

Historic Scotland Digital Documentation and Visualisation Programme

Programme Objectives

Using cutting edge technology together with renowned expertise from Historic Scotland and Glasgow School of Art (GSA), the programme will develop world class Digital Documentation and Visualisation expertise. The programme will promote and celebrate Scotland's cultural heritage at home and abroad and enhance Scotland's reputation for developing world class and innovative research and development through digital documentation.

Programme Scope

Recording of standing buildings and broader urban environments has really only developed in the past eight years or so. Historic Scotland has been using high resolution laser scanning technology in the documentation of carved stones for around four years. In 2005 GSA Digital Design Studio was commissioned to undertake the first digital urban model in the UK in digitally recording and visualising the city of Glasgow using laser scanning technology. Through this project Historic Scotland's Technical Conservation Group saw potential in a range of areas for documentation and visualisation, and entered into a research partnership with GSA. This partnership has developed the applications and potential of the medium with some considerable success, with a natural synergy arising out of the disparate expertise of the two organisations.

This partnership has developed the applications and potential of the medium with some considerable success, with a natural synergy arising out of the disparate expertise of the two organisations. The feasibility work undertaken has been received with significant acclaim internationally, and Scotland is considered to be world leaders in documentation and visualisation of the historic environment at the present time. We believe that it is important to use this new resource to supplement the existing methods of recording cultural heritage. Both organisations consider that there is further technological - research potential in this area which will maintain and enhance Scotland's potential in the field.

We believe more importantly in the long term there are significant commercial benefits if we continue to develop this expertise. This field of work also demonstrates that the historic environment can contribute to economic development outside its traditional parameters. Whilst these commercial benefits cannot yet be quantified we need to ensure that any partnership with the GSA safeguards our ability to maximise these benefits.

Strategic Fit and Benefits

This programme will deliver a significant contribution to the Government's Purpose and Outcomes and directly support the Scottish Government International Framework objectives and Scottish Government Science Strategy. Specifically, the programme will make a key contribution to:

National Outcome 1: We live in a Scotland that is the most attractive place for doing business in Europe

- Contributing to Scotland's knowledge and research base, including the realisation of this knowledge and development into commercial benefits
- Promoting Scotland as a place for innovative work practices

National Outcome 12: We value and enjoy our built and natural environment and protect it and enhance it for future generations

- Improving access to and understanding of our cultural heritage through the provision of web based remote access
- Placing digital documentation at the heart of our technical research strategy, using it as part of our toolkit to improve the management of properties in the care of Scottish Ministers
- Improving the information and advice Historic Scotland provides to national and local government about planning, risk evaluation and monitoring
- Providing new technologies to enhance the design and delivery of sustainable places, assisting planning and regeneration.

National Outcome 13: We take pride in a strong, fair and inclusive national identity

- Promoting and celebrating our cultural heritage at local, national and international level
- Enhancing Scotland's reputation overseas
- Encouraging local and overseas visitors to Scotland as an attractive tourist/holiday destination
- Promoting Historic Scotland's expertise on the local, national and international stage

National Outcome 15: Our public services are high quality, continually improving and responsive to local people's needs.

- Using expertise, research and development to develop cutting edge technology and processes
- Improving multi-agency collaboration across Scotland's public services in the development of innovative technology and the promotion of Scotland overseas
- Developing practical applications that will improve the effectiveness and efficiency of conservation of the historic environment and document management and storage.

Choice of Sites

We believe that under this programme we have the potential and capacity to record five key Scottish sites and five overseas sites.

Scottish Sites

In choosing the Scottish sites we are aware of the world heritage designation attributed to the sites at New Lanark, Edinburgh, Neolithic Orkney, the Antonine Wall and St Kilda. Given the status of these sites (in world heritage terms) it appears appropriate to record these first. These also fit in terms of National Performance Indicator 12.

We will develop further criteria for Scotland should the programme be expanded further.

Overseas Sites

We will identify five overseas sites which fits with the aims of and the delivery of the Scottish Government's International Framework. The criteria for site selection will include those which maximise the contribution to the Government's purpose of increasing sustainable economic growth, raising Scotland's profile overseas, making a contribution to global conservation, building technical capacity and understanding in Scotland, and building Scotland's relationships overseas. These will all contribute to National Outcomes 1, 13 and 15.

In terms of individual site selection the International Framework Document published by the Scottish Government in April 2008 makes it clear that the USA, China and India are key priorities in building international relations.

Using these criteria, Mount Rushmore in the United States has been selected as the first international site. Other project locations are likely to include India and China.

Other Applications

(Through the delivery of this programme we will proactively consider and exploit the further applications, including commercial applications, of this technology with partners across the public and private sectors in Scotland and abroad to further contribute to the Government's Purpose and Outcomes. In particular, we will continue to explore with Planning Directorate and Local Government the application of this technology to enhance the planning and development functions in Scotland's Local Authorities.

Programme Partners

The principal partners in the delivery of the programme are GSA and CyArk, a US non profit organisation with a mission to digitally record heritage sites across the world.

The Digital Design Studio of the GSA will be our lead technology partner who will work with us to document sites and develop our technological expertise. We will form a joint venture for the delivery of the project and will explore opportunities to maximise the commercial benefits of this expertise. The IPR and benefits arising will be shared equally. This partnership is a natural evolution of our three year research relationship which has built an internationally unique partnership. Both organisations have developed a joint pool of documentation equipment including a range of terrestrial laser scanners and GPS survey equipment.

CyArk will support the development of digital documentation masterplans and will provide support in establishing international projects. They will provide us with digital archive repositories, and assist us in establishing a Scottish archive. They will provide unique technical research support via their Director Ben Kacyra who invented the laser scanner, and support the educational aspects of the programme. We will put in place a Memorandum of Understanding with CyArk to formalise this relationship.

Funding

It is expected that the costs associated with this project will be as shown in the table below. The delivery vehicle will prepare detailed profit and loss and cash flow forecasts to substantiate the expected funding. A business plan will also be required.

The cost phasing is entirely dependent upon the order in which the projects are carried out.

Resource element	09/10	10/11	11/12	12/13
Totals	£331,500	£437,000	£429,000	£349,000

Key Stakeholders

RCAHMS

We will work in partnership with RCAHMS to deliver the project objectives and in particular to develop the technological infrastructure to store, migrate and access this information. We will also work together to develop a shared service for the digital documentation and visualisation capacity within Scottish Government.

Project partners

New Lanark Conservation Trust
 City of Edinburgh Council, Edinburgh World Heritage Trust
 National Trust for Scotland
 Neolithic Orkney Management Group, Orkney College, UHI and Orkney Isles Council
 Antonine Wall Management Group.

US National Park Service, Department of the Interior
National Heritage Agencies for international sites

Programme Governance

Historic Scotland will create a Project Board, chaired by the Interim Chief Executive, Ruth Parsons. The Project Board will include the Director of Finance at HS, a non-executive director of HS, a representative from RCAHMS and a representative from SG Planning.

Commercial Aspects

Products

Emerging IPR and technology benefits will be levered by HS and GSA via the establishment of a commercial joint venture to deliver commercial benefits. All benefits will be shared equally and this will be covered in a commercial agreement.

Media & Communications

Media and communications aspects are very important in realising the project objectives and Historic Scotland will provide the necessary resources to maximise the benefits of this.

Strategic Risks

The risks associated with the project are set out in Appendix 1.

HISTORIC SCOTLAND
November 2009

Appendix 1

Identified Risk	Consequence	Likelihood	Level	Mitigation/Management
Programme Partners	Major	Possible	High	Loss of key specialist staff at GSA Digital Design Studio. GSA management fail to see benefits and become disengaged with project Regular meetings with GSA management.
Technology	Minor	Possible	Moderate	Equipment failure on site. Support services not performing. Technology moves further on. Equipment selection to ensure technical back up. Be aware of technology advances.
Project Partners-Overseas	Moderate	Possible	Moderate	Need to be identified and buy in to technology and benefits of it. Use existing SG network of contacts.
Internal: Support within HS	Minor	Possible	Moderate	No buy in from other parts of HS. Cross Agency understanding and enabling needed.
Skills within HS	Minor	Unlikely	Low	Loss of staff Key roles to be shadowed by other staff to ensure continuity and coverage.
Project Partners - Scotland	Minor	Unlikely	Low	Loss of enthusiasm for project Regular meetings with partners.
Funding	Minor	Unlikely	Low	Loss of funding Ministerial commitment and key HS corporate objective.