Making Archaeological Data FAIR

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ARCHAEOLOGY DATA SERVICE

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Outline

- Research data and digital corpora
  - How should we be developing them?
  - The Bigger Picture – infrastructure frameworks
- Importance of FAIR data
- Research e-infrastructures, and ADS role:
  - E-RIHS (European Research Infrastructure for Heritage Science)
  - SSHOC (Social Sciences and Humanities Open Cloud)
  - ARIADNEplus
    - Archaeologists need to engage with these initiatives
    - Introducing the ARIADNEplus taskforces

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Introduction to FAIR principles

Findable Easy to find by both humans and computer systems;

Accessible Stored for long term such that they can be easily accessed and/or downloaded with well-defined license and access conditions;

Interoperable Ready to be combined with other datasets by humans as well as computer systems;

Reusable Ready to be used for future research.

In practice….

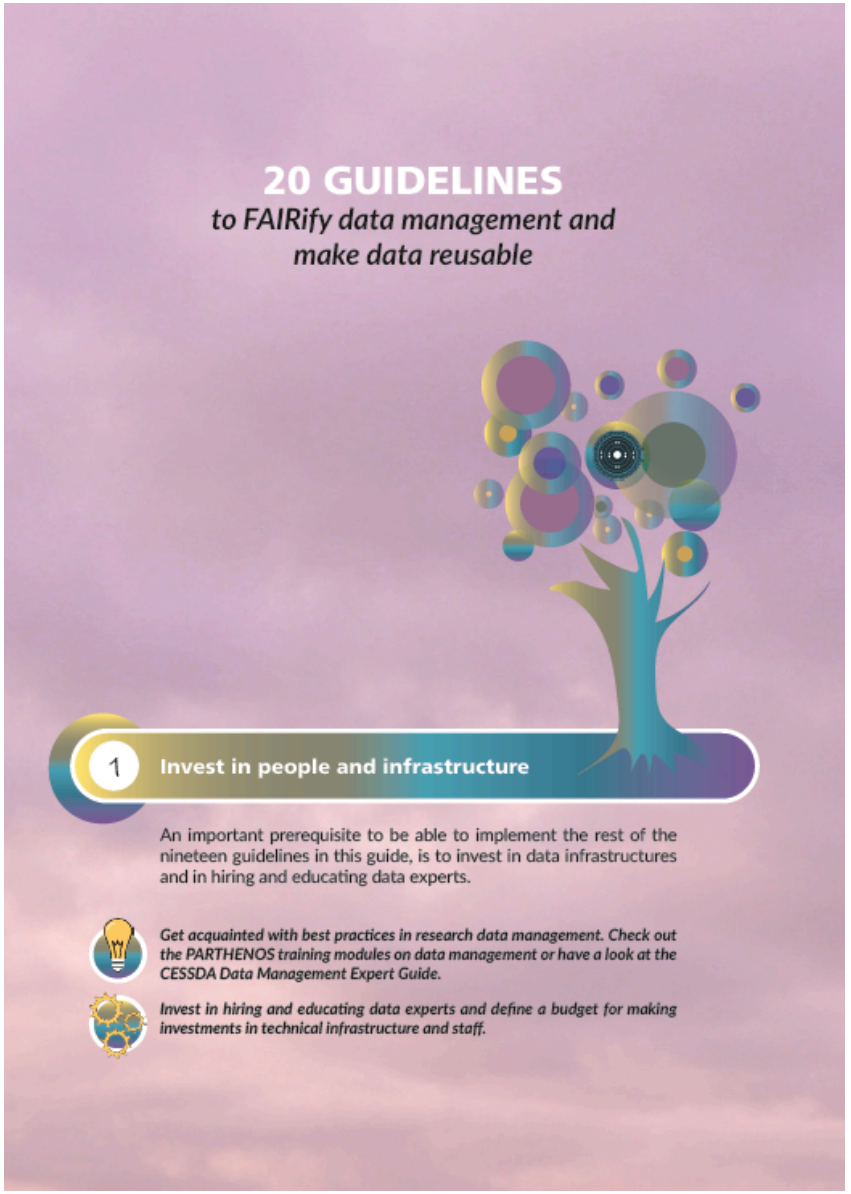
- Being FAIR when archaeological information is MEAN:
  - Miscellaneous
  - Exceptional
  - Arbitrary
  - Nonconformist

(Isto Huvila, Centre for Digital Heritage conference, University of Leiden 2017)

Guidelines to *fairify* your data management

http://archaeologydataservice.ac.uk

PARTHENOS FAIR guidelines



Research e-infrastructures

E-RIHS
EUROPEAN RESEARCH INFRASTRUCTURE FOR HERITAGE SCIENCE

SSHOC
social sciences & humanities open cloud

EOSC-hub

ARIADNE*plus*

E-RIHS

EUROPEAN RESEARCH INFRASTRUCTURE FOR HERITAGE SCIENCE

synchrotron, laser, ion beam, neutron, microscopy
dating, biogeochemistry
genomics, proteomics

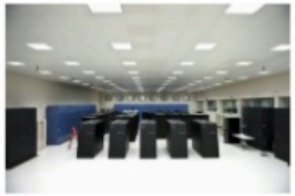
portable instruments
material sampling

FIXLAB
Large-scale facilities

MOLAB
Fleet of advanced mobile instruments

DIGILAB
Data Infrastructure

data documentation and sharing
high performance computing



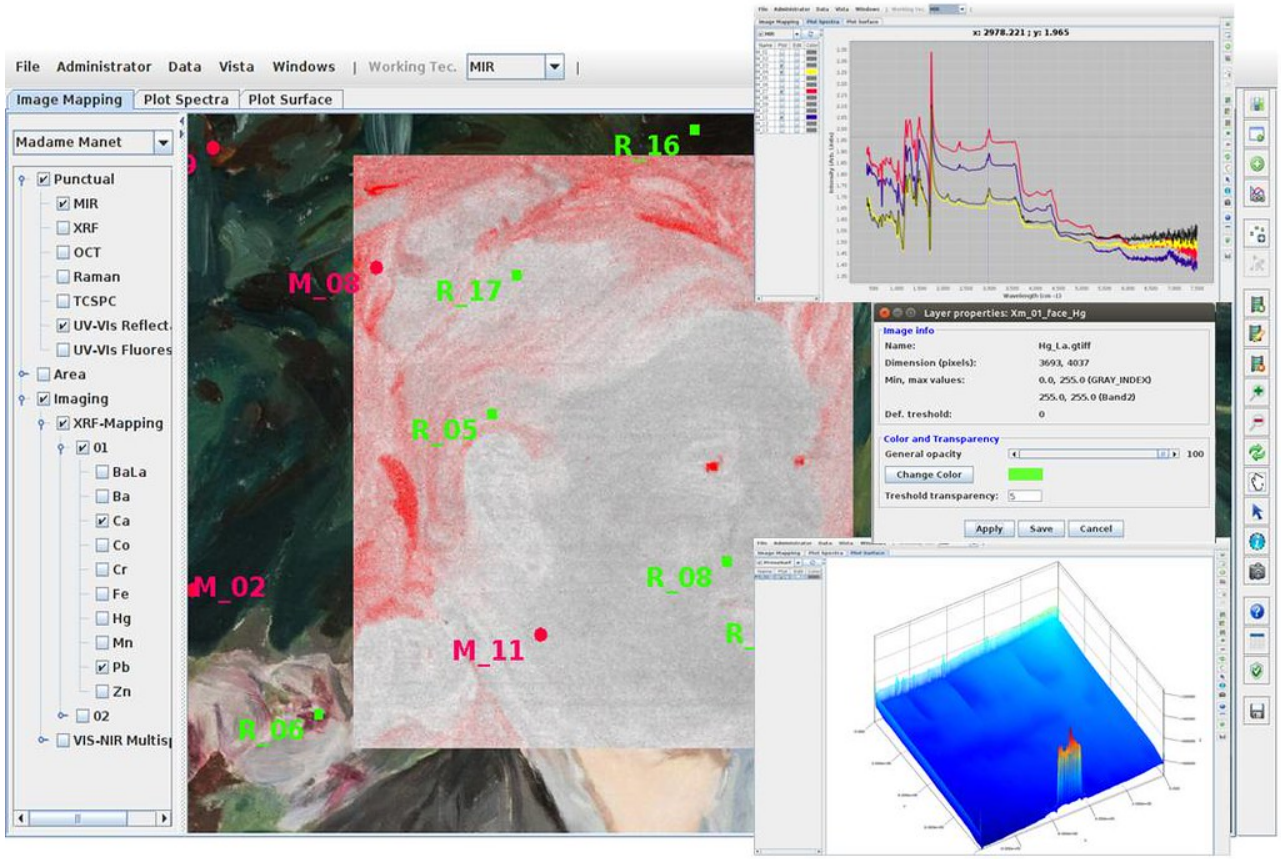
ARCHLAB
Scientific archives

access to scientific archives
access to reference collections

E-RIHS
EUROPEAN RESEARCH INFRASTRUCTURE FOR HERITAGE SCIENCE

DIGILAB

Digital data and tools: Virtual access to scientific data concerning tangible heritage



ADS role in E-RIHS

- **(Task 3.3) Financial aspects of data policy and management**

  Heritage data sets are potentially very large and are collected in a variety of formats, including born-digital. However, they have a long term re-use value and European funding bodies are increasingly adopting Open Data policies. This can lead to significant long term costs – an aspect that is rarely considered. This task explores the cost models for the long term preservation of heritage data

- **(Task 5.4) Data curation**

  Issues concerning data curation for heritage science:

  - data quality assurance
  - data life-cycle
  - data management and preservation

  The task defines policies to be adopted and will provide guidelines for researchers, e.g. for the creation of data plans within research projects.

ESFRI

E-RIHS is the only RI in the field of social and cultural innovation accepted in the ESFRI Roadmap 2016

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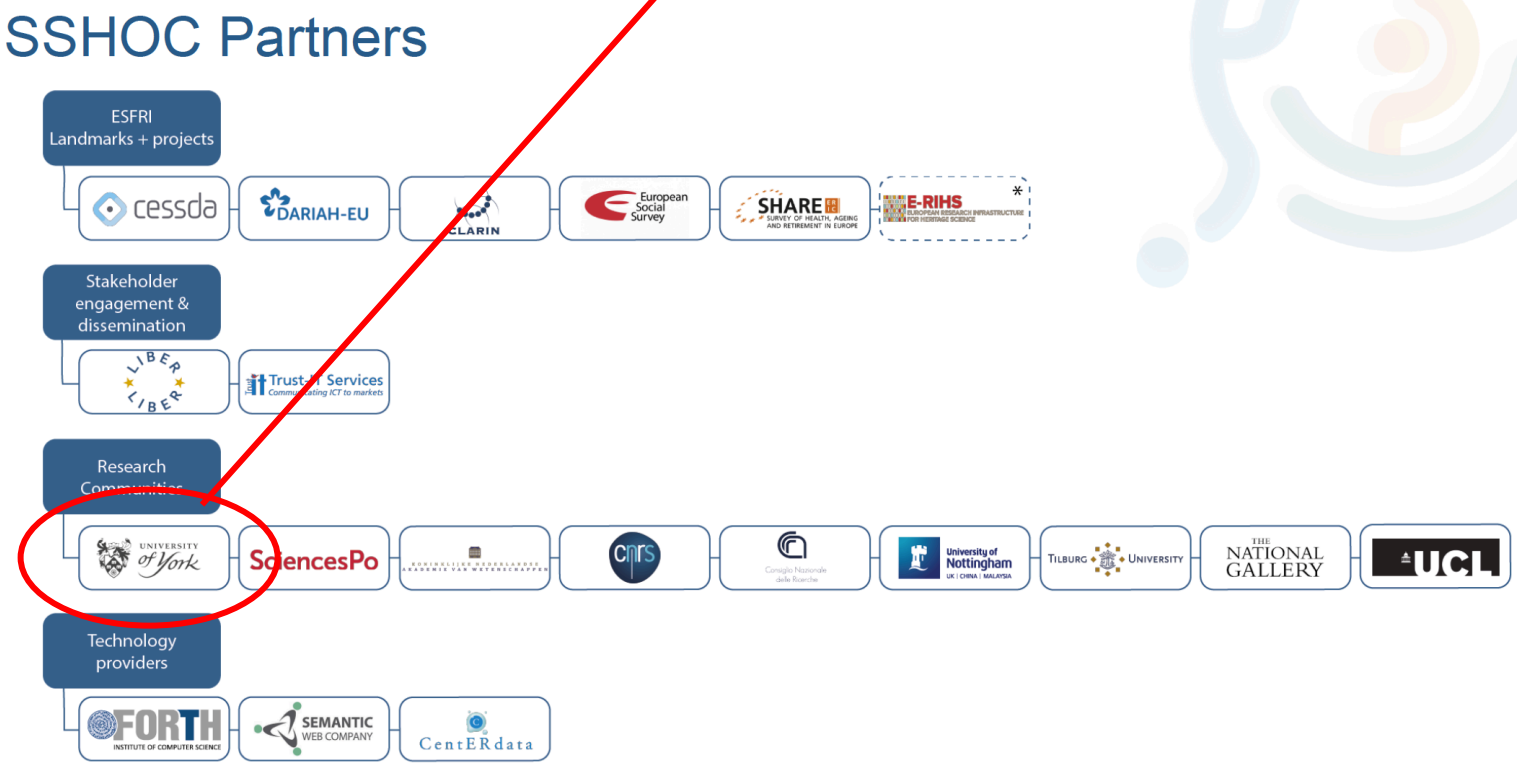
SSHOC
social sciences & humanities open cloud

Social Sciences and Humanties Open Cloud

Realising the Social Sciences and Humanities part of the European Open Science Cloud

SSHOC Partners

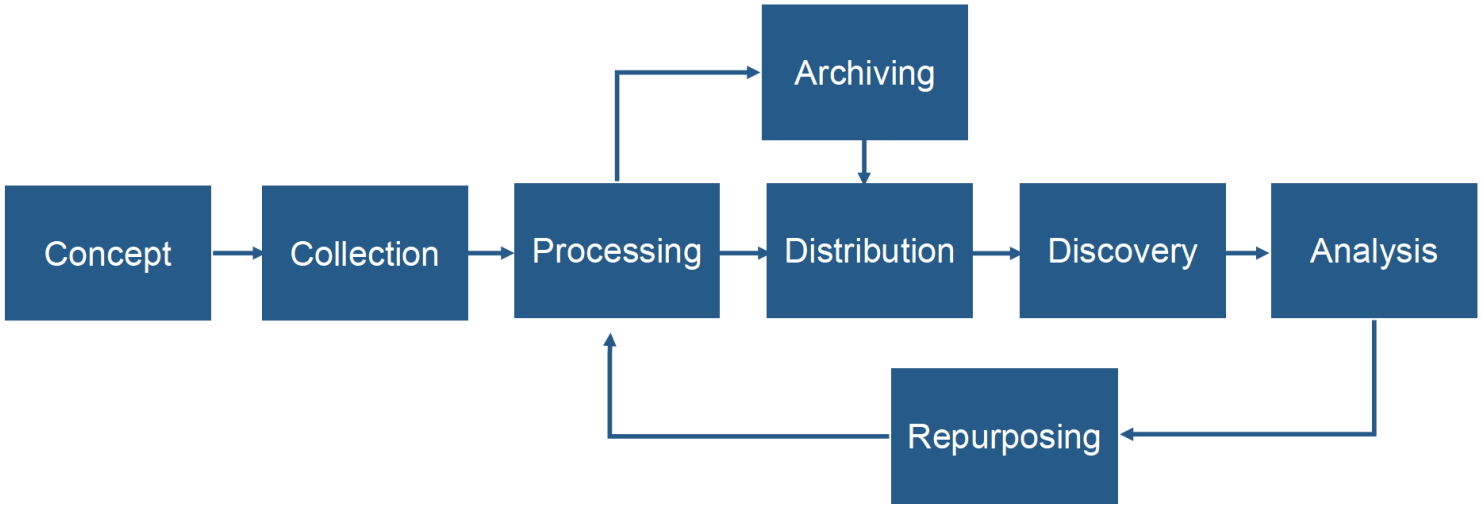
Representing the archaeological community and ARIADNEplus



FAIR principles

SSHOC consortium covers the whole data cycle

- Following the FAIR Principles



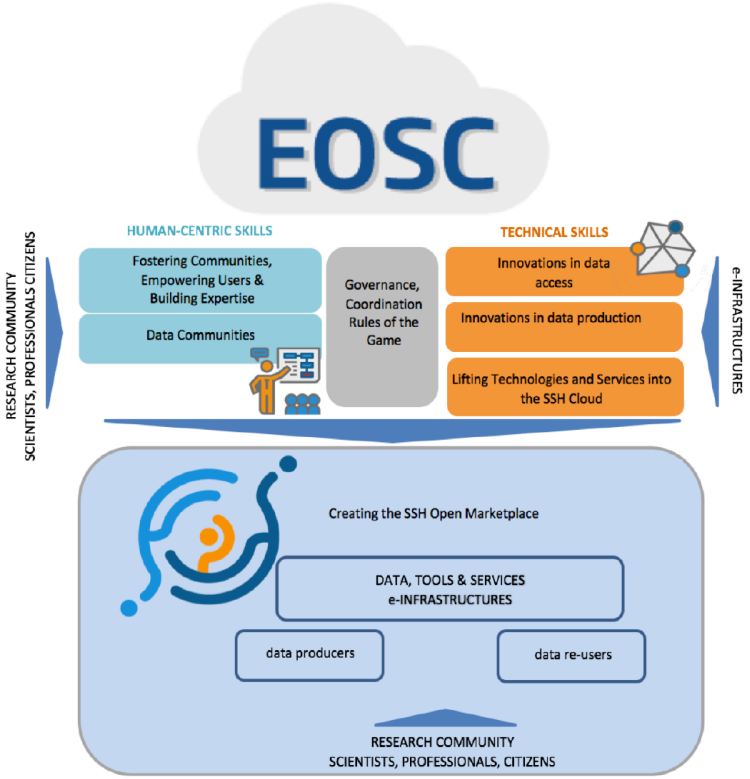
SSHOC and EOSC

Elements of SSHOC and how work comes together

Research (data) communities

Training

Governance



e-Infrastructures

Innovation

Tools

Marketplace

This project is funded from the EU Horizon 2020 Research and Innovation Programme (2014-2020) under Grant Agreement No. 823782

ADS role in SSHOC

- **Task 5.6 Issues in providing Open Data in Heritage Science and Archaeology**

  Complex Heritage Science datasets present special accessibility and interoperability issues.

  Archaeological and heritage data may provide the only archival record of heritage which is destroyed in the course of the research. In different European countries there are varying approaches to open access for archaeological data reflecting different legal protection systems, sensitivities surrounding site location, and different attitudes to data collection e.g. metal-detecting by members of the public.

  This task will enable progress in data sharing in this domain and will be applicable to other domains handling diverse interdisciplinary datasets.

ARIADNE plus

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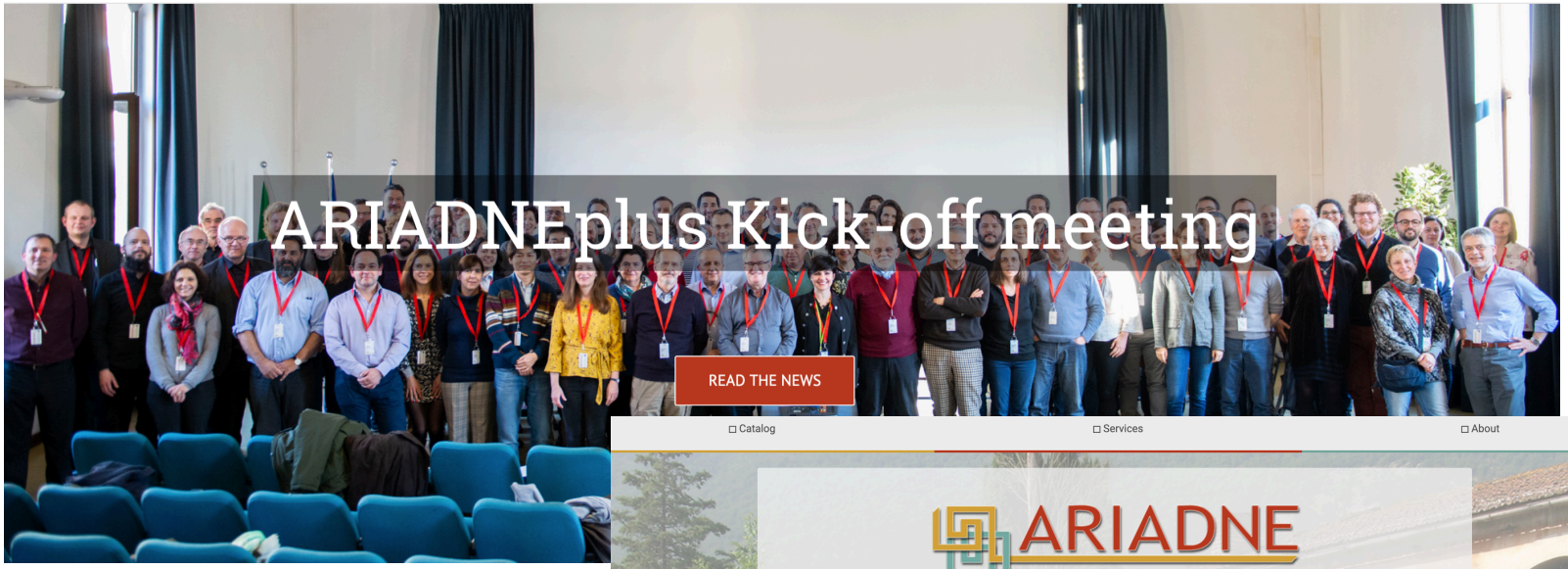
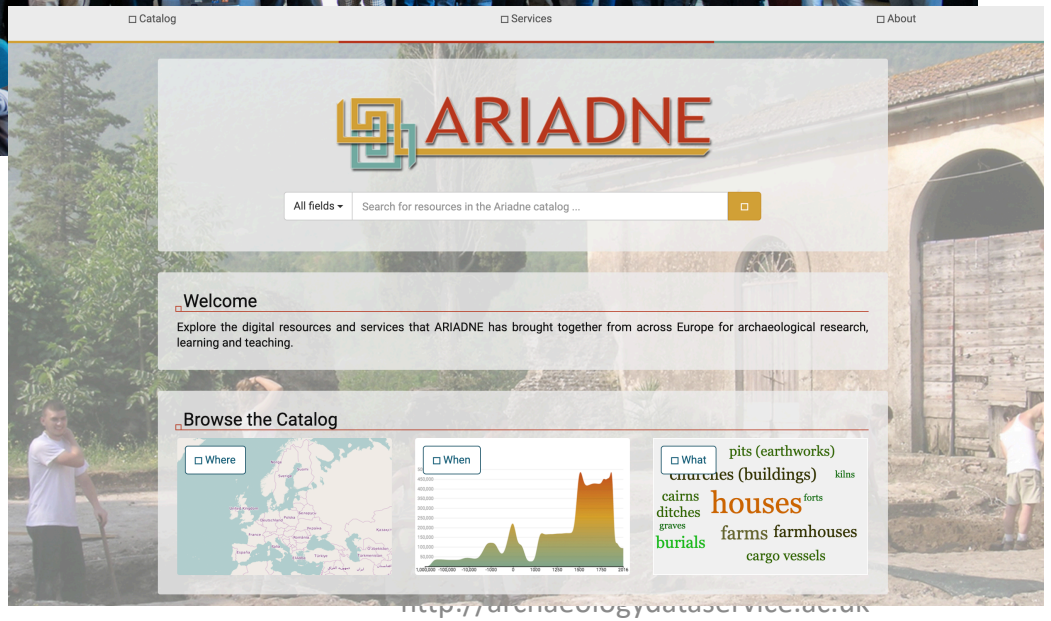


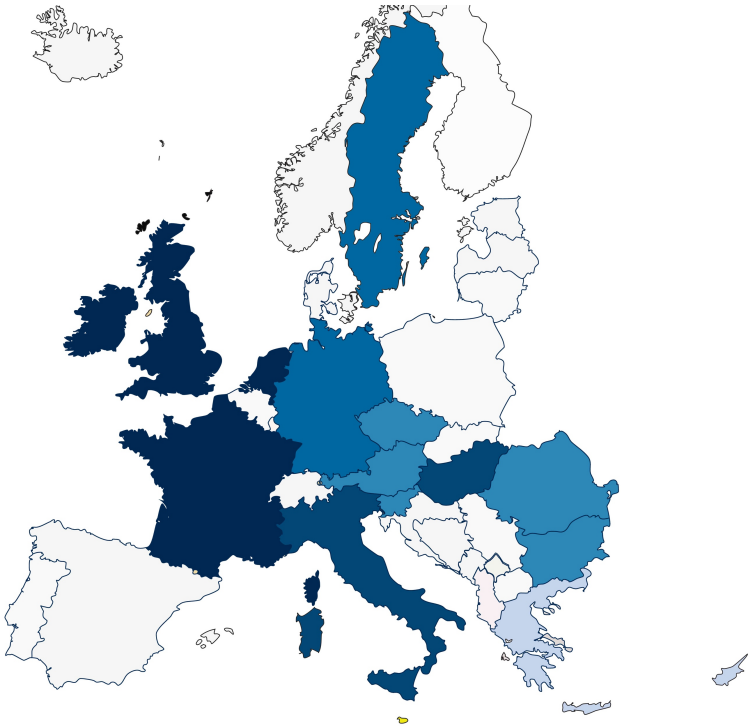


ads ARCHAEOLOGY DATA SERVICE

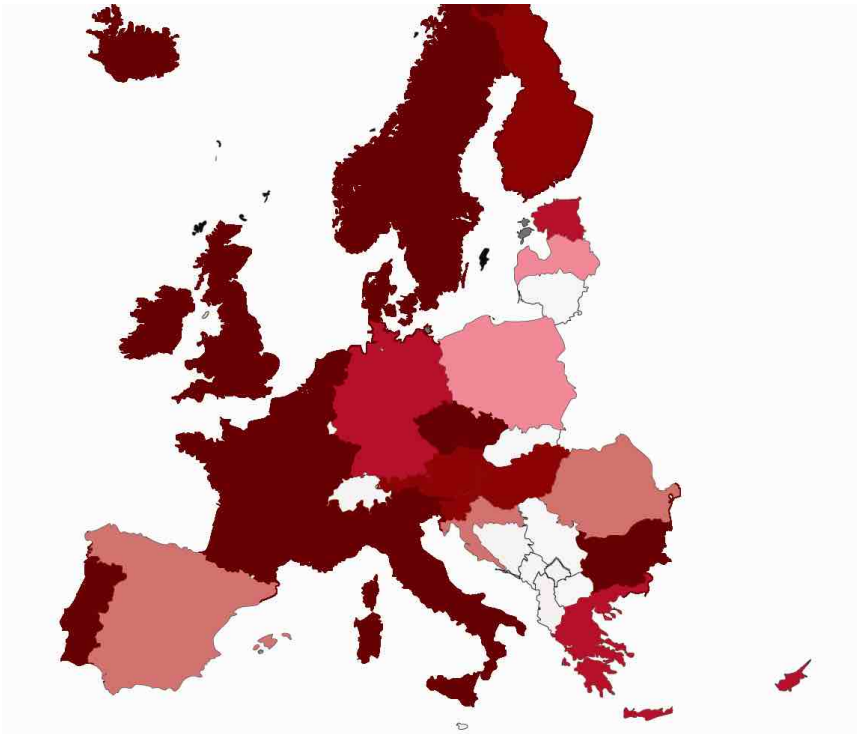
Deputy Coordinator
Lead archaeological partner

Extending geographically

- ARIADNE:
- 24 partners; 18 countries

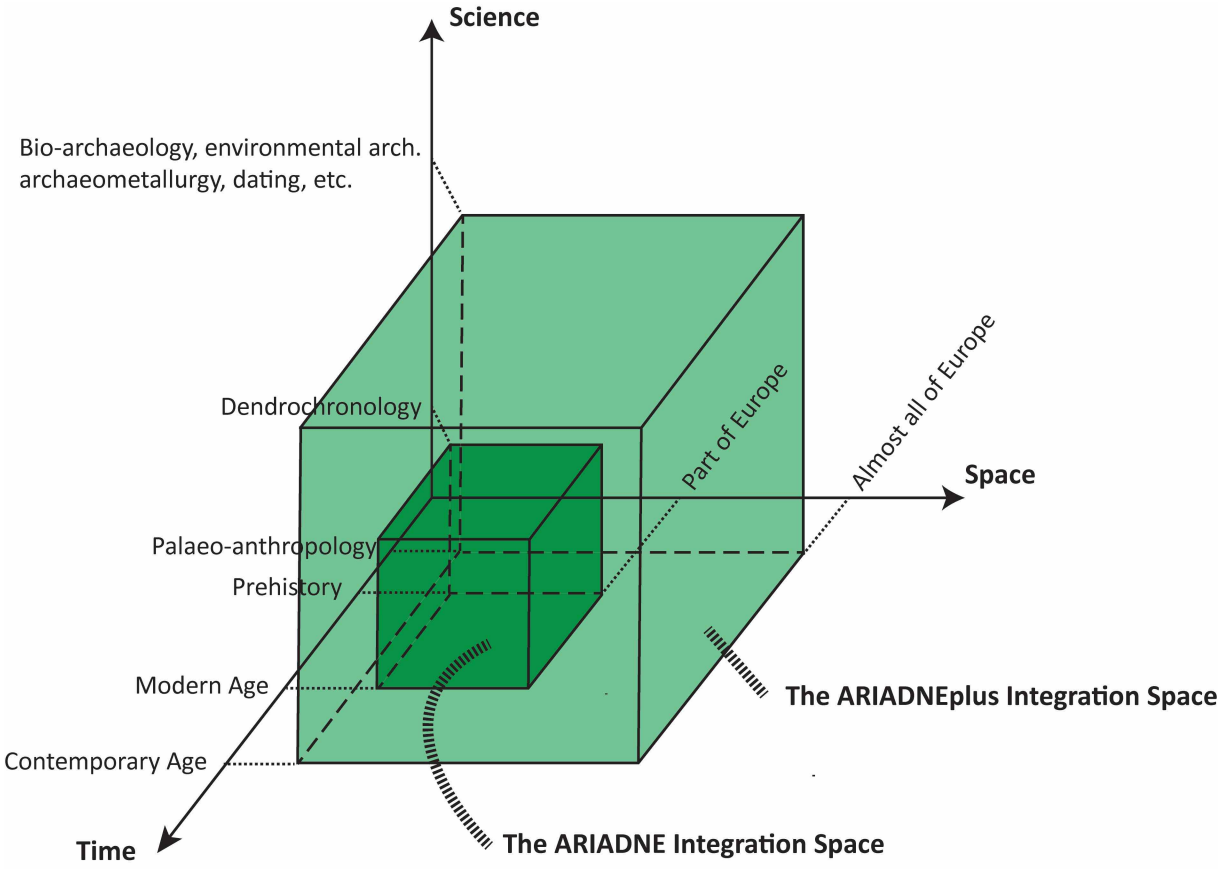


- ARIADNEplus:
- 41 partners; 27 countries



Plus: Argentina, Japan & USA

Extending thematically



ARIADNEplus special interest groups

Paleo-anthropology (**CENIEH**, **Spain**)	*Remote Sensing* (**ZRC-SAZU, Slovenia**
Bio-archaeology and Ancient DNA (**FORTH, Crete)**	*Standing Structures* **(LNEC, Portugal**
Archaeological finds made by general public (**Aarhus University, Denmark)**	*Spatio-temporal data* (**ARUP-CAS, Czech Republic)**
Environmental Archaeology (**Umea University, Sweden : SEAD)**	*Maritime and underwater archaeology* **(DGPC, Portugal)**
Inorganic Materials Study (**INFN, Italy)**	*Archaeological fieldwork* (**INRAP, France)**
Field Survey (**University of Groningen, Netherlands**	*Inscriptions* (**University of Barcelona, Spain)**
Burials **(OAEW, Austria)**	*Dating* (**INFN, Italy)**

ARIADNEplus and FAIR data

- Good practice in archaeological data management
- ARIADNEplus policy support tools
  - A DMP flexible template & domain protocol
  - A policy wizard explaining the main principles concerning archaeological data management
  - A standardization wizard, documenting major standards in the archaeological domain as well as authority files such as thesauri, reference collections, gazetteers etc
- Providing guidelines and support on repository creation and management
- Providing guidelines and support on repository quality control
- Managing FAIRness of archaeological data and IPR
- Training on FAIR Data Management

Thank you for listening

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