

FIVE-YEAR STRATEGIC PLAN

October 2016 - October 2021

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Introduction

In 2016 the Archaeology Data Service (ADS) and its sister e-journal, *Internet Archaeology*, will each be twenty years old. The last five-year plan covered the period 2013-18, but given the rapid pace of change, both in technology and in the external operating environment, 2016 is therefore an appropriate point to review our objectives. This document presents a shared Vision Statement for the ADS and *Internet Archaeology* and outlines the Strategic Plan for the five-year period 2016-21. The purpose of this five-year plan is to define the aims for future development, ensure that the Vision Statement is realised, and that both the ADS and *Internet Archaeology* are adaptive and responsive to changes in internal and external environments. In addition to the overarching strategic aims, specific objectives are presented which will be reviewed and updated annually at meetings of the ADS and *Internet Archaeology* Management Committee to assess progress against the aims.

Operational Remit

The ADS is a digital repository that supports research, learning and teaching with freely available, high quality and dependable digital resources. It does this by preserving digital data in the long term, and by promoting and disseminating a broad range of historic environment data including both terrestrial and marine resources. The ADS promotes good practice in the use of digital data in archaeology, provides technical advice to the research community, and supports the deployment of digital technologies according to the FAIR principles of data management. *Internet Archaeology* is an independent, not-for-profit, peer-reviewed e-journal for archaeology, the first of its kind. The journal is Open Access and operates only to sustain itself. *Internet Archaeology* publishes articles of a high academic standing while exploring the potential of electronic publication.

Achievements

Over the past 20 years the ADS and *Internet Archaeology* have accomplished substantial achievements. The ADS now provides access to over 1.3 million metadata records for the archaeology of the British Isles, over 36,000 unpublished fieldwork reports (the so-called grey literature) and over 900 data rich digital archives and has an average of 50,000 unique visitors a month. All reports and archives are allocated a permanent means of citation, or Digital Object Identifier, in collaboration with the British Library and Datacite. The ADS is now the mandated place of deposit for historic environment research data for a number of research councils and heritage organisations. *Internet Archaeology* has published 40 issues of the journal and all content has been fully Open Access since September 2014. In 2015 *Internet Archaeology* was awarded the Directory of Open Access Journals Seal in recognition of its high standards in publishing best practice, preservation and openness. The ADS and *Internet Archaeology* have been awarded two British Archaeological Awards for Best Archaeological Innovation, in 2008 for the Linking electronic archives and publications (LEAP) project, and in 2012 for the Library of Unpublished Fieldwork Reports. In 2011 the ADS was awarded the Data Seal of Approval, an internationally recognised standard for trusted digital repositories, making it the second only UK repository to receive this accreditation after the UK Data Archive; this was renewed in 2013 and 2016. In 2012 ADS was awarded the Digital Preservation Coalition's (DPC) Decennial Award for the most outstanding contribution to digital preservation over the last decade in competition with the National Archives and the Library of Congress. Over the past 20 years the ADS and *Internet Archaeology* have built up an extensive network of European and North American collaborators to work together with in support of combined interest and objectives.

Vision Statement

Over the next five years ADS and *Internet Archaeology* aim to further enhance their position within the UK historic environment community, capitalize on their standing within the international archaeological and digital heritage communities, and leverage their reputations in different spheres to become the first port of call for Open Access data and publication in Archaeology.

ADS will also further enhance its standing within the international digital preservation community by assuring its work is aligned to appropriate international digital preservation accreditation and data management standards, by proactively engaging with the preservation community, and advocating its work on guidelines and standards to a wider community to ensure the ADS remains at the forefront of data management and digital preservation.

External Environment

The heritage sector as a whole is likely to continue to face a difficult operating environment for the next five year period. Investment in transport and other infrastructure may provide opportunities for historic environment fieldwork and a demand for archiving and publication services, but overall the rate of economic growth in the UK is anticipated to remain low. With a government commitment to continue to shrink the proportion of public sector funding, and major pressures on local government services, it is likely that county-based Historic Environment Services will be unable to maintain archaeological provision. Museums are also under particular pressure with many unable to accept new archaeological archives. The instability affecting UK heritage bodies makes partnership and planning for collaboration difficult and threatens established relationships, at an institutional and personal level. In the university sector there are also likely to be further casualties and closure of departments.

On the other hand there are opportunities for data recovery and rescue operations and for efficiency gains through shared facilities. There are also opportunities to enhance collaboration with planning and contract archaeologists and to work with the museum sector, particularly through the greater integration of information flow to museums through the redevelopment of the OASIS online event recording form. The ADS needs to maintain a wide range of partners and funders as well as to develop and streamline core archiving capacity to address the needs of development-led commercial archaeology. It must also seek to archive a much higher proportion of the outputs of commercial archaeology and to collaborate with others to develop new forms of publication. The ADS is the only appropriate trusted digital repository for England and is uniquely placed to represent the UK at an international level. The role of local community-based archaeology is also likely to increase and the ADS should seek to engage with this group via key funding agencies, such as the Heritage Lottery Fund.

In the academic sector there is also a renewed emphasis on digital preservation, as well as encouragement to cite datasets and link to publications. Most universities are now grappling with the challenge of setting up Institutional Repositories. The ADS needs to emphasise the added value and impact that follows from data aggregation and re-use in a discipline-focused data archive, as well as the risk of consigning data to dark archives. The results of the 2012-13 JISC-funded Impact project are helpful here in highlighting the economic impact of the ADS. The ADS will need to work with universities to encourage them to 'outsource' the long-term access and preservation of historic environment research data produced by their academics, whilst enabling universities to harvest an index record of this research data so that an institutional view can also be maintained.

In a rapidly changing publishing environment the ADS and *Internet Archaeology* need to be alert to the impact of the Open Access movement and must work with publishers to encourage authors to deposit supporting data with ADS and to link to it from their articles. Closer integration with *Internet Archaeology* provides a great opportunity with regard to this changing landscape and RCUK's Open Access policy in particular. The ADS and *Internet Archaeology* are well placed to act as exemplars for other disciplines in the field of digital preservation and open access. The Open Data movement may prove to be influential here. The ADS and *Internet Archaeology* need to be alert to new means of access and position the ADS to deliver Linked Open Data across our collections.

The ADS needs to continue to work in partnership with national archives in the constituent parts of the UK to ensure that digital preservation remains high on the agenda and to avoid duplication of effort. However, with continued difficulties in the UK sector, international collaboration will continue to be critical to financial sustainability. Having built up an extensive network of European and North American collaborators the ADS is in a strong position to take advantage of funding opportunities for ICT and e-infrastructures as they arise in Horizon 2020. Having developed a broad funding base and invested in a robust and extensible hardware and software infrastructure over the last five years, and introduced a number of areas of automation in collection ingest and web delivery, the ADS is now well-placed to meet the challenges of the next five years.

STRATEGIC AIMS

The following aims assert the organisational aspirations of the ADS and *Internet Archaeology* over the next five years and reflect the 10 areas of activity that provide the core functions for both services.

- (1) To be the UK lead **preservation** service for primary data and digital resources created in the course of research in archaeology and related disciplines, following relevant data management standards for trusted digital repositories.
- (2) To host the most important UK-level **collection** of high quality digital data sets created in the course of research in archaeology and related disciplines, and to work in partnership with other UK historic environment archives.
- (3) To provide open and easy online **access** to primary data and digital resources created in the course of research in archaeology and related disciplines, either as downloadable datasets or through online interfaces which allow users to interrogate key data sets online.
- (4) To develop and encourage the adoption of new models of **electronic publication**, providing a holistic service, covering publication and archiving.
- (5) To be the primary UK-level historic environment data **aggregator** and to provide appropriate **finding aids and resource discovery** mechanisms to allow users to discover primary data and digital resources created in the course of research in archaeology and related disciplines.
- (6) To be the primary point of **advice** to researchers, funding bodies and archives in the UK on the creation, dissemination, documentation, and preservation of digital resources created in the course of research in archaeology and related disciplines.
- (7) To work with others to **develop and implement agreed standards** to ensure appropriate documentation and preservation of digital resources created in the course of research in archaeology and related disciplines.
- (8) To provide encouragement and support for the **re-use** of primary data and digital resources created in the course of research in archaeology and related disciplines.
- (9) To take a lead international role in **research and development** into preservation, access and interoperability of historic environment data, with a view to enhancing all the above services.
- (10) To maintain **effective service management and administration** in pursuit of all the above aims, and to maintain financial sustainability.

These ten aims reflect the areas of activity which provide core functions for the ADS and *Internet Archaeology*, and can be cross-referenced to annual workplans and reports. Underpinning all ten aims is the need to provide overall financial sustainability, and to demonstrate the interplay of different sources of funding and how the support of funding in one area may provide added value for another funding body.

The plan below breaks down each of these overarching aims into more specific aims and defines the key objectives required to achieve them.

1 Preservation Services

To be the UK lead **preservation** service for primary data and digital resources created in the course of research in archaeology and related disciplines, following relevant standards for trusted digital repositories.

Aims

- To be a leader within the international digital preservation community, and proactively engage with the digital preservation community.
- To be the lead digital preservation service at a UK-level and to work in partnership with other UK digital historic environment archives to provide a comprehensive digital preservation service across the UK. To provide expert professional digital preservation services based on the OAIS reference model and maintain the accreditation of the ADS as a trusted digital repository.
- To identify opportunities in the ADS's internal preservation operations to improve efficiency and reduce resource requirement.

Objectives

- 1.1. Enhance the ADS Collections Management System by identifying changes to increase efficiency and automation within the preservation workflow.
- 1.2. Develop the Object Management System to facilitate more efficient object migration management.
- 1.3. Maintain secure offline and remote back-up and data storage facilities.
- 1.4. Maintain a preservation watch on relevant software/hardware changes.
- 1.5. Manage collections according to agreed standards and procedures and keep the ADS policies and procedures for preservation up-to-date through increased engagement with the preservation community.
- 1.6. Maintain the ADS virtual server cluster to ensure a robust and reliable service.
- 1.7. Upgrade ADS-easy to ensure its effectiveness and take-up and embed the use of ADS-easy within the standard information flow and archive deposit process..
- 1.8. Preserve *Internet Archaeology* content through the development of efficient accessioning and preservation workflows.
- 1.9. Ensure accreditation of the ADS as a trusted digital repository, according to recognised international benchmarks for digital archives by updating our Data Seal of Approval and exploring how to acquire the NESTOR Seal for Trustworthy Digital Repositories, with the long-term goal of ISO accreditation.
- 1.10. Make maximum usage of robust automated procedures throughout all preservation services to ensure procedures are undertaken efficiently.

2 Collections Development

To host the most important UK-level **collection** of high quality digital data sets created in the course of research in archaeology and related disciplines and to work in partnership with other UK historic environment archives.

Aims

- To be the first port of call for data deposit and preservation for the UK historic environment sector.
- To identify and capitalize on new funding opportunities for data deposit and markets for collection development.
- To work in close partnership with other UK historic environment archives and develop opportunities for collaboration.

Objectives

- 2.1. Work with Historic England (HE) to ensure the long term preservation of digital outputs of its funded programmes to agreed timescales and budgets and actively pursue depositors identified by HE.
- 2.2. Work with the Arts and Humanities Research Council (AHRC), the Natural Environment Research Council (NERC) and Engineering and Physical Sciences Research Council (EPSRC) to archive digital outputs of funded research projects.
- 2.3. Work with local government archaeologists, museums and commercial archaeological units to establish procedures for the depositing development-led historic environment digital archives.
- 2.4. Increase the Library of Unpublished Fieldwork Reports to over 50,000 reports in the next five years through the HERALD OASIS redevelopment project.
- 2.5. Increase the ADS archival holdings to over 1500 collections in the next five years by encouraging data deposit and developing relationships with collaborators identified in objectives 2.1-2.3 and 2.6-2.9.
- 2.6. Work with the Historic Environment Record and Museums sector, to provide regional digital archiving services.
- 2.7. Collaborate with HighSpeed2 and similar bodies partners to ensure digital archiving of this and other major infrastructure projects.
- 2.8. Explore mechanisms for increasing the archiving of digital outputs from community-based archaeology, via OASIS and liaison with the Heritage Lottery Fund (HLF) and related funding bodies.
- 2.9. Encourage *Internet Archaeology* authors to deposit their datasets with the ADS.
- 2.10. Reach out to appropriate publishers and work with them to provide an archiving and dissemination service for supplementary data.
- 2.11. Increase the deposit of datasets and unpublished reports from across the archaeological science domain.
- 2.12. Increase the deposit of datasets and unpublished reports from the historic buildings and conservation sector.

3 Open and easy online access

To provide open and easy online **access** to primary data and digital resources created in the course of research in archaeology and related disciplines, either as downloadable datasets or through online interfaces which allow users to interrogate key data sets online.

Aims

- To become the first port of call for Open Access data and publication in archaeology.
- To enhance existing user systems and ensure that resources continue to be available for use.
- To provide a better user experience of the ADS and *Internet Archaeology* online resources.
- To develop the role of the ADS as an aggregator and broker for historic environment information resources.

Objectives

- 3.1 Move to a CC-BY default access licence for ADS data, while providing a range of access licence options to suit the needs of all depositors.
- 3.2 Maintain ArchSearch and keep the need for enhancements under regular review.
- 3.3 Develop a new ADS Library interface to provide integrated access to journals, unpublished fieldwork reports and bibliographic data derived from the British and Irish Archaeological Bibliography (BIAB).
- 3.4 Adhere to best practice with regard to web standards.
- 3.5 Prioritise development of flexible architectures to allow more agile reaction to developments in web technologies for the ADS and *Internet Archaeology*.
- 3.6 Improve the ADS data discovery at the item (rather than just collection) level to encourage data re-use.
- 3.7 Maintain and develop a faceted browse interface and support searching by data type for the ADS website.
- 3.8 Ensure *Internet Archaeology* content is easily accessible with seamless links to primary data.
- 3.9 Develop capacity to better monitor ADS data re-use and *Internet Archaeology* usage and citation.
- 3.10 Develop interfaces to the ADS and *Internet Archaeology* resources for mobile devices.
- 3.11 Encourage the ADS depositors to publish data papers and broader syntheses in *Internet Archaeology*.
- 3.12 Support additional interfaces and ways into ADS content, such as the ARIADNE portal and the UK Research Data Discovery Service (UKRDDS).

4 Electronic publication

To develop and encourage take up of new models of **electronic publication**, providing a holistic service, covering publication and archiving.

Aims

- To maintain *Internet Archaeology* as the premier e-journal for archaeology.
- To complete the integration of *Internet Archaeology* as the publishing arm of ADS.
- To identify new funding opportunities and markets, including capitalizing on the growing trend of data publication.

Objectives

- 4.1 Ensure a continued flow of high quality content and a rigorous and transparent peer review process.
- 4.2 Ensure an appropriate balance of UK and overseas content to reflect the status of *Internet Archaeology* as an international journal.
- 4.3 Explore new models of e-publication, including e-monographs, data papers, linked publications and archives.
- 4.4 Provide creative and interactive interfaces to text and data.
- 4.5 Develop the international profile of *Internet Archaeology*.
- 4.6 Increase the recognition of *Internet Archaeology* within the field archaeology sector.
- 4.7 Ensure that *Internet Archaeology* is regarded as a high impact publication.

5 Resource discovery

To be the primary UK-level historic environment data **aggregator** and provide appropriate **finding aids and resource discovery** mechanisms to allow users to discover primary data and digital resources created in the course of research in archaeology and related disciplines.

Aims

- To be the primary UK-level aggregator for historic environment data.
- To work in partnership with other national bodies within the UK to avoid duplication of effort and complement national and regional portals. To ensure resources are discoverable through a number of routes by working with partners, but with no duplication of data supply.

Objectives

- 5.1 Maintain and develop ArchSearch as the primary UK-wide record level portal for the historic environment sector.
- 5.2 Provide access to historic environment data to a range of UK portals, including the UK Resource Discovery Service (UKRDDS), Natural Environment Research Council's (NERC) Data Catalogue, and the Marine Environment Data and Information Network (MEDIN) portal.
- 5.3 Provide resource discovery for UK historic environment data to European aggregators, including Europeana and ARIADNE.
- 5.4 Work with Historic England to extend the coverage of ArchSearch as a faceted browse search facility for England, with clear differentiation from the Heritage Gateway, and no redundancy of data supply.
- 5.5 Collaborate with Historic England and other Heritage Information Access Strategy (HIAS) partners to support the Heritage Gateway, providing a cost-effective offering for Historic Environment Records (HER).
- 5.6 Further develop web services for harvesting metadata for ADS collections.
- 5.7 Integrate the British and Irish Archaeological Bibliography (BIAB) into the ADS Object Management System, to provide bibliographic search services linked to sites and monuments and archaeological event records.
- 5.8 Work with Historic England, Historic Environment Scotland, Association of Local Government Archaeological Officers (ALGAO), Council for British Archaeology (CBA), Society for Museum Archaeology (SMA), and other UK heritage organisations to redevelop OASIS to act as a core online data collection tool for a range of archaeological events and their associated datasets, providing data for consumption by national bodies, HERs, Museums, and the ADS.

6 Advice to researchers, funding bodies and archives

To be the primary point of **advice** to researchers, funding bodies and archives in the UK on the creation, dissemination, documentation, and preservation of digital resources created in the course of research in archaeology and related disciplines.

Aims

- To provide expert and up to date advice on good practice in the creation, dissemination, documentation and preservation of digital resources.
- To provide professional assistance to data creators and depositors.
- To provide expert user support.

Objectives

- 6.1 Advocate the work of the ADS on guidelines and standards, and promote these to a wider community.
- 6.2 Maintain and regularly review ADS online documentation.
- 6.3 Maintain and update the Guides to Good Practice, working with external partners in the UK and overseas to ensure currency and relevance.
- 6.4 Provide advice and costings to depositors, users and collaborators in a timely fashion.
- 6.5 Support international partners in establishing and maintaining their own national digital repositories for archaeological data.
- 6.6 Encourage dialogue between historic environment digital archives to ensure consistency of advice and practice, through bodies such as the Bedern Group.

7 Develop and implement agreed standards

To work with others to **develop and implement agreed standards** to ensure appropriate documentation and preservation of digital resources created in the course of research in archaeology and related disciplines.

Aim

- To maintain and develop professional standards for digital preservation and data management of historic environment data in collaboration with other information providers in the UK and overseas.

Objectives

- 7.1 Work within the Archaeological Archives Forum (AAF) and the Bedern Group to promote digital archiving standards for archaeology.
- 7.2 Work with Chartered Institute of Archaeologists to ensure digital preservation and data management standards are included during the accreditation process of professional organisations.
- 7.3 Maintain a significant role within the Forum for Information Standards in Heritage (FISH) and the Historic Environment Network (HEIRNET).
- 7.4 Maintain involvement in the Research Data Management Forum (RDMF) and Digital Preservation Coalition (DPC) on shared policies and procedures as appropriate.
- 7.5 Work with UK and international partners on standards and terminology control.

8 Support re-use

To provide encouragement and support for the **re-use** of primary data and digital resources created in the course of research in archaeology and related disciplines.

Aims

- To raise awareness of the services and content provided by the ADS and *Internet Archaeology* within relevant communities.
- To better encourage and support the use of ADS and *Internet Archaeology* resources and services.

Objectives

- 8.1 Maintain the help desk and respond to user queries in timely fashion.
- 8.2 Maintain and update a database of contacts via the ADS project-tracking module within the Collections Management System (CMS).
- 8.3 Enhance the programme of site visits to universities and learning materials provided.
- 8.4 Undertake user consultation over major changes to the ADS and *Internet Archaeology* services.
- 8.5 Publish the ADS Newsletter in hardcopy annually with quarterly email editions to advertise the ADS and *Internet Archaeology* services.
- 8.6 Make strategic use of social media in promoting the ADS and *Internet Archaeology* resources and activities.
- 8.7 Develop capacity to better monitor data re-use.
- 8.8 Develop training materials for data deposit and re-use, including the use of online video.
- 8.9 Promote the European Day of Archaeology as a means to highlight data re-use and digital archaeological resources..
- 8.10 Promote a Re-use Award for the re-use of data preserved by the ADS.
- 8.11 Develop methodologies to better monitor data re-use.

9 Research and development

To take a lead international role in **research and development** into preservation, access and interoperability, with a view to enhancing all the above services.

Aims

- To ensure the work of the ADS is informed by the most current research, allowing collaboration with partners to contribute to useful outcomes.
- To raise the profile of the ADS as an organisation undertaking high-quality research.
- To enhance selected content and improve accessibility and usability.
- To raise additional research funding to complement core activity.
- To better predict future development needs.

Objectives

- 9.1 Attend and present papers at a minimum of four key conferences per annum.
- 9.2 Publish a minimum of two research papers per annum.
- 9.3 Maximize impact and external engagement of the ADS beyond the Higher Education sector.
- 9.4 Be proactive in seeking UK Research Council and European Commission research funding.
- 9.5 Exploit opportunities for research collaboration with UK-based researchers.
- 9.6 Take a leading role in e-infrastructures, including future iterations of ARIADNE.
- 9.7 Explore opportunities for richer data integration, using Linked Open Data and other emergent technologies.
- 9.8 Continue to exploit the potential of Natural Language Processing and Data Mining.
- 9.9 Undertake research on the dissemination and use of 3D data.
- 9.10 Undertake research on techniques of visual image recognition for archaeological artefact data.
- 9.11 Monitor trends within the domain to undertake responsive action in both research and development.

10 Funding, management and administration

To maintain effective service **management and administration** in pursuit of all the above aims, and to maintain financial sustainability.

Aims

- To be sustainable in the long term.
- To deliver a strong and effective service operation.
- To encourage staff career development.

Objectives

- 10.1 Raise a minimum of £500,000 funding per annum.
- 10.2 Identify and oversee funding opportunities at national, European and international levels.
- 10.3 Develop the Author Processing Charge (APC) business model to be a sustainable primary revenue source for *Internet Archaeology*.
- 10.4 Promote the use of donations and institutional membership within the APC model.
- 10.5 Explore advertising revenue as a secondary income source for *Internet Archaeology*.
- 10.6 Undertake monitoring and evaluation through annual meetings of the Management Committee.
- 10.7 Provide reports to funders as required.
- 10.8 Maintain internal management, reporting and accounting structures.
- 10.9 Conform to University of York policies and procedures.
- 10.10 Maintain and update a range of publicly available policies that inform the work of the ADS.
- 10.11 Maintain and develop the preservation fund.
- 10.12 Encourage staff development and career development planning via University of York Performance Development Review procedures.