

Digital preservation and the CHERISH Project

Delivered by Dr Lesley Davidson
Research Archaeologist: Data Scientist
The Discovery Programme
ADS TNA training school November 2024



We are a national archaeological research body supported by the Heritage Council. Projects include CHERISH (Climate, Heritage and Environments of Reefs, Islands, and Headlands) pictured here.

The Discovery Programme

Centre for Archaeology and Innovation Ireland
33 years and counting of excellence in archaeological research



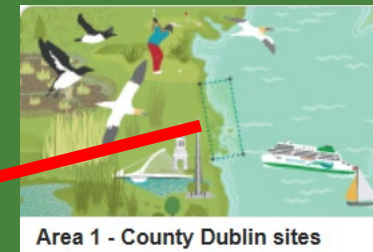
Protecting our Coastal Heritage

Monitoring change to inform policy

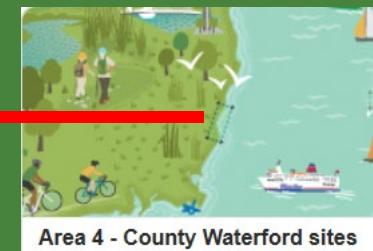




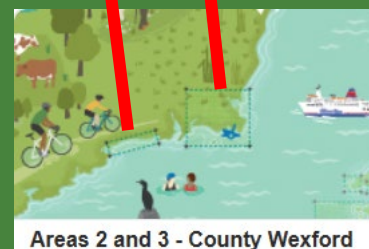
Area 5 - County Kerry sites



Area 1 - County Dublin sites



Area 4 - County Waterford sites

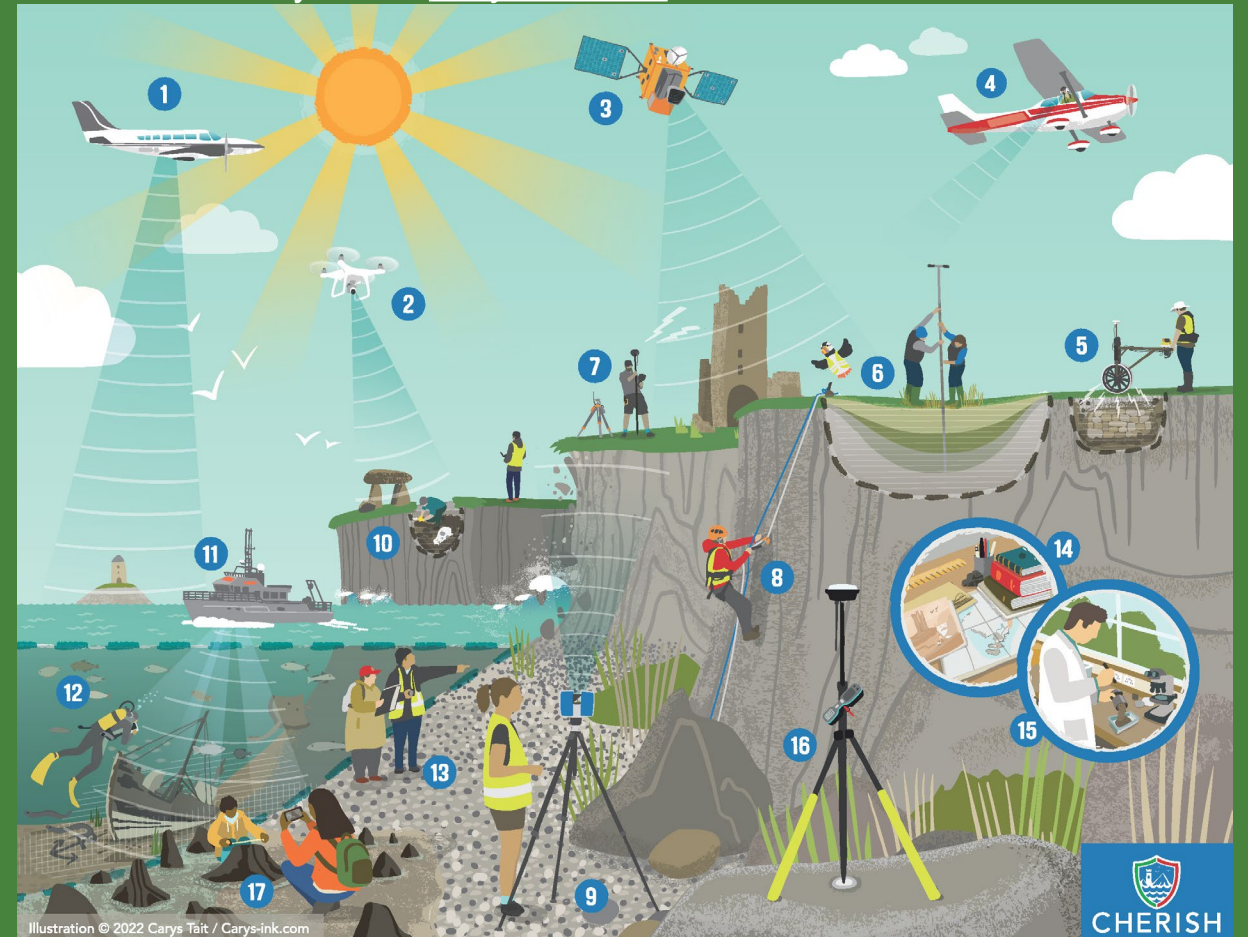


Areas 2 and 3 - County Wexford

CHERISH toolkit

Illustrations ©Carys Tait / Carys-ink.com

1. Lidar
2. UAV
3. Satellite coastal mapping
4. Aerial reconnaissance
5. Geophysical survey
6. Palaeoenviron survey
7. Terrestrial metric survey (GNSS)
8. Excavation – cliff face
9. Terrestrial laser scanning
10. Excavation - traditional
11. Marine survey
12. Diving
13. Coastal zone assessment
14. Desk-based assessment
15. Scientific dating
16. Permanent marker survey
17. Community recording





CI 1 - GOOD PRACTICE GUIDANCE

The CHERISH team will provide integrated guidance on how to survey and record heritage sites threatened by climate change in targeted coastal communities, using the latest innovative technologies and remote sensing techniques.



CI 2 - FIXED SURVEY MARKERS

A key legacy of the operation, CHERISH will provide the first 3D baseline fixed survey points and data for selected heritage assets specifically aimed at future monitoring of climate change.



CI 3 - ENHANCED HISTORIC ENVIRONMENT DATA

Through its activities, CHERISH will enhance and update national historic environment datasets, which help to inform priority lists for statutory designation.



CI 4 - ENHANCED PALAEOENVIRONMENTAL DATA

CHERISH will generate multi-proxy palaeoenvironmental data within a robust chronological framework, developed from selected locations to reconstruct past environments and inform future adaptation strategies.



CI 5 - SEAMLESS ONSHORE/OFFSHORE DATA

A number of innovative digital 'real maps' derived from LiDAR and photogrammetry, will provide 3D data geomatic data for planning and management in the terrestrial, intertidal and marine environments.



CI 6 - TRAINING THE CITIZEN SCIENTIST

Engaging conferences, workshops, seminars and outreach events to raise awareness and train the citizen scientist in survey and recording, heritage at risk, climate change and storminess impacts.



CI 7 - EXCAVATIONS ON HERITAGE ASSETS AT RISK

Community excavations will be run during CHERISH to train citizen scientists in local communities to record heritage sites at risk.



CI 8 - SHARED WEB PORTAL

A key tool of CHERISH for information delivery and awareness-raising and an important legacy of the operation for future adaptation strategies.



CI 9 - LANDOWNER MANAGEMENT PLANS

Detailed management plans and GIS datasets for reefs, islands and headlands under study showing cultural heritage assets and climate change threats.



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About Us

The Digital Repository of Ireland – certified trustworthy digital repository for the preservation of Ireland’s humanities, cultural heritage, and social sciences data



What does DRI do?

The Digital Repository of Ireland (DRI) is a CoreTrustSeal-certified trustworthy digital repository for the preservation of Ireland’s humanities, cultural heritage, and social sciences digital data for long-term access.

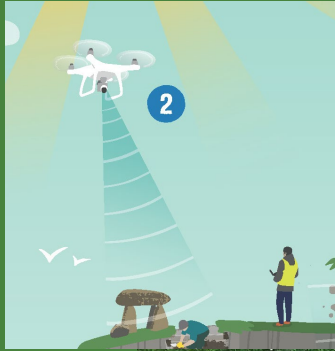


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Estimated 3+ terabytes of data and counting...

- 4 Counties
- 5 study areas
- 818 site records updates
- Potentially 81 new sites discovered
- Updated records for 180 structures/buildings
- Detailed survey of 20+ sites
- 42 UAV digital photogrammetry surveys
- 7 terrestrial digital photogrammetry surveys
- 24 terrestrial laser scanning surveys
- Geophysical surveys at 7 sites
- 3 excavations (traditional and cliff-face)
- Paleonviro sampling at 7 sites
- Permanent marker surveys at 8 sites
- 19 three-dimensional models
- 3 intertidal surveys
- Marine surveys at 3 sites
- 1 coastal zone assessment
- 4 landowner management plans



UAV digital photogrammetry



Glascarrig North, WX017-008---- Castle – motte and bailey
UAV digital photogrammetry survey 16/06/2021

- 100's to >1000 of overlapping near vertical and oblique aerial images captured by UAV (JPEG) per site
- ITM grid coordinates for ground control points (TXT) captured using GNSS with correction service
- ~~• Digital photogrammetry processing file (PSX + files)~~
- Orthomosaic and Digital elevation model output (GEOTIFF)
- ~~• Dense point cloud (LAS? XYZ?)~~
- Topographic relief visualisations (GEOTIFF)
- Figures (TIFF)
- Metadata and paradata
- Processing and fieldwork reports

Illustrations ©Carys Tait / Carys-ink.com



Terrestrial laser scanning

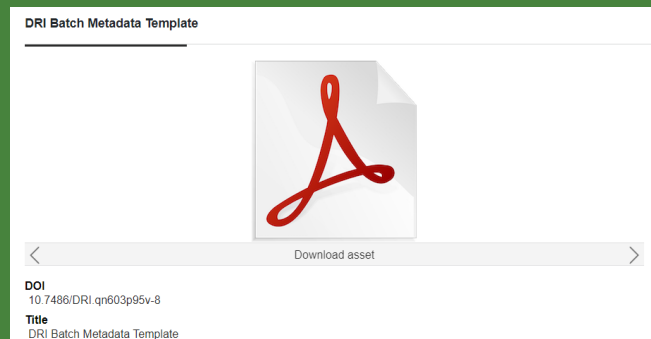


Clonmines, WX045-012003- Religious house – Augustinian friars
Terrestrial laser scanning survey 18/06/2018

- Raw laser scan files (FLS or RWI/RWP)
- ITM grid coordinates for ground control points (TXT) captured using GNSS with correction service
- ~~Processing file(s)~~
- Point cloud (E57? XYZ?)
- Orthoimages (plan view and elevations) (TIFF)
- Figures (TIFF)
- Metadata and paradata
- Registration and fieldwork reports

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Metadata



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1	Filename	dc:Identifier	dc>Title	dcterms:Alternative	dc:Creator	dc>Date	dcterms:Created	dcterms:Issued	dc:Description	dc:Rights	dc>Type	dc>Type	dc:AccessRights	dc:Language	dc:Contributor	dc:Source	dc:Coverage
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AutoSave Off A2WX_Glascarrig_20180607_Metadata_UAVSfMMVS_v08... Saved to this PC

File Home Insert Page Layout Formulas Data Review View Automate Help Acrobat

Clipboard Font Alignment Number Styles Cells Editing Sensitivity Add-ins Analyze Data

Filename	dc:Identifier	dc>Title	dcterms:Alternative	dc:Creator	dc:Creator	dc:Date	dcterms:Cre
gn_20180607_rep_metashape_pro	gn_20180607_rep_pro	Report - Metashape processing report for UAV digital photogrammetry survey	The Discovery Pi	CHERISH Project		07/06/2018	
gn_20180607_geo_ortho	gn_20180607_geo_ortho	GeoTIFF - Orthomosaic RGB image, dating to the 07/06/2018, of the coastal lan	The Discovery Pi	CHERISH Project		07/06/2018	
gn_20180607_fig_ortho	gn_20180607_fig_ortho	Figure - Orthomosaic RGB image figure titled 'Glascarrig North, County Wexfor	The Discovery Pi	CHERISH Project		07/06/2018	
gn_20180607_geo_dem_oe	gn_20180607_geo_dem_oe	GeoTIFF - Digital elevation model (original extent), dating to 07/06/2018, of the	The Discovery Pi	CHERISH Project		07/06/2018	
gn_20180607_geo_dem_ebm	gn_20180607_geo_dem_ebm	GeoTIFF - Digital elevation model (extracted by mask), dating to 07/06/2018, oi	The Discovery Pi	CHERISH Project		07/06/2018	
gn_20180607_fig_dem_hs	gn_20180607_fig_dem_hs	Figure - Digital elevation model overlaid on a hillshade figure titled: 'Glascarrig I	The Discovery Pi	CHERISH Project		07/06/2018	
gn_20180607_fig_dem_hs_cntr1m	gn_20180607_fig_dem_hs_cntr1m	Figure - Digital elevation model with 1m interval contour lines overlaid on a hill	The Discovery Pi	CHERISH Project		07/06/2018	
gn_20180607_geo_hs	gn_20180607_geo_hs	GeoTIFF - Hillshade topographic relief raster visualisation, dating to the 07/06/	The Discovery Pi	CHERISH Project		07/06/2018	
gn_20180607_geo_mdhs	gn_20180607_geo_mdhs	GeoTIFF - Multi-directional hillshade topographic relief raster visualisation, dati	The Discovery Pi	CHERISH Project		07/06/2018	
gn_20180607_fig_mdhs	gn_20180607_fig_mdhs	Figure - Multi-directional hillshade figure titled: 'Glascarrig North, County Wexf	The Discovery Pi	CHERISH Project		07/06/2018	
gn_20180607_geo_slrm	gn_20180607_geo_slrm	GeoTIFF - Simple local relief model topographic relief raster visualisation, datin	The Discovery Pi	CHERISH Project		07/06/2018	
gn_20180607_fig_slrm	gn_20180607_fig_slrm	Figure - Simple local relief model figure titled: 'Glascarrig North, County Wexfor	The Discovery Pi	CHERISH Project		07/06/2018	
gn_20180607_geo_svf	gn_20180607_geo_svf	GeoTIFF - Sky-view factor topographic relief raster visualisation, dating to the 0	The Discovery Pi	CHERISH Project		07/06/2018	
gn_20180607_fig_svf	gn_20180607_fig_svf	Figure - Sky-view factor figure titled: 'Glascarrig North, County Wexford, sky-vie	The Discovery Pi	CHERISH Project		07/06/2018	
gn_20180607_geo_slope	gn_20180607_geo_slope	GeoTIFF - Slope (degrees) topographic relief raster visualisation, dating to 07/0	The Discovery Pi	CHERISH Project		07/06/2018	
gn_20180607_fig_slope	gn_20180607_fig_slope	Figure - Slope (degrees) figure titled: 'Glascarrig North, County Wexford, slope	The Discovery Pi	CHERISH Project		07/06/2018	
gn_20180607_shp_cntr1m_ln	gn_20180607_shp_cntr1m_ln	Shapefile (line) - Contour lines with 1m interaval spacing dating to the 07/06/2	The Discovery Pi	CHERISH Project		07/06/2018	
gn_20180607_shp_mask_ply	gn_20180607_shp_mask_ply	Shapefile (polygon) - Mask used for extracting raster cells from within a defin	The Discovery Pi	CHERISH Project		07/06/2018	
gn_20180607_rep_meta_para	gn_20180607_rep_meta_para	Report - Metadata and paradata report for Glascarrig North UAV digital photog	The Discovery Pi	CHERISH Project		07/06/2018	
gn_20180607_coord_gcp	gn_20180607_gcp	GCP coordinates (CSV) - Ground control points (GCPs) recorded on 07/06/2018	The Discovery Pi	CHERISH Project		07/06/2018	
gn_20180607_ap_uav_0001	gn_20180607_uav_ap_0001	UAV aerial photo - Image 0001 captured on the 07/06/2018 for the purpose of rec	The Discovery Pi	CHERISH Project		07/06/2018	
gn_20180607_ap_uav_0002	gn_20180607_uav_ap_0002	UAV aerial photo - Image 0002 captured on the 07/06/2018 for the purpose of rec	The Discovery Pi	CHERISH Project		07/06/2018	








Dublin Core™ Metadata Initiative

Contributor

Lesley Davidson

 <https://orcid.org/0009-0008-3243-5988>  

<https://orcid.org/>



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Dublin Core™ Metadata Initiative

Temporal

PeriodO

A gazetteer of periods for linking and visualizing data.

Download the periods.

JSON Turtle CSV

Browse and edit periods.

PeriodO client

What is this?

PeriodO is a [public domain](#) gazetteer of scholarly definitions of historical, art-historical, and archaeological periods. It eases the task of linking among datasets that define periods differently. It also helps scholars and students see where period definitions overlap or diverge.

Who are you?

The PeriodO project is led by [Adam Rabinowitz](#) (University of Texas at Austin) and [Ryan Shaw](#) (University of North Carolina at Chapel Hill). [Patrick Golden](#) is the lead developer of the [PeriodO software](#). The PeriodO dataset has been developed largely by our generous [contributors](#). Our work has been funded by a Digital Humanities Start-Up Grant from the [Office of Digital Humanities](#) at the National Endowment for the Humanities, and a [National Digital Platform grant](#) from the [Institute of Museum and Library Services](#).

Tell me more.

Start by looking at the [guide to using PeriodO](#).

You may also be interested in reading about the [motivation](#) for the project or getting a [technical overview](#). Further information can be found in our [publications](#). Or [contact us](#) and ask whatever you want!

Prehistoric

12700 BC – 400 AD | Island of Ireland

Defined by [Carlin, Neil et al. Archaeological periods for the island of Ireland. 2022.](#)

Permalink <http://n2t.net/ark:/99152/p06hps8pg6n>

Download [JSON](#), [Turtle](#)

<https://perio.do/en/>



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Spatial

Permanent link

<https://www.logainm.ie/52853.aspx>

<https://www.logainm.ie/ga/>

Find on map

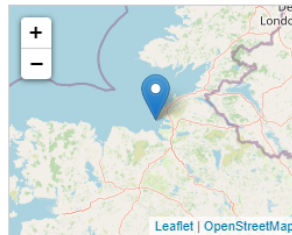
Search

where am i

Street names included

Logname of the day

[←](#) 2024-06-21



Raghly Point / Raghly Point

headland

COUNTY **Sligo** / Sligo

[More](#)

Welcome

Welcome to **the Irish Placenames Database**, developed by **Gaiois, Fiontar & Scoil na Gaeilge** (DCU) in partnership with the **Placenames Branch** (Department of Tourism, Culture, Arts, Gaeltacht, Sports and Media). [More information](#)

Newsletter

Featured theme

Ashes, translations, rivers and surnames

Cnoc na Fuinseoige / Ashill "the hill of the ash(-tree)"
(see [logainm.ie](#) # [47206](#))

Date: 15/06/2024



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Subject

ID: 300054328

Page Link: <http://vocab.getty.edu/page/aat/300054328>

archaeology (social sciences, disciplines (concept), Disciplines (hierarchy))

<https://www.getty.edu/research/tools/vocabularies/aat/?find=heritage&logic=AND¬e=&page=1>



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- ▼ **Art & Architecture Thesaurus (AAT)®**
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 - How to use AAT
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Search the AAT



Find Term or ID:

AND OR

Note:

[Pop-up Search](#) [Browse the AAT hierarchies](#)

Copyright information

Search Tips

For the Find Term or Note field, you may use **AND** and **OR** (all in upper case) [e.g., 1) windsor chairs, 2) chairs OR rockers, 3) chairs OR rockers OR armchairs, 4) bow-back AND windsor, 5) windsor AND (rockers OR chairs), 6) (windsor OR boston) AND (rockers OR chairs)]. Wildcard is the asterisk (*); right truncation only. To find an exact match rather than a key word in the Find Term field, use quotes [e.g., "chairs"]. If you wish to search the term and note together, click on the buttons for AND or OR.

About the AAT

Learn about the purpose, scope and structure of the AAT. The AAT is an evolving vocabulary, growing and changing thanks to contributions from Getty projects and other institutions. Find out more about the AAT's contributors.

F.A.Q. about the AAT

Here you will find a list of the most frequently asked questions about the thesaurus.

AAT@getty.edu

Click here to send a message to the AAT editors.

Use of the AAT

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Have a Question?

Contact the Vocabulary Program



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Feedback

<https://www.europeana.eu/en>

ARIADNEplus

Home ARIADNE RI new site Community Activities & resources Portal Training & TNA News & events

ARIADNEplus

a data infrastructure serving the archaeological community worldwide

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The work of ARIADNEplus goes on through ARIADNE Research Infrastructure AISBL.

Visit the new website to stay updated.

Integrate and effectively serve a research community that studies the past to better understand the present with the tools and the methodology of the future, in the service of culture and society

23 European countries

41 Partners

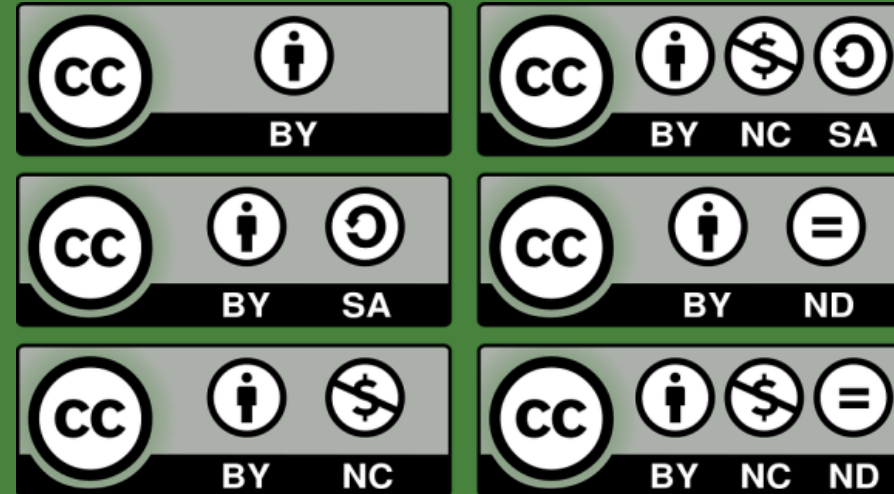
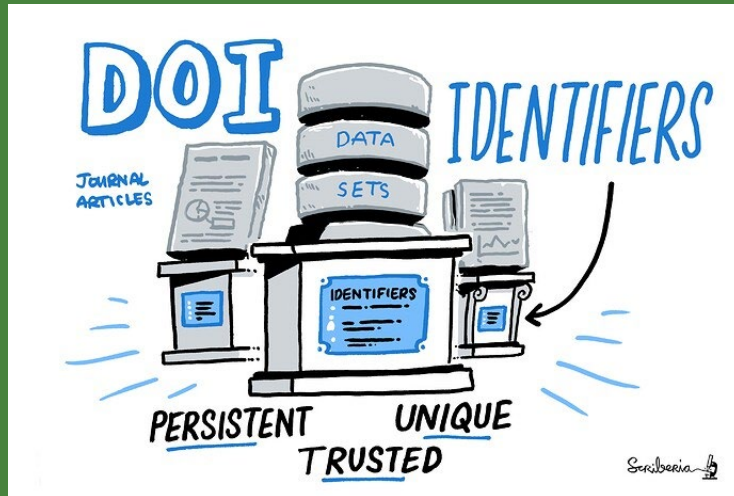
4 International partners

14 Associate partners

<https://ariadne-infrastructure.eu/>



Digital Object Identifiers and licensing



Thank you

lesleydavidson@discoveryprogramme.ie



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