



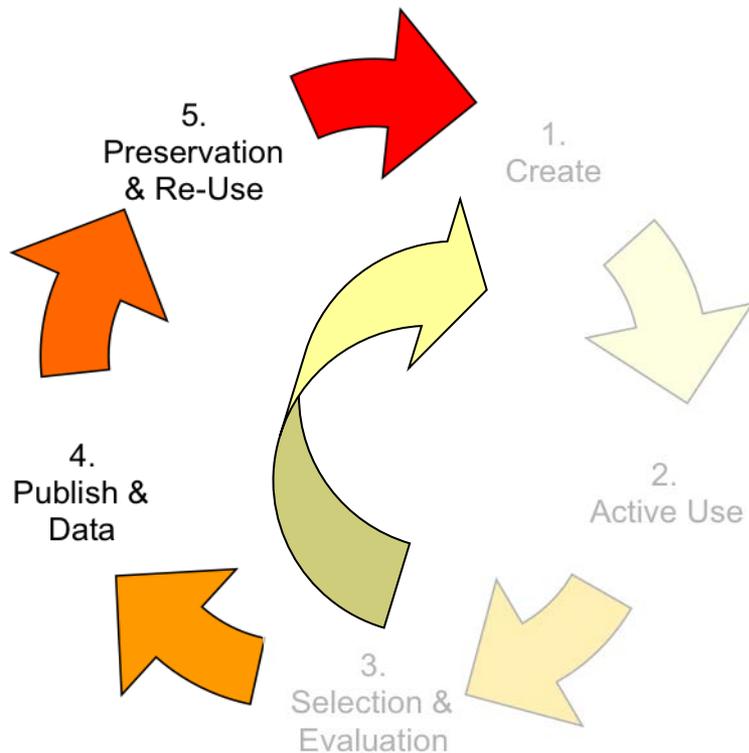
## Archiving and Repositories

Holly Wright



# Data archiving in the digital lifecycle

## *Where data archiving fits*

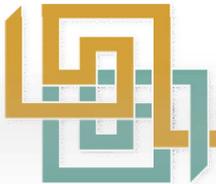


- At the start of the project - identifying the archive or repository to be used
- Before starting data capture – check archive requirements
- During the project – documentation + deposit
- On completion – deposit
- After the project – enabling access and reuse



## Why Deposit?

1. Ensure Preservation
2. Provide Access
3. Professional Recognition
4. Follow Professional Standards
5. Meet Governmental Requirements
6. Meet Funding Agency Requirements



## Data Deposit Requirements

### AHRC

- Submission of a 'Technical plan' replaces the Technical Appendix as of 2012
- is essential:  
“where digital outputs or digital technologies are an essential part to the planned research outcomes”.

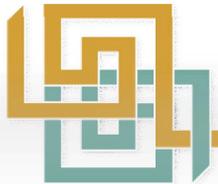
This should give a summary of those outputs, explain the technical methodology, technical support / experience, and address preservation, sustainability and use.



Arts & Humanities  
Research Council

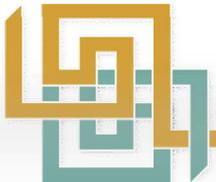
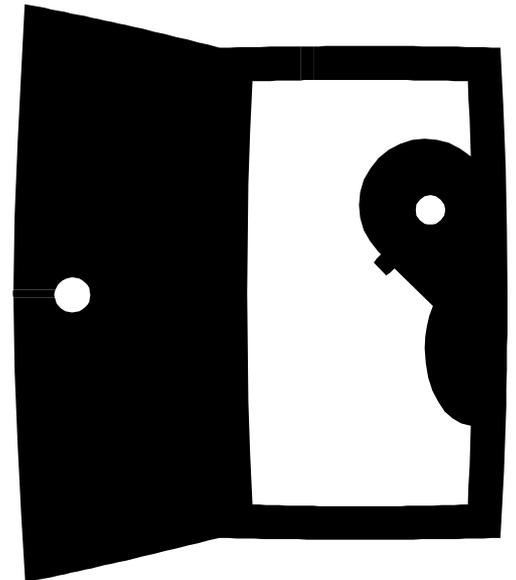


What happens to data once its deposited?

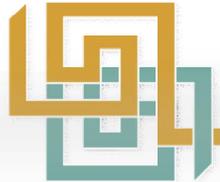
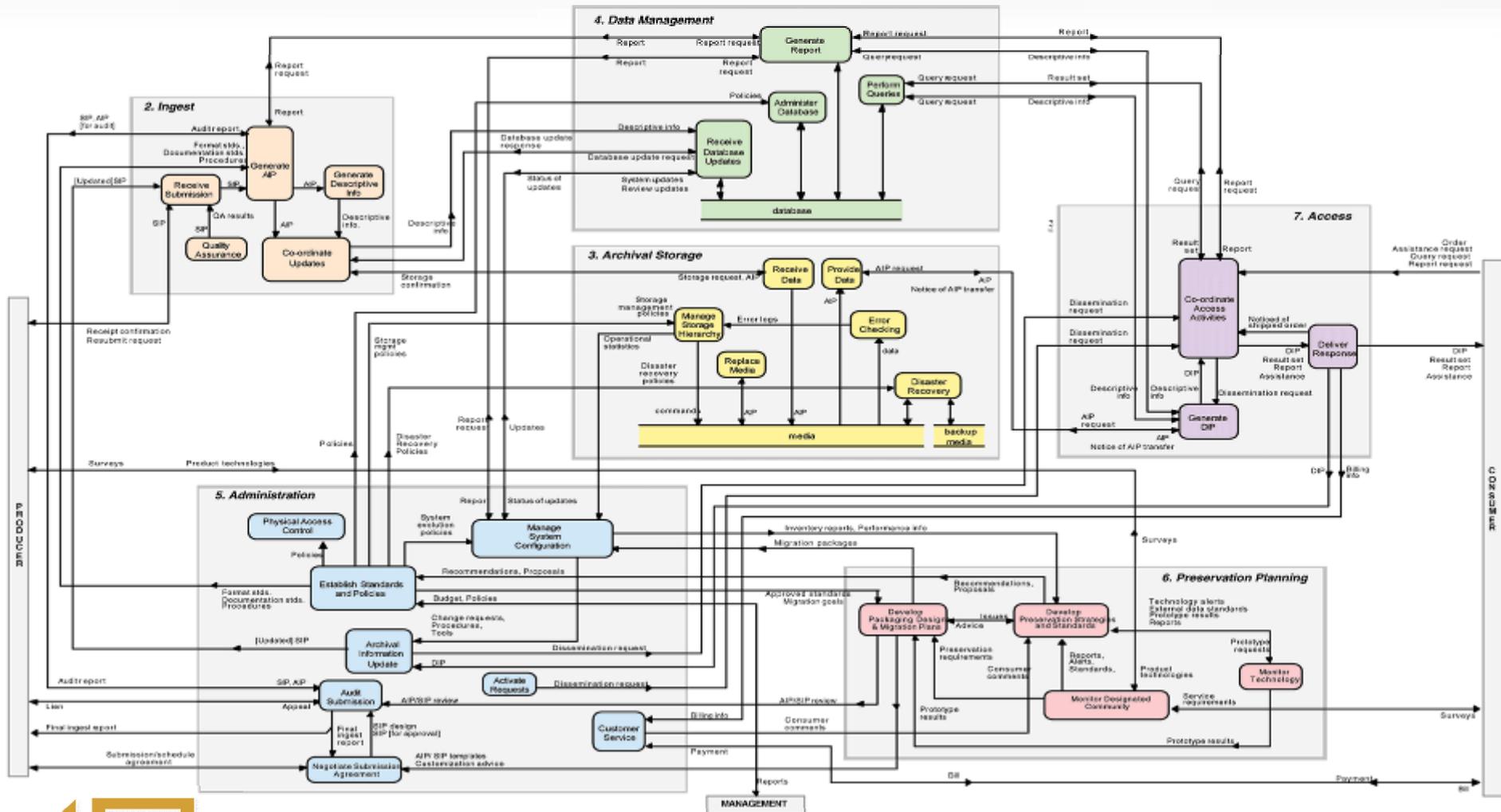


## Behind the Scenes at the ADS

- Follow the **Open Archival Information System (OAIS)** reference model
  - International ISO standard 14721
- Ensure the multiple and regular **backups** and the **renewal** of storage media
  - Virtual Server
  - Tape backup at University of York & Hull
  - Deep Store
  - Five year rotation strategy
- Use data **migration** strategies

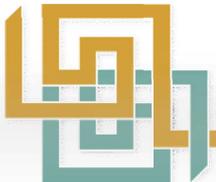
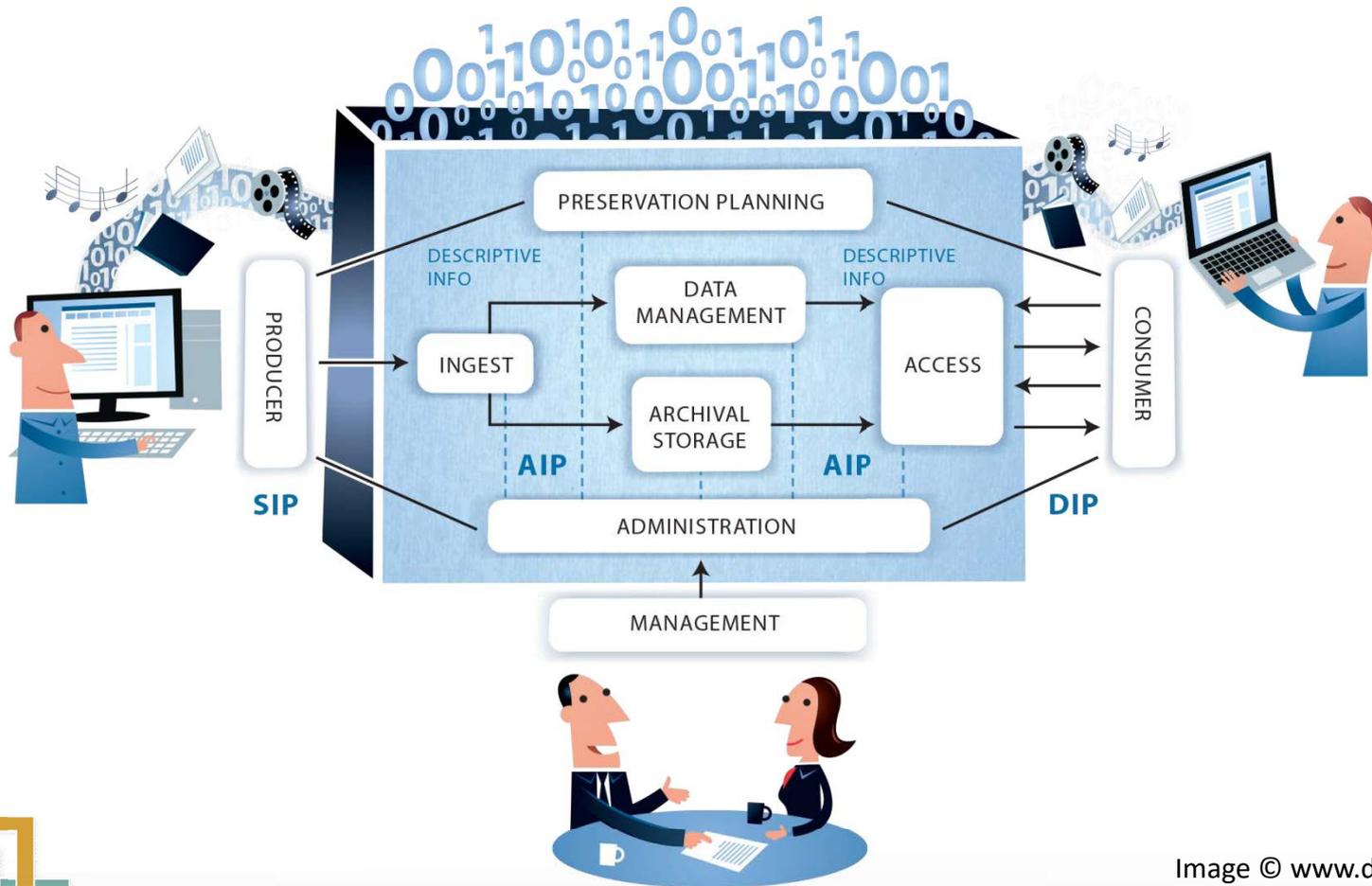


# Archiving



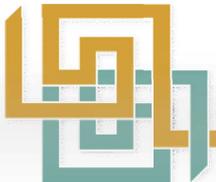
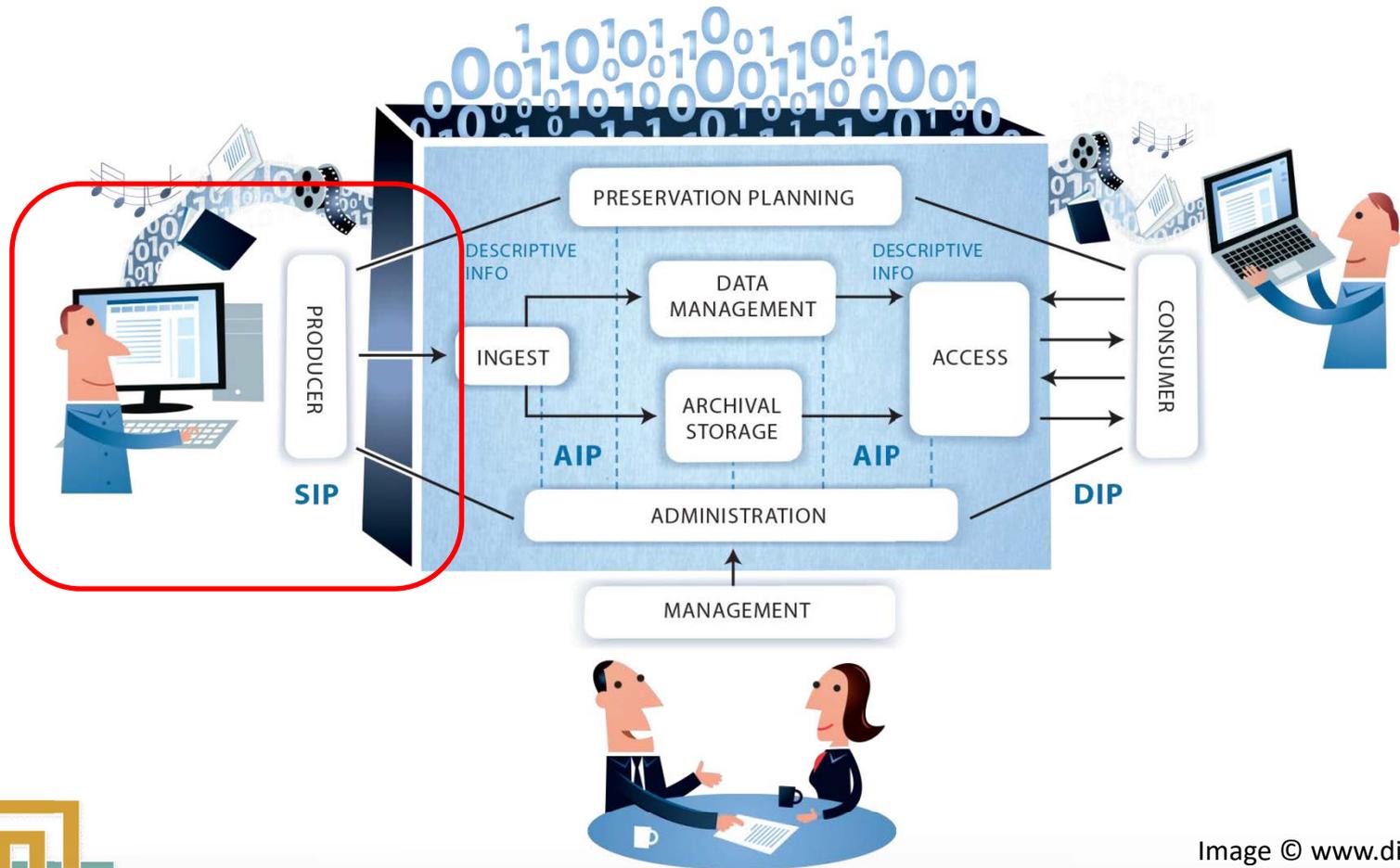
# Archiving

## Open Archival Information System (OAIS) reference model



# Archiving

## Open Archival Information System (OAIS) reference model

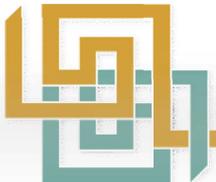
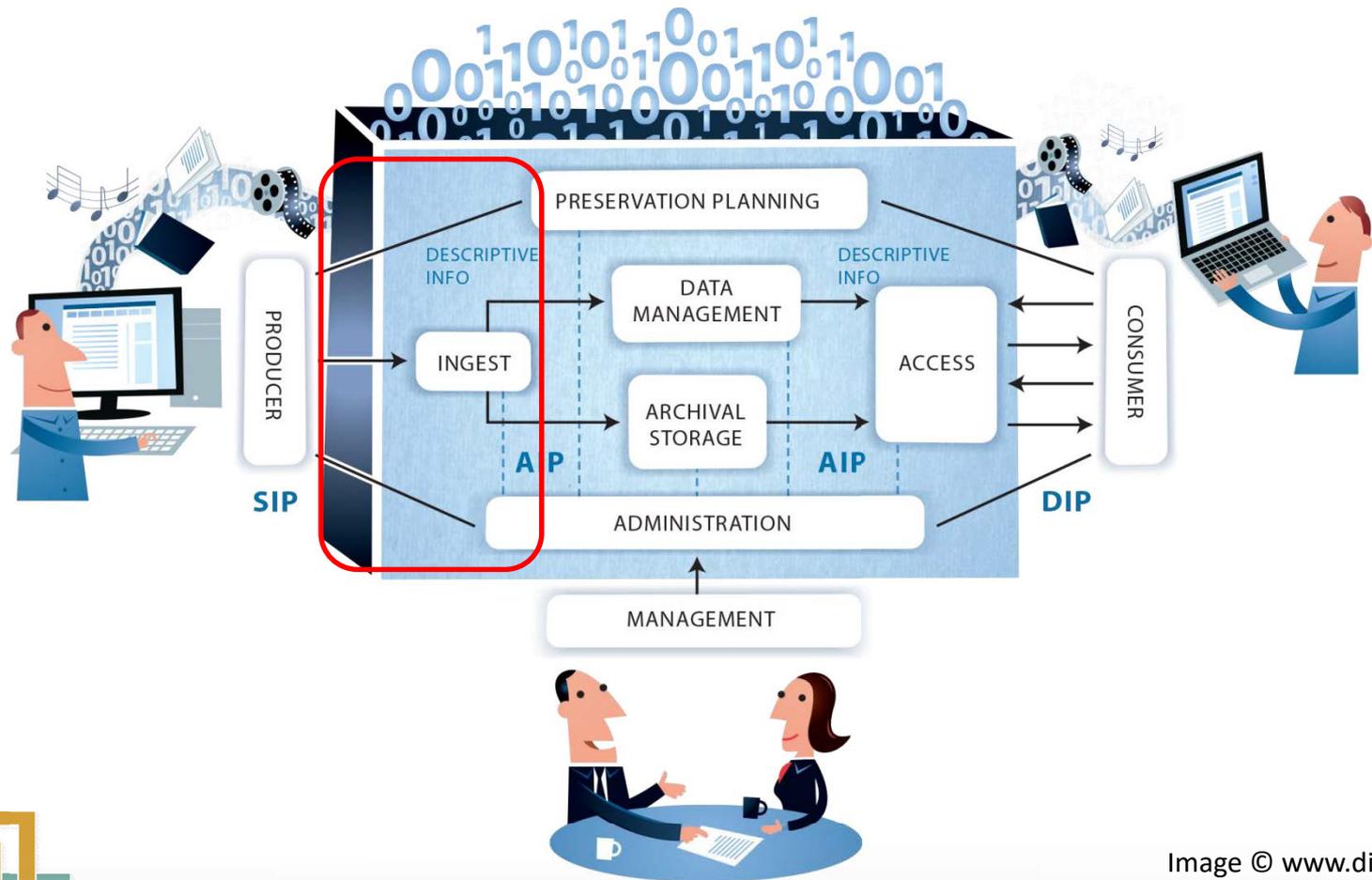


## Deposit Evaluation

- Intellectual content & potential interest in their re-use
- Viability of data: management, preservation and dissemination
- Are we a suitable archive?
- Authority to deposit the data
- Material is 'complete'
- Digital form in preferred file format – consult repository websites
- Sufficient project documentation and file Metadata

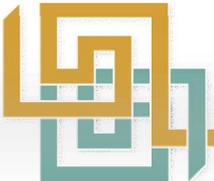


# Archiving



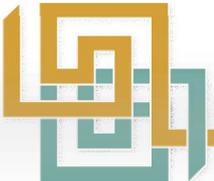
## Submission Information Package (SIP)

- **Virus check**
- Media and file **readability** check
- Data resource **integrity** check
- Check file **formats** suitable for deposit
- Documentation **completeness** check
- Data **validation** and **consistency** checks
- Web interface text check
- Copy to data server

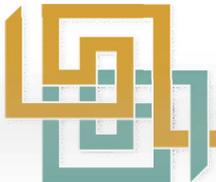
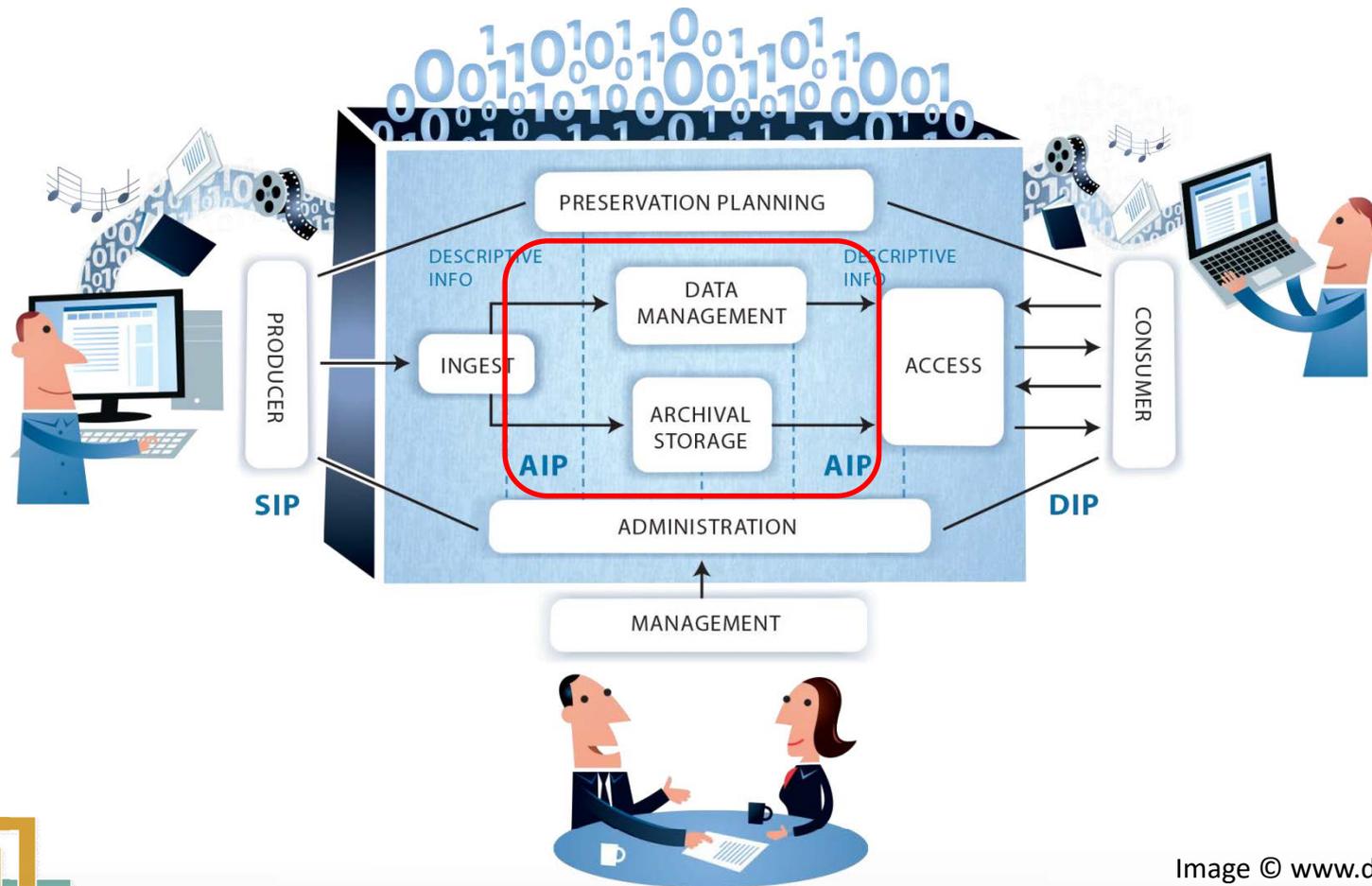


## Submission Information Package (SIP)

- Authenticate original version
- Replace spaces with underscores
- Log details of SIP in **Collections Management System**
- Create **checksums**
- Run **Droid** to generate file level metadata
- Store **licence**
- Scan paper documentation
- Acknowledge receipt of data
- Store original media

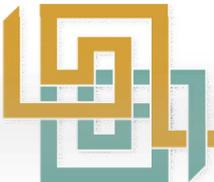
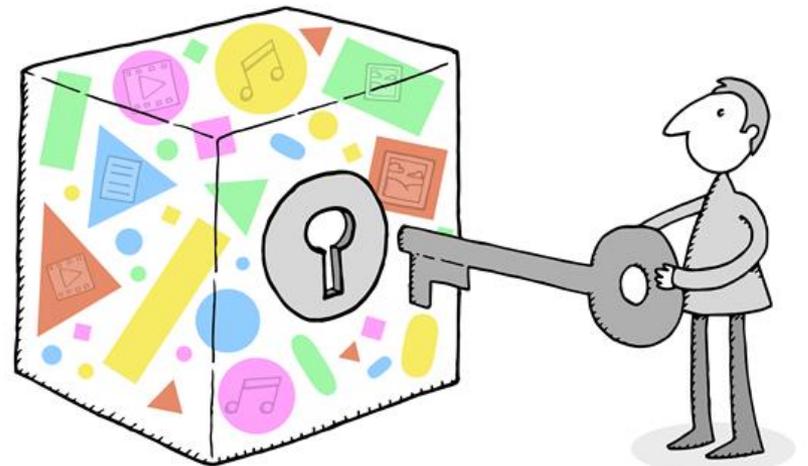


# Archiving



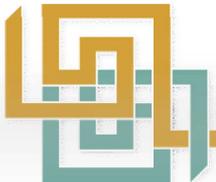
## Archival Information Package (AIP)

- Check **licence**
- Check copyright and confidentiality clearance
- **Consistency** checks
- Selecting **preservation** and **dissemination** file formats
- Develop a **conversion** plan
- **Convert** the files
- **Validate** file conversion
- **Metadata** update
- Create and store **checksums** for the AIP
- Submit AIP for checking



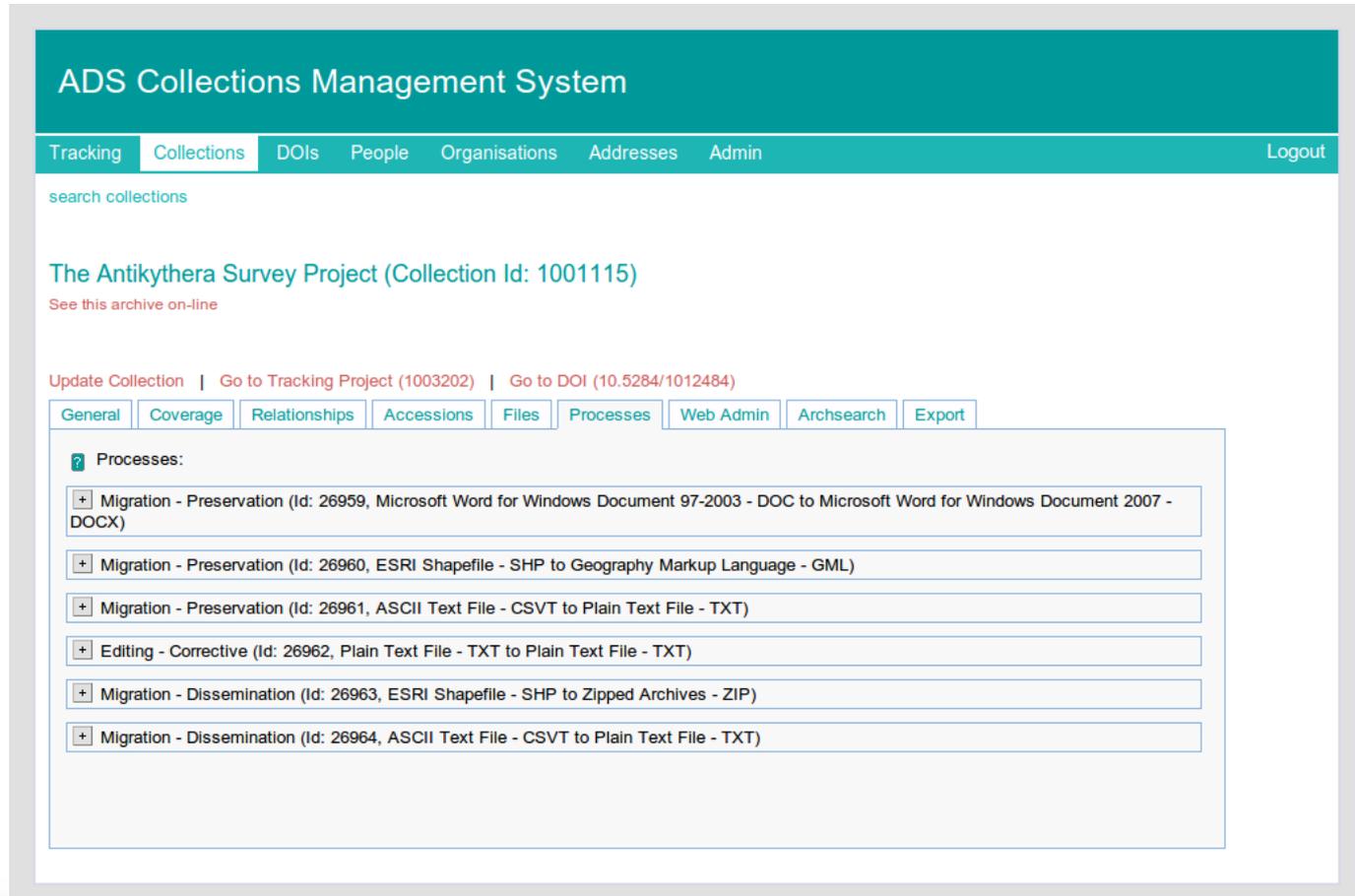
## Information Packages

Delivery	Preservation	Presentation	Notes
Uncompressed Baseline TIFF v.6 <b>.tif</b>	Uncompressed Baseline TIFF v.6 <b>.tif</b>	Portable Network Graphics <b>.png</b> or Joint Photographic Expert Group <b>.jpg</b>	Any EXIF & IPTC metadata will also need preserving
Portable Network Graphics <b>.png</b>	Uncompressed Baseline TIFF v.6 <b>.tif</b>	Portable Network Graphics <b>.png</b>	""
Joint Photographic Expert Group <b>.jpg/ .jpeg</b>	Uncompressed Baseline TIFF v.6 <b>.tif</b>	Joint Photographic Expert Group <b>.jpg / .jpeg</b>	""
Graphics Interchange Format (CompuServe) <b>.gif</b>	Uncompressed Baseline TIFF v.6 <b>.tif</b>	Portable Network Graphics <b>.png</b>	""
Bit-Mapped Graphics Format (Microsoft) <b>.bmp</b>	Uncompressed Baseline TIFF v.6 <b>.tif</b>	Portable Network Graphics <b>.png</b>	""
PhotoCD <b>.pcd</b>	Uncompressed Baseline TIFF v.6 <b>.tif</b>	Portable Network Graphics <b>.png</b>	""
Photoshop (Adobe) <b>.psd</b>	Uncompressed Baseline TIFF v.6 <b>.tif</b>	Portable Network Graphics <b>.png</b>	""
CorelPaint <b>.cpt</b>	Uncompressed Baseline TIFF v.6 <b>.tif</b>	Portable Network Graphics <b>.png</b>	""
Adobe Digital Negative <b>.dng</b>	Adobe Digital Negative <b>.dng</b> and <b>.tif</b>	Adobe Digital Negative <b>.dng</b> and Joint Photographic Expert Group <b>.jpg</b>	""
JPEG2000 <b>.jp2 / .jpx</b>	Uncompressed Baseline TIFF v.6 <b>.tif</b>	JPEG2000 <b>.jp2 / .jpx</b>	""



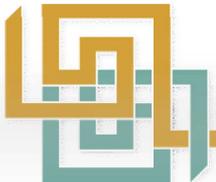
## Migration

Requires active  
and continuous  
management

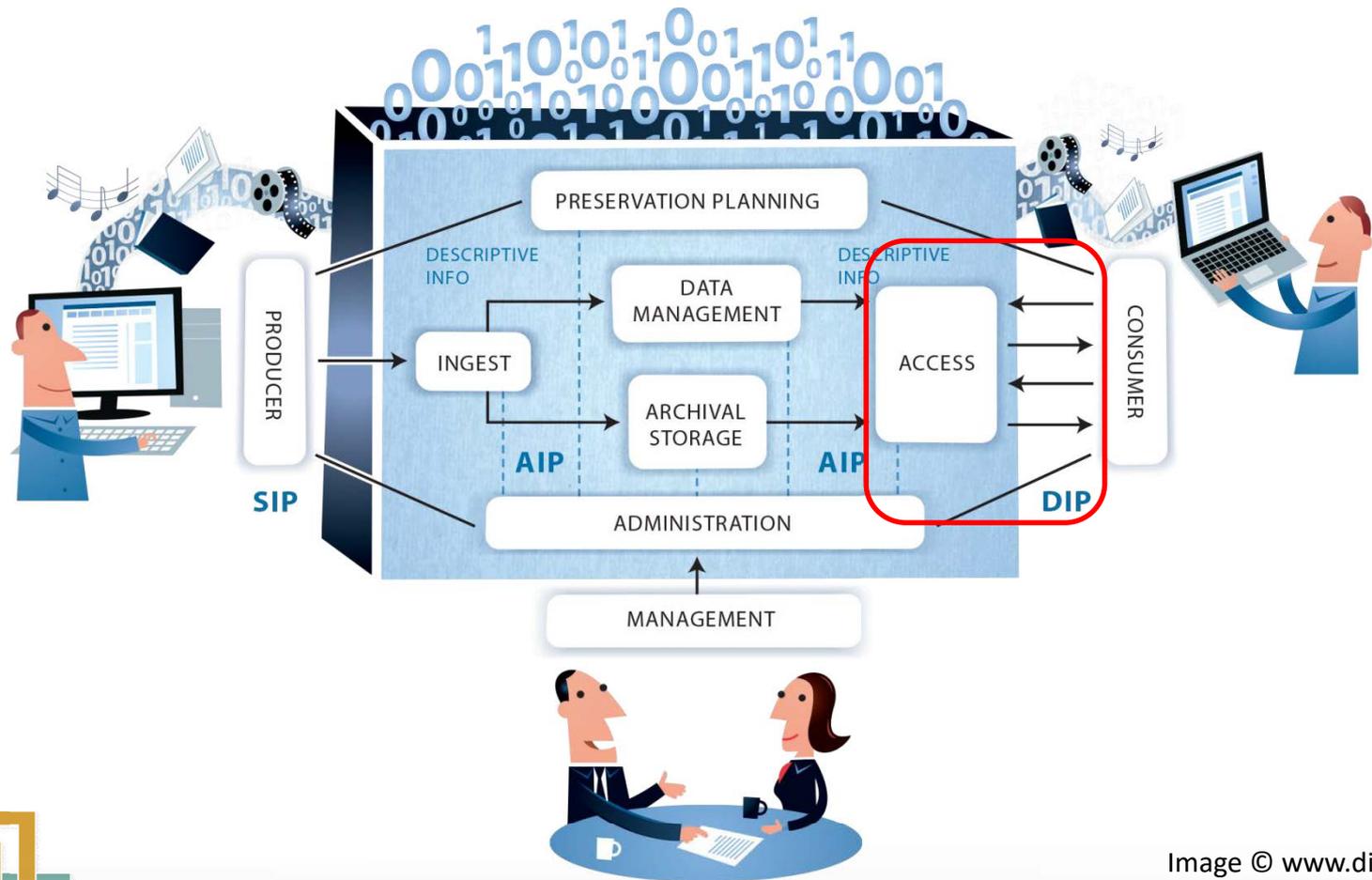


The screenshot displays the ADS Collections Management System interface. At the top, there is a teal header with the title "ADS Collections Management System". Below the header is a navigation bar with tabs for "Tracking", "Collections", "DOIs", "People", "Organisations", "Addresses", and "Admin", along with a "Logout" link. A search bar labeled "search collections" is positioned below the navigation bar. The main content area features the title "The Antikythera Survey Project (Collection Id: 1001115)" and a link "See this archive on-line". Below this, there are links for "Update Collection", "Go to Tracking Project (1003202)", and "Go to DOI (10.5284/1012484)". A secondary navigation bar includes tabs for "General", "Coverage", "Relationships", "Accessions", "Files", "Processes", "Web Admin", "Archsearch", and "Export". The "Processes" tab is selected, showing a list of migration and dissemination tasks, each with a plus sign icon and a description of the process and its ID.

Process ID	Description
26959	Migration - Preservation (Microsoft Word for Windows Document 97-2003 - DOC to Microsoft Word for Windows Document 2007 - DOCX)
26960	Migration - Preservation (ESRI Shapefile - SHP to Geography Markup Language - GML)
26961	Migration - Preservation (ASCII Text File - CSV to Plain Text File - TXT)
26962	Editing - Corrective (Plain Text File - TXT to Plain Text File - TXT)
26963	Migration - Dissemination (ESRI Shapefile - SHP to Zipped Archives - ZIP)
26964	Migration - Dissemination (ASCII Text File - CSV to Plain Text File - TXT)



# Archiving



## Dissemination Information Package (DIP)

- **Convert** the files
- **Validate** file conversion
- Create web **interface**
- Allocate permanent urls / **DOIs**
- Pre-Release interface
- Make any depositor changes
- Release Archive
- Publicise Archive



## How do ADS disseminate data?

All archives are **freely** available through the web interface.

<http://archaeologydataservice.ac.uk/>

The screenshot shows the ADS website with a red header containing the logo and navigation links: HOME, ARCHSEARCH, ARCHIVES, LEARNING, ADVICE, OUR RESEARCH, ABOUT US, and LOGIN. A search bar is located in the top right. Below the header are three main sections: 'EXPLORE', 'DISCOVER', and 'DEPOSIT', each with a brief description. A 'Featured collection' section highlights the 'Hilton of Cadboll' with a photograph of a stone cross-slab and a detailed text description. A 'Notice' box contains information about a beta testing program and browser recommendations. A 'Welcome to the new ADS website' message is displayed. Below this are three news items: 'November 2010: Grey literature library reaches 7000 reports', 'October 2010: ARENA2 demo video now available', and 'October 2010: Limestone Cropmark Landscapes archive released'. Each news item includes a small thumbnail image.

**ads** ARCHAEOLOGY DATA SERVICE

HOME ARCHSEARCH ARCHIVES LEARNING ADVICE OUR RESEARCH ABOUT US LOGIN

**EXPLORE** DISCOVER DEPOSIT

**INNOVATE** Supporting research, learning and teaching with high quality and dependable digital resources

**Notice**  
We are currently conducting a Beta testing program where registration is temporarily required to access this site, just click the LOGIN button at the top right to register. It is important to read the 'About this beta test' section on the 'About Us' pages after logging in. Please contact the ADS Helpdesk if you require further information regarding this or future beta testing programs.  
We use Firefox browser for development testing and don't recommend using any other browsers during the beta testing period.  
To access our current website, please follow this link: [ads.ahds.ac.uk](http://ads.ahds.ac.uk)

Welcome to the new ADS website. There are a number of new features of the website that will make it easier and more enjoyable to use. Why not register as a myADS user to take full advantage of them. On registration these personal myADS features become available...

**Workbook**  
Using the tools at the bottom of each page save your favourite resources and regular searches in the myADS Workbook.

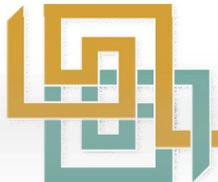
**History**  
Your recent exploration of the site and the archives is automatically saved in your myADS History.

**Featured collection**  
**Hilton of Cadboll**  
The Hilton of Cadboll Pictish cross-slab is thought to have been erected at the Chapel site in the late 8th century AD and, after breaking its tenon, to have been re-erected here in the 12th century. It is thought to have fallen in a storm and one side was defaced and re-carved with a memorial in the 17th century, leaving the fragments of the Pictish carving and the lower portion in-situ. Many thousands of carved fragments and the lower portion of the cross-slab were retrieved from the site during excavations in 1998 and 2001. The aim of the excavations was to retrieve all the fragments and record their location to the nearest 0.5m square in the hope that this would aid the reconstruction of the lost cross-face. All the fragments have been catalogued and photographed and made available to the public.

**November 2010: Grey literature library reaches 7000 reports.**  
The ADS is pleased to announce that the recent addition of over 700 new reports to the online library of grey literature brings the total number available for download to 7061. The new releases include some 150 reports from Suffolk County Council Archaeological Service, 45 from Thames Valley Archaeological Services, 33 from North Pennines Archaeology Ltd and 16 reports from AOC Archaeology Group... more

**October 2010: ARENA2 demo video now available.**  
The ADS is pleased to announce the release of the Archaeological Records of Europe Networked Access (ARENA 2) demonstration video. The original ARENA portal has now been running more or less successfully since 2004. However, the underlying technologies have since been challenged by more sophisticated approaches to interoperability. Under the auspices of both the European funded DARIAH and ACE pr... more

**October 2010: Limestone Cropmark Landscapes archive released.**  
The ADS and English Heritage are pleased to announce the release of the Archaeological Cropmark Landscapes of the Magnesian Limestone project archive by Ian Roberts, David Berg and Alison Deepan. The project, funded by the Aggregates Levy Sustainability Fund between March 2005 and March 2007, was devised to investigate the prehistoric and Romano-British archaeological landscapes of the eastern p... more



## ADS Resources

**1.3 million metadata records**

### Archives

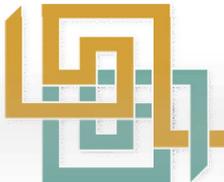
- 22 Journals and Series
- 35,000+ Grey Literature reports
- 900+ Project Archives
- Six specialist Bibliographies
- 19 Doctoral Theses

### Specialised Websites

- England's Rock Art
- Image Bank



Image deposited with ADS by Martin Carver and supplied under licence from HEA - Archaeology Image Bank



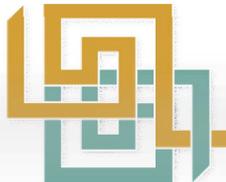
## Project Archives

University-led research projects

The screenshot shows the website for the Sutton Hoo Research Project 1983-2001, authored by Martin Carver in 2004. The page features a blue header with the 'ads' logo and navigation links. The main content area is divided into sections: 'Introduction Overview Downloads', 'Downloads' (with links to Field Reports, Site Atlas, Site Album, and Findings), and 'Site Album : Overviews'. The 'Site Album' section contains four photo thumbnails with captions: 'The site before the commencement of the project in 1983', 'The site in 1983 building in the centre of the British Museum site the 1965-71 car park', 'Excavations in progress, Int 32, in 1985 looking south.', and 'Mounds 2 and 3'. A 'Primary contact' section lists Prof. Martin Carver's details at the University of York. The University of York logo is also present.

The screenshot shows the website for the Channel Tunnel Rail Link Section 1, authored by Stuart Foreman in 2004 (updated 2009). The page features a blue header with the 'ads' logo and navigation links. The main content area includes a 'Map Search' section with a grid of map panels and a 'Route Map' section with a larger map and a north arrow. The 'Map Search' section includes a list of search options: 'Introduction', 'Project Overview', 'Project Downloads', 'Using the resource', 'Map Search', 'Period Search', 'Advanced Search', 'Site List', and 'Reference List'. The 'Route Map' section includes a north arrow and a caption: 'Click on a panel to view the sites in that area'. The page also features the 'HIGH SPEED' logo and a copyright notice: 'Data copyright © High Speed 1 unless otherwise stated'. A small text at the bottom right reads: 'Reproduced from the 1:250 000 'Routemaster' series map by the permission of the Ordnance Survey on behalf of the Controller of Her Majesty's Office Crown © Copyright AL850292'.

Major infrastructure programmes



## Project Archives

- Introduction
- Overview
- Downloads and/or Search
- Metadata
- Usage Statistics
- Resource Identifiers



ALL | JOURNALS AND SERIES | GREY LITERATURE | PROJECT ARCHIVES | BIBLIOGRAPHIES | THESEs

### Analysis of Roman Silver coins, Augustus to the reform of Trajan (27 BC - AD 100)

Matthew Ponting, Kevin Butcher, 2005 (updated 2015)

- Introduction
- Overview
- Downloads
- Query
- Metadata
- Usage Statistics

Data copyright © Dr Matthew Ponting, Kevin Butcher unless otherwise stated



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University of Liverpool  
Hartley Building  
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Liverpool  
L69 3GS  
UK  
Tel: 0151 7944393

[Send e-mail enquiry](#)

**Resource identifiers**  
ADS Collection: 429  
Collection doi: 10.5284/1035238  
[How to cite using this DOI](#)

### Introduction

Silver coins formed the backbone of currency in the Roman Empire and are likely to have been the main media for long-distance monetary exchange. Imperial fiscal policies and financial problems can be detected through metallurgical analysis of imperial silver coinages. Roman emperors manipulated the silver content (fineness) of the coinage to solve short-term financial problems frequently caused by government overspending. For the most part, this manipulation involved the reduction of the silver content of the coinage – debasement - in conjunction with a drop in weight.

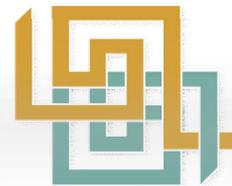
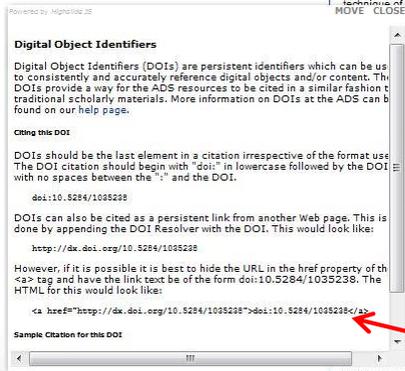


In the 1970s an important study was published by D. R. Walker of Oxford, documenting the silver contents of Roman Imperial silver coins by X-ray fluorescence analysis (XRF) (Walker 1976-78). This appeared to be a definitive study of the subject, and until recently was the principal authority and reference for economic historians on the monetary policies of the Roman empire. However, during the late 1980s it was realised that there were serious problems with Walker's data. These can be attributed to a faulty technique of analysis; Roman silver coins were produced from an alloy of silver and copper, which was deliberately treated in antiquity to remove some of the copper from the surface of the coin, giving impure coins the appearance of being pure. Walker had analyzed only the surfaces of coins, and assumed that this was representative of the entire objects, with the result that his figures for the silver content are far too high and very variable.

In 1995 the silver coinage of the Flavian Emperors issued for the city of Caesarea in Cappadocia were the subjects of an initial enquiry where samples of metal were drilled out from the interior of a representative series of coins (Butcher and Ponting 1995). Several of the coins so analysed were the same specimens as had been analysed by Walker for the 'Metrology' and served to underline the problems with the use of 'non-destructive' analysis of silver coins. The analytical technique used for this project was atomic absorption spectroscopy (AAS), which, in addition to the silver and copper in the alloy, is also capable of measuring several minor and trace elements. These additional data enabled more detailed characterization of the alloys used for the coinage and this in turn has allowed the identification of changes in mint operation and location to be identified.

Some small projects using this approach followed, investigating aspects of the silver coinage of Trajan and Septimius Severus (Butcher and Ponting 1997 and 1998). This further demonstrated the potential of the methodology for addressing many of the questions about how Roman silver coinages functioned and related to one another.

In 2001 funding was obtained from the Leverhulme Trust (Grant No. RF&G/6/2002/0336) and the Faculty of Arts and Sciences Research Committee and the University Research Board of the



# Acknowledgements

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These training materials are based on teaching materials for research data management in archaeology created by Lindsay Lloyd Smith (2011) in the JISC-funded DataTrain project based at Cambridge University Library with contributions from the Archaeology Data Service.

