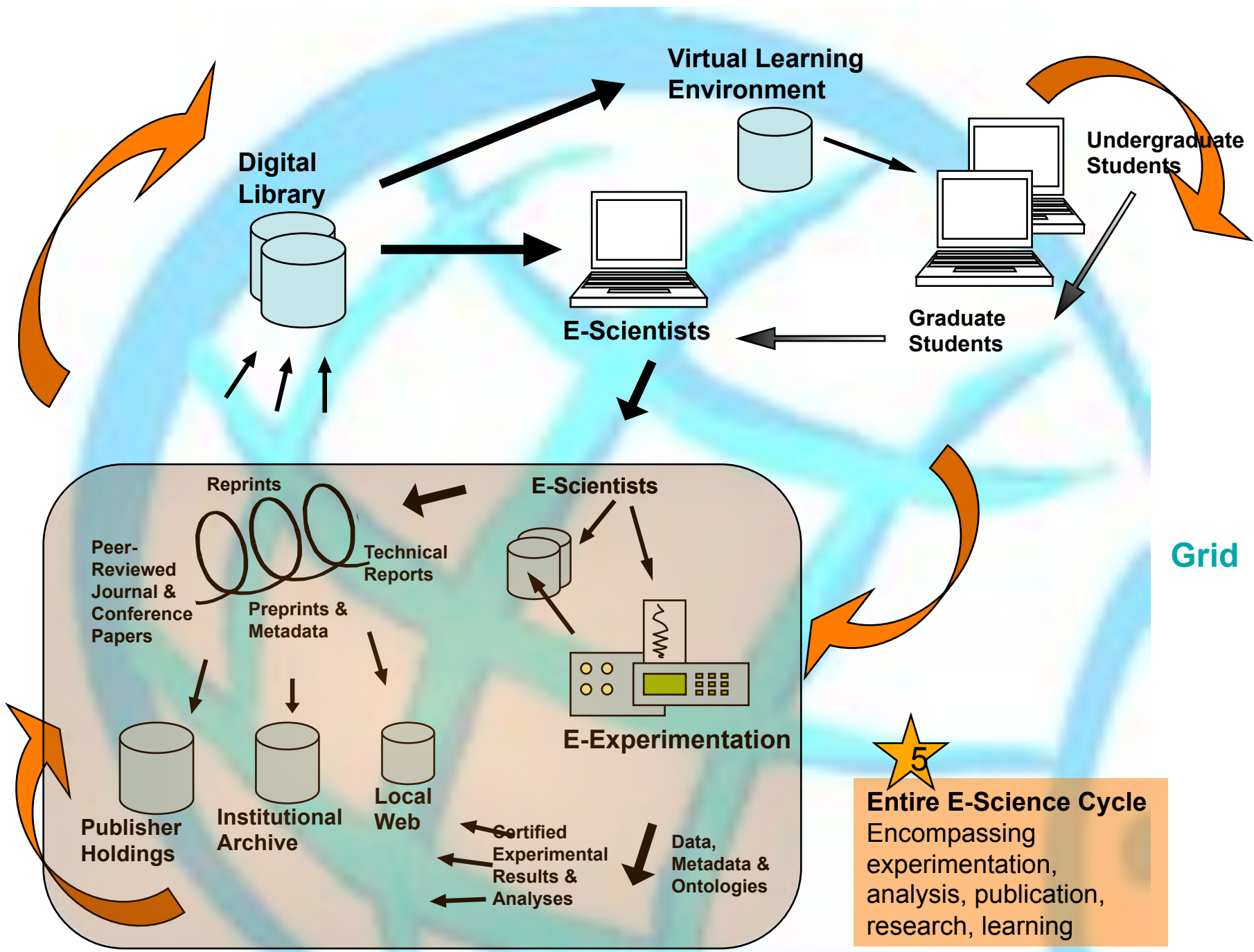




Taking aim and mostly hitting our targets: from DART to ARCHER (and beyANDS!)

Dr Andrew Treloar  
DART Project Architect  
ARCHER Director and Chief Architect  
ARROW Technical Architect

Presentation to Clever Collections 2007



Source: Adapted from Liz Lyons, eBank UK Presentation

## DART

- DART was a proof-of-concept project funded by the Department of Education, Science and Training (DEST) to support collaborative research in Australia
- The funding was provided through the Systemic Infrastructure Initiative as part of the Commonwealth Government's Backing Australia's Ability - An Innovation Action Plan for the Future
- DART stands for
  - Dataset
  - Acquisition/Accessibility/Annotation
  - e-Research
  - Technologies



## DART logistics

- 3 partners:
  - Monash University (lead) in Melbourne
  - University of Queensland in Brisbane
  - James Cook University in Townsville
- 5 technical areas of focus within the DART work packages (WPs)
- 18 month project, finishing in June 2007 (mostly)
- 28 Separate DART work packages
- 40+ project team members
- Led by Dr Jeff McDonell

## What did DART try to achieve?

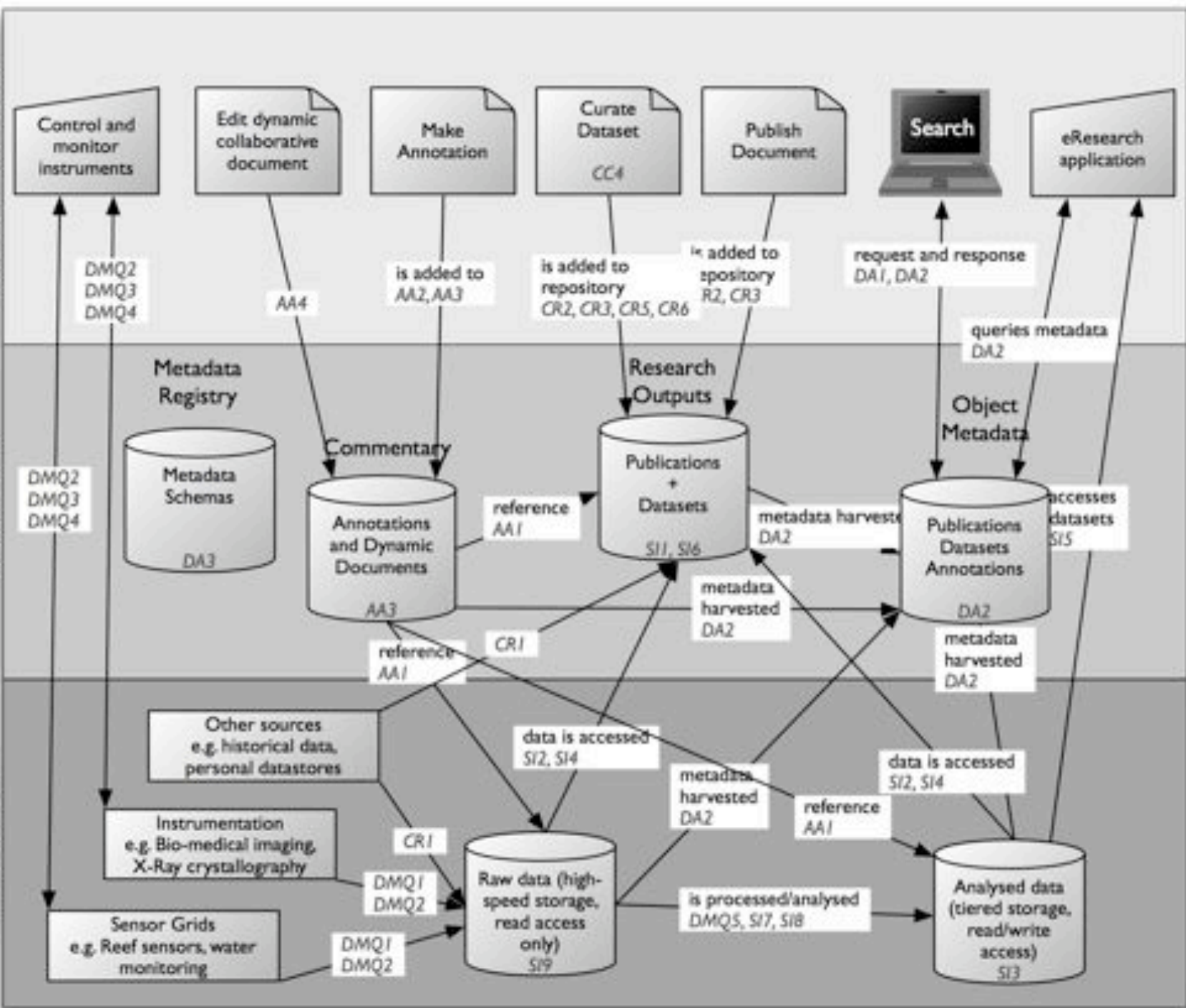
- To develop software tools to handle the data and information management requirements of the complete research lifecycle
- To collect and manage large datasets, associated with instruments, such as sensor networks, X-ray diffractometers, etc.
- To support collaborative research and annotation needs
- To deal with intellectual property, privacy and security issues
- To create customised portals for research demonstrators
- To handle research publication, discovery and access

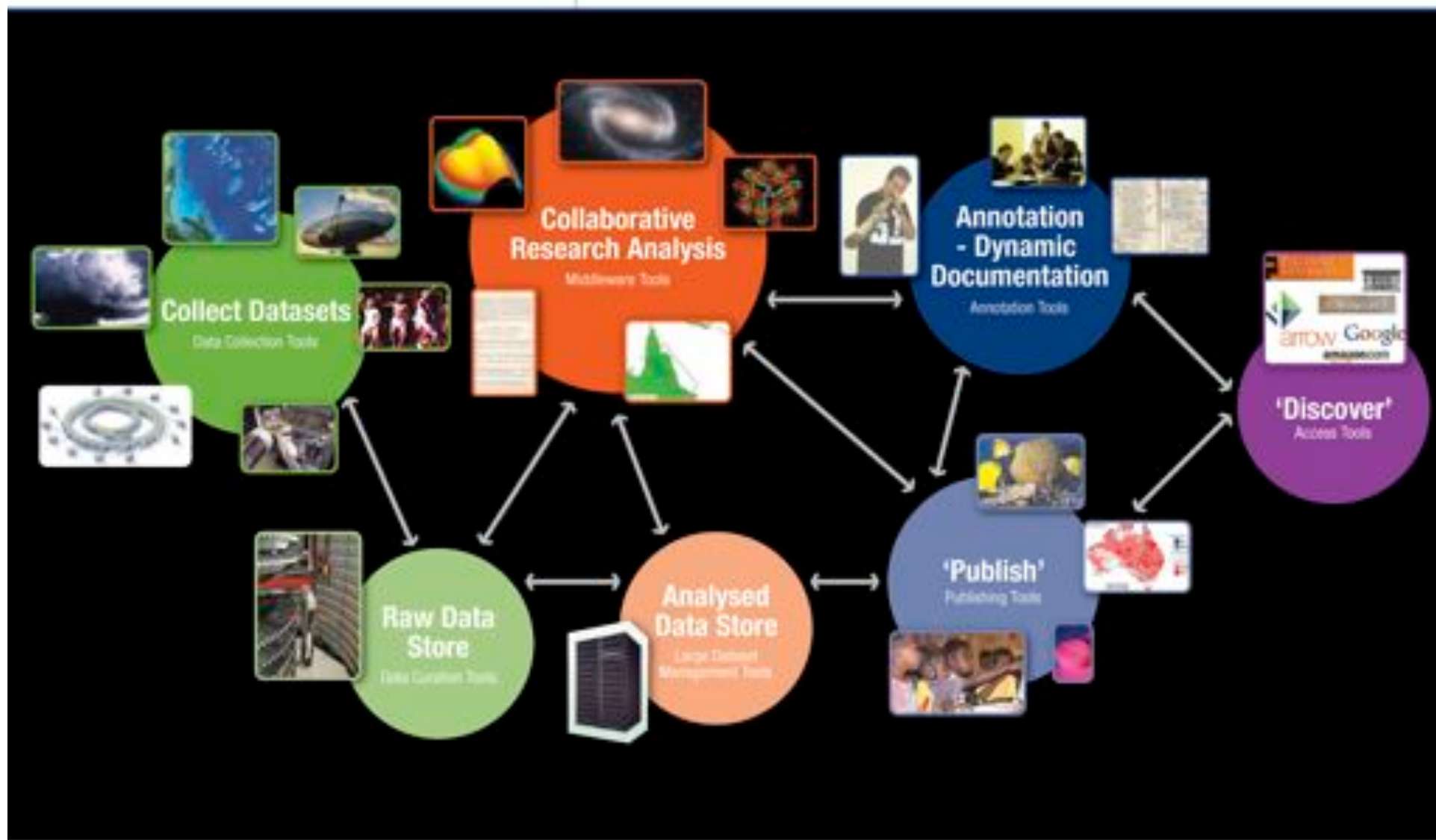
or to put it another way.....

Researchers/Readers

Repositories

Data Sources







## DART work packages

- The work packages covered five broad technical areas:
  - Data Collection and Monitoring
  - Storage and Interoperability
  - Content and Rights
  - Annotation and Assessment
  - Discovery and Access
- Details [on the website](#), including all project outputs:
  - reports, source code, documentation



## DART Achievements

- Strong progress in data capture and instrument integration
- Investigated storage and replication of very large datasets across diverse networks
- Placed Information Management staff into research teams, addressing their data and information management requirements
- Developed annotation software for 3-D models, video and audio
- Reviewed IP and privacy around datasets and e-research practices
- Investigated Creative Commons & Science Commons licensing
- Worked to utilise Shibboleth, PKI and Grid security standards
- Developed search tools, metadata schema registry, Plone tools, etc
- Production deployment of X-Ray Crystallography tools



## DART Demo

- NOTE: This is only a partial demo of the range of work performed in DART - for more see the website
- <https://dev.archer.edu.au/downloads/DartPortalDemonstration/eResearch-no-callouts/eResearch-no-callouts.html>
- <https://dev.archer.edu.au/downloads/DartPortalDemonstration/eResearch-callouts/eResearch-callouts.html>



## But is it Collectible?

- Clever Collections need high quality data in them
- Ensuring high quality data needs
  - inbuilt quality control ✓
  - near-frictionless data collection from instruments ✓
  - (semi) automated metadata extraction ✓
  - good data management ✓

## From DART to ARCHER

- Australian ResearCH Enabling enviRonment
- ARCHER is a DEST funded project for 2007/8 that is taking the **proof-of-concept** outcomes of DART, turning them into **production-ready** ARCHER software tools, and packaging them, along with other open-source components, for deployment
- These tools are being developed as modular middleware components, generalising from the needs of a number of designated National Collaborative Research Infrastructure Scheme (NCRIS) priority research capabilities
- Focus is on **data-centric collaboration**
- ARCHER aims to have an internal prototype available in mid December 2007, final versions mid 2008

## Web Frontend



## ARCHER Components

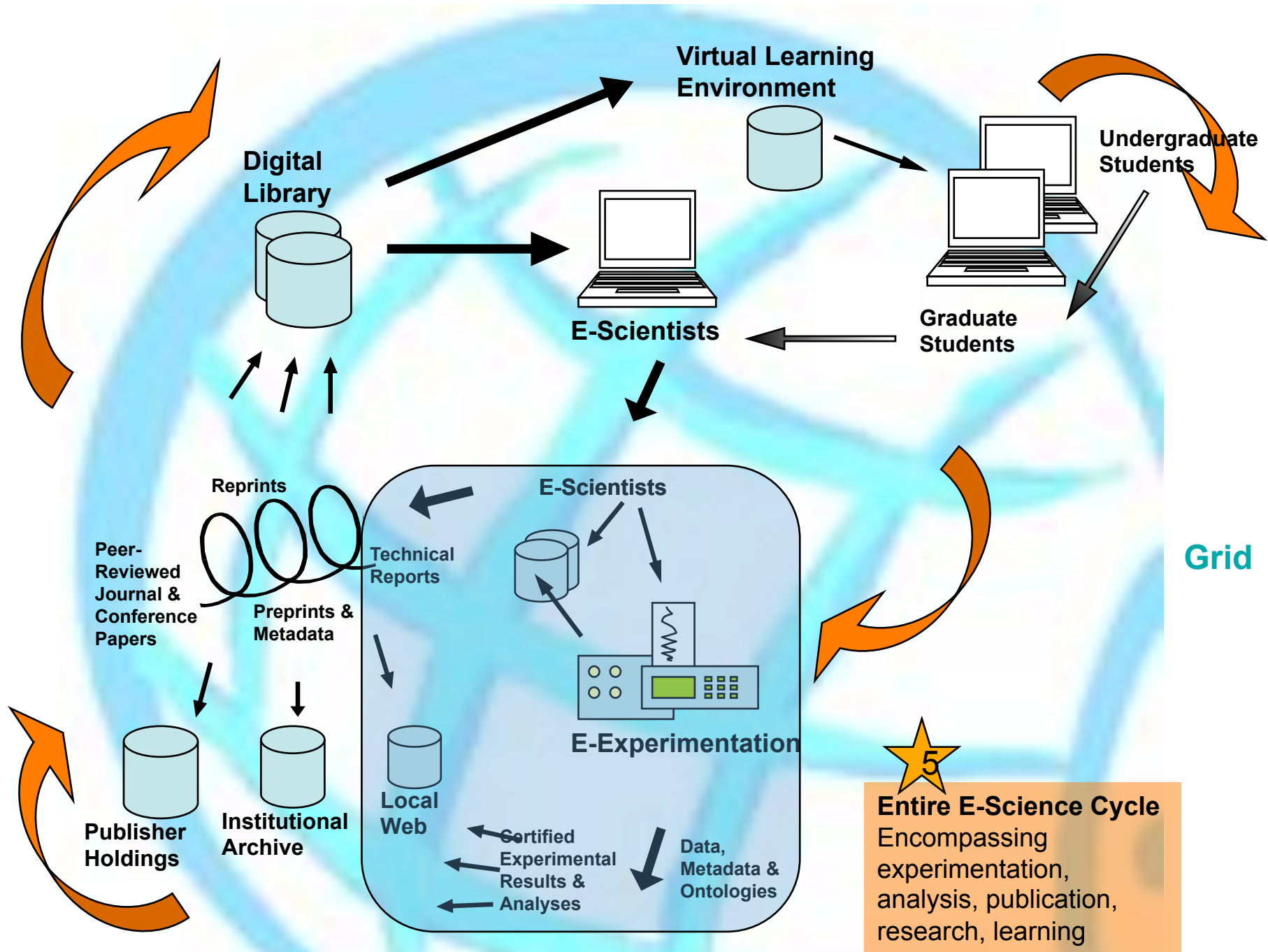


## Stores



## Enabling Infrastructure





Source: Adapted from Liz Lyons, eBank UK Presentation

## ARCHER into ANDS

- ARCHER is currently re-aligning itself with ICI and ANDS
- ARCHER will be applying for NeAT funding for two separate projects in FY2008/9
  - Collaborative Workspaces
  - Data Acquisition and Management
- Regardless of these projects, outcomes of ARCHER likely to be useful in ANDS Repositories program

## ANDS and Collections

- ANDS will need to rely on well-curated data collections to meet the needs of the Australian Data Commons
- ANDS assumes that data is well managed in institutionally-supported/ discipline-supported repositories
  - Like those being produced by ARROW, ARCHER and APSR
- ANDS will present data through a variety of discipline-focussed collections
- One of the ANDS Utilities is likely to be a Collections Registry
- For more read *Towards the Australian Data Commons*
  - Or just come and hear Rhys tomorrow at 3.45!



## Questions?

- Web:
  - [dart.edu.au](http://dart.edu.au)
  - [archer.edu.au](http://archer.edu.au)
  - <http://www.pfc.org.au/twiki/pub/Main/Data/TowardstheAustralianDataCommons.pdf>
- Email:
  - [andrew.treloar@its.monash.edu.au](mailto:andrew.treloar@its.monash.edu.au)
  
- Funding for DART/ARCHER has been provided through the Systemic Infrastructure Initiative as part of the Commonwealth Government's Backing Australia's Ability - An Innovation Action Plan for the Future.