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eResearch and Implications for University Records and Archives

Scope of eResearch

- **Conducted in environments free of geographical constraints**
- **High performance computation, simulation, analyses**
- **Construction and mining of large databases of observational or simulation data**
- **Visualisation of results**
- **Access to specialised devices and instruments remotely**
- **Communication and collaboration within distributed multidisciplinary teams**

e-Research Collaboration

- **Enabling researchers, industry partners and communities to work cooperatively across geographical and technical boundaries, and across multiple repositories and datasets**
- **Opening up new areas for research**
- **Doing research more collaboratively and creatively; disseminating outcomes across disciplinary and cultural boundaries; developing collaborative e-Research governance and ethics frameworks, protocols (IP, rights in research data and outcomes, access, privacy); inclusive research agenda-setting models**
- **Role of ICTs in empowering research partners, including communities, and enabling and facilitating their engagement with research - subjects, consumers, stakeholders, partners, collaborators?**



Development of eResearch Capability: National and State Government Strategies and Funding

- **Proposed National eResearch Centre**
- **Plans for augmenting ICT infrastructure for eResearch, especially data/information/knowledge management aspects**
- **Research Quality Framework and evidence portfolios**
- **DEST SII funding for development of eResearch infrastructure and tools**
- **Victorian Government funding for eResearch – life sciences support program**



eResearch Capability

- **Infrastructure and tools**
- **Research data/information/knowledge management**
- **Evidence base for eResearch – and the RQF**
- **Data grids**
- **Digital Repositories: Research data, objects, documents, publications**
- **eResearch Infrastructure partnerships – IT/IS/IM academics, ITS, Libraries, Records and Archives units**



eResearch Capability @ Monash

- **ARROW – future directions**
 - RQF Evidence Base
 - Federation of multi-purpose digital repositories
 - Modelling repository and registry services for managing the authenticity, accessibility, disposition and preservation of electronic resources (research data, artefacts, products and publications) as knowledge and as evidence in and through time
- **DART**

DART – Dataset Acquisition, Accessibility and Annotation e-Research Technologies

- **CR1 – Move data from personal data repositories to secure trusted alternatives**
 - Work with researchers with personal data repositories, preferably in the areas of the demonstrators (climate change, X-ray crystallography, humanities/social sciences)
 - Identify barriers to them depositing these datasets into secure institutional repositories
 - Develop strategies to overcome these barriers and test these with the researchers
 - Document the findings in a research report

DART - Dataset Acquisition, Accessibility and Annotation e-Research Technologies

- **CR5 – Make it as easy as possible for researchers to deposit datasets and other digital objects into institutional repositories**
 - Develop workflow steps and a user interface (UI)
 - Determine workflows
 - Determine metadata that needs to be captured/machine-generated
 - Prototype data-entry screens
 - Implement into ARROW software development environment
 - Test usability and modify software as required
 - Move into ARROW production software

DART - Dataset Acquisition, Accessibility and Annotation e-Research Technologies

- **CR4: develop guidelines for best information management practice for research dataset issues:**
 - Embedding information management professionals into research teams (Climate Research, X-ray Crystallography, humanities/social sciences)
 - Identifying areas requiring improved information management practices
 - Developing strategies and guidelines
 - Testing strategies and guidelines in a range of disciplines
 - Documenting the findings in a research report