

8. KEY RECOMMENDATIONS AND FOLLOW-UP ACTIVITIES

8.1 Recommendations

1. **Raise awareness** about the importance and value of digital preservation, and about the roles played by various stakeholders in the preservation process. The effort must be targeted appropriately for different stakeholders and be sensitive to the role that those stakeholders play in preservation. Stakeholders include:
 - universities, funding and other agencies, which invest in the development of digital resources and which need to develop data preservation policies;
 - individual and organisational ‘data creators’ in the heritage, library, archive, and scholarly communities;
 - organisations and centres, which routinely manage digital collections (data archives and data banks, but equally universities, libraries and heritage organisations);
 - the software industry, which may supply tools capable of automating some processes essential to the production of preservable data resources.
2. **Encourage communication** between and collaboration among the various sectors currently involved in relevant research and development work, including scholarly, library, heritage and data archiving (both public and commercial) communities.
3. **Develop guidelines** pertaining to standards and best practices which promise to increase the likelihood for and reduce the cost of digital preservation. Such guidelines should be prepared for different classes of digital resources (which need to be defined) and for the different purposes to which any one class may be put.
4. **Investigate strategies** for organising and funding a preservation centre or network of preservation centres for scholarly, library, and heritage data whose long-term preservation is not otherwise secured.
5. **Develop criteria** for *bona fide* or approved data archives and a list of organisations which meet those criteria.
6. **Develop a checklist** which may be used to determine the complexity and cost of preserving different classes of digital resources. This approach should be developed with reference to a cross-section of archiving organisations, as appropriate, to ensure the best possible coverage of all digital resource classes.
7. **Conduct further research** into the feasibility and cost of technology preservation, technology emulation, and preservation of ‘dynamic’ data resources. Research topics pertaining to emulation include:
 - the viability of the preservation of media access devices;
 - the use of magnetic force microscopy to recover data from magnetic media;
 - the use of cryptography to decode bit sequences.

In addition, effort should be directed towards:

- developing data-loss case histories;
- systematically collecting hardware and software documentation, including designs;
- developing a media quality index taking account of factors such as adhesion, abrasivity, durability, chemical stability and error rates, and marking every piece of storage media with a quality rating.

8. Actions which pertain expressly to the **preservation of electronic publications**:

- develop a definition of an ‘electronic publication’;
- establish a joint coordinating body to determine the allocation of electronic publications between legal deposit libraries;
- raise awareness amongst public bodies that records created by them are subject to the Public Records Act.

8.2 The CEDARS Project

Some of the issues raised in this report are now being addressed by the CEDARS Project, which is being directed by the Consortium of University Research Libraries (CURL) under the Electronic Libraries (eLib) Programme.

Academic libraries have a new and complex responsibility for ensuring that digital resources remain accessible to users over the long term, irrespective of whether the burden for physically preserving those resources falls to the library or to a third party agency. The need to devise strategies for digital preservation is pressing; such strategies will need to encompass all forms of digital information resources. The CEDARS Project therefore aims to address strategic, methodological and practical issues, and to provide guidance for libraries in best practice for digital preservation. The Project will produce:

- guidelines for developing collection management policies which will ensure the long-term viability of any digital resources included in the collection;
- demonstrator projects to test and promote the technical and organisational feasibility of a chosen strategy for digital preservation;
- methodological guidelines developed by the demonstrator projects providing guidance about how to preserve different classes of digital resources;
- clearly articulated preferences about data formats, content models and compression techniques which are more readily and cost-effectively preserved;
- publications of benefit to the whole higher education community, available on the World Wide Web.