

CONSULTATION: Strategic Framework for Heritage Science in the UK 2024-2027

In this document we:

- provide an [introduction](#) to heritage science and the role of the Strategic Framework for Heritage Science in the UK,
- review the [changes in the UK heritage science landscape](#) over the period of the last strategic framework (2018-2023),
- summarise the [current challenges](#) as identified by NHSF members
- propose [new outcomes](#) for a framework covering 2024-2027
- outline an approach to [delivering the outcomes](#)
- pose some [consultation questions](#) (although all comments are welcome)
- start to identify [other initiatives](#) to which this framework aligns.

Introduction

Heritage science is the scientific study of cultural and natural heritage. It is an interdisciplinary field that draws on diverse humanities, science and engineering disciplines. It focuses on enhancing the understanding, care and sustainable use of heritage so it can enrich people's lives, both today and in the future.¹

Heritage science has an increasingly important role to play in tackling key global challenges and addressing issues that matter to people. Research is helping to improve energy efficiency in historic buildings; it is protecting heritage collections, buildings and archaeology from decay; it is increasing our understanding of the risks and impact of climate change as well as strategies for mitigation and adaptation; it helps to understand where we have come from but can also inform where we are going.²

As a field of research, heritage science is carried out in many different types of organisations including higher education institutions, research centres, cultural and heritage organisations, and the voluntary and commercial sectors. The breadth of the field is a strength, but it requires coordination to bring together the strands of activity, maximise opportunities for collaboration and demonstrate benefits.

Our **vision** is that the UK's rich and varied heritage will be enhanced by better use of science and technology for the benefit of society.

¹ See [definition](#) provided by ICCROM (International Centre for the Study of the Preservation and Restoration of Cultural Property).

² [Case studies](#) of research addressing five societal challenge themes.
[Case studies](#) of applications of heritage science research.

The *Strategic Framework for Heritage Science in the UK* is a **tool** to enable coordination of resources and facilitate collaboration around shared goals which will help to achieve the vision.

The first framework was developed in 2017 and covered the period 2018-2023. This second framework covers the period 2024-2027 and builds on the achievements of the previous framework. Its development is led by the National Heritage Science Forum (NHSF) with input from the heritage science community and wider stakeholders. We use the term framework because we want to capture the high-level outcomes (or changes) that the heritage science community and stakeholders want to work together to achieve, whilst leaving flexibility for individuals and organisations to develop strategies or plans to achieve the parts they are best placed to deliver. Together we can monitor how collective action is making progress towards the outcomes.

A review of UK heritage science in 2024

In refreshing the framework for 2024-2027, NHSF members have looked at the progress made against the strategic outcomes of the 2018-2023 framework, considered the challenges and opportunities for the years ahead, proposed updated outcomes for 2024-2027 and looked at alignment to other relevant plans and frameworks.³

Over the past five years, progress has been made towards all three of the strategic outcomes of excellent research, a skilled and diverse community, and demonstrable social and economic impact.

Excellent research

- There has been **capital investment to replace and upgrade equipment** used for heritage science research (World Class Labs CapCo and CResCa funding).⁴
- The sector has worked with UK Research and Innovation (UKRI) through the Arts & Humanities Research Council (AHRC) to develop the RICHeS (Research Infrastructure for Conservation Heritage Science) programme. In 2023 the UK government **announced investment of £80M in the RICHeS programme** over 10 years from 2024 as part of the Creative Industries Sector vision.⁵
- In Europe, the **E-RIHS (European Research Infrastructure for Heritage Science)** programme has made progress towards establishment as a full ERIC (European Research Infrastructure Consortium) with the UK's national node co-ordinated by UCL.⁶

³ Strategic outcomes for the [2018-2023 Framework](#) were: Excellent research; A skilled and diverse heritage science community; Demonstrable social and economic impact.

⁴ CapCo is the Arts & Humanities Research Council (AHRC) [Capability for Collections Fund](#) to renew and upgrade conservation and heritage science facilities (opened September 2020); CReSCA is the AHRC fund to [renew and upgrade facilities for creative and cultural research](#), (opened July 2022).

⁵ The [Creative Industries Sector Vision](#) was published in June 2023 and sets out a plan for growth, building talent and developing skills.

⁶ [E-RIHS](#) is the European Research Infrastructure for Heritage Science. It is a distributed research infrastructure with a central hub and [national nodes](#).

- The UK's involvement in IPERION HS (a major European Union-funded project) has enabled **access to equipment, expertise and learning opportunities from leading European institutions**.⁷
- NHSF has led work to stimulate connections between heritage science and the issues that matter to people through the identification of **five societal challenges** of sustainable development, climate emergency, improved wellbeing, equality and inclusivity and a digital society - each of which is being explored through deep-dive events with an emphasis on interdisciplinarity.⁸
- There is **increased use of the term heritage science** by organisations (such as the establishment of the Cambridge Heritage Science Hub), growth of Icon's heritage science special interest group to over 1,000 members in 2024 and bibliometric analysis shows an increase in the number of heritage science papers published.⁹
- Although there has been no direct successor to the EPSRC/AHRC Science & Heritage funding programme, initiatives such as the **Joint Programming Initiative on Cultural Heritage (JPI-CH)** have been a source of funding for research and the UK has now associated to **Horizon Europe** unlocking access to this €95.5 billion research and innovation programme which runs until 2027.^{10 11}

A skilled and diverse community

- The **Technician Commitment** and development of **Apprenticeships** have started to open up new routes into the field of heritage science and have led to new thinking about the skills needed and approaches to training and skills development.^{12 13}
- The **SEAHA Centre for Doctoral Training** supported 61 PhD students in an innovative programme that brought together academics and over 70 industry and heritage partners between 2014-2023.
- Organisations including the Mary Rose Trust have successfully raised funding for **internships** and NHSF has operated a **mentoring programme** to connect 10 early career researchers with more experienced colleagues as they embark on their career within the field.
- NHSF has held themed member meetings to share information on approaches to improving **Equity, Diversity and Inclusion**.
- The National Archives and NHSF commissioned a matrix to show the **links between heritage science and primary school curricula** which is being used to support the development of learning programmes which include heritage science to connect people to heritage science at an earlier stage in their life.¹⁴

⁷ IPERION HS is a European Union-funded project [Integrating Platforms for the European Research Infrastructure ON Heritage Science](#).

⁸ Information on the five societal challenges identified by NHSF members can be found on the [NHSF website](#).

⁹ For example the steady increase in the number of articles in the journal [Heritage Science](#).

¹⁰ The Science and Heritage programme was a jointly funded (Engineering & Physical Sciences Research Council and Arts & Humanities Research Council) which ran from 2007-2013.

¹¹ [Horizon Europe](#) is the EU's key funding programme for research and innovation for the period 2021-2027.

¹² The [Technician Commitment](#) (UKRI action plan, January 2021) recognises the importance of technicians in the research and innovation system, and sets an expectation that UKRI-funded research organisations will support their professional development.

¹³ The [Skills Investment Plan for Scotland's Historic Environment](#) is an example of a sector-wide approach and includes a skills profile for heritage science.

¹⁴ [Matrix](#) to support identification of links between heritage science and primary school curricula.

Demonstrable social and economic impact

- NHSF members have focused on exploring **what impact and value mean** to the heritage science community and identifying **models for collecting evidence** of impact that are relevant to the community.¹⁵
- **Published case studies** demonstrate the value and impact of heritage science and give examples of the different benefits heritage science can bring to society, for example linked to the five societal challenges identified by NHSF's research working group.¹⁶
- The development of the business case for investment in the **RICHeS** (Research Infrastructure for Conservation and Heritage Science) programme by AHRC involved analysis of potential benefits including economic benefit and a range of case studies demonstrating other forms of value.¹⁷
- DCMS initiated the **Culture & Heritage Capital programme**, commissioning scoping research in 2021 and, in 2023, funding six projects (with AHRC) to address distinct research questions including heritage science research into damage functions to articulate the economic value of caring for heritage.^{18 19}

Challenges for 2024-2027

The progress highlighted above shows how much can be achieved by working together, but challenges remain. At a macro-level, the rate of change combined with economic and political uncertainty can make it difficult to plan long-term goals. Pressure on the finances of individual organisations, resulting from the impact of the Covid-19 pandemic and subsequent inflation and increases to cost-of-living, has created a challenging environment for internal funding of research and heritage science activity. Poorly understood workforce demography, capacity and skills needs hinder our ability to grow the workforce to address the needs of this developing field and attract new entrants as trainees and from other fields.

The priorities that have been highlighted through our consultations to date include:

- Despite an increased emphasis on the value of interdisciplinary research at UKRI level, funding for **heritage science research is still caught between funding streams** being too science-focused for most arts & humanities programmes and too heritage-focused for many science programmes. There has been no dedicated funding stream for heritage science research since the end of the Science and Heritage Programme in 2013.
- Large parts of the sector lack the capacity to develop to the level required for UK Research and Innovation funding and are therefore **ineligible for significant tranches of research and capital funding**. A greater diversity of funding streams is needed as well as more opportunities to partner with UKRI-eligible organisations to spread the benefit of this funding which isn't replicated in other parts of the sector even at a smaller scale.²⁰

¹⁵ NHSF [research](#) into models for collecting evidence of impact.

¹⁶ [Case studies](#) linked to five societal challenges identified by the NHSF research working group.

¹⁷ A selection of [case studies](#) developed to support AHRC's business case for investment in the RICHeS programme.

¹⁸ The [Culture and Heritage Capital portal](#) brings together scoping work, reports and information on research projects.

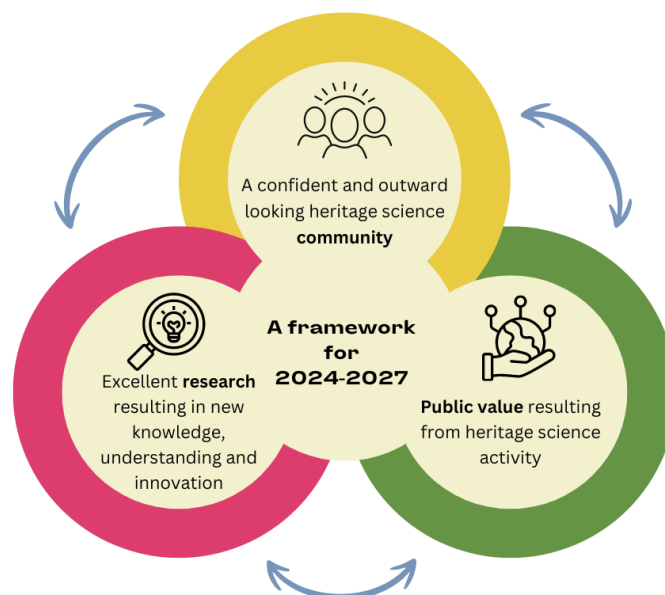
¹⁹ [Six research projects](#) have been funded in 2024 in response to the AHRC/DCMS Culture and Heritage Capital Research Call, including ITHACA (Integrating Lifetimes in Heritage Capital).

²⁰ UKRI eligibility not only affects access to Research Council funding but also access to some European funding e.g. the current [Climate and Cultural Heritage](#) call.

- **Pressures on institutional finance** (post pandemic and cost of living) place limits on research and staffing.
- Employers are finding it increasingly **difficult to recruit** and there are barriers to growing the workforce including low salaries, poor job security and few career progression opportunities.
- There is **reduced international workforce mobility** following the UK's exit from the European Union (including visa barriers which are also linked to salaries). This places additional limitations on the available workforce adding to recruitment challenges, particularly for experienced staff.
- It is difficult to secure **funding for interdisciplinary training routes**. There is a need for training that occurs outside of the academic sector as well as for doctoral training.
- The **lack of robust data on skills strengths, gaps and needs** makes it difficult to articulate where investment and new approaches to skills development will bring most benefit.
- **Knowledge-exchange mechanisms are under-developed** meaning that opportunities to use heritage science research to benefit society are not maximised.
- Students, postdocs and scientists find it **hard to access specialist scientific instruments** which are not available in their own organization; this challenge extends to organisations without specialist staff which also struggle to access scientific research equipment and knowledge.
- Links with industry are weak in many areas and evidence of the longer-term use and **impact of heritage science research is rarely captured** and is poorly understood.
- The strength of heritage science as an umbrella field encompassing many different disciplines can become a weakness and make consensus difficult when different interests compete.

Proposed outcomes for 2024-2027

The refreshed framework retains the focus on people, research and public value as a structure to deliver the vision that the UK's rich and varied heritage will be enhanced by better use of science and technology for the benefit of society. We still use outcomes as the way of describing the changes we want to see, but these have been updated and there is greater emphasis on the links between them. A virtuous circle is proposed with progress towards each outcome benefiting the others and addressing the challenges highlighted by the community.



Public value, in the form of measurable positive change for society, is central to the vision of the UK's rich and varied heritage being enhanced by better use of science and technology for the benefit of society. The change needed here is better ways to measure and highlight public value in all its forms. Public value will not only be derived from excellent **research** (resulting in new knowledge, understanding and innovation) but will also be evident in an inclusive, confident, diverse and outward-looking heritage science **community**. As part of the virtuous circle, excellent research will grow the community of interest in heritage science, attracting more people to the field and strengthening links between disciplines and areas of practice. An environment which celebrates contributions from diverse backgrounds and in which interdisciplinary research flourishes will deliver greater benefit to society.

Public Value

Outcome: measurable positive change for society resulting from heritage science.

This outcome is about how we find better ways to measure the public value of heritage science, explain why it matters and highlight its value to a range of beneficiaries. Work during 2018-23 revealed the challenges associated with demonstrating the value of heritage science research and its impact. It showed that there are different types of value, from wellbeing to new knowledge, and it showed that there are many different contributors, beneficiaries and audiences for heritage science research.

The contribution of heritage science to addressing societal challenges, research on how to measure culture and heritage capital and on how existing impact frameworks can be applied to heritage science can be built on over 2024-2027. Our consultation has shown that there is strong appetite for demonstrating the positive impact of heritage science research on the environment, and for its contribution to sustainable development to be visible.

We need to focus on a collective understanding of how heritage science generates value, who benefits from it and how. To this, we need:

- A thorough understanding of the multiple stakeholders for heritage science research
- Consensus on what to measure and how to measure it
- A heritage science community willing and able to share examples of public value, and improved mechanisms for increasing the visibility of that value
- Increased opportunities for public engagement with heritage science
- Support for innovation and enterprise
- Stronger links between heritage science and public policy.

Research

Outcome: excellent research leading to new knowledge, understanding and innovation.

This outcome focuses on ensuring that the conditions are in place to generate excellent research and its associated benefits. Our consultation has shown that researchers and practitioners place great value on interdisciplinary research but can find it difficult to access funding and research capability. We want to create an environment that fosters interdisciplinary research and recognises its benefits. We need to address the challenge of lack of funding for research that spans the arts and sciences, support organisations that lack the capacity to become IROs and are therefore excluded from significant tranches of research-funding (whilst still being research active), and develop better knowledge-exchange mechanisms to maximise opportunities for collaboration and the benefits of interdisciplinary activity.

To do this, we need:

- Accessible and varied funding streams which support individuals and organisations from across the arts and sciences to work together.
- Connected research capability (people and facilities) distributed across the UK with links to international infrastructures including E-RIHS.
- A platform to collaborate on heritage science research priorities.
- Greater translation of research into practice, building on existing good practice and developing links with organisations outside of academia.
- Support for innovation and cutting-edge research which pushes boundaries and generates new collaborations, for example with science centres.

Community

Outcome: an inclusive, confident, diverse and outward-looking heritage science community.

This outcome is about the people who make up the heritage science community, current and future. Our consultation has shown that we need more people working in the field and we need to think creatively about ensuring people have the opportunities to develop the skills they need. As a multidisciplinary field we should make more of the possibilities for people from many different backgrounds to be part of the heritage science community, but we need to make heritage science a field people know about and one that's attractive to work in.

To do this, we need:

- To understand who makes up the heritage science community, capacity of the current workforce and levels of demand
- Knowledge of skills strengths, gaps and needs
- Multiple diverse entry routes, forms of training and opportunities for career progression, including opportunities to move in and out of the field of heritage science
- To address barriers to recruitment and career progression
- An identity for heritage science that celebrates common interests and maximises interdisciplinary collaboration
- Better visibility of heritage science as a potential career, for example through opportunities for school-age children to learn about heritage through science

Delivering the strategic outcomes

Many different organisations and individuals have valuable contributions to make to these three outcomes. It is important to acknowledge that the framework does not try to provide a solution for every challenge but it does aim to provide a structure which people can use to show how the work they are doing connects to UK-wide heritage science activity.

This phase of our consultation seeks to engage multiple communities of interest with the proposed strategic framework outcomes and identify activities that will help to deliver the outcomes, either through the work of individual organisations or existing networks, or by highlighting opportunities for collaborative work in 2024-2027.

In our August consultation workshops we are particularly interested in exploring:

- **Whether we have captured the most important challenges**
- **Your views on the three priority outcomes for 2024-2027**
- **How this framework could benefit your organisation**
- **What you are already doing or what role you could play to help deliver the outcomes**
- **What role you think can NHSF play in the delivery of the outcomes**

Progress towards the delivery of the framework will be measured continuously with an annual report highlighting achievements and plans for the year ahead.

Aligning the framework to other initiatives

We recognise that there are significant opportunities to align the outcomes of this framework to other initiatives. Some of these are long-term opportunities which have already been highlighted in the progress recorded between 2018-2023 and which continue to influence the operating environment covered by the 2024-2027 strategic framework. Others are opportunities which have emerged since the development of the previous framework in 2017 and yet more will be identified as a result of the consultation process. Appendix A lists some of these initiatives with a brief explanation of their relevance. All come with the caveat that the recent change in UK government is likely to result in further, as yet unidentified opportunities, but could also result in unanticipated changes to existing plans and strategies.

Appendix A – related initiatives

Please note that we will add to this list following the second phase of consultation (August 2024).

We look forward to developing the opportunities to align and connect to other initiatives through the consultation phase and into implementation with the aspiration that many different organisations will see opportunities to contribute to the delivery of the outcomes in the framework and benefit from them.

- **ARCHE – Alliance for Research on Cultural Heritage in Europe (2022)**
The ARCHE project will develop a pan European framework for a holistic approach to Cultural Heritage Research and Innovation. It will emphasise interdisciplinary research and collaboration.
- **Creative Industries Sector Vision (2023)**
The [Creative Industries Sector Vision](#) is a joint plan to drive growth, build talent and develop skills (June 2023). RICHeS (Research Infrastructure for Conservation and Heritage Science) was announced as part of this vision.
- **Culture and Heritage Capital programme (2021)**
A DCMS (Department for Culture Media and Sport) programme to develop research, guidance and estimates to help government and private organisations consider the value of culture and heritage capital. Resources are available through the [Culture and Heritage Capital Portal](#).
- **Independent review of the research, development and innovation organisational landscape (March 2023)**
The [Independent review of the research, development and innovation \(RDI\) organisational landscape: final report and recommendations](#) identifies ten important attributes for a successful RDI landscape, which include ‘permeability between sectors, disciplines and organisations’ which is relevant to interdisciplinarity.
- **Our Past, Our Future: The strategy for Scotland’s Historic Environment (April 2023)**
[Our Past, Our Future](#) is Scotland’s national strategy for the historic environment for the period 2023-2028. Its three priorities are: Net Zero, Communities & Places, Wellbeing Economy.
- **RICHeS (Research Infrastructure for Conservation and Heritage Science)**
[RICHeS](#) is a long-term commitment from the Arts and Humanities Research Council, launching in 2024, to develop the UK’s reputation for heritage science and improve understanding of heritage collections, buildings, landscapes and data. It is anticipated that it will increase access to heritage science facilities, reference collections and data.
- **Scotland’s Museums & Galleries Strategy 2023-2030 (February 2023)**
[Scotland’s Museums & Galleries Strategy 2023-2030](#) emphasises partnership-working around the three strands of workforce, connection and resilience so that collections are cared for, accessible and shared.
- **Skills Investment Plan for Scotland’s Historic Environment (April 2024)**
The [Skills Investment Plan for the Historic Environment](#) is a sector-wide skills strategy that aims to ensure Scotland has the skills it needs to promote, manage and protect Scotland’s historic environment. It includes a skills profile for heritage science. The methodology used to develop the plan could be applied UK-wide.
- **Technician Commitment (2021)**

The [Technician Commitment](#) (UKRI action plan, January 2021) recognises the importance of technicians in the research and innovation system, and sets an expectation that UKRI-funded research organisations will support their professional development.

- **UK Research and Development Roadmap (2021)**

The [UK Research and Development Roadmap](#) (updated January 2021) sets out the Conservative government's approach to strengthening science, research and innovation in the UK and increasing UK investment in R&D to 2.4% of GDP by 2027. It provides context to government investment and outlines what government would like to see as a result of this investment.

- **UKRI strategy 2022-2027 – transforming tomorrow together (2022)**

The [UKRI strategy 2022-2027: transforming tomorrow together](#) sets out long-term, high-level priorities for delivering an outstanding research and innovation system in the UK, including a priority to 'incentivise and remove barriers to multi- and inter-disciplinary working'.