ARIADNE
Advanced Research Infrastructure for Archaeological Dataset Networking in Europe

Europe's archaeological research community is assiduously digging up new information about the distant past, but the resulting multifaceted data being generated are not always easy to obtain or use. Specialised data infrastructures facilitate the task by providing centralised access to extensive data collections for specific areas, periods or domains. ARIADNE is breaking new ground in these attempts to assemble the field's fragmented corpus. It will promote interoperability and a culture of data sharing, and the partners also intend to open up new avenues for research.

Antiquity in the digital age

Those working with archaeological data navigate a complex information landscape. Data are held in many different forms, by diverse entities, and in a number of languages. Academic publications convey valuable information, as do resources as diverse as unpublished fieldwork reports, databases — of artefacts, for instance — and scientific data sets on topics such as tree-ring dating. Content types also vary widely: text, images, video documentation and three-dimensional models, for example. And the amount of data produced by individual research teams are increasing.

These swelling streams of information raise intricate questions in terms of access, handling and curation. Archaeological research data infrastructures across the EU have taken up the challenge, and along with several research institutions, are now joining forces in the ARIADNE project to create a pan-European integrated research infrastructure. This will provide access to major repositories through a harmonised interface and encourage the stakeholders to share their data. They also intend to develop new services and methods.

The initiative builds on strong ties with related projects, many of which are implemented with financial support from the EU. These include the cultural heritage internet portal and knowledge exchange platform Europeana and its various partner projects, as well as the projects 'Archaeology in contemporary Europe' (ACE) and '3D digitisation of icons of European architectural and archaeological heritage' (3D-ICONS). ARIADNE also cooperates with the Digital Research Infrastructure for the Arts and Humanities (DARIAH), and the associated technical demonstrator project 'Archaeological records of Europe — Networked access, phase 2' (ARENA2).

Mastering the maze

The project partners will conduct extensive joint research activities to meet their goals. Part of their work will focus on achieving a high level of interoperability, notably by cross-referencing the metadata of related data sets and improving thesauri in order to overcome linguistic barriers. The Linked Data paradigm and data mining and natural language processing techniques offer further scope for integration, and the partners will also explore the unifying potential of concepts that are relevant to all archaeological projects, such as space. Other activities will be aimed at developing innovative services and at refining ontologies in order to address conceptual complexity.

Integrated access to a broad spectrum of digital resources will facilitate archaeological research and work by many institutions and businesses that require cultural heritage data.

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The linkages between the myriad constituent resources will create unprecedented possibilities and underpin entirely new approaches: the partners are dedicating a specific strand of joint research to the development of innovative e-archaeology methods. They will also provide training and guidance.

ARIADNE will involve stakeholders and users from the start, in order to foster a culture of cooperation and to ensure that the proposed services meet their needs. The digital collections of several partners will be freely accessible to all, and a transnational access (TNA) programme will offer opportunities to conduct research at participating data centres and to benefit from various online services free of charge. Like the project's training and support activities, the TNA programme will be used, in part, to contribute to the development of the next generation of archaeologists.

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