Tools to Document and Disseminate the Conservation of Urban Art: the Experience of the CAPuS Project

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Abstract

The Conservation of Art in Public Spaces project (CAPuS), realised under the European Programme Erasmus+ Knowledge Alliances, aimed to develop a shared approach to the conservation of artworks in public spaces. The project involved 17 partners from 5 European countries, most of which focused on street art and contemporary murals. The final goal was the dissemination of knowledge to all stakeholders involved and the implementation of e-learning and training modules for conservation students and professionals. In addition to sharing best practices, the CAPuS partnership recognised the need to set a common and unambiguous vocabulary referring to the most relevant issues in the study of graffiti and street art for conservation purposes, such as style, execution technique, deterioration processes and conservation treatments. This encouraged the creation of a multilingual glossary, divided into two sections entitled "Street Art & Graffiti" and "Conservation", with each definition accompanied by an illustrative picture. In addition to that, an open-source database, the CAPuS Digital Repository, was created to archive, organise and disseminate the wide range of information and documentation that was collected and produced about the artworks studied within the project (materials and artistic techniques, artworks' socio-cultural context, photographic documentation, interviews with artists, condition reports etc.). Both the CAPuS Multilingual Illustrated Glossary and the CAPuS Digital Repository can support teaching and learning activities. They may also be of great help for future conservation interventions on the examined artworks and may serve as a starting point for the study and treatment of other public works of art.

Keywords

Conservation of Art in Public Spaces; digital repository; glossary; public art; street art; urban art

1. Introduction

Urban art¹ is experiencing a moment of great public and media success that concerns both traditional artistic contexts, such as open-air museums, and less canonical forms of artistic expression, such as graffiti writing and street art. The latter, initially born as acts of rebellion with which young

people communicated their social discomfort provocatively and illegally, have quickly conquered a large audience, obtaining spaces even in contexts of legality. Many public and private institutions have understood the potential of urban art in the promotion and implementation of educational initiatives, social inclusion and urban regeneration events,

which over time have led to the creation of numerous works of art in the public spaces of our cities. But, if urban art, even in its less conventional manifestations, is now fully accepted as a true form of art, the debate about its conservation is still ongoing.

The conservation of urban art is certainly a controversial and complex issue, both for the great variety of works that urban art includes, and because of their fragility since they are continuously exposed to degradation agents that undermine their integrity and readability. The discussion on the intrinsically ephemeral nature of some works of urban art is still open, especially among street artists. Surely not everything is to be preserved, nor to be preserved forever, but there is a request from many sides to enhance the heritage of works of art in the public space and to extend their lifetime, defining strategies for their conservation or

maintenance. Indeed, it is undeniable that more and more works of urban and public art are placed under protection or included in conservation projects, such as the mural *Tuttomondo* by Keith Hearing in Pisa (Dickens et al., 2016), some street artworks of the MAU (https://www.museoarteurbana.it/en) in Turin or the Sisak Sculpture Park in Sisak (Sunara, 2021), just to name a few examples dear to the authors of this contribution.

It is in this scenario that the Conservation of Art in Public Spaces (CAPuS) project was born and implemented. In the three and a half years of the project, 17 academic and industrial partners based in five European countries (see Figure 1), collaborated in research and training activities intending to create new knowledge and tools for the conservation of urban art.

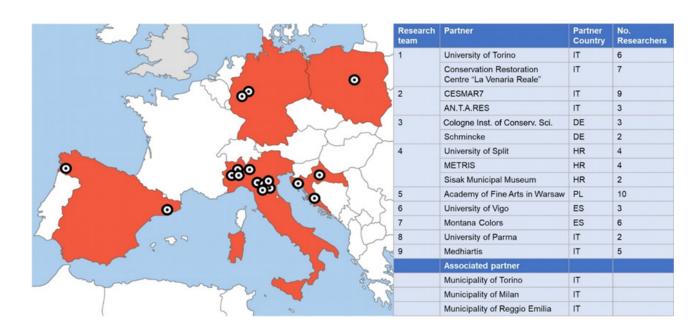


Figure 1. Map of the CAPuS partnership with the list of the beneficiary and associated partners, research teams (shown with black and white dots), partner countries (in orange) and the number of researchers involved in the project activities.

All the actions undertaken during the project were guided by a transdisciplinary working methodology centred on the analysis of case studies which, by choice and vocation of the project partners, mainly concerned two types of artworks: contemporary murals and metal sculptures.

The transdisciplinary approach had as key elements the analysis of the socio-cultural and historical-artistic context of the artworks, the attention to the needs expressed by the community, funding bodies of urban artworks and those responsible for their maintenance, the attention to economic, environmental and social sustainability aspects, the use of innovative technologies.

The goals of the project were the definition of guidelines (http://www.capusproject.eu/conservation-guidelines) and protocols for the protection and conservation of contemporary public art and the development of an open-access e-learning platform (https://elearning.unito.it/mooc/course/index.php?categoryid=6) (Lasala et al., 2022). In addition to these two research outcomes, other useful tools have also been developed to promote the knowledge of urban art and its conservation. The two that are reviewed in this article are the CAPuS Multilingual Illustrated Glossary (http://www.capusproject.eu/glossary) and the CAPuS Digital Repository (https://www.capusrepository.unito.it). Both are aimed at a wide and varied audience, despite having been conceived as support tools for teaching and learning activities.

2. The CAPuS Multilingual Illustrated Glossary

The multilingual glossary on Street Art & Graffiti and Conservation responds to the need that emerged during the initial phases of the project to define a common and unambiguous language that could facilitate communication among partners with different backgrounds and skills. It can be of help to uniquely identify and describe certain artistic techniques or conservation problems and to avoid misunderstandings due to the translation of technical terms into different languages. In order to foster the establishment of a common knowledge and vocabulary, a survey of the pre-existing glossaries on street art-related subjects, if any, and about the degradation phenomena of wall surfaces were made. Thus, as far as possible, the CAPuS glossary was built up taking as a reference other international glossaries², selecting the most useful terms and eventually adapting them

to the description of street artworks and their state of conservation. Moreover, the glossary has been the basis for the design of other tools, such as a tailored condition report template later adopted by all project partners.

The CAPuS glossary was conceived in two forms, a detailed English monolingual illustrated glossary containing a number of terms and definitions (overall 141 entries are included), and five reduced bilingual illustrated glossaries (88 out of the 141 entries): English combined with one of the languages of the CAPuS partners' countries (Italian, Spanish, Croatian, Polish, German). All versions, either monolingual or bilingual, are accessible and downloadable from the project website (http://www.capusproject.eu/glossary).

The CAPuS glossary is divided into two sections, "Street Art & Graffiti" and "Conservation", each supplied with a list of pictures and credits, Bibliographic References and an Index. As for every specific artistic movement and technical field, the linguistic expressions related to Street Art & Graffiti and Conservation are constantly developing and changing over time, and relevant differences may occur at a national or regional level. Therefore, the expertise of all partners has been crucial in identifying the essential terms to be included in the glossary.

In particular, the section Street Art & Graffiti was developed thanks to the great help of the Montana Colors team and its contacts with street artists, who were able to report precisely the meaning and context of usage of the different entries. Despite the differences that exist in terms of the message conveyed and the target audience to address, street art and graffiti have a lot in common, as they often share spaces (exterior building walls, highway overpasses, sidewalks, etc.), materials, techniques and tools. This explains the intention to provide to the CAPuS glossary users (i.e., conservation students and professionals) a wider overview of these cultural movements, thus also including some terms related more to the graffiti scene than to street art. As it turned out that not all terms included in this section in the English version of the Glossary have a matching translation or are actually used in non-English speaking countries, only a limited number of these terms were included in the bilingual versions.

Although from the beginning the glossary did not claim to be exhaustive, the selection of terms turned out to be a challenging task. Since the glossary was designed as an ed-

TECHINCAL DATA

SCIENTIFIC ANALYSIS

Fill-ins

Poster

Scriber

Scribing /

cratching

Installation

Outlining

ARTIST INTERVIEW

X NA

NOTES: a brick-red

on the ground

Stencil graffit

Yarn bombing

Sticker

OTHER

☐ ARTIST INTERVIEW

Ordinary maintenance

6

X Moderate repair and/or diagr

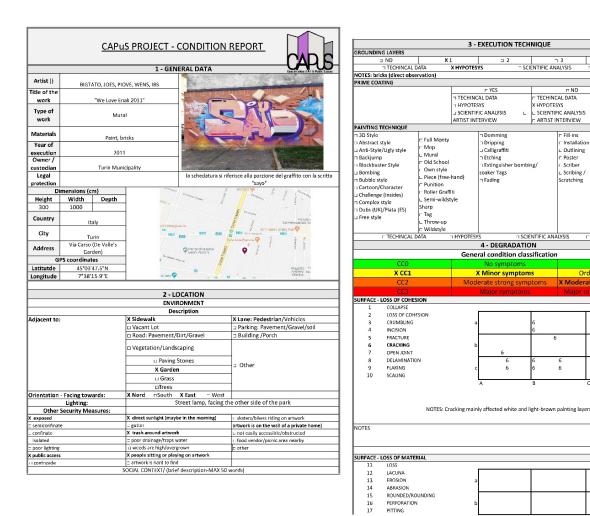


Figure 2. Excerpt of the condition report filled out for one of the artworks examined within the CAPuS project. The terms and definitions included in the section "Street Art & Graffiti" or "Conservation" of the glossary can be used as a reference to respectively describe the "Execution technique" (section 3 in the condition report template) and the "Degradation" assessment (section 4).

ucational and working tool, the guiding criterion has been the inclusion of those terms useful to provide an objective description of the street art piece or contemporary artwork in public spaces and to fill out the condition report (see Figure 2). It is important to note that all terms and definitions were first agreed upon in their English version and then translated into the other national languages by art and conservation experts (professional translators were not involved).

Aiming to avoid any ambiguities of meaning, most terms are accompanied by an illustrative picture, selected within the photographic documentation produced by the partners during the project or collected from the surveys they carried out in the past. Furthermore, cross-references, alternative terms or terms improperly used as synonyms were indicated (see Figure 3).

ESFOLIAZIONE FLAKING



Figure 34



Figure 35

Distacco di scaglie di piccole dimensioni, piatte e sottili, degli strati più esterni di un oggetto o di una superficie (es. dipinti murali). Come indicato dal termine stesso, le micro-scaglie si differenziano dalle scaglie per le minori dimensioni. Normalmente sono legate ad una combinazione di perdita di adesione e presenza di fessurazioni. [c]

Detachment of small, flat, thin pieces of outer layers of an object or a surface (e.g. mural paintings). Flakes are smaller than scales (see: scaling). It is usually a combination of adhesion loss and cracking. [c]



CONSERVATION > loss of cohesion / adhesion

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Figure 3. Example of a page of a bilingual illustrated version of the glossary (here the English–Italian version): the definition, along with a few related terms, is translated in both languages, the section ("Conservation") and the sub-category ("Loss of cohesion/adhesion") are shown on the right side of the page, and the coloured box at the bottom includes the translations of the term of interest in each of the six languages considered within the project. In addition, two representative images are presented, the figure number referring to the Credits list reported at the end of the section.

The terms included in the Glossary are divided into sub-categories. As shown in Figure 4, the "Street Art & Graffiti" sections contain General (3), Cultural (38), Style (26) and Technique (15) terms. As for the "Conservation" section (see Figure 5), in addition to a few introductory General terms (5), the definitions referring to the different types of

alterations have been grouped into nine broader families: Addition of substances (7), Biological alteration (2), Chemical alteration (7), Deformation (5), Loss of cohesion (10), Loss of material (11), Optical alteration (6) and Previous intervention (6).



STREET ART & GRAFFITI

Introduction

graffiti street art urban art

Cultural terms

hat

head / king

heaven spot / heavens

adbusting hip-hop all-city invisible angel(s) landmark back to back / legal wall end to end lock on bite moniker black book pichaçao buff post-graffiti burn rooftop burner piece rook cannon run cap / tip slam crew slash culture jamming toy deface / cap / go over tree dress-up undersides fatcap whole car / whole train ghost writer

Style

3d style abstract style anti-style / ugly style backjump blockbuster style bombing bubble style cartoon / character challenge complex style dubs free style full monty mop mural old school own style piece (free-hand) punition roller graffiti semi wild-style sharp tag tagging throw-up

Technique

calligraffiti domming drips / dripping etchina extinguisher bombing / soaker tags fading fill-ins installation outlining poster scriber scribing / scratching stencil graffiti sticker yarn bombing

Figure 4. Subdivision into sub-categories of all terms included in the first section of the glossary, entitled "Street Art & Graffiti".

wildstyle

Since the use of the glossary should facilitate the achievement of objective recording, the definitions have been formulated to be as brief and accurate as possible and, in most cases, limited to the aspects which can be observed onsite, thus not considering the cause of damage, unless it is evident and univocal. Nonetheless, some difficulties arose for those terms which can potentially refer to more than one sub-category, or whose meaning considerably changes from one language to another. Furthermore, terms that have a negative connotation in common language and could implicate a different and subjective value judgement have been intentionally omitted (e.g., vandalism).

Several issues also came up in the selection of photos: first, it is not always simple to identify an unambiguous picture showing one single alteration form, since in real cases, often more than one degradation processes occur at the same time. Secondly, compliance with all copyright protection laws and regulations has to be ensured, although they are often slightly different from one country to another. As far as possible, photos directly taken by the partners have been preferred. Moreover, artists and owners, if known, were asked to sign a specific release form for the use of images within the project.



CONSERVATION

General terms

alteration damage deterioration object weathering

Addition of substances

concretion deposit dust film inclusion overpainting soiling

Biological alteration

biofilm biological colonisation

Chemical alteration

burned corrosion crust efflorescence exudation moist area patina

Deformation

blistering buckle deformation depression torsion

Loss of cohesion / adhesion

collapse
cracking
crumbling
delamination
flaking
fracture
incision
loss of cohesion
open joint
scaling

Loss of material

abrasion

alveolization
cavity
erosion
lacuna
loss
perforation
pitting
roughened /
roughening
rounded /
rounding
scratch

Optical alteration

chromatic alteration darkening fading staining white veil yellowing

Previous interventions

applied elements filling fixative injection hole repainting retouching / inpainting

Figure 5. Subdivision into sub-categories of all terms included in the second section of the glossary, entitled "Conservation".

3. The CAPuS Digital Repository

Already in the planning stage of the CAPuS project, the need was recognised to preserve and provide access to the information and documentation about the artworks that will be studied. The 'information and documentation' referred both to the data that would be generated through

the project activities, such as condition surveys and treatment reports, and to the data collected from other sources, i.e., created by other organisations and individuals, like newspaper articles and records of past conservation interventions. Various media had to be included, from images and text-based documents to drawings and recordings.

Category	Sub-category	Additional remarks
General information		Information about the artwork: title, artist, year of making, artwork type, dimensions, materials, owner or custodian. Information about the artwork location: country, city, address, coordinates (displayed via a Google map), environmental context.
Artwork information	Representative photo Other relevant information	Subcategory 'Other relevant information' includes, for example, publications about the artwork.
Art-historical context	Archival recordsComparative worksArtist's biography	
Artist interview	Recording Transcription	
Examination/ analysis	 Instrumental material analysis Micro sampling 	Although optical microscopy of cross sections is represented in the written reports available in the sub-category 'Instrumental material analysis', photographs of cross sections have also been made available as high-resolution image files in the sub-category 'Micro sampling'.
Condition	Condition reportCondition photographic documentation	
Documentation	 2D drawings 3D documentation	
Treatment	Treatment report Treatment photographic documentation	
Maintenance	Maintenance report Maintenance photographic documentation	
CAPuS publications		Publications related to the artwork that were produced as a result of the CAPuS project.

Table 1. Data organisation in the CAPuS Digital Repository.

The CAPuS Digital Repository was intended to be used by students and teaching staff in conservation study programmes. It was also envisioned as a tool that can support the care and preservation of the studied (and similar) artworks in the future. In addition to that, the repository was expected to serve as a useful resource to researchers and to the general public interested in learning more about contemporary public artworks.

The development, construction and design of the opensource online database was a time-consuming process that required cross-disciplinary collaboration between an IT expert and an art conservator (Sunara, 2022). Due to the large number of artworks studied in the project, creating records (entering metadata) and uploading digital files also required a significant amount of time. That part of the work was performed by representatives of CAPuS research groups³.

The CAPuS Digital Repository was publicly launched in February 2021. It can be accessed either through the CAPuS website (http://www.capusproject.eu), by clicking 'Resources' and selecting 'Digital Repository', or at the address https://www.capusrepository.unito.it.

The repository currently contains data on around one hundred artworks from the five project countries, but, as it will be explained at the end of the chapter, there is a possibility of expanding the database to include artworks not related to the CAPuS project. At the time of writing, murals make up around 50% of the database entries. Each artwork has its data sheet in the repository, which contains the available information and documentation about that particular piece. The data range from basic information about the artwork (such as the name of the artist or the year of making) to the analysis of constituent materials and the technique of making; from interviews with the artworks' creators to in-depth studies of deterioration mechanisms. To help users navigate through this rich and varied content, the data are organised into categories and sub-categories, as shown in Table 1. Depending on the type of digital content uploaded/available in the repository, the artwork data sheet displays all categories/sub-categories, or just some of them.

Public access to the repository is secured through an interactive web interface in English (see Figure 6). The home page displays a random selection of artworks, which are

shown in horizontal sections according to their type: murals, outdoor sculptures, etc. Each artwork is represented with a thumbnail-size image under which the artwork title, author and year of making are indicated. To view all artworks of a particular type, the user needs to click the 'More' button under the section he or she is interested in (see Figure 7). As mentioned above, each artwork has its page in the repository. To access an artwork's page and the related digital content about that piece, the user has to click the artwork's thumbnail image.

When an artwork's page is opened, the digital content is not immediately visible (see Figure 8). To access it, the user needs to click on the title of the sub-category he or she would like to explore. A collapsible panel will then open containing information (metadata) about the available digital object(s): file type, date of creation, originator of the content, and the holder (see Figure 9). A short textual description of an image or a bibliographic citation for a text-based file is displayed: this is intended to be used for citing. It is important to note that digital objects/files stored in the repository can be downloaded in whole or in part, but cannot be used without correctly accrediting the source. The photographs of the artworks cannot be copied and reused (clearance needs to be sought from the copyright holder, author/photographer, artist etc.).

A brief note needs to be made about the language of the text-based files. The files/documents that were created within the CAPuS project are available in English. Transcriptions of artist interviews conducted by the CAPuS team members present an exception and are available in the language in which the interview was conducted, i.e., in the language of the country to which the artwork in question belongs (Italian, Spanish, Croatian, Polish, or German). Text-based files that were created by organisations and individuals not related to the CAPuS project, such as newspaper articles, exhibition catalogues, archival documents, or art-historical papers, are also not available in English. The titles of non-English documents in the repository have been translated into English, but the bibliographic citation displayed in the collapsible panel clearly indicates that the document is in a different language.



Figure 6. Screenshot of the CAPuS Digital Repository homepage.

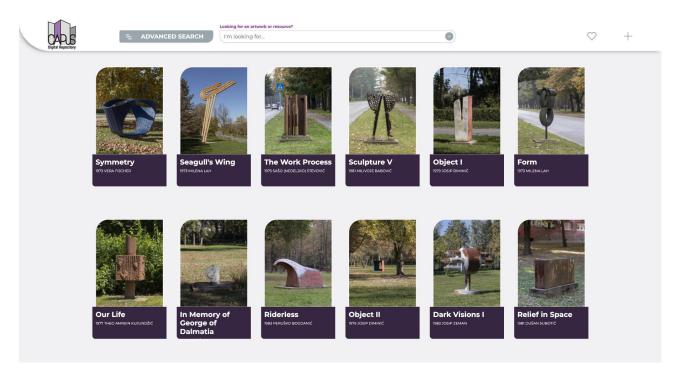


Figure 7. Screenshot of a portion of the page that lists outdoor sculptures.

The repository provides a search aid in the form of a general search bar, in which the user types keywords, and the advanced search option, both of which are available at the top of each page. The advanced search option (see Figure 10) provides users with the method to filter the digital content (or specific search results) in a number of ways: by the type of the digital file (scanned paper document, video, web resource etc.), by the (sub)category to which the digital object belongs, by country or city of the artwork's origin, artist, material, etc. The search tool, unfortunately, cannot search information inside text-based files, even if they are born-digital or OCRed scanned paper documents.

Readers interested in the demonstration of the functionality and content of the CAPuS Digital Repository are encouraged to watch the recordings of a three-part series of Zoom events that were held in May 2021, now available through the CAPuS website: http://www.capusproject.eu/2021/06/01/capus-digital-repository-zoom-events. Each Zoom event featured two speakers—representatives of CAPuS research groups—who showcased two public artworks that were studied in the project and are now included in the repository⁴. A detailed description of the ar-

chitecture of the repository, as well as of the process of its design and construction, was given at the final conference of the CAPuS project (June 2021), the recording of which is also available through the project website: http://www.capusproject.eu/final-event-recordings (select 'Recording of Day 1', 22:46–40:57).

The repository currently includes only the artworks that were studied within the CAPuS project, but its creators are interested in expanding it through the addition of other contemporary public works of art⁵. One way in which this can be achieved is by involving conservation study programs. Through project-based assignments, students can gather information about public works of art—their social and historical context, condition, history of care, etc. —and then have those data stored (and made publicly available) in the repository.

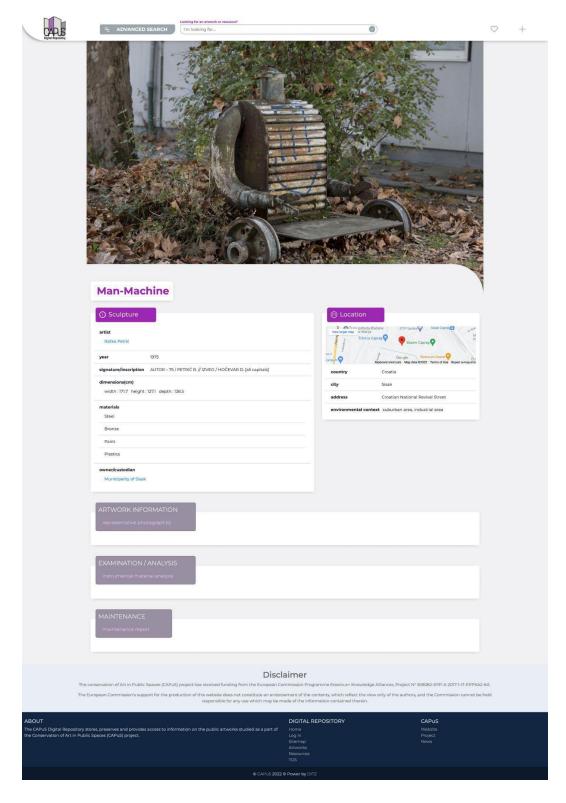


Figure 8. Screenshot of an artwork's page. Note that only three data categories are displayed. This depends on the type of data that has been uploaded into the repository.

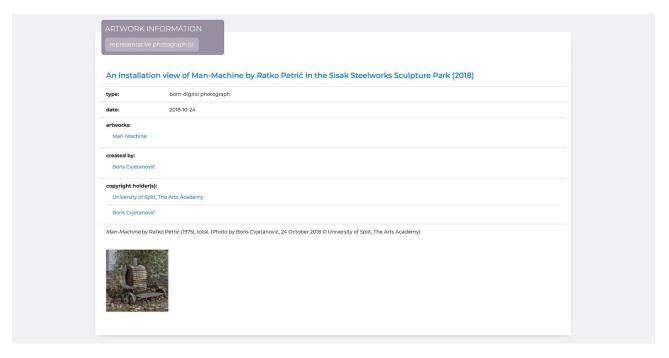


Figure 9. Screenshot of a collapsible panel that opens when the title of the sub-category is clicked. The brief textual description above the thumbnail image is intended to be used for citing. Left-click on the thumbnail image opens the digital file in a new tab.

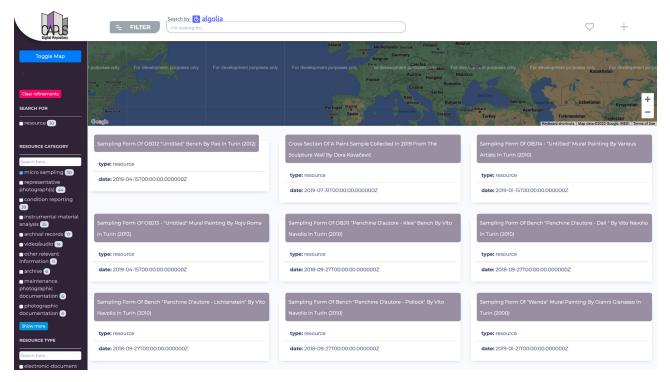


Figure 10. Screenshot of a portion of the page for an advanced search listing digital content related to the (sub)category 'Micro sampling'.

4. Conclusions

As stated at the beginning of this article, one of the main goals of the CAPuS project consisted in the creation and promotion of new knowledge and tools for the conservation of urban art, developed thanks to the collaboration among all partners in research and training activities. Two of the resources implemented within the project are the multilingual illustrated glossary and the Digital Repository.

The CAPuS glossary, drawing inspiration from other pre-existing glossaries, provides a selection of the most useful specific terms to objectively describe an urban artwork and to identify any types of ongoing degradation. The glossary is an annexe to the conservation guidelines document and is also part of the educational resources of the CAPuS e-learning platform. It has been proposed and used as supplementary material in university-level courses, classrooms and field thematic workshops.

The CAPuS Digital Repository gathers a huge amount of information collected about the examined artworks through the different phases of the project. Like the glossary, it can support teaching and learning activities, providing a number of case studies that will represent the variety of works of art found in urban art. The material contained in the repository can serve as useful documentation for the implementation of future conservation interventions on the same or similar works of art. Furthermore, the repository is proposed as an easy-to-consult tool for the general public, which, by browsing the web pages of the various murals and metal sculptures, has the opportunity to approach the theme of the study and conservation of urban art.

Conflict of Interests

The authors declare no conflict of interests.

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Sunara, S. M. (2022). Park skulptura Željezare Sisak u digitalnom repozitoriju projekta CAPuS. Godišnjak zaštite spomenika kulture Hrvatske, 45, 105-117.

Endnotes

¹Within the CAPuS project, the expression "urban art" has been used to summarise all visual art forms arising in urban areas, being inspired by urban architecture or the present urban lifestyle. It combines street art and graffiti and, in a broader framework, all forms of public contemporary art in open city spaces. The expression "street art" has also been used in the present work, its definition possibly including many edges: it has been traditionally referred to unsanctioned art, as opposed to government-sponsored initiatives, and strongly connected to the graffiti scene. However, street art has recently been going mainstream, often meaning to convey to a broader audience a message connected to political ideas or social commentaries. The term can include traditional graffiti artwork, sculpture, stencil graffiti, sticker art, street poster art and street installations. See CAPuS Glossary - section 1.

² The main international glossaries used as a reference for the creation of the CAPuS glossary are:

UNI EN 15898 (2012): Conservation of cultural prop-

- erty Main general terms and definitions.
- ICOMOS-ISCS: Illustrated glossary on stone deterioration patterns Vergès-Belmin V. (2008).
- EwaGlos-European Illustrated Glossary of Conservation Terms for Wall Paintings and Architectural Surfaces – Weyer A. et al. Michael Imhof Verlag, (2015).
- ³ The following CAPuS project team members participated in uploading resources in the repository (in alphabetical order of surname): Ann-Katrin Bresser, Anna Kowalik, Chiara Ricci, Chiara Riedo, Ilaria Saccani, Dominique Scalarone, Sagita Mirjam Sunara, Enrique Alonso Villar and Friederike Waentig.
- ⁴ The following CAPuS project team members participated in the three Zoom events: Sagita Mirjam Sunara, Moira Bertasa, Ilaria Saccani, Enrique Alonso Villar and Natalia Łowczak.
- ⁵ Persons and institutions interested in collaboration are invited to contact the CAPuS Digital Repository administrators: Sagita Mirjam Sunara (sagita.mirjam.sunara@umas.hr) and Dominique Scalarone (dominique.scalarone@unito.it).