

# ACCESSIBLE TOURISM AND TECHNOLOGY: ENHANCING EXPERIENCES OF BLIND AND VISUALLY IMPAIRED MUSEUM VISITORS

## Abstract

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*Purpose* – The slow but noticeable shift in public perception of the importance of accessible solutions in society has led to a need to better understand how people with sight impairments or blindness experience can consume tourism products and services. In this process, the role of technology is of great importance, as technological solutions are used to improve and enhance the offer for this group of tourists. The aim is to determine the level of awareness of museums in terms of accessibility solutions for blind and visually impaired visitors and to examine the extent to which technology is used to overcome barriers in providing services to this visitor segment.

*Methodology* – Based on the secondary research, which suggests that technology is an important factor in creating an accessible, inclusive and barrier-free tourism environment, a deeply structured online questionnaire was created and distributed to all museums in the city of Zagreb to examine their commitment to providing a quality and inclusive experience for tourists with visual impairments or blindness.

*Findings* – The accessibility of museums in Zagreb has still not reached its potential and does not fully meet the needs of visually impaired and blind tourists. The reasons for this situation include the fact that museums do not have sufficient financial support for such investments and that there is poor awareness in society of the overall importance and benefits of universal design.

*Contribution* – A comparative analysis provides an overview of global best practices, which, in combination with the results of primary research, forms the basis for the decision-making process of stakeholders involved in the development of museum accessibility.

**Keywords** accessible tourism, visual impairment and blindness, museums, technology, universal design

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## INTRODUCTION

Accessibility in tourism is closely related to the issue of justice, human rights, the removal of barriers and the inclusion of all potential tourists, regardless of the obstacles they may face. In general, accessibility can be defined as the ability to be reached, the ability to be understood or appreciated, or the ease of use or access by people with disabilities (Merriam Webster, n.d.). Lee and Olsen (2024, 4) also define accessibility as “the ease of access”, adding that tourists represent a very heterogeneous group and therefore not all of them have the same opportunities or abilities to access tourism products or destinations. In particular, tourists may vary in terms of health, physical strength, mobility, sight, hearing and mental or physical disability, which means that they require different solutions and adaptations of tourism infrastructure in order to access products and services. But it seems of upmost importance to emphasize that “people with disabilities are an important part of the spiritual, political and material components of human society and should have the same right to travel as able-bodied people” (Qiao, Cao and Zhang, 2023, 532).

Although accessible tourism is often analysed only from the perspective of specific needs and requirements of persons with disabilities, a wider segment of potential tourists benefit from its development, e.g. older people, families with children, obese people, those with temporary disabilities, etc. However, it must be recognised that persons with disabilities make up the largest proportion within this group, as an estimated 1.3 billion people are affected by a significant disability, representing 16% of the world’s population (WHO, 2023). Among the different types of disabilities, the focus of this study is on creating a barrier-free, accessible tourism infrastructure for blind and visually impaired persons. People living with this type of disability are becoming an increasingly important segment, as vision loss is projected to increase by 55%, or 600 million people, over the next 30 years (IAPB, n.d.). In other words: by 2050, there will be an estimated 1,758 million people with vision loss, and the two main factors driving this situation are population ageing and lifestyle changes. Namely, 73% of people with vision loss nowadays are over the age of 50.

For these reasons, the segment of blind and visually impaired persons is a particular focus of research in the context of accessible tourism. The quality of their experience when visiting museums has recently been the focus of numerous researchers (Hetherington, 2000; Handa, Dairoku and Toriyama, 2010; Mesquita and Carneiro, 2016; Asakawa et al., 2018; Istanbulu Dincer et al., 2019; Garcia Carrizosa et al., 2020; Vaz, Freitas and Coelho, 2020; Vasilakou et al., 2022; Fortuna et al., 2023). These authors reflect on the various aspects of tourism services and experiences created for the segment of blind and visually impaired persons. Based on that knowledge, this paper focuses on the analysis of accessibility in tourism from the perspective of blind and visually impaired persons, especially with regard to their specific requirements when visiting museums. As technology is widely used to improve the quality of visitor experiences in general, especially from the perspective of accessibility of tourism services, the focus of this research is on defining and analysing those technological solutions that improve the experiences of

blind and visually impaired persons. The research also expands to primary research, including museums in the city of Zagreb, with the main aim of determining the extent to which museums are geared towards accessible tourism and what factors limit or promote the development of accessible solutions.

The research questions posed in this study are: (a) How do museums in the city of Zagreb adapt their exhibitions and content to blind and visually impaired visitors? and (b) What are the obstacles to a more intensive implementation of technological and other solutions that would improve the quality of the visit for this visitor segment? After an overview of the results of previous studies, the methodology used in this study and the results of the primary research are explained and a discussion and recommendations are given.

## 1. THEORETICAL BACKGROUND

To explain and emphasize the importance of accessibility in the cultural tourism ecosystem, the UNWTO (n.d.) cites numerous examples of its contribution to the quality of tourism experiences. Among others, the organization cites “equality, diversity and inclusion, regardless of people’s abilities; understanding the integrity of the accessible tourism value chain; ensuring infrastructure, products and services for all people; environments that are attractive to both tourists and locals; improvements to people’s comfort, safety and quality of life”, etc. Buhalis and Darcy (2010) consider that “the heterogeneity of tourists with disabilities means that if managers are to adopt a conducive, inclusive approach to the provision of tourism products and services, they must target tourists with disabilities in the same way as any other consumer group”. However, Liu et al. (2024) emphasize that despite the significant increase in attention, the area is still quite under-researched.

Travel experiences are highly dependent on all senses, and destinations very often emphasize the “must-see” attractions and sights in their promotional materials and campaigns. However, these travel experiences are often not inclusive and neglect the needs of blind and visually impaired tourists. Lam, Chan and Peters (2020) point out that “sightseeing” emphasizes the visual sense of “sight” and “see” as a prerequisite for a tourist experience. In general, the role of accessible tourism is to overcome difficulties and limitations so that anyone who wants to travel can participate in tourism activities (Qiao et al., 2022, 715). More specifically, accessible tourism can help tourists on their travels, it creates new business opportunities and makes tourism destinations accessible to all. However, as Reinaldo Ribeiro et al. (2018, 30) stated, there are still many limitations for persons with disabilities in tourism activities.

### 1.1. Accessibility from the perspective of blind and visually impaired people

The fact that so little attention is paid to the blind and visually impaired tourist segment is surprising for several reasons. First, because of the considerable size of the blind population; second, blind people often travel in the company of others; third, the presence of blind people on group tours can influence the travel behavior and itineraries of their fellow travelers; fourth, legislation that requires organizations and businesses to provide accessibility to all members of society, especially persons with disabilities, should also be taken into account (Poria, Reichel and Brandt, 2010). These reasons provide a good basis for the development and adaptation of infrastructure for blind and visually impaired people. Current technological development offers numerous solutions for overcoming obstacles faced by this particular segment of tourists. A study by Liu et al. (2024) suggests that visually impaired customers have a need for technology-assisted devices such as voice control, voice menus, smart directions, smartphone apps, smart payments and smart white canes. In another study by Lam, Chan and Peters (2020), it was found that companionship and technology are the most important factors that can help remove barriers to leisure travel and that the goal of accessible tourism for blind and visually impaired persons can be achieved.

From the perspective of tourism, blind and visually impaired persons are mainly influenced by six factors, namely “tourism products and services, personal psychological factors, social support, community support, personal socio-economic factors, and accessible environment” (Qiao, Cao and Zhang, 2023, 535). It is important to point out that this study emphasized the need of blind and visually impaired people for social recognition and support. Despite the essential need to adapt the physical environment to their specific needs and requirements, the improvement does not stop there. Much more effort is needed to improve the quality of their tourism experience, starting with social, human interactions. A study by Theodorou et al. (2024) expanded the current understanding of tourism behavior by taking into account the unique behavior of blind and visually impaired persons and provided a guide for providing better and more engaging tourism experiences.

“Some of the main barriers that prevent people with visual impairments from participating in activities are related to the physical environment and, in particular, to the presence of physical barriers that make mobility difficult” (Mesquita and Carneiro, 2016, 376). It was possible to systematize the factors that limit participation in tourism and it emerged that structural factors are predominant, mainly related to a lack of adequate tourism services and the tourism industry’s awareness of the needs of these people. A lack of knowledge about tourism providers was cited as the most important barrier, which has a strong impact on travel experience and satisfaction (Devile and Kastenholz, 2020, 100).

## 1.2. Are museums accessible for blind and visually impaired people?

The idea and development of museums as inclusive and accessible environments goes back several decades and the concepts are seen as complementary. If the museum is working towards inclusion, it must respond to the needs of society and work on adaptations to become accessible. On the other hand, working on accessibility means that the museum must respond to the needs of society and learn what adaptations should be made through a participatory approach (Mileusnić and Bugar, 2022, 44). “While museums and similar institutions strive to make their buildings and exhibits accessible, some aspects of access are not as obvious as wheelchairs for those who need them or visitors with mobility issues” (Linsey, 2013, 355). The same author highlights digital accessibility as one of the often-neglected factors in this process.

Noghan, O’Connor and Sigala (2024, 1362) point out that the way blind and visually impaired persons experience tourism is poorly understood, which ultimately means that this segment of potential tourists usually remains unserved. Lack of understanding, though, is hardly a sound justification of poorly delivered services or the lack thereof. Poria, Reichel and Brandt (2010) emphasized that some blind participants in their study stated that they actually visit museums, although their experience is limited to feeling the exhibits. This finding, added to the knowledge gained on the segment of blind and visually impaired persons as a whole highlights significant gap between the needs and of the demand and performance of supply. “Blind and visually impaired persons have been excluded from artistic and cultural institutions such as art exhibitions and museums for long time” (Vasilakou et al., 2022, 263). The authors point out that most of these institutions are still inaccessible to persons with disabilities, despite all efforts to date. Extensive research is still needed to identify the expectations and needs of blind and visually impaired visitors in all areas of the museum visit, including interactions with the exhibits, access to contextual information, mobility and orientation in the exhibition galleries and on the museum site, and online interaction with museums (Vaz, Freitas and Coelho, 2021, 72).

With the use of digital media, some museums are now improving the accessibility of exhibitions and spaces by offering blind and visually impaired visitors the opportunity to touch and feel objects and support them during their visit (Vaz, Freitas and Coelho, 2020, 72). Although the traditional understanding of exhibiting artefacts in museums is not in line with the idea of those artefacts to be touched, there are numerous findings suggesting the opposite, highlighting the need to rethink the way the culture is exposed and consumed. In such way a whole new market will be open to this particular group of customers. The results of the analysis conducted by Handa, Dairoku and Toriyama (2010, 229) revealed that accessibility to exhibitions and collections and support from staff were considered the two most important factors by the respondents in their study. A study by Vaz, Freitas and Coelho (2022) revealed that blind and partially sighted persons name several aspects that would improve their autonomy during visits to museums, namely to provide sensory, intellectual and physical access throughout the entire museum experiences.

In the study by Fortuna et al. (2013, 119), inadequate signage, a lack of multi-sensory information and the need for staff training were cited as the main barriers to access. They cite provisions such as “audio-tactile maps, appropriate lighting and assistive technologies can have a positive impact on the museum experience for visitors with visual impairments”. The ability to hear, touch and feel artifacts enhances the museum experience for visitors of all ages and abilities. The role of technology in creating an accessible museum environment is undeniable. Garcia Carrizosa et al. (2020, 37) emphasize that nowadays technology is able to enhance the modalities that mediate the users’ experience. This helps to create a more authentic experience, potentially bringing the user closer to previously inaccessible artifacts and sites.

Table 1 provides an overview of solutions that can improve the experience of blind and visually impaired persons during museum visits, divided into three groups according to technology they use.

Table 1: Solutions for improvement the experience of blind and visually impaired

Solutions with low technology or without one	Solutions with simple and available technology	Solutions with complex and expensive technology
<ul style="list-style-type: none"> <li>• Braille information boards for exhibits</li> <li>• Tactile paths and floor markings for easier navigation through the museum</li> <li>• Classic replicas of exhibits that can be touched</li> </ul>	<ul style="list-style-type: none"> <li>• Audio descriptions of exhibits</li> <li>• Mobile museum application with voice descriptions or the option of recognizing QR codes that trigger audio information</li> <li>• Simple wearable technology (headphones)</li> </ul>	<ul style="list-style-type: none"> <li>• Replicas of exhibits (made with a 3D printer) that can be touched</li> <li>• NFC marks</li> <li>• More complex wearable technology</li> <li>• 3D displays</li> <li>• Haptic technology</li> </ul>

Source: Vaz, Freitas and Coelho, 2020

The first group of technology-dependent solutions includes technologies that are more accessible and affordable, which is why they are likely to be found in many museums around the world. “One of the key access tools is audio description, which has traditionally been used to translate visual information into verbal description” (Eardley et al., 2022, 150). Audio description can be supported by simple wearable technology such as headphones, which can be provided by the museum or brought by visitors. When it comes to mobile applications for the blind and visually impaired, museums can use applications that have been developed in advance and made available to a larger number of museums (e.g. Geed), or create their own application (which is a more expensive and less frequently used option).

On the other hand, more complex technological solutions are usually much more expensive and complex and therefore much less used, although they can significantly improve the experience of blind and visually impaired visitors. For example, tactile replicas of exhibits (made with a 3D printer) offer visitors the opportunity to feel 3D replicas of selected exhibits, often accompanied by audio descriptions. Tactile exhibits are not just a substitute for the visual, but offer a unique and immediate opportunity to “feel” history, art and culture. Relief images, replicas and 3D models allow visitors to explore textures, shapes and proportions in a way that is not visually accessible. The Scan the World initiative is a great example of how people can experience cultural artifacts in a tangible way and how museums can become more accessible to blind and visually impaired visitors (Karaduman, Alan and Yiğit, 2022, 811-812). Some examples of museums that use 3D printed replicas are: The Van Gogh Museum, Netherlands, the National Gallery of Prague, Czech Republic, the Smithsonian, USA and the British Museum, England.

The use of NFC (Near Field Communications) technology in museums, which can improve the experience of blind and visually impaired people is diverse. This technology enables communication between two electronic devices. It can be used for access to information about the museum, interactive multimedia content, multilingual support, audio guides and automated ticket couponing. One example of combining NFC tags with the Internet of Things is the Tooteko project, which includes a high-tech ring that recognizes and reads the NFC tags and communicates wirelessly with the smart device, tactile surfaces with NFC tags, and a mobile application that communicates wirelessly with the ring (Tooteko, n.d.). Some of the museums that utilize NFC technology to improve the experience for blind and visually impaired people are as follows: The National Museum of Scotland, The Louvre, France and The British Museum, England. 3D displays are also one of the more complex technologies. It is an interactive installation that all visitors can engage with through a multi-sensory experience. As this technology is quite new and expensive, it is still rarely used in museums. An example of the use of such displays is the National Museum of Wildlife Art, USA, where 3D reliefs allow blind and visually impaired visitors to engage with the artworks through touch and sound.

One of the most complex forms of technology is haptic technology, which is defined as technology that transmits tactile information through sensations such as vibration, touch and force feedback (Ashtari, 2025). As the same author states, there are different types of haptic technology according to different criteria: based on use (graspable (e.g. joysticks), touchable (smartphones) and wearable (e.g. VR gloves)), based on feedback (force feedback, vibrotactile feedback, electrotactile feedback, ultrasonic tactile feedback and thermal feedback) and based on modality (vibration, kinaesthetic and buttons). All of the above types offer possibilities for numerous combinations that can be used in museums to provide a better experience for blind and visually impaired visitors. The Manchester Museum, UK, for example, has implemented an interface consisting of a touch-sensitive computer system that allows the user to examine and explore the topography of an artefact in a three-dimensional digital environment using a feedback stylus. In addition, the National Gallery of Prague, Czech Republic, utilises the virtual reality experience with haptic Avatar VR gloves that provide three-dimensional feedback to mimic the sensation of touch (MuseumNext, n.d.). As can be seen from the technologies described, these are usually a combination of different technologies (e.g. a combination of wearable technologies with haptic technology, 3D replicas with QR codes and NFC tags, etc.) that can enhance the experience of a museum visit for the blind and visually impaired. Many museums around the world have recognised this technology and used it according to their needs and possibilities.

Based on these findings, the aim of this research is to determine the level of awareness of museums in the city of Zagreb in terms of accessibility solutions for blind and visually impaired visitors and to examine the extent to which technology is used as a means of overcoming barriers in the provision of services to this particular visitor segment.

## 2. METHODOLOGY AND RESEARCH RESULTS

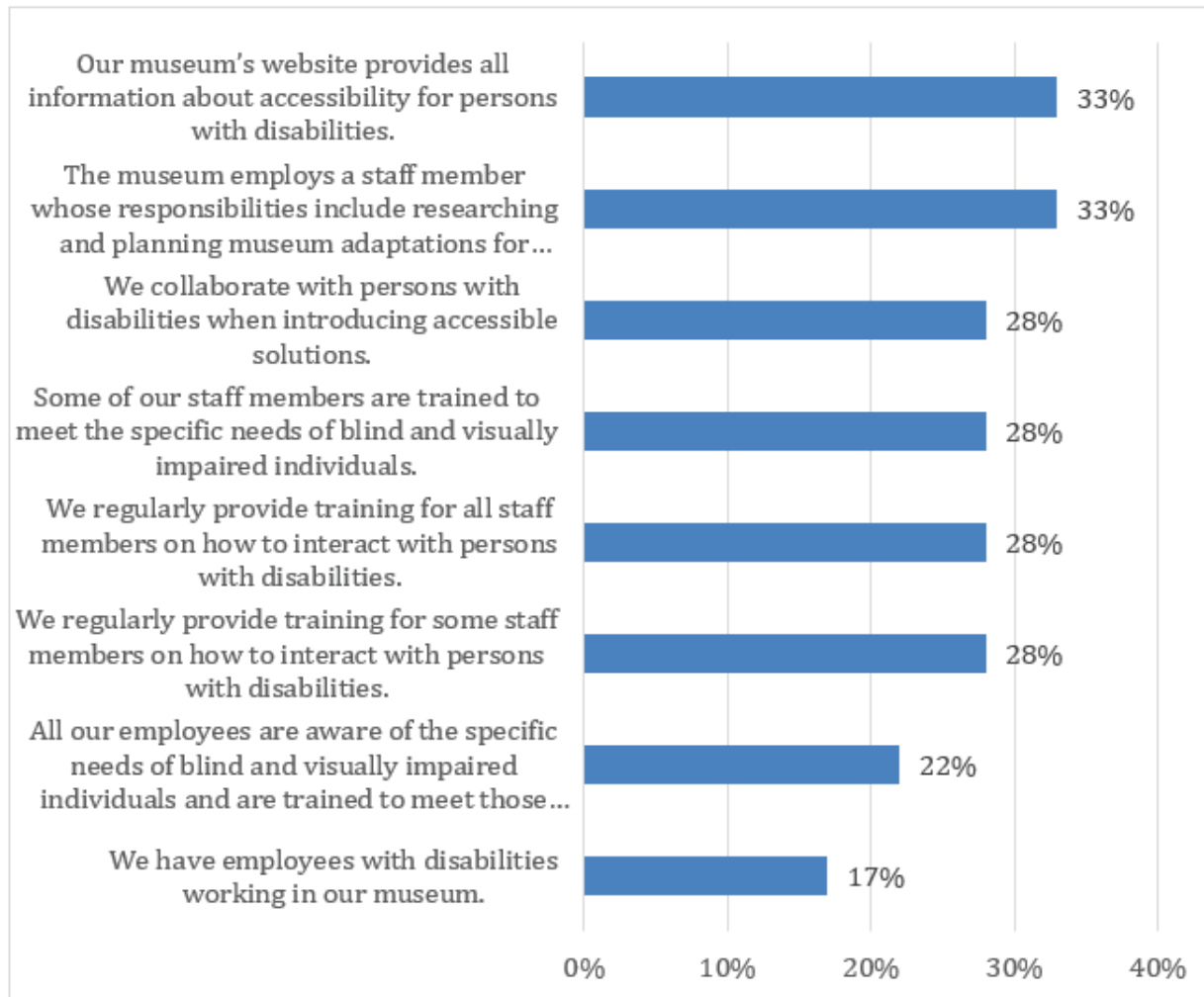
The aim of the conducted research is to determine the level of accessibility of museums in the city of Zagreb for people with disabilities, with a specific focus on blind and visually impaired people, as well as to examine the use of technical solutions in museums that are created to enhance the quality of their experiences. For this purpose, a survey of a sample of 31 museums was conducted in March 2025. Of the total of 48 museums in Zagreb, 31 were open at the beginning of 2025 due to the ongoing renovation work following the earthquake that shook Zagreb on March 22, 2020, and were therefore included in the survey. The statistical units of the research were museum directors or other responsible persons within the sample. The data was collected using an online questionnaire and analysed using descriptive statistical methods. The questionnaire was developed based on a review of the relevant literature and previous research in this field (e.g. Lam, Chan and Peters, 2020; Salonlahti and Salovaara, 2022). The questionnaire consisted of a total of 12 questions. It was distributed as an online form, which was sent by email to the designated museum representatives following personal telephone contact with each museum. Of the 31 questionnaires sent out, 18 valid responses were received, which corresponds to a response rate of 58%. Based on a previous analysis of all museums in Zagreb that were operational and open to the public at the beginning of 2025, it can be concluded that the surveyed sample is relevant and reliable for the study.

Of the total number of museums that took part in the survey, 44% are financed exclusively from public sources, while 50% are financed exclusively from private sources. Only one museum (5.6%) is funded by a combination of public and private sources. When asked “Do you think your museum is aware of accessibility issues?”, 78% of respondents said they were aware, while 22% said they were not aware or had never been aware of accessibility for people with disabilities.



The fact that the cost of implementing accessibility solutions is included in the budgets of 39% of museums in the sample suggests that some museums are systematically addressing the adaptation of their operations and exhibition presentation. However, 56% of respondents stated that the costs of implementing accessible solutions are not included in their regular budget. This suggests that these costs are likely to have been incurred as part of wider refurbishment projects (particularly in museums that have been refurbished in the last five years), with one-off investments in accessibility solutions and no further investment or ongoing improvements to museum services for this visitor group planned. The remaining 5% of respondents did not have this information. It is encouraging that 67% of respondents indicated that the introduction of accessibility solutions is included in their museum's strategy and development plans, although unfortunately this is not yet the case for a third of respondents.

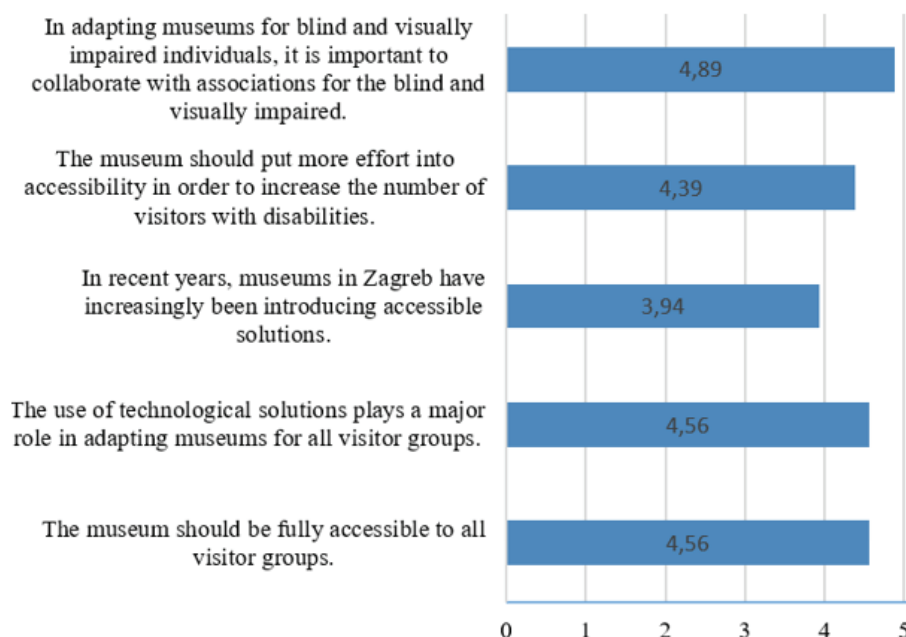
Figure 1: Commitment of museums in Zagrebs to adapting services for people with disabilities



Source: Primary research

Figure 1 shows the current commitment of Zagreb's museums to the continuous care of persons with disabilities. A third of respondents indicated that they have a staff member responsible for exploring adaptations for people with disabilities, and they indicated that their websites provide tailored information about the current accessibility of their museum. Of all respondents, 28% of museums reported that some staff are trained and able to cater for the specific needs of blind and partially sighted people. Only 16.7% of museums have staff with disabilities in their teams. Certain museums are required by law to employ people with disabilities (3% of the total workforce for museums with 20 or more employees) and there are incentives for employers who employ people with disabilities.

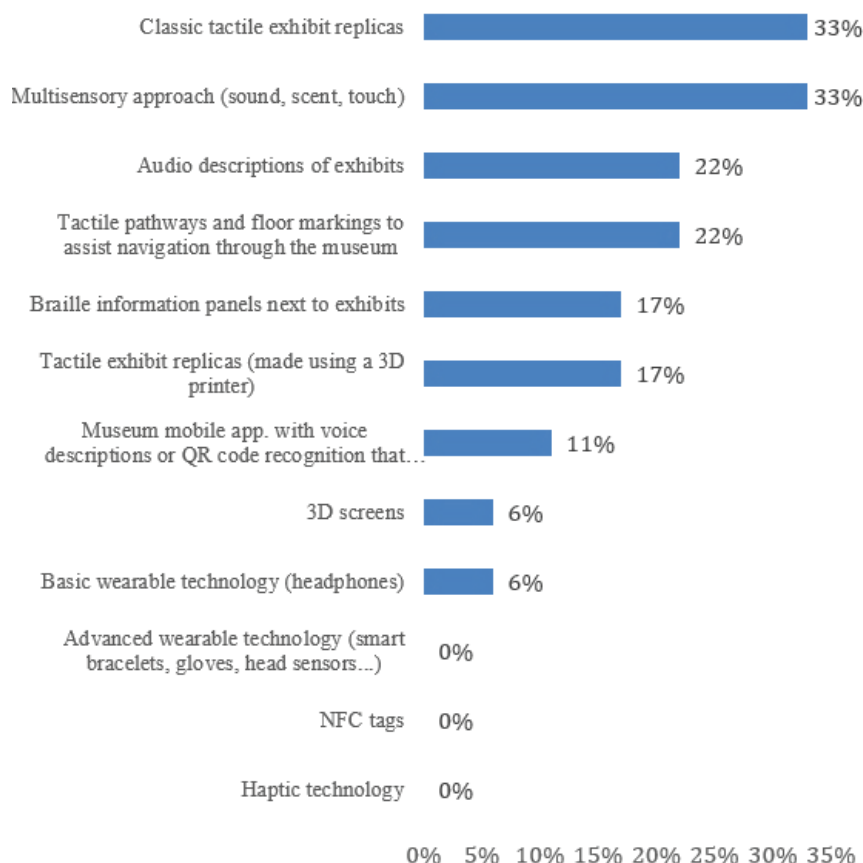
Figure 2: Attitudes about the accessibility of museums for persons with disabilities



Source: Primary research

The agreement scores for the statements in Figure 2 show that museums are primarily aware of the importance of cooperation with associations for the blind and visually impaired in the implementation of museum adaptation projects, as the highest average score of 4.89 indicates. Given the still insufficient application of modern technological solutions in the interpretation of cultural heritage in general – and in museum exhibitions in particular – it is not surprising that the importance of technology in adapting museums for all visitor groups (not just the blind and visually impaired) received a high average score of 4.56. The lowest average score (3.94) was given to the statement that museums in Zagreb have increasingly introduced accessible solutions in recent years, suggesting that even the museums themselves consider current accessibility efforts to be insufficient.

Figure 3: Methods used by museums in Zagreb to adapt to blind and visually impaired people



Source: Primary research

In terms of adaptations for blind and visually impaired people, research shows that a third of museums allow these visitors to touch the replicas of classical exhibits, which is a unique experience that is not possible elsewhere. Among the most commonly used interpretive approaches and adaptations for blind and visually impaired people is a multi-sensory approach (also present in 33% of respondents). The use of audio descriptions of exhibits, tactile pathways and floor markings to aid navigation is adopted by 22% of museums, while Braille information panels near exhibits are present in 17% of museums. Mobile applications that enable voice descriptions by scanning QR codes are only used by 11% of the museums surveyed.

As well as assessing the interpretation methods and technologies currently available that are suitable for blind and visually impaired people, the study also looked at museums' familiarity with the various technologies. All museums were familiar with the potential use of 3D printers, QR codes and simple wearable technologies such as headphones. NFC tags were known to 50% of respondents, while only 25% were aware of 3D screens and advanced wearable technologies such as smart wristbands, gloves or head sensors. The potential use of haptic technologies is still largely unknown to the museums in Zagreb that were included in this study. It can be assumed that the high cost of haptic devices still limits their wider integration into museum systems. However, haptic technology could significantly improve the experience of virtual and augmented reality, which could further improve the accessibility of museum services for people with disabilities, as implemented in the National Gallery of Prague, described previously in the paper.

According to respondents' opinions and experiences, the main barrier to implementing accessible solutions in their museums is the difficulty of adapting the space (44%). This is not surprising considering that most museums in Zagreb are located in historical buildings in the city centre. It can be assumed that more museums currently undergoing complete renovation due to the earthquake will take the opportunity to remove basic barriers to accessibility. Financial constraints were cited by 39 % of respondents as a barrier to implementing accessible solutions – evenly split between publicly and privately funded museums. Interestingly, 17% of museums, all of which are exclusively publicly funded, cited a lack of awareness of the need to adapt and implement accessibility solutions as the main reason for not pursuing such measures.

## DISCUSSION AND CONCLUSION

The market of blind and visually impaired people represents a considerable potential for museums to increase the number of visitors, but also to offer art for all, regardless of possible barriers. In addition to the size of the market, the interest of blind and visually impaired people in visiting museums is obvious, as is the interest of some museums in adapting to this market. In addition to classic solutions such as Braille information panels for exhibits, tactile paths and floor markings and classic replicas of exhibits, the rapid development of technologies such as audio solutions, mobile applications, wearable technology, QR codes, NFC, 3D, etc., enables the improvement of the experience of blind and visually impaired people. As outlined in the paper, there are examples around the world that have come quite far in implementing such technologies. On the other hand, the results of the primary research in this paper have shown that museums in the city of Zagreb are still lagging behind global trends in terms of technology. Most technological solutions have been implemented by only 5% of museums, which shows that there is still a lot of room for improvement.

Based on the results of secondary and primary research, several key recommendations are drawn up and explained. However, they represent a preliminary insight into the topic and can only be applied to the area under research, i.e. Zagreb. At the same time, the research findings and the recommendations derived from them provide a valuable overview of potentials and obstacles in the research field and thus underline the need for future research. These recommendations can be used by stakeholders involved in the design and implementation of tourism policy in the city of Zagreb.

### *Appointment of a person or team for museum accessibility*

The process of adapting a museum for blind and visually impaired people needs to be planned and managed, which is why it is important to have one person overseeing the whole process. It is also advisable to form a team that would include blind and visually impaired people, as they know best what solutions are suitable for them and what can enhance their experience the most.

### *Creating an accessibility strategy for museums*

An accessibility strategy can be part of an individual museum's development strategy and should include an analysis of the current state of the museum's adaptation for blind and visually impaired people, a market analysis (market size and needs of the target group), adaptation goals (solutions to be implemented), potential funding sources, people responsible for each stage of the process and measurement of goals achieved. There are numerous examples worldwide that could be used as benchmark to achieve this objective and to set accessibility as a strategic determinant of a particular museum.

### *Obtain feedback from blind and visually impaired visitors*

This aspect is of paramount importance throughout the process of developing accessible solutions for blind and visually impaired persons. This refers primarily to the period before the implementation of new solutions, but also especially during and after the implementation, as this way the effects achieved can be measured, but also suggestions for future adaptations of the museum can be gained. Feedback from the target audience is of the utmost importance, as the quality of their experience is at the heart of the development strategies.

### Staff training

The introduction of technology is in line with staff training. Depending on the possibilities, it is necessary to train at least some of the staff, as they are the first to come into contact with the visitors. Staff also need to be familiar with the technology used by the museum in order to be able to introduce users to it, but also to help if the technology fails. Ultimately, the human factor can make a big contribution to visitor satisfaction. When training, it is important to pay attention to staff awareness, as technology can be used by persons with different disabilities and not all types of disabilities require the same approach. In this case, it is very important that staff are well trained both in terms of technical achievements and in terms of interacting with people with disabilities in general and blind and visually impaired persons in particular.

### Collaboration with relevant organizations and associations

Cooperation with relevant organizations and associations to obtain relevant information and promote the museum to blind and visually impaired people is extremely important. In addition, the labeling of accessible tourism facilities is of great importance, as the certificates and labels ensure certain standards in the provision of tourism services. When such solutions are internationally recognized, they increase the visibility and importance of tourism facilities, in this case museums as part of the cultural offer of a destination.

In conclusion, creating accessible and inclusive experiences for blind and visually impaired people is extremely important as culture should be accessible to all members of society. Technology plays an important role in achieving this goal, as does staff training and the inclusion of visitor feedback. If museums are analyzed from the point of view of providing the highest level of service and removing the barriers for this segment of tourists, then technology is a *condicio sine qua non*. However, on an interpersonal level, it seems even more important that service providers develop a thorough understanding of the needs of blind and visually impaired persons and their specific requirements for tourist experiences. Once these barriers are removed, technological improvements will only enrich the experience, but will not be the only goal.

Although this study provides valuable insights into the current state of adaptation of Zagreb's museums for blind and visually impaired people, it has its limitations. These arise from the fact that the questionnaire was completed only by museums, i.e. supply side of the market. Since the study was only conducted in Zagreb at this time, the sample size prevents a reliable generalization of the research results. However, the study provides valuable preliminary insights into the potentials and obstacles of current adaptations of museum exhibitions and content for blind and visually impaired visitors, as well as the needs for more intensive improvement in this sense. The perspective of the country's capital will serve as a basis for future research at national level. Accordingly, the main recommendations for future research would be to conduct the research on a sample of museums across Croatia and to include blind and visually impaired museum visitors in the research (e.g. Vaz, Freitas and Coelho, 2020), as this would provide a comprehensive insight into the current situation as well as opportunities to improve their tourism experiences.

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