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C	Confidential, only for members of the consortium and the Commission Services	

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1.0	31/01/2019	Gabriele Gattiglia	Final revision and submission

Disclaimer

This deliverable contains original unpublished work except where clearly indicated otherwise. Acknowledgement of previously published material and of the work of others has been made through appropriate citation, quotation or both.

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Abbreviations

WP: Work package

M: Month

UNIFI: Università di Pisa

UoY ADS: University of York, Archaeology Data Service

UB: Universitat de Barcelona

UCO: Universitaet zu Koeln

TAU: Tel Aviv University

CNR: Centro Nazionale delle Ricerche

INERA: Inera srl

BARAKA: Baraka Arqueologos S.L.

Elements: Elements centro de gestio i difusio de patrimoni cultural

1 Executive Summary

This deliverable presents the implementation of **Task 10.4: *Dissemination and promotion*** based on the plan set out in **D10.1 *Dissemination plan***, for the professional and academic archaeological community. Dissemination (WP10) is differentiated from Communication (WP9) in that it provides a more specific focus and allows deeper emphasis to be placed on dissemination of the results of the project, rather than communicating the general progress of the project. The primary aim of the dissemination within the ArchAIDE project was to raise awareness about the ArchAIDE project amongst researchers and students in archaeological disciplines, professional and academic field archaeologists and the wider scientific community, activate their desire to use technologies developed by the project, and facilitate the potential to change working practice within the domain. This included defining the key audience, including internal stakeholders, researcher institutions, scholars, researchers and students within archaeology, and related research project. It presents the different dissemination activities and materials used to inform the key audience, in partnership with the plan set out in Deliverable 9.1 Communication Plan, including the internal partner intranet, e-mail contacts and face-to-face meetings, as well as project workshops, training and testing opportunities and dissemination through presentations, publications, and other activities geared specifically for this audience.

2 Introduction

This deliverable presents **D10.3 Dissemination Kit**, based on work carried out as part of **Task 10.3 *Demonstration to the Research Community*** and **Task 10.4: *Dissemination and promotion***, based on the dissemination strategy for the professional and academic archaeological community for ArchAIDE, as set out in **D10.1 Dissemination Plan**. ArchAIDE is funded by the European Commission's Horizon 2020 Programme. The project began on 1 June 2016, and will complete on 31 May 2019. It brings together nine partners from Italy, Israel, UK, Spain, and Germany with the relevant expertise, combining excellence in archaeology, computer science, visualisation and data management, as well as experience in research and international collaboration. This deliverable is part of **WP10: *Archiving and Dissemination***. The aim of WP10 is to archive, disseminate and promote the results of the project, to follow best practice with regard to data re-use, and to make the project collaborative and transparent to researchers within the archaeological domain and beyond. This will be done through demonstrating the technologies developed through the project to the research community, archiving of the comparative data by the University of York, Archaeology Data Service (UoY ADS) according to the ISO standard Open Archival Information System (OAIS) model, and freely disseminating the data online.

The tasks within WP10 are:

- Task 10.1 Data Management
- Task 10.2 Data Archiving
- **Task 10.3 *Demonstration to the Research Community***
- **Task 10.4 *Dissemination and Promotion***
- Task 10.5 *Demonstration Activity Oriented to the Market*
- Task 10.6 *Exploitation*

Task 10.4 is closely related to Tasks 10.3, 10.5 and 10.6. It is also closely related to all of **WP9 *Communication/Public Engagement/Innovation***, and particularly **Task 9.1 *Communication Management***, which is reported in **Deliverable 9.1 *Communication Plan***. Task 10.4 was differentiated from WP9 in that it provides a more specific focus and allows deeper emphasis to be placed on dissemination of the **results** of the project, rather than communicating the general **progress** of the project. As such, Tasks 10.3 and 10.4 catered specifically to the **key target audience for ArchAIDE: the professional and academic archaeological community who are most likely to use the technologies under development**. Task 10.4 did this through:

- dissemination initiatives focused on the communication channels across the international archaeology community in use by project partners;
- creation of more in-depth promotional content about the project at key points. This included the writing of content for data sheets, posters, banners and other copy for communication materials such as posters, the ArchAIDE website, social media, etc.
- scientific dissemination through key journals, at key conferences and through training days.

The primary aim of the dissemination strategy was to raise awareness about the ArchAIDE project amongst researchers and students in archaeological disciplines, professional and academic field archaeologists and the wider scientific community, activate their desire to use technologies developed by the project, and facilitate the potential to change working practice within the domain.

This aim and the series of corresponding objectives as set out in D10.1 were met through the following activities.

Objective	Description	Activity
Objective 1	Define the key target audience	<p>A list of contacts was created</p> <p>Partners used their own networks to expand the target audiences</p> <p>Creation of ArchAIDE Associates</p>
Objective 2	Inform the key target audience about news, events, project activities	<p>Dissemination content was created using the project's social networks as defined in D9.1</p> <p>Partners contributed their perspectives geared toward the target audience as part of blog posts and videos, as defined in D9.1</p> <p>The contacts derived in Objective 1 were used to drive traffic to the project website and social media outlets</p>
Objective 3	Inform the key target audience about opportunities to interact with the project and technologies	<p>Dissemination support was provided and the M18 multiplier event was successfully held in York, UK</p> <p>A dissemination campaign for the key target audience around the intermediate results of the project was organised at M18 in the form of a data sheet distributed at dissemination events and online.</p> <p>Dissemination support was provided for the multiplier event successfully held in Barcelona, Spain in M31.</p> <p>A dissemination campaign for the key target audience around the release of the prototype was organised during M28-30</p> <p>Dissemination content was created for promoting the five training open days</p> <p>Dissemination content for the final project conference to be held in M36 of the project is currently being developed</p>
Objective 4	Create content for dissemination materials designed for the key target audience	<p>Content was created in the form of datasheets, posters, videos, or presentations, as appropriate, and made available for inclusion within the project media channels set out in D9.1</p>

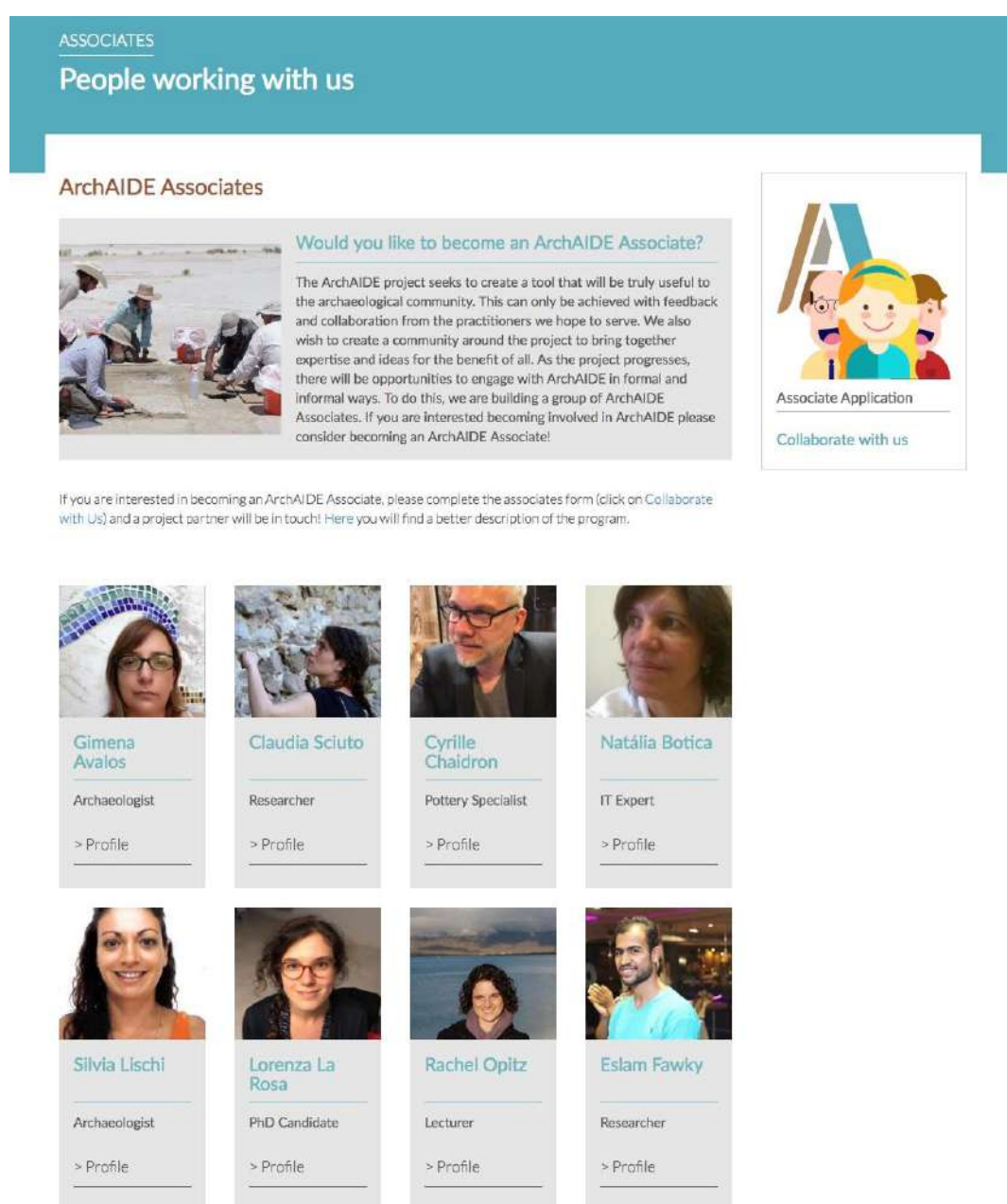
Objective 5	Disseminate information to the key target audience via relevant conferences and journals	<p>All partners participated in presenting at conferences to ensure good coverage</p> <p>A major project publication will be published in <i>Internet Archaeology</i>, along with other publications on specific aspects of the project</p> <p>Information was disseminated at a wide variety of key conferences throughout the project. Including Computer Applications and Quantitative Methods in Archaeology (CAA), Eurographics Workshop on Graphics and Cultural Heritage (GCH), Eurographics, SIGGRAPH, International Conference on Cultural Heritage (EUROMED), Cultural Heritage and New Technologies (CHNT) and European Association of Archaeologists (EAA)</p>
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Table 1: Dissemination objectives and activities.

The following sections document the details of the dissemination activities outlined in the objectives.

3 Defining the key audience

In addition to gathering relevant email lists from partners for the stakeholders defined in D10.1 to promote opportunities to engage with ArchAIDE, the decision was taken to work to build a stakeholder community associated directly with ArchAIDE. This took the form of ArchAIDE Associates, which allowed stakeholders to fill in a short online form indicating their areas of interest, and how they would prefer to participate. This included notification of upcoming opportunities, participation in an Associates online virtual community, helping with photography campaigns, development of additional languages for multi-lingual vocabularies and beta-testing the app. Associates were given the option to have a public profile on the ArchAIDE website as well. The Associate community grew to nearly 60 stakeholders by the end of the project, representing a group of stakeholders that will be able to help guide future directions for ArchAIDE.



ASSOCIATES
People working with us

ArchAIDE Associates

Would you like to become an ArchAIDE Associate?

The ArchAIDE project seeks to create a tool that will be truly useful to the archaeological community. This can only be achieved with feedback and collaboration from the practitioners we hope to serve. We also wish to create a community around the project to bring together expertise and ideas for the benefit of all. As the project progresses, there will be opportunities to engage with ArchAIDE in formal and informal ways. To do this, we are building a group of ArchAIDE Associates. If you are interested becoming involved in ArchAIDE please consider becoming an ArchAIDE Associate!

Associate Application
Collaborate with us

If you are interested in becoming an ArchAIDE Associate, please complete the associates form (click on Collaborate with Us) and a project partner will be in touch! Here you will find a better description of the program.

Gimena Avalos
Archaeologist
> Profile

Claudia Sciuto
Researcher
> Profile

Cyrille Chaidron
Pottery Specialist
> Profile

Natália Botica
IT Expert
> Profile

Silvia Lischi
Archaeologist
> Profile

Lorenza La Rosa
PhD Candidate
> Profile

Rachel Opitz
Lecturer
> Profile

Eslam Fawky
Researcher
> Profile

Figure 1: Screenshot of ArchAIDE Associates Webpage.

4 Informing the key audience

The key dissemination audience for ArchAIDE was informed about news, events, project activities, and the development of tools and resources. This was done through the creation of content tailored to this audience via the different communication channels set out in D9.1, as well as project workshops, training and testing opportunities and dissemination through presentations, publications, and other activities geared specifically for this audience. The following sections document these efforts.

4.1 Blog Posts

All partners contributed blog posts discussing different aspects of their work, and activities within the project. These included:

ArchAIDE Kick-off Meeting by Francesca Anichini, 14 June 2016

<http://www.archaide.eu/blog/-/blogs/168384?groupId=20181&pk=168384&userId=21906>

Is Automatic pottery recognition possible? by Gabriele Gattiglia, 17 November 2016

<http://www.archaide.eu/blog/-/blogs/168285?groupId=20181&pk=168285&userId=21982>

Deep Impact (through the barricades) by Gabriele Gattiglia, 23 November 2015

<http://www.archaide.eu/blog/-/blogs/168299?groupId=20181&pk=168299&userId=21982>

Thinking spatially by Tim Evans, 15 December 2015

<http://www.archaide.eu/blog/-/blogs/168397?groupId=20181&pk=168397&userId=23312>

A very useful tool for the archaeologist by Luis Alejandro García, 3 March 2017

<http://www.archaide.eu/blog/-/blogs/169806?groupId=21275&pk=169806&userId=139005>

From the drawing to the 3D representation by, Matteo Dellepiane, 7 March 2017

<http://www.archaide.eu/blog/-/blogs/169888?groupId=21275&pk=169888&userId=21993>

How to train ArchAIDE by Eva Miguel Gascón, 20 March 2017

<http://www.archaide.eu/blog/-/blogs/172066?groupId=21275&pk=172066&userId=23339>

Virtual sherds for better learning by Barak Itkin, 20 April 2017

<http://www.archaide.eu/blog/-/blogs/190836?groupId=21275&pk=190836&userId=67463>

Collecting data and improving resolution by Llorenç Villa, 5 May 2017

<http://www.archaide.eu/blog/-/blogs/198418?groupId=21275&pk=198418&userId=43641>

ArchAIDE@CAA by Michael Remmy, 18 May 2017

<http://www.archaide.eu/blog/-/blogs/236576?groupId=21275&pk=236576&userId=23285>

Creating multilingual vocabularies by Tim Evans, 9 June 2017

<http://www.archaide.eu/blog/-/blogs/248039?groupId=20181&pk=248039&userId=23312>

Working with Hispanic Terra Sigillata by Luis Alejandro García, 5 September 2017

<http://www.archaide.eu/blog/-/blogs/443846?groupId=21275&pk=443846&userId=139005>

Keeping your sherds under control: interesting way for generating virtual sherds from 3D models by Llorenç Villa, 27 October 2017

<http://www.archaide.eu/blog/-/blogs/917257?groupId=21275&pk=917257&userId=43641>

Information Extraction: Focusing on the essentials by Felix Kußmaul, 2 November 2017

<http://www.archaide.eu/blog/-/blogs/1026233?groupId=21275&pk=1026233&userId=158948>

ArchAIDE Discussion Workshop York by Katie Green, 7 November 2017

<http://www.archaide.eu/blog/-/blogs/1048756?groupId=21275&pk=1048756&userId=138602>

The development of a typology for majolica pottery of Barcelona and València by Eva Miguel Gascón, 30 January 2018

<http://www.archaide.eu/blog/-/blogs/8434316?groupId=21275&pk=8434316&userId=23339>

ArchAIDE Discussion Workshop in York by Holly Wright, 14 March 2018

<http://www.archaide.eu/blog/-/blogs/9421625?groupId=21275&pk=9421625&userId=23303>

ArchAIDE project advances: new phase of works by Luis Alejandro García, 14 March 2018

<http://www.archaide.eu/blog/-/blogs/11196430?groupId=21275&pk=11196430&userId=139005>

ArchAIDE workshop at AIAC 2018 in Cologne/Bonn by Michael Remmy, 6 June 2018

<http://www.archaide.eu/blog/-/blogs/17267146?groupId=21275&pk=17267146&userId=23285>

Multiplier event in Barcelona by Eva Miguel Gascón, 7 January 2019

<http://www.archaide.eu/blog/-/blogs/33277632?groupId=21275&pk=33277632&userId=23339>

4.2 Videos

ArchAIDE partners had to learn to be comfortable in front of the camera, as dissemination efforts included video self-documentation. Promotional videos corresponding to WP9 were created, along with videos documenting different aspects of the project for the key stakeholders. These included:

Title	Date	Duration	Views
Interview with Gabriele Gattiglia on ArchAIDE (1) https://www.youtube.com/watch?v=jnmKqv5UfeY	08/11/2016	0:26	95
Pottery fragments recognition is a complex activity for archaeologists - Interview with Gabriele Gattiglia (2) https://www.youtube.com/watch?v=wx_G6cU6o9w	09/11/2016	0:40	74

It's going to be a revolution – Interview with Jaume Buxeda I Garrigó https://www.youtube.com/watch?v=2r2l6R4UFes	09/11/2016	0:21	237
Very ambitious project with great potential for archaeologists – Interview with Julian Richards https://www.youtube.com/watch?v=NT3azKF1oxk	09/11/2016	0:26	78
A great tool for professional archaeologists and educational activities – Interview with Llorenç Vila https://www.youtube.com/watch?v=hWVjcLMSOUw	09/11/2016	0:24	55
We have all we need to produce good results – Interview with Massimo Zallocco https://www.youtube.com/watch?v=fPOpp1wOMZA	09/11/2016	0:21	31
Useful tools helping archaeologists in everyday work – Interview with Matteo Dellepiane https://www.youtube.com/watch?v=QOOBp0ee7mY	09/11/2016	0:33	108
Challenging but achievable goals – Interview with Michael Remmy https://www.youtube.com/watch?v=6sd0KDq6074	09/11/2016	0:29	125
Automatic ceramic classification is an important research topic – Interview with Miguel Angel Hervas https://www.youtube.com/watch?v=fWUL4YRfLbA	09/11/2016	0:25	54
A good mix of technological and archaeological skills – Interview with Massimo Zallocco https://www.youtube.com/watch?v=Lx-MLHHx66o	10/11/2016	0:36	72
ArchAIDE Kickoff Meeting short video https://www.youtube.com/watch?v=Vj5NwyZiTxE	24/11/2016	0:30	82
ArchAIDE simple animation https://www.youtube.com/watch?v=yDbO3Eww8wU	28/11/2016	0:51	1.186
ArchAIDE Kick-off Meeting https://www.youtube.com/watch?v=-tbG0wuK_xU&t=50s	28/11/2016	4:01	359
Tools and technologies to help archaeologists – Interview with Maria Letizia Gualandi https://www.youtube.com/watch?v=yI-r3M8rMsE	27/02/2017	0:42	145
A considerable number of comparative collections – Interview with Holly Wright https://www.youtube.com/watch?v=JXRj6WDAxWk	27/02/2017	0:40	77

ArchAIDE 2 https://www.youtube.com/watch?v=xn8P7pTwElw	04/05/2017	1:00	686
Direct line with partners - CNR-ISTI - Pisa (Italy) https://www.youtube.com/watch?v=lvT1SViTIL4&t=45s	29/05/2017	3:29	206
Database, specialists and synthesis: Interview with Tim Evans (ADS) https://www.youtube.com/watch?v=1MxqXf2DeLY	30/05/2017	0:50	68
Photographing hundreds of ceramics - Marisol Madrid (University of Barcelona) https://www.youtube.com/watch?v=R5WJOGJDI6Y&t=12s	30/05/2017	1:14	83
Mixing virtually and reality to improve the system - Matteo Dellepiane (CNR-ISTI Pisa) https://www.youtube.com/watch?v=jwZDi8IINXM	30/05/2017	0:52	113
Shattering virtual ceramics - Interview with Nachum Dershowitz (University of Tel Aviv) https://www.youtube.com/watch?v=obNK1D-AScY	30/05/2017	1:14	131
ArchAIDE review meeting in Brussels, June 2017 https://www.youtube.com/watch?v=xiG8vTAJ7xA&t=3s	21/07/2017	2:29	110
A technology accessible to many many archaeologists - Barak Itkin (University of Tel Aviv) https://www.youtube.com/watch?v=Hk9RF5YQqL4	06/10/2017	0:45	52
Archaeology is going to change a lot - Eva Miguel Gascón (University of Barcelona) https://www.youtube.com/watch?v=91NkEGx_zfc	06/10/2017	0:33	145
A complete database of pottery - Gabriele Gattiglia (MAPPA Lab - University of Pisa) https://www.youtube.com/watch?v=jMfn_GHe06E	06/10/2017	0:42	34
The database itself is a strong result - Massimo Zallocco (INERA) https://www.youtube.com/watch?v=SCqR2zOArGs	06/10/2017	0:43	36
We're starting to see what we can really do - Holly Wright (UoY) https://www.youtube.com/watch?v=VVTKHrMC1cM	06/10/2017	0:29	35
Discovering ArchAIDE's database https://www.youtube.com/watch?v=6qkPjkLZif8&t=4s	16/10/2017	1:43	289
Direct line with partners - University of Barcelona https://www.youtube.com/watch?v=ngSS0n7BtVQ&t=2s	17/01/2018	2:19	132

Direct line with partners - ADS University of York (UK) https://www.youtube.com/watch?v=lWiXhs7XzbU	26/02/2018	3:29	71
Amphorae, Terra Sigillata and Majolica of Montelupo photo campaigns https://www.youtube.com/watch?v=A2RF3jw8PtM	06/06/2018	0:43	111
Results for everyone! ArchAIDE' dissemination activities https://www.youtube.com/watch?v=fBXLrkVFHro&t=15s	06/06/2018	1:18	65
ArchAIDE workshop around Europe https://www.youtube.com/watch?v=e5ceFnad8y4	13/06/2018	3:37	84
Presenting ArchAIDE https://www.youtube.com/watch?v=U_ITuSTkdh4	26/10/2018	3:11	94
ARCHAIDE for Kids https://www.youtube.com/watch?v=c7RWlxCuhKE&t=4s	26/10/2018	1:48	35

Table 1: Videos produced through M32.

4.3 Dissemination Activities

Partners participated in dissemination about the different aspects of ArchAIDE to the key stakeholders. This included a range of workshops, conference papers and expo events, which were held to raise awareness about the project activities, receive feedback at different phases of work and demonstrate the results of the project. The presentations can be found at <https://www.slideshare.net/ArchAIDEproject/presentations> and on the [media section](#) on the website.

Activity	Type	Date	Partners	Outcome
Eurographics Workshop on Graphics and Cultural Heritage, Genova 2016 http://gch2016.ge.imati.cnr.it/	Conference paper	5-7 October 2016	CNR UNIPI	Presented ArchAIDE to around 30 digital heritage specialists
Understanding Europe – Promoting the European Public and Cultural Space https://ec.europa.eu/research/index.cfm?pg=events&eventc	Presentation at European workshop in Brussels	17 October 2016	UNIPI	Presented ArchAIDE to around 70 people, mainly researchers and policy makers

ode=CAC303F0-96CE-E20A-7906492E83356267				
CAA Atlanta 2017 Digital Archaeologies Materials Worlds (Past and Present) https://2017.caaconference.org/	Poster at international Conference of Digital Archaeology	14 March 2017	UoY, UCO	Had discussions with around 25 digital archaeology specialists
EAA Maastricht http://www.eaa2017maastricht.nl/	Session and papers at European Archaeology conference	30 Aug - 3 Sept 2017	UoY, UNIPI Papers: UoY, UCO, TAU, CNR	Organised session on automation in artefact recognition, including papers from several ArchAIDE partners for around 30 archaeologists and artefact specialists
EMAC Bordeaux https://emac2017.sciencesconf.org/	Conference paper at European meeting on ancient ceramics	6-9 September 2017	UB	Presented ArchAIDE to around 200 pottery specialists
STAG Catania 2017 http://iplab.dmi.unict.it/stag2017/	Paper at Smart Tools and Applications in Graphics conference	11-12 September 2017	CNR	Presented ArchAIDE to around 40 graphics app specialists
Eurographics Graz https://gch17.tugraz.at	Conference paper at workshop on graphics and digital heritage	27-29 September 2017	CNR	Presented ArchAIDE to about 60 people, majority IT Specialist, some from archaeology and museum curation
ICDAR Kyoto http://u-pat.org/ICDAR2017/	Conference paper at International conference on document analysis and recognition	9-15 November 2017	CNR, TAU	Presented ArchAIDE to around 25 people, mostly IT specialists
EVA/MINERVA Jerusalem	Workshop at international Conference	13-14 November 2017	UNIPI	Presented ArchAIDE to around 30 cultural heritage specialists

http://www.digital-heritage.org.il/digital-heritage/	for CH Professionals			
GARR 2017 Venice https://www.eventi.garr.it/it/conf17	Paper at international research data conference	15-17 November 2017	UNIPI	Presented ArchAIDE to around 150 ICT professionals
Voglio fare l'ARCHEOLOGO...incontri di orientamento alla professione in Pisa https://www.facebook.com/events/515856732106534/	Workshop at information day	17 November 2017	UNIPI	Presented ArchAIDE to around 50 students, including PhD students
Colloquium in Digital Cultural Heritage Cologne http://cceh.uni-koeln.de/2017/10/25/digital-cultural-heritage/	Presentation in International Colloquium	22 November 2017	UCO	Presented ArchAIDE to around 40 people including faculty and students
Archeologia, quo vadis? International workshop in Catania https://www.cnr.it/en/event/15414/archeologia-quo-vadis-un-workshop-internazionale-per-riflettere-sulla-direzione-in-cui-sta-andando-l-archeologia-oggi	Presentation in international workshop	18 January 2018	UNIPI	Presented ArchAIDE to around 130 people: academic, institutional (archaeologists employed in Ministry of CH), professionals and students
Glaze technology in the Western Mediterranean Valencia https://westernglaze.wordpress.com/glazed-ceramic-workshop/	Organised international workshop	25 January 2018	UB	Presented ArchAIDE to around 50 people, mostly archaeologists (professional and researchers) along with geologists, physicists and students (PhD and masters)
Tourisma Florence http://www.tourisma.it/home-2/	Presentation international archaeology exhibition	22-24 February 2018	UNIPI	Presented ArchAIDE to about 100 people, mostly archaeologists (professional and academic), and students

3rd International Conference on Best Practices in World Heritage Menorca http://www.congresopatrimonio mundialmenorca.cime.es/	Papers at international cultural heritage conference	2-5 May 2018	ELEMEN TS, UNIPI, UoY, UB	Presented ArchAIDE to around 55 people, mainly archaeologists some from South America, Mexico, Peru, Columbia (professional and academic), and students
Crosscult & Emotive workshop, Athens https://www.crosscult.eu/en/atest/workshop/	Presentation at international workshop for European Cultural projects	14 May 2018	UNIPI	30 cultural heritage specialists and academic
Digital Heritage Lund http://konferens.ht.lu.se/cdh2018lund/	Paper at international digital heritage conference	18-20 June 2018	UNIPI	30-40 digital archaeology specialists
EAA Barcelona https://www.e-a-a.org/ea2018	Papers and expo at international archaeology conference	5-8 September 2018	UNIPI, UoY ADS, UB	Presentation and discussion with over 100 archaeologists
Festival internazionale della robotica (International Robotics Festival) http://www.festivalinternazionaledellarobotica.it/en/	Presentation and expo at International festival of digital applications	28 September, 2018	UNIPI	Presented ArchAIDE to around 60 people, mainly archaeologists and professional of cultural heritage
BRIGHT 2018 – The European night of researchers in Tuscany, Pisa http://www.bright-toscana.it/pisa-2018/	Booth at public event organized by UNIPI and Regione Toscana	28 September, 2018	UNIPI	Presented ArchAIDE to around 50 people, mainly citizens, students and kids
LI Convegno Internazionale della Ceramica (International conference of ceramic), Savona https://www.insegnadelgiglio.it/2018/06/convegno-	Paper at archaeology conference	5-6 October, 2018	UNIPI	Presented ArchAIDE to around 40 archaeologists specialized in studies of ceramic

internazionale-della-ceramica-51-2018/				
Legatum 2.0 Congress Damiel http://congresoLegatum.org/	Paper at Cultural Heritage Congress	16-19 October 2018	BARAKA	20-25 archaeologists and museum specialists
Euromed Cyprus https://www.euromed2018.eu/	Paper in workshop at international conference on digital heritage	October 29 to 3 November 2018	UoY	50-60 archaeologists and digital specialists
Visual Heritage/CHNT 2018 Vienna http://2018.visualheritage.org	Paper, keynote paper and expo at international conference on digital heritage	November 12-15, 2018	UoY, UCO, UNIPI, TAU	Presentations and expo communicating and demonstrating to over 150 digital archaeology specialists
Common challenges and perspectives for Digital Cultural Heritage in H2020 projects	Presentation at international workshop organized by REA - EU	November 14, 2018	UNIPI	40-50 cultural heritage specialists and policy makers
Fair of European Innovators in Cultural Heritage https://www.eac-events.eu/ehome/fairofeuropeaninnovatorsinculturalheritage/home/	Demonstration at Innovation Fair	15-16 November 2018	UNIPI	Communicating and demonstrating to over 200 tech innovators

Table 2: Dissemination activities through M32.

4.4 Training Open Days

As part of Task 10.3 *Demonstration to the Research Community*, partners undertook four Training Open Days to promote and explain the work of the project to the key stakeholders in the archaeological research community. These Open Days were held in the archaeological partner countries, attracted an average of 25 people, and included:

- UNIPI and CNR: Spoleto, Italy 14-15 September 2017
- UNIPI: Pisa, 23 March 2018
- UoY: Brighton, 17 April 2018
- UCO: Bonn, 25 May 2018

The fifth Training Day has scheduled on 9th April 2019, hosted by the University of Barcelona.

4.5 Publications

ArchAIDE partners have produced the following publications about the project:

Gualandi, M. L., Scopigno, R., Wolf, L., Richards, J., Buxeda i Garrigos, J., Heinzemann, M., Hervas, M.A., Vila, L. and Zallocco, M. (2016) ArchAIDE-Archaeological Automatic Interpretation and Documentation of cEramics. In C. E. Catalana, & L. De Luca (Eds.), *Eurographics Workshop on Graphics and Cultural Heritage*

<https://doi.org/10.2312/gch.20161408>

Banterle, F., Itkin, B., Dellepiane, M., Wolf, L., Callieri, M., Dershowitz, N. and Scopigno, R. (2017) *VASESKETCH: Automatic 3D Representation of Pottery from Paper Catalog Drawings*. The 14th IAPR International Conference on Document Analysis and Recognition (ICDAR2017), 683-690.

<http://vcg.isti.cnr.it/Publications/2017/BIDWCDS17/main.pdf>

Banterle, F., Dellepiane, M., Evans, T., Gattiglia, G., Itkin, B., and Zallocco, M. (2017) *The ArchAIDE Project: results and perspectives after the first year*. 15th Eurographics Workshops on Graphics and Cultural Heritage (EG GCH 2017), 161–164.

http://vcg.isti.cnr.it/Publications/2017/BDEGIZ17/GCH_Archaide_final.pdf

Dellepiane, M., Callieri M., Banterle, F., Arenga, D., Zallocco, M., and Scopigno, R. (2017) From Paper to Web: Automatic Generation of a Web-Accessible 3D Repository of Pottery Types. *GCH Eurographics Workshop on Graphics and Cultural Heritage*.

<http://dx.doi.org/10.2312/gch.20171293>

Wright, H. and Gattiglia, G. (2018) ArchAIDE: Archaeological Automatic Interpretation and Documentation of cEramics, Proceedings of the Workshop on Cultural Informatics Research and Applications co-located with the International Conference on Digital Heritage, Nicosia, Cyprus, November 3, 2018. 60-65.

<http://ceur-ws.org/Vol-2235/paper7.pdf>

Anichini, F., Gattiglia, G. (2018) Big Archaeological Data. The ArchAIDE project approach *Conferenza GARR 2017 - The data way to Science - Selected Papers*, Venezia, Associazione Consortium GARR.

<http://dx.doi.org/10.26314/GARR-Conf17-proceedings-03>

Gattiglia, G. (2018) Classificare le ceramiche: dai metodi tradizionali all'intelligenza artificiale. L'esperienza del progetto ArchAIDE. In D. Malfitana (ed.) *Archeologia, Quo vadis? Riflessioni metodologiche sul futuro di una disciplina. Atti del workshop internazionale, Catania, 18-19 gennaio 2018*, Catania, pp. 285-298.

5 Promotional Materials

A variety of promotional materials have been created for dissemination of the ArchAIDE project to its key stakeholders. The materials have included posters, data sheets (M18 and updated M30) and roller banners.

5.1 Posters

ARCHAIDE

ARCHAEOLOGICAL
AUTOMATIC INTERPRETATION
AND DOCUMENTATION
OF CERAMICS

How many things can a fragment of ceramic tell us? How much information is hidden within it?

Every day, all over the world, archaeologists spend a great deal of time, energy and money to identify individual pieces of ceramic; to discover the stories that objects tell us about our past.

An international team of archaeologists and ICT specialists are working to simplify and automate this work; making it accessible by a "click".

ArchAIDE aims to allow the study of archaeological objects to be undertaken more quickly, using a tablet or a smartphone to take a photo of a fragment, send the photo and information to a database, activate an automated identification system, receive an answer with all the connected information, and share each new discovery online!

This is **ArchAIDE**, a project to help change the work of archaeologists... and build new understanding!

ArchAIDE aims to create a new system for the automatic recognition of archaeological pottery from excavations around the world

Funded by the European Union, the project involves more than **35 researchers**, computer scientists, designers, and video makers from nine universities, public research centres and private companies from **5 countries** (Italy, Germany, Israel, Spain, United Kingdom). Pottery is of fundamental importance for the **comprehension and dating of archaeological contexts**, and for understanding the dynamics of production, trade flows, and social interactions.

Today, this classification of ceramics is carried out manually, through the expertise of specialists and the use of analogue catalogues held in archives and libraries.

The goal of ArchAIDE is to **optimise and economise this process**, making knowledge accessible wherever archaeologists are working.

Pottery classes used for proof of concept

Roman Amphorae • Samian Ware • Majolica

Workflow

1. Excavation
2. Image capture with mobile device
3. Processing the inquiry
4. Presenting results
5. Sharing online

The user inquiry will be compared to a reference database with textual and image data. The ArchAIDE database will be populated with a ready structured metadata and specially digitized catalogues. The text will be extracted and imported.

Drawings of pottery are very important for automatic recognition. The cross-section of a sherd can be compared with the drawings, from which even a 3D-model can be generated.

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Figure 2: Poster developed for CAA Conference, Atlanta 2016

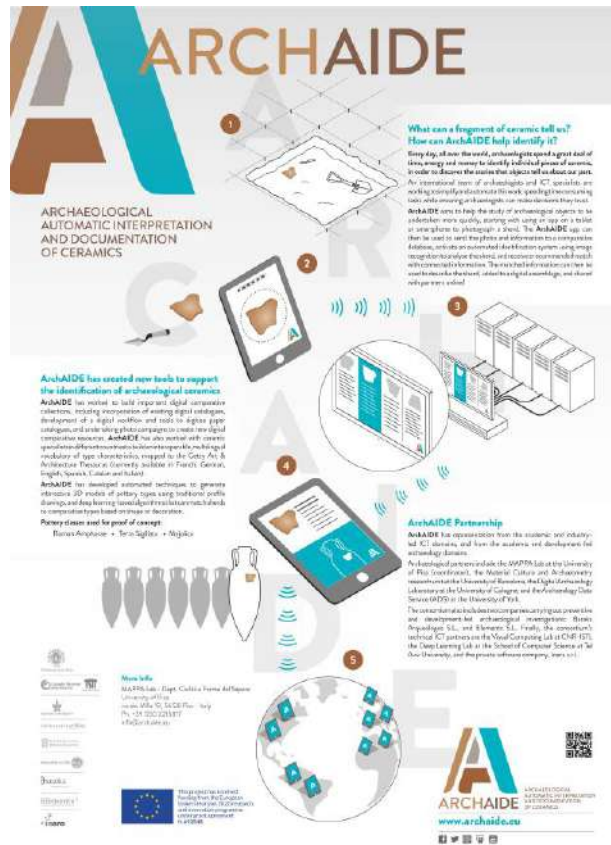


Figure 3: Poster developed for Euromed Conference, Nicosia 2018.

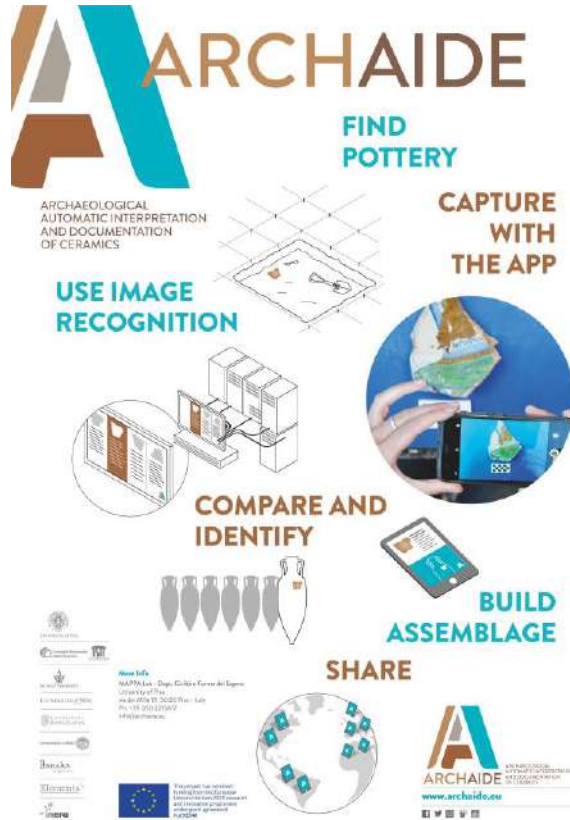


Figure 4: Poster developed for Fair of European Innovators in Cultural Heritage, Brussels, 2018.

5.2 Roller Banners

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Mobile App for Pottery Recognition

The banner features a central image of a hand holding a tablet displaying a pottery database, with a background of archaeological ruins. Below this, a diagram shows a smartphone and a tablet displaying a pottery fragment, with a small fragment of pottery next to them. The bottom section includes logos for the University of Barcelona, Universitat de València, Universitat de Lleida, Universitat de Sevilla, Universitat de Granada, Paraka, Elements, and inera. A European Union logo and text state: 'This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N.693548'. The ArchAIDE logo and website are repeated at the bottom right.

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FIND POTTERY
CAPTURE WITH THE APP
USE IMAGE RECOGNITION
COMPARE AND IDENTIFY
BUILD ASSEMBLAGE
SHARE

The banner illustrates a workflow for pottery recognition. It starts with 'FIND POTTERY' showing a grid of pottery fragments. 'CAPTURE WITH THE APP' shows a smartphone taking a photo of a fragment. 'USE IMAGE RECOGNITION' shows a computer screen displaying a matching fragment. 'COMPARE AND IDENTIFY' shows a smartphone displaying a list of fragments. 'BUILD ASSEMBLAGE' shows a row of fragments being assembled into a whole vessel. 'SHARE' shows a globe with location markers. The bottom section includes logos for the University of Barcelona, Universitat de València, Universitat de Lleida, Universitat de Sevilla, Universitat de Granada, Paraka, Elements, and inera. A European Union logo and text state: 'This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N.693548'. The ArchAIDE logo and website are repeated at the bottom right.

Figure 5: Roller banners developed for EAA, Barcelona, 2018.

5.3 Data Sheets




Mid-project Results

The ArchAIDE project aims to improve archaeological workflows for identifying pottery, by speeding up time consuming tasks, providing support for non-specialists, and helping students learn more about pottery recognition.

ArchAIDE is a three-year project and has now reached the midway point. This datasheet presents the results of the technical workpackages thus far.

The Creation and Population of the Application Database

A core component of the ArchAIDE project is the design and implementation of a database that will be the repository for all the background knowledge and data produced by the project. This database has taken into account the complex nature of data from different sources and multiple languages.



Technologies for the Digitisation of Catalogues

To help archaeologists identify sherds, a comparative collection is being created to populate the database that will form the basis of the ArchAIDE App. At the mid-point of the project the following pottery types have now been documented:

<p>Terra Sigillata Italica (including stamps from the Kenrick catalogue) Terra Sigillata Hispanica</p>	<p>Terra Sigillata from South Gaul Roman Amphorae Decorative types of Majolica</p>
--	--

Data about these pottery types was derived in three ways:

- 1 Mapping existing structured digital data, including *Roman Amphorae*: a digital resource hosted by the Archaeology Data Service and the Colchester database created by the University of Cologne, to the ArchAIDE database.
- 2 Digitising existing catalogues and entering them into the ArchAIDE database. A text extraction tool was created allowing a user to scan a document, extract the text, and assign sections of text to the relevant fields in the database.
- 3 Photo campaigns have been carried out by the project partners in Ocella, Perugia, Spoleto and Barcelona to acquire images to train the neural network.



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Shape and Image-based Similarity Search and Retrieval

This focuses on the development of tools to assist in the automatic recognition of a sherd from a photograph, by comparing it to exemplars in the database and retrieving a curated list of results allowing the user to choose the most likely candidates.



A neural network, which is a group of mathematical functions capable of expressing complex logic, is being created to carry out this task. There are two approaches corresponding with the two basic ways pottery is typically recognised: by shape and by decoration. The final goal in both types of recognition is to create the curated lists to be returned by the App.

Decorated Sherds (Majolica)

Training the neural network is challenging, as it requires a large number of classified sherd images. As there is no existing corpus, we first used a network trained using a general dataset of labelled images called *ImageNet*. We then adapted their usage to classify our pottery decoration images. Once classified, images of sherds can be used to teach the system to improve recognition parameters. This will be validated on further classified sherds to improve the neural network.

Sherd Profiles

When classifying by shape we have many drawings per sherd classification to train the network. However, we need to correlate a photograph of a sherd with a profile drawing from the database. To do this a tool within the App will allow users to draw a sherd profile to be extrapolated into a 3D model. The tool will then flatten the model into a black and white image like a traditional profile drawing and use this for training and classification.

The Mobile Tool and Front-end Desktop Application

ArchAIDE will produce a Mobile App and Desktop Application for archaeologists to use in the field and during the analysis stages of a project which will enable a user to search for, and identify sherds. At the mid-point of the project the following has been completed:

- After consultation with stakeholders, design specifications for the App and Desktop Tool have been created.
- A functional beta version of the App has been developed (currently for Android, with IOS by the end of the project).
- 3D acquisition and drafting components have been successfully implemented.
- The beta version of the App is currently being tested. Please get in touch if you would like to help!



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Figure 6: Mid-project Data Sheets.

6 Monitoring and evaluation

The dissemination programme set out in D10.1 was monitored and evaluated to review:

- what information is going out and who is seeing them;
- whether those messages are reaching the key audience;
- whether the messages are influencing opinions, attitudes and behaviours.

This information aided the dissemination strategy, allowing the development of future activities and revisions to the plan. It ensured the strategy was effectively reaching the key audiences.

The success indicators were:

- User involvement
- Users participating in multiplier events
- Users participating in training open days
- Presentations at relevant conferences and events
- Publications

Approximate target goals were set out for M18 in D10.1, in order to set out expectations and broadly monitor whether they are being met. Based on the data gathered by M32, these goals are being met.

Description	Type of Indicator	Month 18 Target	Month 32 Actual
Potential users identified	No of users (Associates)	30	58
Potential users participating in multiplier events	No of participants	20	Approx. 45
Users participating in training open days	No of participants	N/A	Approx. 120
Presentations at relevant conferences and events	No of presentations	10	19
Publications	No of publications	N/A	6

Table 3: Target goals and actual results through M32.

7 Conclusion

This deliverable presented the implementation of **Task 10.3 *Demonstration to the Research Community*** and **Task 10.4: *Dissemination and promotion*** based on the plan set out in **D10.1 *Dissemination plan***, for the professional and academic archaeological community. Dissemination (WP10) is differentiated from Communication (WP9) in that it provides a more specific focus and allows deeper emphasis to be placed on dissemination of the results of the project, rather than communicating the general progress of the project. The primary aim of the dissemination within the ArchAIDE project was to raise awareness about the ArchAIDE project amongst researchers and students in archaeological disciplines, professional and academic field archaeologists and the wider scientific community, activate their desire to use technologies developed by the project, and facilitate the potential to change working practice within the domain. This included defining the key audience, including internal stakeholders, researcher institutions, scholars, researchers and students within archaeology, and related research project. It presents the different dissemination activities and materials used to inform the key audience, in partnership with the plan set out in Deliverable 9.1 Communication Plan, including the internal partner intranet, e-mail contacts and face-to-face meetings, as well as project workshops, training and testing opportunities and dissemination through presentations, publications, and other activities geared specifically for this audience.