want to give the temporary exhibitions we produce permanent prominence, so that they can be viewed beyond their physical lifespan.
- Continuing to expand our virtual collection and see how access to the museum catalog could be created.
- Incorporating the museum's catalog on the website, and making a part of it able to be consulted online.
- Evaluations carried out by ourselves, by users and by third companies oblige us to make changes to make the website easier and more convenient for the public to use. We understand our website as a space where we can host tools and content that help us to provide the best possible service as a museum, and that is why during the first quarter of 2022 the company [Kultura\(16\)](#) evaluated it. As a result of this evaluation, a restructuring will be initiated in the design and contents of the education and research sections so that their usability is more practical and effective.

The versatility of websites gives each museum the possibility to adapt them to their own needs. It is not about having the same amount of content or designs as the websites of the big museums that we all bear in mind—it is about reflecting on what our own institution needs and how our website can help to achieve that, without losing sight of the fact that every step we take on the web will help the museum to become more accessible, because the Internet was born from the idea of sharing to reach more and more people.

Technology will surely help us in the future to meet four of the major challenges that must be addressed within the website of the Manacor History Museum and that could be extended to any museological institution:

- Creating bidirectional collaborative spaces where not only the institution generates information and knowledge.
- Continuing to increase the hybrid space where our website and our facilities share the spotlight to make visits and experiences at the museum more satisfying.
- The website as a support for evaluations and data analyses.

- Making communication all the smoother with the people on the other side of the screen and contributing to the museum's virtual community.

We could not talk about generalized proposals to make web pages accessible, but what remains clear is that, at the design level, it is necessary to comply with regulations<sup>(17)</sup> so that the platform can be used by anyone in an easy and practical way. So, before getting started, we must bear in mind that the website's design will remain in the background in favor of having an accessible web platform.

The website must be created with specific objectives set by the institution and within a strategic plan. In the case of the Manacor History Museum, it is clear that our platform has accompanied us on the road to accessibility, and in the future we count on it to continue creating a museum for everybody.

## Notes

1. <https://www.bbc.com/mundo/noticias-47524843>
2. Granze, M. (2020):  
<https://medium.com/nightingale/museums-are-going-digital-and-borrowing-from-data-viz-in-the-process-b5e3828b4000>.
3. Internet access in Spanish homes in 2014 was 79%. Pérez, J., Fría, Z. and Urueña, A. (2018):  
<https://www.ontsi.red.es/sites/ontsi/files/50%20A%C3%B1os%20de%20la%20Red%20de%20Redes.pdf>.
4. Pérez, J., Fría, Z. and Urueña, A. (2018):  
<https://www.ontsi.red.es/sites/ontsi/files/50%20A%C3%B1os%20de%20la%20Red%20de%20Redes.pdf>.
5. [https://www.ine.es/ss/Satellite?L=es\\_ES&c=INESeccion\\_C&cid=1259925528782&p=1254735110672&pagename=ProductosYServicios%2FPYSLayout](https://www.ine.es/ss/Satellite?L=es_ES&c=INESeccion_C&cid=1259925528782&p=1254735110672&pagename=ProductosYServicios%2FPYSLayout).
6. <https://wearesocial.com/es/blog/2022/01/digital-report-2022-el-informe-sobre-las-tendencias-digitales-redes-sociales-y-mobile/#:~:text=Digital%202022%20muestra%20que%20la,a%C3%B1o%3A%20192%20millones%20de%20personas>. Last accessed on 28 June 2022.
7. Pantoja, J. (2019). P. 43.
8. <http://www.culturaydeporte.gob.es/dam/jcr:bca4be9b-b869-48dd-a961-b34d472008f3/museos-y-colecciones-museograficas-principales-resultados-2018.pdf>.
9. [file:///C:/Users/Maria%20Jose/Downloads/Decret\\_museus\\_CAST.pdf](file:///C:/Users/Maria%20Jose/Downloads/Decret_museus_CAST.pdf).
10. These data were provided by Biel Pons, a technician from the Insular Council of Mallorca, for the drafting of the TFP “Pàgines web a museus petits, 2 exemples a l'illa de Mallorca (MHM i MMM). Anàlisi, resultats i visió de futur,” carried out by María José Rivas Antequera in June 2021.
11. [www.mopisweb.com](http://www.mopisweb.com), a local company based in the municipality of Manacor.
12. The work carried out by the museum team is quantified in working hours, since each administration establishes the workers' fees.
13. <https://www.plenainclusion.org/discapacidad-intelectual/recurso/cadena-de-la-accesibilidad/>.

14. <https://www.predif.org/>
15. PREDIF created the platform <https://www.tur4all.com/> so that people with disabilities can find accessible resources on tourist visits.
16. <http://www.kultura.cat/>.
17. Royal Decree 1494/2007, of November 12, 2007, approving the [Regulation on basic conditions for the access of people with disabilities to the information society](#), obliges the websites of public administrations to comply with the requirements of priority 1 and 2 specified in the UNE standard.

## Bibliografía

- Bofill, C. (2016). “Analizando al público virtual (II). Conectar y profundizar en la relación”. <https://lab.cccb.org/es/analizando-al-publico-virtual-ii-conectar-y-profundizar-en-la-relacion/> [Last visit 4/06/2022].
- Granze, M. (2020). <https://medium.com/nightingale/museums-are-going-digital-and-borrowing-from-data-viz-in-the-process-b5e3828b4000> [Last visit 14/06/2022].
- Pantoja, J. (2019). “Un caso de ansiedad: la transformación digital de los museos”. En M. Amieva and L. Vargas (ed.). *Museo digital. Futuros y posibilidades*. Mexico: MUAC. P. 34-44. [https://muac.unam.mx/assets/docs/c002\\_museo\\_digital.pdf](https://muac.unam.mx/assets/docs/c002_museo_digital.pdf) [Last visit 28/04/2021].
- Pérez, J., Fría, Z. and Urueña, A. (ed.) 2018. “La evolución de Internet en España: del Tesys a la economía digital”. <https://www.ontsi.red.es/sites/ontsi/files/50%20A%C3%B1os%20de%20la%20Red%20de%20Redes.pdf> [Last visit 28/06/2021].
- Santacana, J. and Llonch, N., 2008. *Museo local: la cenicienta de la cultura*. Gijón: Trea.

## Web pages

Europeana

[https://pro.europeana.eu/files/Europeana\\_Professional/Publications/Digital%20transformation%20reports/The%20digital%20transformation%20agenda%20and%20GLAMs%20-%20Culture24%20findings%20and%20outcomes.pdf](https://pro.europeana.eu/files/Europeana_Professional/Publications/Digital%20transformation%20reports/The%20digital%20transformation%20agenda%20and%20GLAMs%20-%20Culture24%20findings%20and%20outcomes.pdf) [Last visit 28/04/2022].

National Statistics Institute

[https://www.ine.es/ss/Satellite?L=es\\_ES&c=INESeccion\\_C&cid=1259925528782&p=1254735110672&pagename=ProductosYServicios%2FPYSLayout](https://www.ine.es/ss/Satellite?L=es_ES&c=INESeccion_C&cid=1259925528782&p=1254735110672&pagename=ProductosYServicios%2FPYSLayout) [Last visit 28/06/2022].

Ministry of Culture and Sports

<http://www.culturaydeporte.gob.es/dam/jcr:bca4be9b-b869-48dd-a961-b34d472008f3/museos-y-colecciones-museo-graficas-principales-resultados-2018.pdf> [Last visit 28/06/2022].

