SPICE

Social cohesion, Participation, and Inclusion through Cultural Engagement

D8.5 Policy briefing – second version

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4	AAU	AALBORG UNIVERSITET	Denmark
5	OU	THE OPEN UNIVERSITY	United Kingdom
6	IMMA	IRISH MUSEUM OF MODERN ART COMPANY	Ireland
7	GVAM	GVAM GUIAS INTERACTIVAS SL	Spain
8	PG	PADAONE GAMES SL	Spain
9	UCM	UNIVERSIDAD COMPLUTENSE DE MADRID	Spain
10	UNITO	UNIVERSITA DEGLI STUDI DI TORINO	Italy
11	FTM	FONDAZIONE TORINO MUSEI	Italy
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Executive summary

This document includes the second version of policy recommendations devised through the work addressed in the SPICE project after the first two years of the project. Our main aim for this second version was to highlight how the work done so far concerned the dimensions that are relevant with the SPICE goals, identified in the first version of this document, and may affect European policies concerning making cultural heritage accessible to researchers and citizens from different European countries, cultures and communities. The dimensions used for the analysis are: (1) promoting the widest possible access to digitised material, (2) encouraging partnerships between cultural institutions and the private sector, (3) enabling the active participation of Europeans, (4) raising awareness of our common history and values stimulating the positive contribution of cultural heritage to society, (5) promoting solutions accessible for all, independently from people's health and other physical or social conditions. In this document, we also describe how the evidence in running SPICE research can be translated into possible recommendations. However, such suggestions may have changes in the future, since further evidence from the project research could be gathered in the third year of the project. Indeed, policy recommendations will have a final, complete, and definitive version in the last Policy Briefing report that will be published at the end of the project, in April 2023 (deliverable D8.8).

Document History

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v0.2	30/04/2022	Draft reviewed	OU, UNTO
v0.3	02/05/2022	Internal reviewers' comments addressed	UNIBO
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Introduction

SPICE is a research project funded by the Horizon 2020 programme. SPICE is a collaborative project started in May 2020, involving seven different countries and fourteen partners, which includes representatives from the scholarly domain, museums and companies. The overall aim of SPICE is to develop tools and methods to support *Citizen Curation* (Mulholland et al., 2021). Citizen Curation means enabling people to use specific technologies to select paintings, sculptures and other museum objects and share their interpretations with others. Citizen Curation promotes and devises technical solutions to involve everyone in actively participating in culture and to share their own stories and perspectives about themselves and other communities. In SPICE, five case studies (conducted in museums in different European countries: Finland, Ireland, Israel, Italy, Spain) will address specific citizen communities including asylum seekers, citizens with health conditions, senior citizens, families living far from the museum, children from lower socio-economic groups, deaf people, and members of religious, secular and minority communities.

This document includes the second version of policy recommendations devised through the work addressed in the SPICE project after the first two years year, the first of which was largely characterised by the COVID-19 pandemic. Due to the pandemic, all the museums involved in SPICE have been closed for the main part of the first year. All the activities and revenues that derived from the physical and in-place organisation of events have been cancelled. This has had consequences also for the activities that have been originally planned in the scope the SPICE goals, since the first physical meetings have happened only starting from the second year of the project. When possible, in particular in the first year, part of these activities has been reorganised and rescheduled online by means of appropriate digital infrastructures, as also suggested in (Network of European Museum Organisations, 2020). The constraints introduced by the pandemic also affected the initial identification and tracking of policies relevant to the SPICE work, that has been expanded thanks to the work done during the second year. Anyway, such policy recommendations will have a final, complete, and definitive version in the last Policy Briefing report that will be published at the end of the project, in April 2023 (deliverable D8.8).

Our main aim for this second version was to expand the evidence of the various dimensions identified in the previous version of this report (D8.3) that are relevant with the SPICE goals and may affect European policies, in particular those related to EU sub-programmes (e.g. H2020-EU.3.6.3.1 and H2020-EU.3.6.3.2) concerning making cultural heritage accessible to researchers and citizens from different European countries, cultures and communities. By reviewing several official documents published by the European Commission and other international organizations on cultural heritage, we compiled a list of dimensions (or points of interest) which we are using to track relevant innovations regarding policy recommendations. Such dimensions are listed as follows:

[Reuse] Promoting the widest possible access to digitised public domain material as well as the widest possible reuse of the material for non-commercial and commercial purposes (European Commission, 2011).

[Partnership] Encouraging partnerships between cultural institutions and the private sector in order to stimulate innovative uses of the material (European Commission, 2011).

[Participation] Making available a wide range of cultural activities and providing opportunities to enable Europeans to participate actively (European Commission, 2018).

[Awareness] Raising awareness of our common history and values and reinforce a sense of common European identity by highlighting and stimulating the positive contribution of cultural heritage to society (European Commission, 2018; Directorate General for Research and Innovation, European Commission, 2018).

[Accessibility] Promoting solutions which are accessible for all, including persons with disabilities (Directorate General for Research and Innovation, European Commission, 2018).

In the next sections, we introduce all these dimensions in the context of the work done during the first two years of the SPICE project (section "Evidence and Analysis"). We also started to think about how the evidence collected so far can be translated into possible recommendations (section "Policy Implications and Recommendations"). However, due the current initial status of the SPICE project, such suggestions may have changes in the last year of the project, depending of the additional evidence that will be gathered. We are confident that the results of the project during the last year can enable us to be more precise and concrete about new innovative policies and recommendation that can be adopted by EU policy makers.

Evidence and Analysis

Reuse

Promoting the widest possible access to digitised public domain material as well as the widest possible reuse of the material for non-commercial and commercial purposes (European Commission, 2011).

One of the key components developed in SPICE is the implementation of a technical infrastructure which enable anyone to interact with objects in museums, which act as proxies that enable interaction with other people interested in the same or similar cultural artefacts to tell stories about their experience, reflection, and thoughts on their identity. One of the main requirements that such a technical infrastructure addresses is to regulate appropriately the modern dynamics in a network of people (i.e. citizens), institutions (e.g. museums and universities) and cultural heritage objects (e.g. paintings and sculptures), such as the decentralisation of information, the protection of personal data, and the reuse of technologies and knowledge to create new services and to foster the flourishing of existent and new cultural activities and related market possibilities.

In SPICE, such a technical infrastructure is called Linked Data Hub. The Linked Data Hub is based on well-known and shared guidelines (e.g. FAIR (Wilkinson et al, 2016) and TRUST (Lin et al., 2020) principles) and robust Web technologies (e.g. Linked Data and SOLID), to enable the creation of a decentralized network of entities which enables people and institutions to interact with each other and create new, interlinked and multi-perspectival knowledge via the (digitised version of) cultural heritage objects (CHOs) available in museums. The systematic use of this infrastructure enables providers of CHOs, such as museums, to share on the Web a huge mass of interlinked information that can be queried and reused in several applicative contexts – e.g. to develop Web-based applications to allow museum users, being either physically or virtually within the museum, to interact with the CHOs they are observing and with other citizens interested in such cultural artifacts through a digital environment.

However, during the first two years of SPICE, several partners in the consortium have pointed out possible legal, ethical and practical issues that may hamper the seamless reuse of digitised CHOs across applications. The limitations identified concern two main aspects.

On the one hand, the digitised material could be copyrighted or subject to permissions of an estate which, in principle, may prevent the cultural heritage institution from freely sharing it on the Web using the Linked Data Hub. In addition to copyright, some institutions obtain an annual revenue from selling such digitised images to commercial publications and may perceive the uncontrolled sharing of the images as a threat to their long-term sustainability. To address this aspect, one possibility we have tested would be to freely share digitised material on the Web using a medium-resolution – so that whoever needs the high-resolution version for commercial purposes should still have to contact the museum. Another approach we have experimented with was to limit citizen groups to select objects from the Museum's permanent collection, for which museums have established copyright agreements with the artists or their estates regarding non-commercial, educational use of their image by the museum. Finally, an alternative approach has been not to put in the public domain the web applications used to interact with museum content. While these actions have worked in the context of the experimentation of the project, in the long run, they would severely limit the impact of the project and the wider applications (e.g. within temporary exhibitions) of its developments.

On the other hand, there are also issues with such CHOs that are in the public domain. In this case, the concern is about the distributed and participatory curatorial activity performed by citizens which is enabled by the Linked Data Hub, where the original digitised CHOs and the new content provided by citizens through digital platforms are intertwined. For these hybrid objects, the application of Data Rights Management (DRM) regulations is not straightforward and, as such, cannot be embedded into data management tools, in particular when CHOs' data and citizens' data are produced and shared within different workflows devised by the cultural heritage institutions involved. To address this aspect, the hybrid CHOs created through SPICE citizen curation activities have a predefined structure that can be described/annotated breaking down the citizen curation activity as comprised of stages, activities and actions. This provides a way to associate different rights information with different parts of the hybrid object, e.g. the artwork whose ownership may be external to the museum, the supporting interpretative materials created and owned by the museum, and the responses owned by the contributing citizens. Indeed, the application of the citizen curation methods to SPICE case studies enabled by the Linked Data Hub has confirmed its effectiveness in producing rich interpretations in the form of hybrid objects encapsulating both museums owned material and citizen contributions. However, it is worth mentioning that mainstream curation platforms are not yet ready to deal with these hybrid objects (Daga *et al.*, 2022).

Partnership
Encouraging partnerships between cultural institutions and the private sector in order to stimulate innovative uses of the material (European Commission, 2011).

The cooperation between cultural institutions and the private sector to design and test the innovative uses of material made available by such institutions for dissemination and

communication activities has obvious benefits for the private sector, because it produces expertise and resources which can be capitalized by the private sector. Private companies working in the digital sphere – such as those producing videogames, mobile applications, and GPS and beacon-based technology – may bring innovation and solutions to museums.

Within the SPICE consortium, we are testing these kinds of partnerships actively. For instance, CELI (a company) has made available a Web-based tool for multilingual automatic annotation of emotions in textual content. Such tool has been reused by UNIBO (a university) for cataloguing data provided by FTM (a museum) to develop a dashboard for data analysis of cultural heritage objects, that shows the benefits of reusing CELI's software solutions on museum data.

Within another internal collaboration, PG (a company), OU (a university) and IMMA (a museum) have studied games and interfaces to engage users with cultural collections, such as involving users in treasure hunt games, allowing them to explore a selection of artworks as part of a trail through a gallery or online collection, or in quizzes and comparison games. During year two, OU and IMMA co-designed and evaluated specific applications (Viewpoints and Deep Viewpoints). PG derived lessons learned from these prototyping activities and those in other case studies and generalised them to inform the design of the Citizen Curation toolkit that could be applied/customised in a range of museum contexts. The same approach has been applied to another collaboration, still involving PG with UNITO (a university) and FTM (a museum) in the development of the GAM game.

All these activities and collaborations permit the creation and testing of an extra layer of engagement to the use of traditional methods of museum mediation. Usually, all these collaborations start from discussions that SPICE partners, stakeholders, and potential customers have within specific events – such as meetings, trials and living laboratories – where people think and experience how to use SPICE artifacts creatively to reach the main project goal, i.e. enable Citizen Curation.

Of course, as a drawback, cultural institutions might not have immediate benefits from taking such initiatives in case they are not accounted for in the assessment of their annual activities. However, in the context of the project, some of our cultural heritage institutions, such as IMMA, has observed immediate institutional benefits by ensuring that participation in SPICE activities is inherently valuable, both to the citizen groups and to cultural heritage institutions – indeed, the process of taking part in a SPICE workshop has not been seen as the means to an end (e.g. a way of collecting data) but rather an enriching experience in itself.

In addition, maintaining applications and Web-based resources is expensive: it requires time and personnel for the development and demands monitoring and updating – which are activities that usually are beyond the staffing and budgets of cultural institutions. Indeed, the resources and expertise required to develop and maintain the Linked Data Hub and other applications used in the case studies would be significantly beyond the capabilities and capacity of the cultural heritage institutions involved without the partnership with universities and companies – and not all the cultural heritage institutions involved in SPICE see this partnership as a mean to obtain direct benefits. We also observed, though, that the involvement of companies can be used as leverage for attracting funds. For instance, as a result of PG collaboration with the *Museo Nacional de Ciencias Naturales* (MNCN), funding has been obtained from the Spanish Foundation for Science and Technology to carry out a citizen science project related to palaeontology.

Participation

Making available a wide range of cultural activities and providing opportunities to enable Europeans to participate actively (European Commission, 2018).

Currently, preservation, education and engagement activities carried out by cultural institutions in the digital world are not well integrated, partly due to the separation of the tools employed to manage them – e.g., in most cases, museum catalogues are managed separately from museum websites and social media channels. This separation hinders the implementation of participatory activities by cultural institutions, whose outputs remain confined to communication initiatives.

Within SPICE, we are currently working on reducing these gaps by designing methods and interfaces to support citizens in specifying their own interpretations of a cultural object, interrelating them with others' interpretations, and generally applying curatorial methods to archival material available in cultural institutions to share their own perspective and to appreciate the perspectives of others. In particular, among the cultural institutions in the SPICE consortium, we have gathered the following experiences in citizen participation during the year two activities.

UNITO has run several tests with users as part of the user-centered design of the web application supporting the Italian case study, thus ensuring the involvement of both the target community and of the curators/educators, who have taken part in the experiment design and execution. In addition, focus groups to discuss the potential and shortcomings of the prototypes have been organized in cooperation with the museum professional.

AALTO and DMH has fostered collaboration between audience engagement and collections, to design and create an application (i.e. the Pop-up-VR-Museum) and an engaging documentation process related to citizen curation which can be used to develop future collection management systems. The objects selected to the Pop-up-VR-Museum can be reached through the museum's website, in the Digital Collection of the permanent collection exhibition.

In the Irland case study, OU and IMMA have developed tools for supporting citizens in taking part in scripted interpretation activities and author scripts for use by other visitors. This has enabled outputs of one community workshop to be inputs for a later workshop – where visitors take part in activities authored by other visitors. Crowdsourcing the creation of activities by amateurs as well as museum professionals has the potential to vastly broaden the range of cultural activities that museums can offer.

The experiences gathered by the previous partners has been also supported by the research performed by the consortium to devise tools and systems to support citizen participation. The work done by AAU has concerned linking researchers, cultural institution workers and general audiences through participatory workshops for co-designing activities and scripts for citizen curation, which has been implemented in digital platforms in the heritage institutions. This process has been developed in a two-tier fashion: first co-designing with the cultural heritage institutions and then testing with their target audiences. This co-design loop is being carried out for different iterations of the design. The results are being analysed to draw design guidelines that can be re-used in a wide range of applications of the citizen curation and interpretation and reflection tools and methods.

PD has developed the first version of *inSPICE* (SPICE, 2022), a tool to support the implementation of participatory activities by cultural institutions. This tool provides a collection of templates for citizen curation activity, where a user, typically museum personnel, can instantiate and configure a given citizen curation activity. This software enables the definition of such interface templates and provides an initial implementation of the components needed to support the citizen curation activities identified in the SPICE project.

Awareness

Raising awareness of our common history and values and reinforce a sense of common European identity by highlighting and stimulating the positive contribution of cultural heritage to society (European Commission, 2018; Directorate General for Research and Innovation, European Commission, 2018).

One of the key objectives of SPICE is to identify methods that assists different communities in building a representation of themselves and appreciating variety within groups and similarity across groups, to enhance social cohesion. We are developing a framework based on theories of narrative identity to mine cultural traits and values that will allow people to reflect about their cultural groundings which can potentially enable the grouping or clustering of citizens in novel and innovative ways, possibly revealing surprising connections to others, which in turn is expected to enhance empathy and social cohesion. All the cultural heritage institutions involved in SPICE are working actively to engage with the communities that are traditionally excluded in society or that find obstacles and challenges in accessing cultural heritage, specifically in museums. The system developed in SPICE aims at enabling voices to be heard and for interpretations to be offered by those who traditionally cannot access cultural forums.

As an example, during year one we have organised some internal conferences to see how members of the SPICE consortium interpret and interact with (digitised representation of) cultural heritage objects (CHOs) coming from different countries in Europe. In one of these events, an image related to the conflict in Northern Ireland was shown to participants. Those from outside Ireland and the UK found the image difficult to interpret in line with the intended meaning of the content. This activity showed the importance of museum learning and engagement tools and highlighted the need of devising processes for helping citizens understand and create meaning from artefacts and artworks, especially where those artefacts and artworks are from outside a citizen's cultural or social experience and knowledge, with the goal of making citizens aware of our common history as Europeans.

The framework developed by AAU for soliciting and prompting personal interpretations and stories from citizens, inspired by their interactions with cultural heritage, has been tested in specific pilot implementations being carried out by the five SPICE case studies in year two. The framework enables modelling a cultural process in which participating citizens will be able to reflect about their "cultural narratives of belonging", participating in a collective reflection, which can potentially reveal novel and surprising connections to "others", which in turn is expected to enhance empathy, social cohesion and cultural understanding.

In the Italian pilot, citizens have displayed a very good acceptance of the proposed citizen curation activities, investigated through interviews and questionnaires, and have been strongly oriented to

share their interpretations with the other visitors. Such a positive response paves the way to the use of citizen curation methods for creating bridges in society and developing empathy through the sharing of emotions.

The Finnish pilot has relied on the participants' personal narrations, memories and opinions of design objects. The common European, Nordic or Finnish identity has been presented in reflections of personal history and the use of the selected design objects, where senior citizens (the target group of such an experimentation) showed a strong experience of a shared life story.

In the Israel pilot, we have noticed that the exposure of citizens first to other people's views that agree with citizens' personal view, followed by an introduction of additional different views on the same cultural objects and topics, makes people accept more favourably different views.

In the Irland pilot, we have seen that citizen curation can be used to facilitate and highlight marginalised perspectives, thereby stimulating positive contribution of cultural heritage to society. Black and Irish, an activist and advocacy organisation for Black and mixed-race communities in Ireland created an activity, 'Necessary discomfort', that has gathered 20 responses from other citizen groups, whose responses in turn can be reflected upon by still more citizens, in an interpretation-reflection loop.

Accessibility
Promoting solutions which are accessible for all, including for persons with disabilities (Directorate General for Research and Innovation, European Commission, 2018).

People with disabilities should have the same rights and equal access to works of art and be able to enjoy cultural life with all citizens (Pasikowska-Schnass, 2019). In SPICE, we are currently investigating technological solutions and processes that are inclusive, with the aim of testing them in several case studies that involve people with different social backgrounds, including people with disabilities. For instance, IMMA (a museum) and OU (a university) have been exploring a slow looking methodology (https://imma.ie/learn-engage/art-and-ageing/slow-looking-art-videos/) developed for Older People and the original Meet Me At MoMA programme (https://www.moma.org/visit/accessibility/meetme/) for citizens with dementia and their carers/ relatives.

During year two, we have worked on several aspects fostering accessibility in all the pilot studies devised in SPICE. During the co-design workshops, museum workers have been prompted and guided to reflect specifically on the design concerns of their specific target audiences in order to promote inclusive participation of different citizen groups, with different needs. Specifically, care has been taken for ensuring that the needed skills for participation are appropriate and adequate to the specific target audiences.

In the Italian pilot, usability tests have been run on the preliminary prototypes by involving the users who have special needs (e.g. sensory limitations), in order to assess their autonomous use by this category of users. This activity resulted in testing and re-designing the main system (i.e. the GAMgame Web application) used to involve the target community of the pilot to meet appropriate

accessibility requirements, also in the light of Web Content Accessibility Guidelines (https://www.w3.org/TR/WCAG21/).

Similar experiments have been done also in the Irish pilot, where we have gathered feedback from people with disabilities (e.g. blind or partially sighted users and people with epilepsy) participating in the pilot. Still in the Irish pilot, we have investigated how museum engagement can be more democratic, bringing in different communities to create their own interpretations and mediations of artwork. This analysis is crucial to help making the museum a more polyvocal space, presenting perspectives of visitors from different social, cultural and ethnic backgrounds.

In the Finnish pilot, we have used methods of co-design and co-creation. The first phase workshops with senior citizens have been organised also to test the ways of documenting and recording individual narrations, to learn about skills and motivations of senior citizens, and to discuss their motivations for using digitality and the related challenges that have been encountered.

In the Israel case study, we have observed also intrinsic accessibility issues derived from the fact that some of the people in the pilot target community (i.e. students) did not have devices that could support the activities proposed in the pilot. This concern has been, thus, and important accessibility wall to the SPICE activities related to the case study.

Policy Implications and Recommendations

Reuse

Promoting the widest possible access to digitised public domain material as well as the widest possible reuse of the material for non-commercial and commercial purposes (European Commission, 2011).

An important aspect for enabling cultural heritage institutions to share digitised cultural heritage objects (CHOs) within digital services and infrastructures is to let such institutions become aware of specific legal tools for regulating the reuse of their material, such as the Creative Commons licenses (https://creativecommons.org/) (Lessig, 2003). These tools enable the sharing of digitised material in a way that possible commercial interests are still protected, while allowing a controlled reuse for non-commercial activities. When curating and producing new contents describing their CHOs in a digital environment, cultural institutions are recommended to adopt such licenses in order to make their material as sharable as possible, which would also enable them to reach a wider visibility. Specific programmes and workflow should be either adopted (if already developed) or devised to support people working in cultural institutions to choose the appropriate mechanism to protect their interest and to share knowledge with society. In SPICE, we will work on this aspect in the next years to foster the development of specific guidelines.

In addition, though, there is also an urgent need of either adopting or designing standards for representing the compositional structure, provenance and responsibility of the derivative assets made available in a digital environment. On the one hand, part of the data and images are created by curators in cultural heritage institutions, such as the descriptions of their cultural heritage objects (CHOs) and may be associated to specific licenses to protect their interest and to foster reuse. However, a policy to extend and deepen the commitment to open and reusable digital cultural

heritage in Europe for non-commercial, educational uses would be welcome, as it would encourage institutions and copyright holders to use open licences for their digital assets in the case of non-commercial, educational uses.

On the other hand, people can interact with these digitised versions of CHOs by adding, collectively, additional knowledge (e.g., experiences, interpretations, reflections), and each contribution can be regulated by a different license that, while enabling reuse, permits at least a clear attribution of the material produced by citizens and the protection of their personal data as regulated by the GDPR (European Parliament, Council of the European Union, 2016).

Such a hybrid and compositional object (i.e., the data about a CHO provided by an institution and the collective knowledge added by citizens) is a complex entity, and we need to use appropriate technological and legal tools to enable its creation, tractability and traceability within society and digital environments. The technologies adopted by SPICE, in particular Linked Data tools, SOLID, and specific data models to describe provenance of knowledge, are a crucial mechanism that should be adopted systematically to enable the correct handling of these objects, since they allow the specification of a formal structure (e.g., either an ontology or a metadata scheme) to describe and manage rights associated with components from different sources. In addition, tracking precisely the provenance of the contributions within these hybrid objects is key to account for individual responsibilities and rights.

Partnership
Encouraging partnerships between cultural institutions and the private sector in order to stimulate innovative uses of the material (European Commission, 2011).

Sharing and fostering the reuse of data and other digital material by cultural heritage institutions, as described in the previous section, is a key factor to enable and start partnership with the private sector. Thus, in addition to recommend sharing such data and material with appropriate licences (as highlighted in the previous subsection) and guaranteeing their compliancy with the European regulations on data protection such as the GDPR (European Parliament, Council of the European Union, 2016), it is important to encourage cultural institutions to participate in partnerships with companies by ensuring that the innovative actions carried out receive incentives when the activities of the cultural institutions are assessed. In particular, we suggest, when possible, to:
- make available targeted funding to encourage private digital companies to partner with cultural institutions in developing applications and Web-based solutions which engage citizens with online collections and physical galleries;
- establish clear partnership agreements based on mutually beneficial relationships;
- develop predefined activity templates for making the approach of adopting digital technologies sustainable for the museums in terms of staff;
- bear in mind that collaborations between companies, universities and museums may need particular models of design, that may separate out the co-design and testing of prototypes from the development of commercial products;
- allocate some R&D time in cultural institutions activities to be spent on research project involving companies;

- limit the web-based applications and activities to the essential ones for fostering their sustainability and privilege open source platform for the development and maintenance;
- encourage government to support the cooperation between cultural heritage institution and companies by making available public funds for common projects with social objectives.

Participation

Making available a wide range of cultural activities and providing opportunities to enable Europeans to participate actively (European Commission, 2018).

The creation of established methodologies and tools for actively enabling people in the activities in the cultural sector would permit and, thus, encourage the implementation of such initiatives by cultural institutions, thus expanding the opportunities for Europeans to participate lively discussions about their heritage. The work on Citizen Curation methods and tools in SPICE contributes actively to this dimension by providing (a) examples of how this can be done in practice and according to different contexts and communities and (b) the proposal of an authoring framework for the development of further curatorial activities involving citizens.

To maximise citizens' engagement and participation, we recommend that cultural heritage institutions make known and accessible – in a digital and Web-based environment – the rich heritage inventory under their custody, even when such cultural resources are not part of permanent exhibitions. This can be done by developing digital resources that are publicly accessible, which accommodate a variety of didactic and self-reflecting activities and possibilities to ensure cultural diversity and inclusion.

The involvement of museum professionals and experts in the gathering of the requirements and the design of the evaluation activities is a way to ensure a seamless integration of the museum staff into the design and development of the end-user applications, ensuring their utility for the museum activities.

Most current online platforms are mature enough to support direct online interaction with well-crafted digital replicas of museum assets. It is not so for FTM, for example, and for museums that cannot afford ad hoc solutions and rely still on catalogue software. Efforts should be made to further develop new types of online experiences where citizens have direct access to these types of resources, especially in situations in which physical access might be constrained. According to the evidence gathered, it is crucial to involve museums visitors in creating and sharing activities for other visitors to enable the availability of a wider range of cultural activities.

Awareness

Raising awareness of our common history and values and reinforce a sense of common European identity by highlighting and stimulating the positive contribution of cultural heritage to society (European Commission, 2018; Directorate General for Research and Innovation, European Commission, 2018).

Several actions are needed in order to raise awareness of our common European history and values, which can be reached by promoting collective reflection and measured and scrutinized through

publicly available digital tools. First, citizen participation should be encouraged by appropriate funding and promoting the development of prototypes and guidelines for participatory initiatives in the field of cultural heritage. Second, there is an urgent need of setting up initiatives to actively search for hidden histories of groups that have traditionally been excluded from direct (and digital) participation, and to continuously enhance and expand existing resources carrying such histories, such as Europeana (Isaac & Haslhofer, 2013). Third, it is crucial to accompany the sharing of data and material by cultural institutions with tools and other resources which aid the interpretation and understanding of artefacts and artworks from other cultures. Forth, cultural institutions should make available creative, safe, and digitally-aware *cultural spaces* to put many overlapping cultures and communities in relation in constructive and innovative ways. Finally, formats and standards should be encouraged for representing the hybrid objects generated by citizen curation activities, thus enabling their circulation and re-use in the respect of copyright and privacy regulations.

Thus, cultural heritage institutions should offer systems, resources and activities, supported by a digital environment, that go beyond the factual and encyclopaedic dissemination of information. They should make available their collections to accommodate societal needs for debate, interpretation, reflection, research and freedom of thought and expression. These actions benefit the whole of society, strengthening inclusion and increasing mutual understanding.

In SPICE, we are actively working to produce technological and theoretical frameworks that will help institutions to reach these goals. While running SPICE pilot studies, we have also noticed that the involvement of the curators and educators in the design of citizen curation methods is not only a way to promote social cohesion but also a mechanism, for museum professionals, to grain a deeper understanding of the audience's response to art. Other users have underlined the value of dialogue and communication with other people and a mutual feeling of community when aiming at creating a good environment for participation mediated by a digital environment.

Accessibility

Promoting solutions which are accessible for all, including for persons with disabilities (Directorate General for Research and Innovation, European Commission, 2018).

Enabling accessibility mediated by a digital environment is one of the key issues to address in SPICE. Considering our preliminary experiences on this topic gained after the first year of the project, in order to guarantee accessibility to all people including those who are traditionally excluded to gain access to and contribute to cultural heritage sites and organisations, it is necessary to tailor cultural activities (e.g. curation activities) to specific groups in risk of exclusion, in order to give them voice and space in the central cultural debates in contemporary society. Often, this has indirect benefits also for other groups of citizens. Indeed, encouraging accessibility of cultural heritage objects and institutions, even when tailored for a particular target group, universally improves access for the wider public. For instance, the series of videos developed by IMMA (a museum) and OU (a university) for older people with cognitive degeneration have become popular with school students and the general public who are unfamiliar with modern and contemporary art. The activities templates designed at FTM (a museum) in cooperation with UNITO (a university) with accessibility for the Deaf in mind have been accepted and welcomed by the general audience, thanks to the focus put by these templates on affective rather than textual language.

In addition, enabling digital accessibility is key to continue to bring people to visit the museums even during strong and unpredictable events, such as the lock down imposed by the COVID-19 pandemic. As we started experimenting during the first year of SPICE, it is strongly recommended to develop hybrid activities to promote empathy, health and well-being online by the adoption of appropriate technologies. For instance: 3D virtual technology can be accessed by anyone around the world with internet access; video content targeting the specific requirements of groups may benefit also other groups of citizens; use of video conferencing for virtual engagements can be used between museum mediators and school students in class or at home as a substitute for gallery guided tours; using museum website for exclusive online-only content, by fostering citizen engagement, reflection and exchange of interpretations and insights mediated by a digital environment.

All the experimentations done during year two for the pilot studies have enabled us to reinforce the outcomes of such a preliminary analysis and to identify additional requirements that should be addressed for reinforcing accessibility to museums collection. The positive and negative feedback on usability of the digital applications produced, collected in user studies, confirms the need to include and involve specific user categories in the user-centered design and necessity of testing to ensure the suitability of the final prototype for these categories. Thus, it is important to involve diverse stakeholder communities to give them voice and space in the central cultural debates in contemporary society, limiting their risk of exclusion in such a dialogue, and enable them to contribute to the design process of the activities. Finally, museum experts should also curate the citizens' experiences with which other visitors can engage to maximise accessibility aspects.

Project Identity

Project name	Social cohesion, Participation, and Inclusion through Cultural Engagement
Project acronym	SPICE
Grant agreement ID	870811
Coordinator	Silvio Peroni, Department of Classical Philology and Italian Studies, University of Bologna, Bologna, Italy, silvio.peroni@unibo.it
Consortium	Alma Mater Studiorum - Università Di Bologna, Italy
	Aalto Korkeakoulusaatio Sr, Finland
	Designmuseon Saatio - Stiftelsen for Designmuseet Sr, Finland
	Aalborg Universitet, Denmark
	the Open University, United Kingdom
	Irish Museum of Modern Art Company, Ireland
	Gvam Guias Interactivas Sl, Spain
	Padaone Games Sl, Spain
	Universidad Complutense De Madrid, Spain
	Universita Degli Studi Di Torino, Italy
	Fondazione Torino Musei, Italy
	Maize Srl, Italy
	University of Haifa, Israel
	Consiglio Nazionale Delle Ricerche, Italy
Funding Scheme	Horizon 2020 Framework Programme for Research and Innovation (2014-2020), H2020 sub-programmes "H2020-EU.3.6.3.1. - Study European heritage, memory, identity, integration and cultural interaction and translation, including its representations in cultural and scientific collections, archives and museums, to better inform and understand the present by richer interpretations of the past" and "H2020-EU.3.6.3.2. - Research into European countries' and regions' history, literature, art, philosophy and religions and how these

	have informed contemporary European diversity", call H2020-SC6-TRANSFORMATIONS-2019
Duration	May 2020 – April 2023 (36 months)
Budget	EU contribution: € 3,124,131
Website	https://spice-h2020.eu
Social Media	Twitter: @SpiceH2020
	Instagram: @spice_h2020
	LinkedIn: @spice-h2020
	YouTube channel: SPICE Consortium

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