



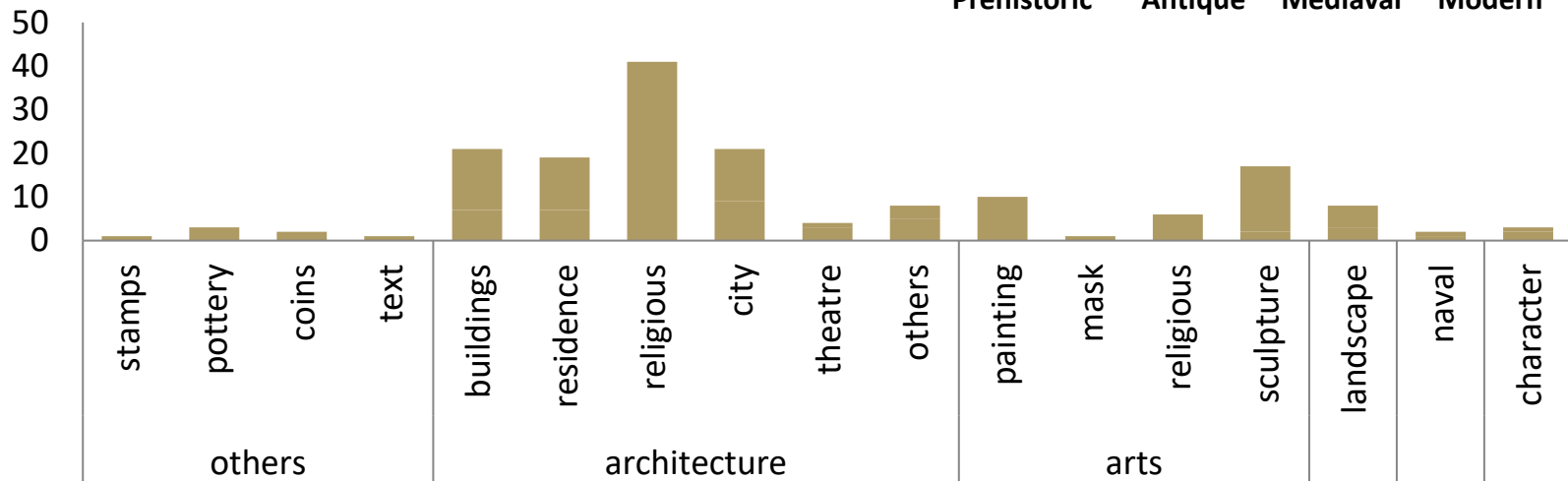
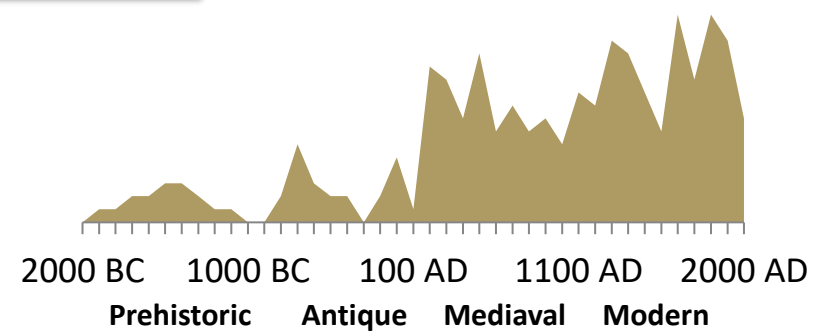
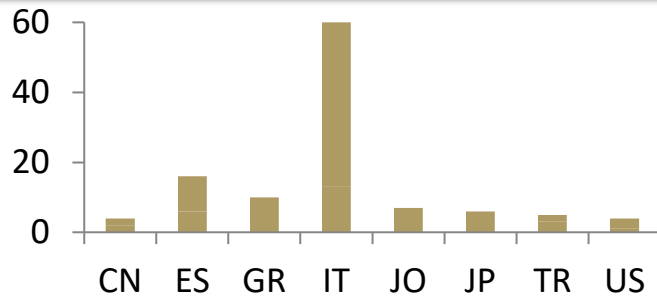
Sander Münster (FSU Jena / Germany)

Digital 3D Modelling for Heritage Research and Education from an Information Studies Perspective



Area	Research Interest	Investigation	Reference:
Scholarly community	Who are main authors? What are academic structures?	Social network and bibliometric analysis of publications from major conferences in the field of digital cultural heritage 1990-2015 (n=3,917).	Münster S (2019) Digital Cultural Heritage as Scholarly Field – Topics, Researchers and Perspectives from a bibliometric point of view. Journal of Computing and Cultural Heritage 12 (3):22-49.
<h1>What are key findings from 13 investigations on digital 3D modelling?</h1>			
		Survey with 968 participants.	S et al. (2020) The visual side of digital humanities. A survey on topics, researchers and academic cultures in visual digital humanities. Digital Scholarship in the Humanities 35 (2):366-389.
Usage practices	What are phenomena and strategies for cooperation?	4 case studies: Data collection via expert interviews and observation. Data analysis via heuristic frameworks and grounded theory.	Münster S (2013) Workflows and the role of images for a virtual 3D reconstruction of no longer extant historic objects. ISPRS Annals II-5/W1 (XXIV International CIPA Symposium):197–202.
	How to support cooperation in 3D modelling projects?	Employment and evaluation of SCRUM as agile project management approach in an educational project seminar with 3 student teams.	Kröber C et al. (2017) Educational App Creation for the Cathedral in Freiberg. In: Spector JM et al. (eds) Competencies in Teaching, Learning and Educational Leadership in the Digital Age. Springer, Cham, pp 303-318.
Methodological development	What are current challenges for 3D models?	Three group discussions during workshops at national/international conferences (~60 participants); online survey with 700 participants.	Münster S et al. Digital 3D reconstruction projects and activities in the German-speaking countries. In: EUROMED 2018, 2018.
	What are research functions?	Classification scheme developed and applied for eight projects so far.	Münster S et al. (2016) A classification model for digital reconstruction in context of humanities research. In: Münster S et al. (eds) 3D Research Challenges in Cultural Heritage II. Springer LNCS, Cham, pp 3-31.
	What are recommendations for digital libraries?	Recommendations for the design of digital repositories for the humanities.	Münster S et al. (2018) Image Libraries and their Scholarly Use in the Field of Art and Architectural History. Int J Digital Libraries 19 (4):367–383.
Technology	How to create 3D models?	Technological Pipeline development and testing for automatically creating 4D city models from historical plan and photo sources.	Münster S et al. (2020) An Automated Pipeline for a Browser-based, City-scale Mobile 4D VR Application based on Historical Images. Paper presented at the Proceedings of the 2nd Workshop on Structuring and Understanding of Multimedia heritAge Contents, Seattle, WA, USA,
Perception	How are virtually represented structures perceived?	Two studies to investigate how virtually represented architecture is perceived, involving 21 persons and using usability testing.	Münster S (2018) Cultural Heritage at a Glance. Four case studies about the perception of digital architectural 3D models. In: Alonso F (ed) 2018 3rd Digital Heritage International Congress (DigitalHERITAGE) held jointly with 2018 24th International Conference on Virtual Systems & Multimedia (VSMM 2018). IEEE, San Francisco.
Education	How to teach 3D modelling?	Three student seminars so far to develop and test team project-based learning approaches.	Herrmann I et al. (2017) Teaching Media Design by using Scrum. A qualitative Study within a Media Informatics' Elective Course. In: Sampson DG et al. (eds) Proceedings of the 14th International Conference on Cognitive and Exploratory Learning in the Digital Age (CELDA 2017). IADIS Press, pp 227-232.

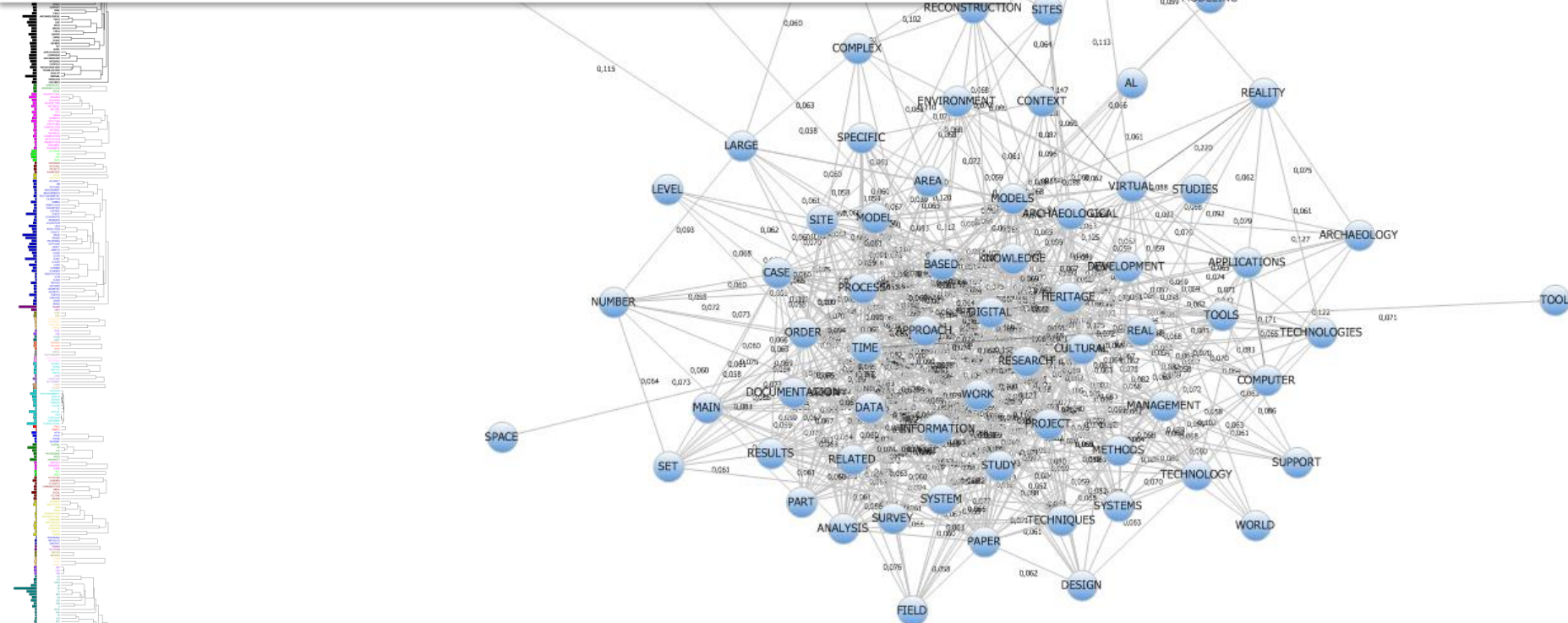
Objects of Heritage Studies is primarily architecture in the Mediterranean area from all periods a.d.



n=478 Articles (1990-2017) e.g. from Euromed, CAA, DH, CIPA

MÜNSTER, S. 2019. Digital Cultural Heritage as Scholarly Field. JOCCH, 12, 22-49.

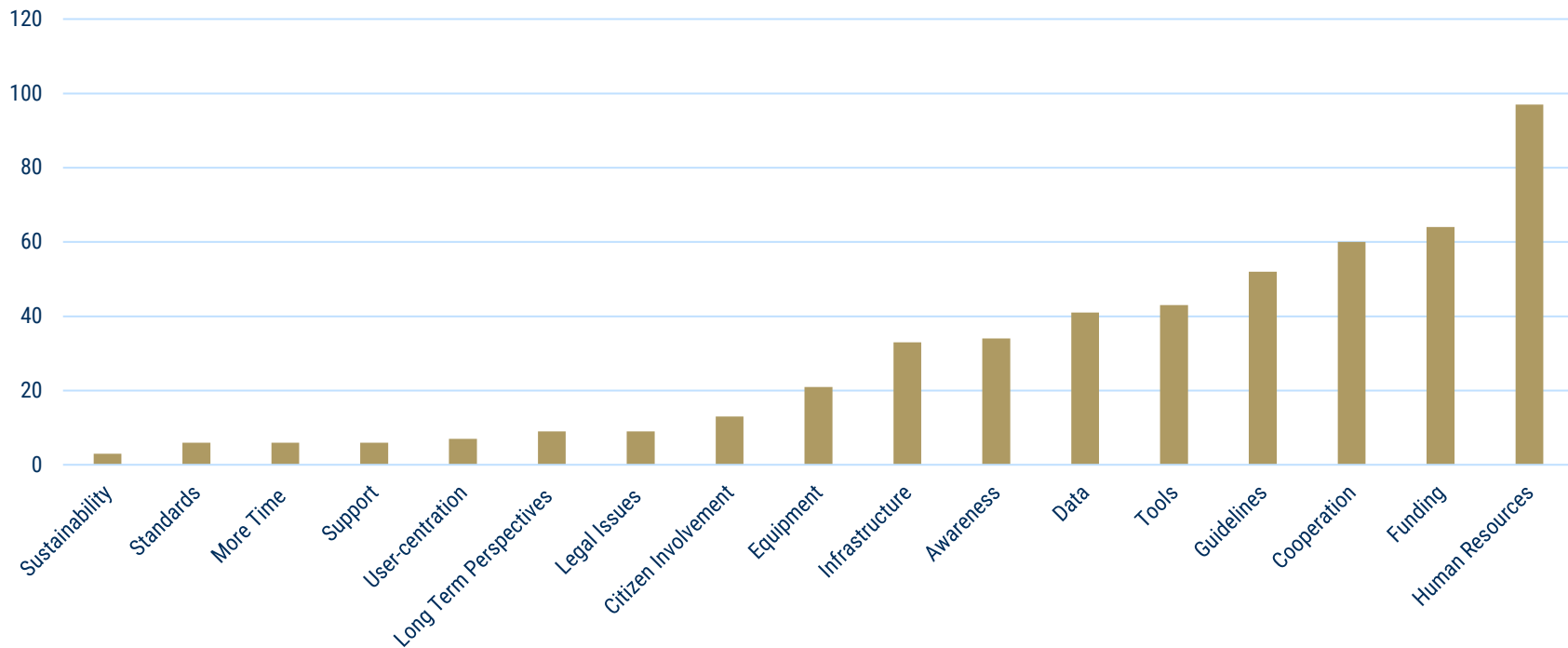
Research topics on main Digital Heritage conferences are primarily around applied technologies and focus on data acquisition and visualization



n=3973 Articles (1990-2017) e.g. from Euromed, CAA, DH, CIPA

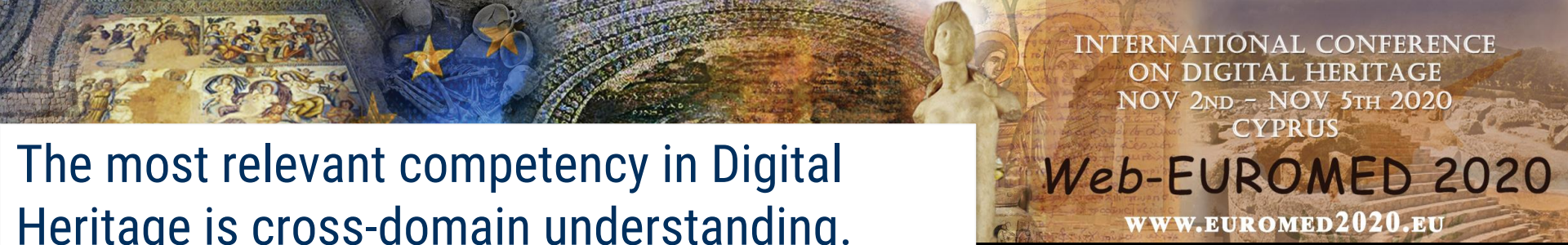
MÜNSTER, S. 2019. Digital Cultural Heritage as Scholarly Field. JOCCH, 12, 22-49.

The biggest hurdle concerning digitalisation in Cultural Heritage is not money but lack of competency.



Online Survey, 560 named items

MÜNSTER, S. 2019. Digital Cultural Heritage as Scholarly Field. JOCCH, 12, 22-49.

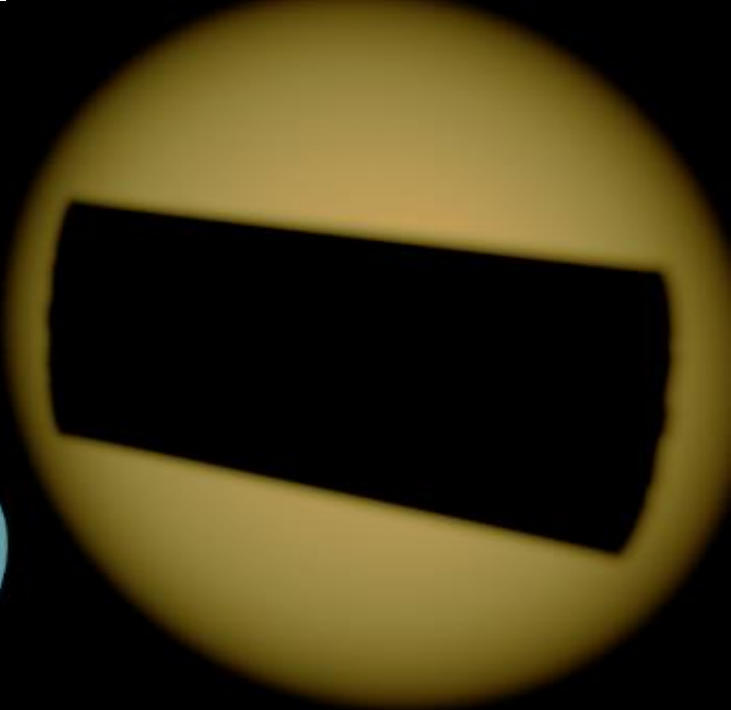
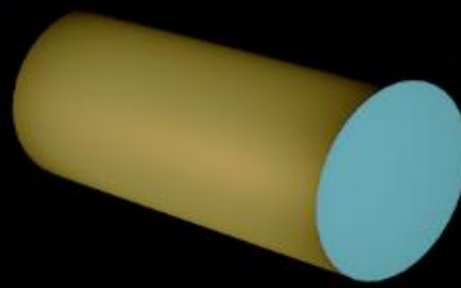
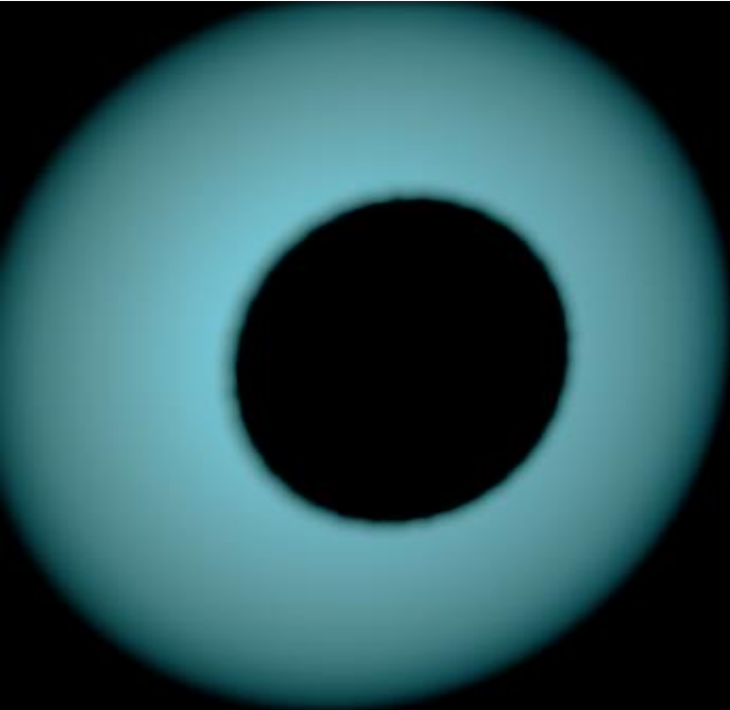


INTERNATIONAL CONFERENCE
ON DIGITAL HERITAGE
NOV 2ND – NOV 5TH 2020
CYPRUS

Web-EUROMED 2020

WWW.EUROMED2020.EU

The most relevant competency in Digital Heritage is cross-domain understanding.



This is true.

This is thruth.

This is true.

MÜNSTER, S. & TERRAS, M. 2020. The visual side of digital humanities. Digital Scholarship in the Humanities, 35, 366-389.

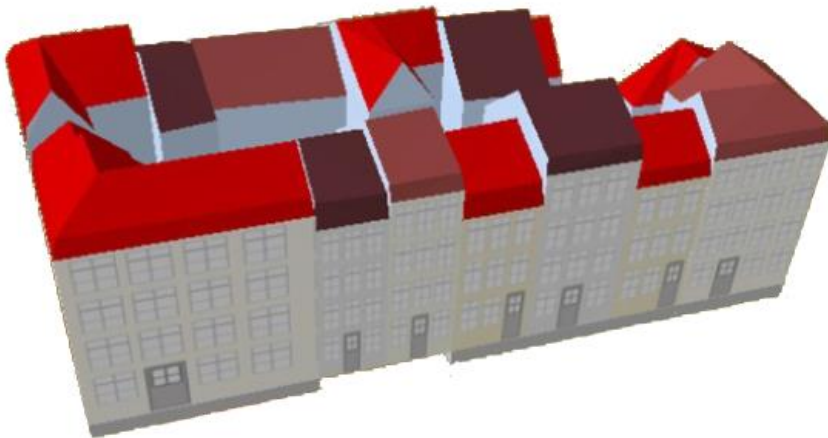


INTERNATIONAL CONFERENCE
ON DIGITAL HERITAGE
NOV 2ND – NOV 5TH 2020
CYPRUS

Web-EUROMED 2020

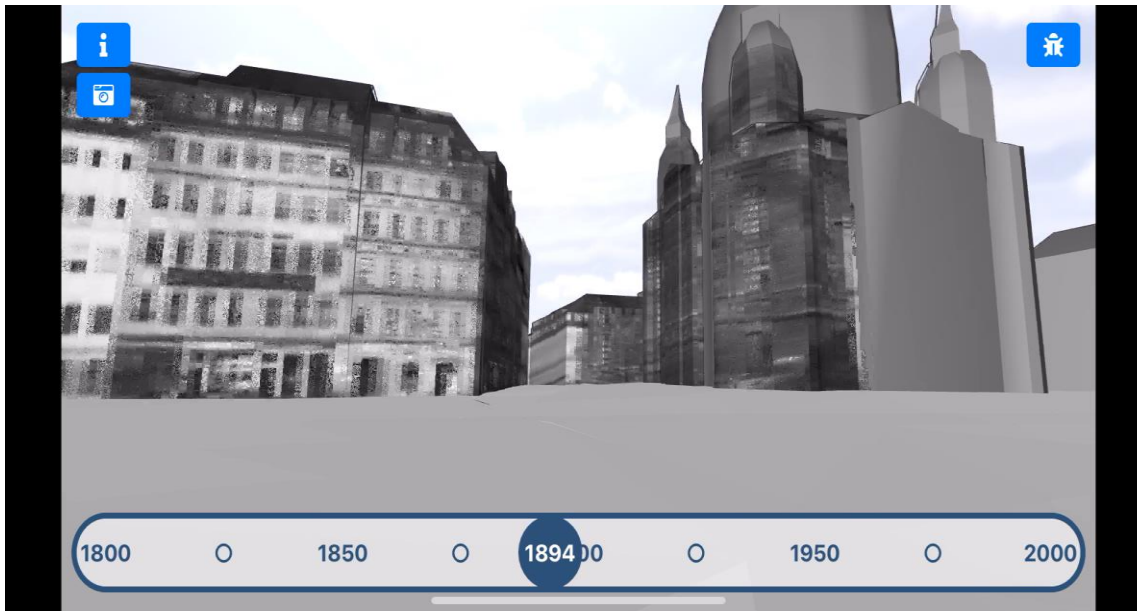
WWW.EUROMED2020.EU

Humans are well trained in perceiving virtual architecture.



MÜNSTER, S. 2018. Cultural Heritage at a Glance. 3rd Digital Heritage International Congress, San Francisco: IEEE.

Can we create 4D cityscapes automatically from historical imagery?



MÜNSTER, S., MAIWALD, F., et al. 2020. Introducing an Automated Pipeline for a browser-based, city-scale mobile 4D VR Application. ACM Multimedia. Seattle.



INTERNATIONAL CONFERENCE
ON DIGITAL HERITAGE
NOV 2ND – NOV 5TH 2020
CYPRUS

Web-EUROMED 2020

WWW.EUROMED2020.EU

Thank you for your attention.

www.urbanhistory4d.org