



**CORPORATE PLAN
2004-9**

ANNEX

INFORMATION SYSTEMS STRATEGY STATEMENT

incorporating

SWISH

(Shared Web Information Systems for Heritage)



Revised
April 2004

1. RCAHMS Information Systems Strategy

1.1 As outlined in the Corporate Plan under 7.3.6, RCAHMS continues to implement its IS strategy, most recently revised in 1999. The implementation of this strategy led to the creation of a new technical infrastructure whose main features comprised Microsoft NT on the desktops (now moving towards Microsoft XP), a suite of Novell software on the file server, and GroupWise e-mail. It also led to the implementation of a re-designed and strengthened 'firewall' and associated security measures. In relation to its Geographic Information System (GIS), the 1999 IS strategy recommended that a move from Genamap to ESRI, following Historic Scotland's decision, would also be prudent for RCAHMS. Work on the application development of ESRI software at RCAHMS and at HS was completed, and digital mapping became available to all users. The main thrust of recent development work has been directed towards expansion of information and services available on CANMORE, which was significantly enhanced in 2002 by the spatial searching facilities provided by CANMAP, launched in 2002; current work is leading towards the provision of digital images online and the management of digital archives.

1.2 The vastly increased reliance on ICT inevitably increased the amount of work involved in the maintenance of its infrastructure, as a result of which, with limited resources, development work in RCAHMS was unable to keep pace with demand. An exciting and imaginative solution to this problem has been the successful joint formulation with RCAHMS of the SWISH project which is, among other things, permitting a sharing of expertise, resources and development costs.

1.3 As a result of this partnership with RCAHMS for joint ICT developments, the strategy for RCAHMS has naturally become closely intertwined with the strategy for the SWISH project itself. SWISH indeed embraces, and will continue to embrace for the foreseeable future, the greater part of RCAHMS's overall strategy, and is thus given emphasis in this statement.

2. SWISH project: background

2.1 In 2001, RCAHMS commissioned an Information Systems Strategy Study, funded by the National Assembly of Wales, to investigate a programme of strategic IS developments, building on existing facilities with options for hardware, software and operating environment platforms, together with proposals for the implementation of the strategy recommendations. The IS Strategy was completed in September 2001 and a number of important steps were taken towards its implementation.

2.2 Following a fact-finding mission to RCAHMS by staff from RCAHMS in October 2001, a proposal for shared services was set out in outline in the document entitled *Database Web Solution for RCAHMS* (RCAHMS 2001). This document proposed that an application, based on the successful NMRS database, could be developed jointly for RCAHMS and RCAHMS to serve the common needs of both national records. The technical application would be developed and maintained by the ICT section at RCAHMS and delivered to RCAHMS using web technology. Staff in Wales would be able to use the application in the normal way and control their own data, but would not have to maintain the computer system that makes it operate. There would be no need to impose uniformity between the two organisations and RCAHMS could have a customised look and feel to the screens in use in Wales. The aim, ultimately, would be to merge the functionality of the two systems providing economies of scale in ICT development and maintenance - always costly - and in information management and retrieval. Staff in RCAHMS and RCAHMS would work together to enhance existing applications and build others to meet mutual requirements, and experienced staff in both organisations would work in partnership to establish data standards, undertake data enhancement programmes and develop joint visions for working relationships with a network of users both in and beyond their respective countries.

3. SWISH project: vision

The broad aim of the project was to use the well-developed database and archive of RCAHMS as a model for that of RCAHMS and to make it available online, establishing close working partnerships between the two organisations and using one computer solution to serve both.

The vision was thus to combine the resources of both organisations, the experience of RCAHMS and the needs of RCAHMS, to create a joint facility based on the Scottish model. The combination of resources would enable the joint facility to be developed faster and further than would be possible by

RCAHMS alone, thus allowing Welsh, Scottish and, indeed, other world-wide users to benefit in the medium term. SWISH would enable RCAHMS/W to extend what is already the most advanced heritage database system in the world to produce an adaptable system which might find itself sought after by other heritage information service providers. Any such further extension will, of course, enhance resources and offer new possibilities.

4. SWISH project: summary of benefits

4.1 To RCAHMS

RCAHMS would gain the resilience for its own systems that would flow from their conversion to the very similar but not identical requirements of RCAHMS/W. RCAHMS would attain a technology refresh faster and more wide-reaching than would otherwise have been possible and would thereby attain 'fail-over' facilities that would render CANMORE and CANMAP more reliable for both Scottish and Welsh uses. RCAHMS would also be able, initially on a four-year basis, to expand its commitment to ICT by providing an extra member of staff and contributions to the financial support of existing posts, thus facilitating the development of its current systems at a much more rapid rate but at no additional cost to the Scottish Executive while, of course, benefiting all parties to the arrangement. There would thus be:

- 4.1.1 cheaper development costs through economies of scale;
- 4.1.2 cheaper hardware and software licences through economies of scale;
- 4.1.3 development of remote working technology;
- 4.1.4 improved standardisation;
- 4.1.5 improved access for users; and
- 4.1.6 cheaper development of co-operative ventures (e.g. with Ordnance Survey)

4.2 To RCAHMS/W

RCAHMS/W would gain rapid access to a total heritage database, information management, geo-spatial and image presentational system which is of proven integrity and robustness. The transfer would be achieved at a pace and low cost impossible in any other way. The benefits would thus be:

- 4.2.1 an integrated data system allowing RCAHMS/W data input and retrieval for all staff ;
- 4.2.2 data storage and associated computer maintenance systems managed off-site;
- 4.2.3 improved standardisation and consistency to data imposed by rigorous database;
- 4.2.4 an ability, though not immediately, to run the system from remote locations (home, abroad, on fieldwork) because the system is delivered using password-protected web technology (i.e. only available to Commission staff);
- 4.2.5 automatic delivery to the public of selected elements of the RCAHMS/W database and map data (to be known as COFLEIN) on the web through the existing technology currently running CANMORE and CANMAP; and
- 4.2.6 quicker and cheaper than starting an application from scratch, given that RCAHMS has an existing database which already closely matches the RCAHMS/W requirements

5. SWISH project: implementation and further development

5.1 Political and financial agreement to proceed with the project was secured at Welsh and Scottish Ministerial level, and work on SWISH commenced in 2003. The first project, designated **SWISH1**, is due for completion in April 2004, and at the time of writing is largely complete. The partnership development work has already fully borne out the benefits that were envisaged in the original proposal as set out above (4.1, 4.2), and the joint management of the project, undertaken in accordance with PRINCE2 principles, is successfully generating a series of phased and manageable deliverables, designated **SWISH1**, **SWISH2**, **SWISH3** etc.

5.2 **SWISH2 – Images**, the second SWISH project, began in January 2004 with the preparation of specifications. ICT development will take place from April 2004, and the project is due for completion in July 2004. The objective is to bring in existing digital images at both organisations to allow them to be displayed in CANMORE and COFLEIN (the Welsh equivalent of CANMORE). This will be achieved by adapting the database structure to hold the images. **SWISH1** will be launched in July 2004 when **SWISH2**, which has obvious visual attributes, is complete.

5.3 **SWISH2** will provide the following benefits:

- 5.3.1 display of images within CANMORE at thumbnail and screen resolution sizes;
- 5.3.2 easier development of specification by sharing knowledge;
- 5.3.3 improved standardisation;
- 5.3.4 better public website facility for use by both public and staff; and
- 5.3.5 development of metadata standards which will feed into the **SWISH3** project.

5.4 **SWISH3 – Digital Asset Management (Digital Archiving)** will be the third SWISH project and is due to commence in July 2004. The objective will be to develop the joint RCAHMS and RCAHMW database and the public interfaces (created by **SWISH1**) to enable the accessioning, cataloguing and dissemination of digital data from RCAHMS and RCAHMW survey programmes and archive collections. The official directive on digital asset management requires government departments to have electronic service delivery in place by 2005, so it is becoming increasingly urgent for bodies such as RCAHMS/RCAHMW to have the capacity to store and deliver digital assets such as excavation archives, digital images, digitally produced documentation and field survey records. Both RCAHMS and RCAHMW include the accession of digital data from external depositors in their Collecting Policies and also have to manage digital assets produced by their day-to-day work. RCAHMS have undertaken research over the past three years and are currently piloting a methodology to address this issue, whilst RCAHMW have developed policy and strategies for electronic records management, which complement the work in Scotland.

5.5 **SWISH3** will provide the following benefits:

- 5.5.1 full collections management of digital archive;
- 5.5.2 a database structure for long-term curation of digital data;
- 5.5.3 enable new types of digital data to be added into the system when required;
- 5.5.4 accessibility to digital datasets through the database and CANMORE;
- 5.5.5 accessibility to digital datasets relating to sites, but possibly also to events (e.g. an archaeological excavation);
- 5.5.6 improve metadata standardisation; and
- 5.5.7 provide a better public website facility for use by both public and staff.

6. Other SWISH projects

Deemed to be important to the business needs of both RCAHMS and RCAHMW, the following projects are candidates for future SWISH projects:

6.1 Images II

SWISH2 is envisaged as a first-phase solution. A second phase of the image project would further refine the image retrieval system, add to the public interface to include features such as image libraries, album facilities, and online ordering (possibly including e-commerce), and implement image archiving methodology and long-term curation strategies.

6.2 Portal(s)

Both RCAHMS and RCAHMW are currently engaged in portal projects which provide public access to several datasets including their own. These include CARN (with the regional archaeological trusts in Wales, CADW and the National Museums and Galleries of Wales), HEIRPORT (with ADS and others) and PASTMAP (with Historic Scotland). Opportunities to join portal projects run by other organisations are regularly presenting themselves, so there is an obvious need for a strategy for engagement with existing portals and the development of a specialised portal or portals run and maintained by RCAHMW and RCAHMS under SWISH with invited participants.

6.3 Enhancements

In order to keep the underlying database healthy, well maintained and developing in directions that will provide the structure for the exciting ‘front-facing’ projects that can be achieved, a number of routine developments are required. These include:

- 6.3.1 the development and application of a UK thesaurus with illustrations and scope notes to the databases, a ‘behind the scenes’ development which will make a considerable contribution

to the ease of retrieval and understanding of the data by the public through CANMORE and COFLEIN;

6.3.2 the development of 'events' and 'people' tables which will facilitate the ease of retrieval of information through routes other than geographical location and monument or building type, and will allow retrieval of information on, for example, collections and changes of use of buildings;

6.3.3 the development of systems to assist with the management of the collections, including accessioning and conservation; and

6.3.4 the further adaptation of the 'feeder' mechanisms that allow field survey data to be passed through to the archives and databases at RCAHMS and RCAHMW.

6.4 Education and outreach

As set out in the Corporate Plan (6.4.1) and the accompanying Education Policy (4.1.1), RCAHMS has been exploring the possibilities of disseminating information online through further development of the Accessing Scotland's Past project. This would include mediating RCAHMS data for a more general audience, as well as new methods of navigating through the database. RCAHMW are at an early stage in planning the development of services for the education sector (e.g. specific navigation 'routes' linked to the national curriculum for use by teachers) and are also considering data mediation for other user groups. The desirability of a joint RCAHMS/RCAHMW SWISH project is clear.

7. Funding and Agreements

7.1 Budgets

The SWISH budgets to March 2004 are set out below. Thenceforward, the annual sum granted for the service provision will be between £100k and £200k. After an agreed four-year period, it is expected that a more permanent arrangement will be negotiated.

	2002-3	2003-4	Total to March 2004
Total RCAHMW	101,449	313,164	414,613
Total RCAHMS	24,651	80,631	105,282
TOTAL SWISH	126,100	393,795	519,895

7.2 Form of Agreement

A Memorandum of Agreement has been signed by the Chairmen and Chief Executives of the two partner bodies in May 2003, and has the following provisions:

'This Memorandum establishes the heads of the agreement between RCAHMS and RCAHMW ('the partners') for the provision and use of the technology infrastructure, software and information systems ('SWISH') which provide for the capture, management and dissemination of information contained within the National Monuments Record for Scotland ('NMRS') and the National Monuments Record for Wales ('NMRW').'

The partnership is intended to provide the partners with the information systems and services required to meet statutory obligations and respective business objectives for the capture, management and dissemination of NMR information. The principles of the Agreement are as follows:

- The intellectual property rights ('IPR') for SWISH (excluding any proprietary or third party ownership) will be jointly owned and shared by the partners.
- The infrastructure and software that enable SWISH is owned by RCAHMS who will provide services agreed for RCAHMW for at least the duration of the Initial Period specified in clause 3 or for such further agreed period.
- The partners will share the responsibility, costs and risks of SWISH and will jointly manage the operation and development of SWISH.
- The Agreement shall be for an initial period of four years, subject to the provisions in clause 43 and Appendix H, but is expected to continue indefinitely after the initial period, with annual reviews following the expiry of the initial period.

This Memorandum sets out the Agreement as follows:

- Description of SWISH and exclusions from the Agreement.
- Description of services.

- Responsibilities of each party.
- Governance and management arrangements.
- Work packages.
- Financial arrangements and cost sharing proposals.
- Termination and exit arrangements.

7.3 Service Level Agreement

A Service Level Agreement (SLA) will be implemented in April 2004 to govern the arrangements between RCAHMS and RCAHMW.

8. RCAHMS Information Systems Strategy (non-SWISH)

While SWISH is clearly the dominant component of RCAHMS strategy and while, increasingly, RCAHMW requirements draw more projects into the ambit of SWISH, there are a number of discrete areas which remain essential for the healthy maintenance and development of ICT services and the technological infrastructure at RCAHMS.

8.1 Networking

8.1.1 E-mail. The objective is to allow this vital service to be accessed not only internally, but also externally through a secure web-based system so that staff can use this service from anywhere using the internet.

8.1.2 File access. As with e-mail, the objective is to allow access to files via a secure web-based system so that staff can access their personal and group files from anywhere using the internet. A further aim would be to allow groups to share files over the Internet for particular projects, a particularly useful facility for partnership projects with other bodies.

8.1.3 Security issues include protection from the internet in the form of firewalls and secure routing, anti-virus protection, e-mail and web filtering, and the application of a rigorous and effective discipline among RCAHMS staff, regulated by an ICT Code of Conduct (see Annex).

8.1.4 Gigabit connectivity to be established between all parts of the RCAHMS network, a facility which is already under way. This is ten times the speed of most networks and will prepare RCAHMS for taking on increasing amounts of digital data which will have to be transferred in large quantities around the local network.

8.2 In-house GIS

As an associate member of CHEST (Combined Higher Education Software Team), RCAHMS now has several GIS site licences which have enabled widespread provision of GIS technology. Support for the growing number of staff users of GIS will continue to be provided and developed. Support and training in MapExplorer, ArcView, ArcMap8, 3D Analyst and Spatial Analyst will also continue to be provided in-house, which has been found to be more economical and better suited to specific requirements than external assistance.

8.3 PC support

All PCs will continue to be 'imaged', so that defective machines can be quickly rebuilt in accordance with their original specifications. Through this and other time-saving techniques, ICT support will remain better able to address user requirements which continue to increase in sophistication and number.