STFC – Science and Technology Facilities Council

Square Kilometre Array

Large Hadron Collider

Pr des:

- Synchrotron Radiation Source
- Lasers
- Space Science
- Particle Physics

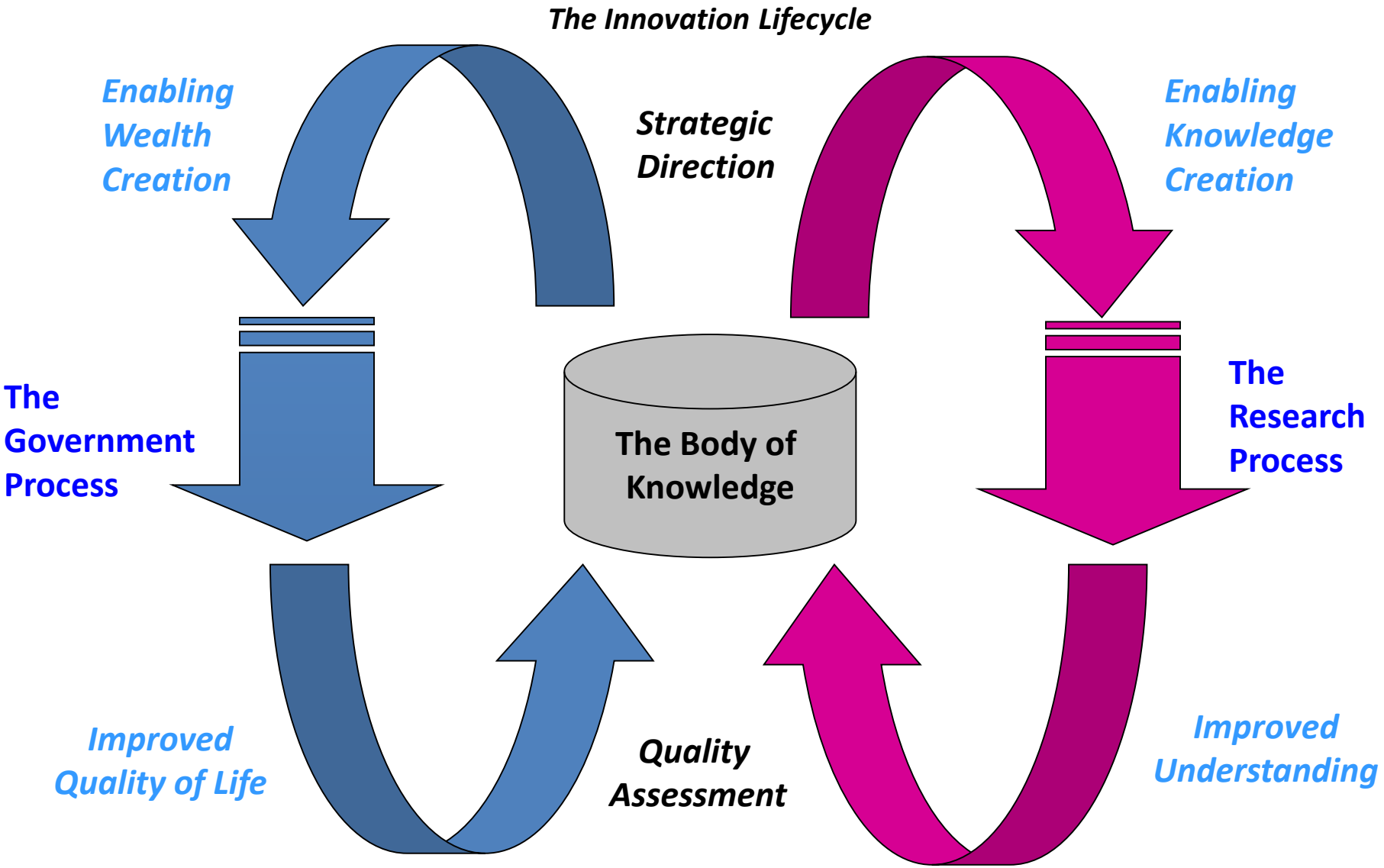
Data Management

ications

Daresbury Laboratory

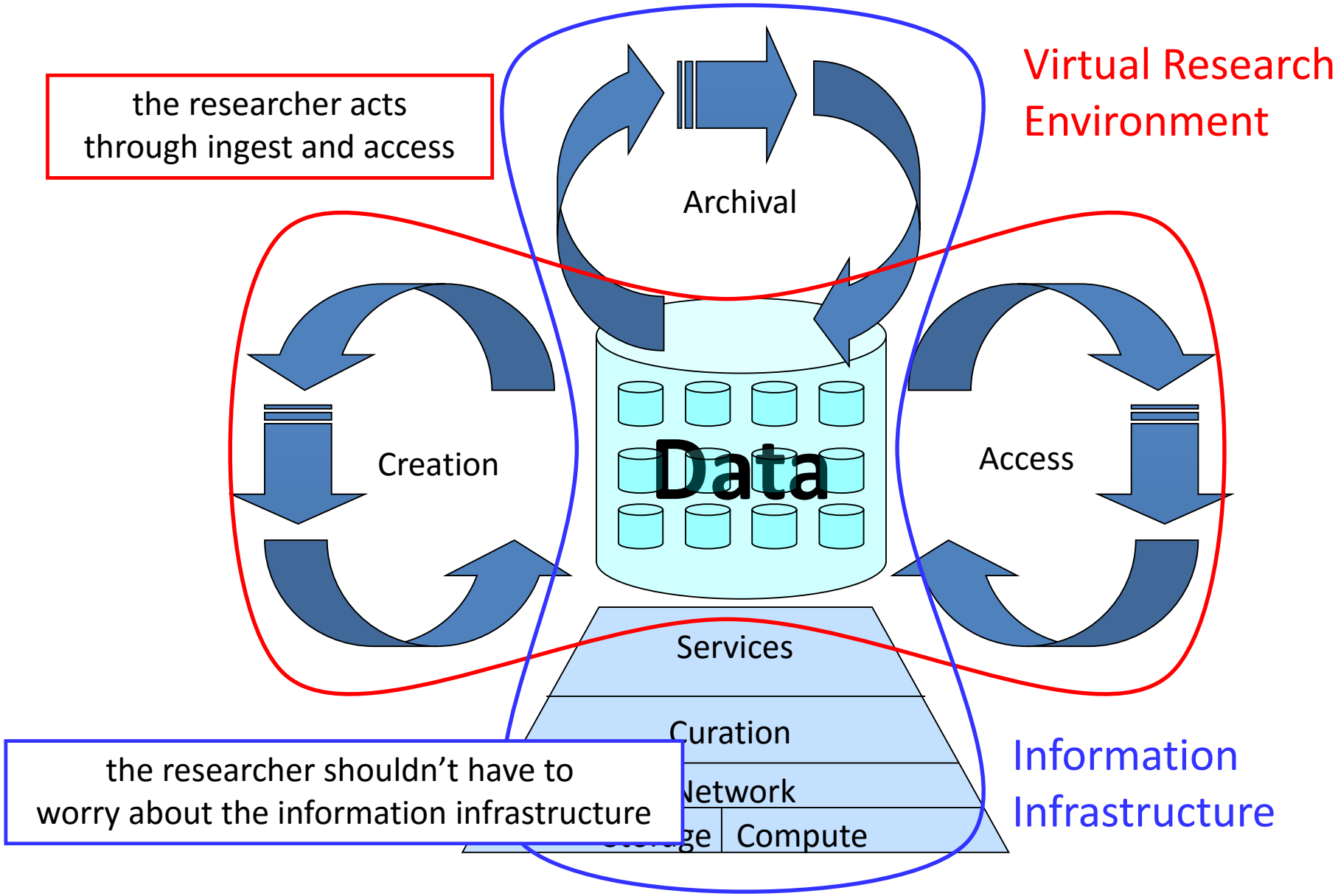
ESRF & ILL, Grenoble

Data and the Research Process



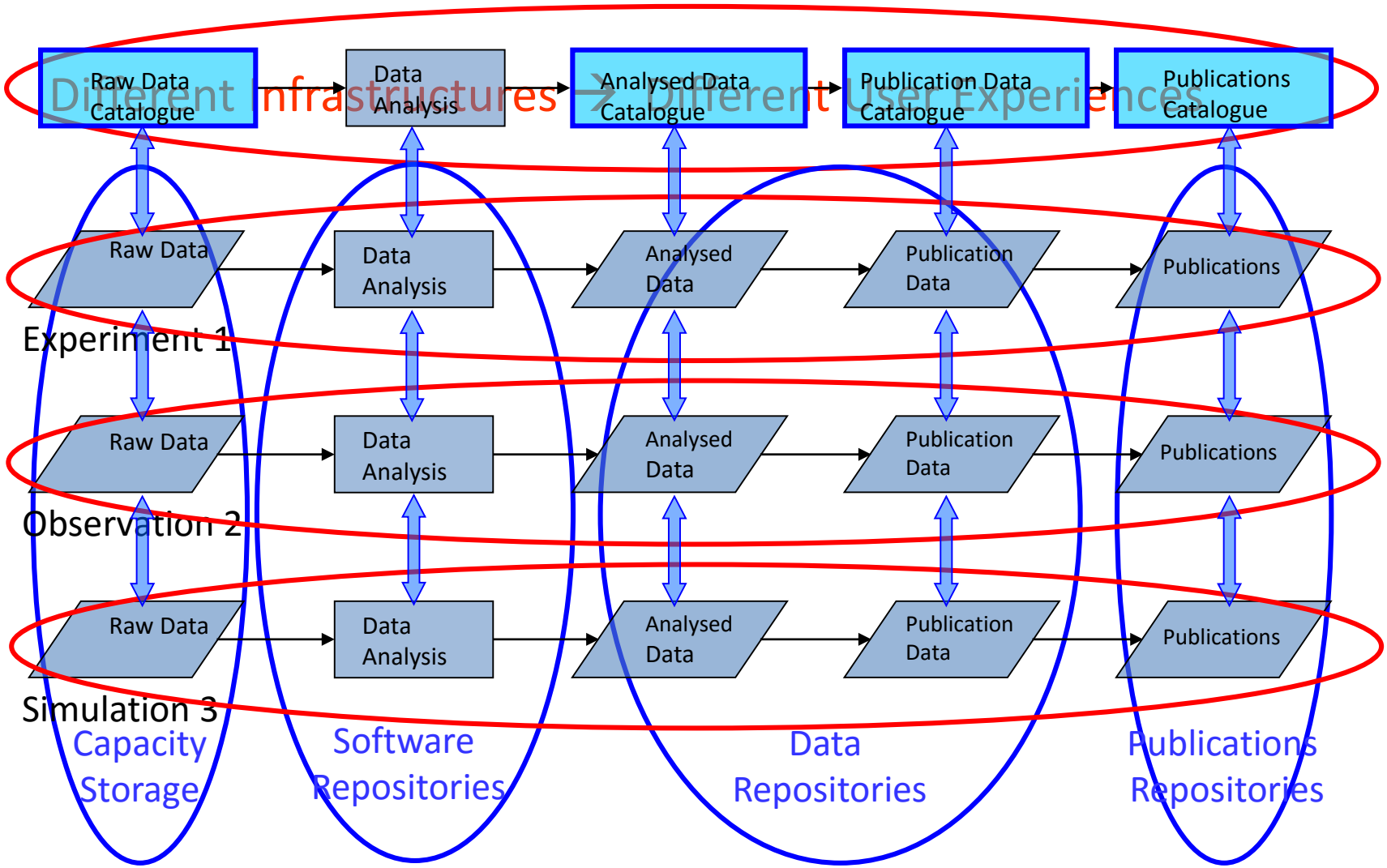
Aggregation of Knowledge lies at the heart of the innovation lifecycle

Data centric view of research

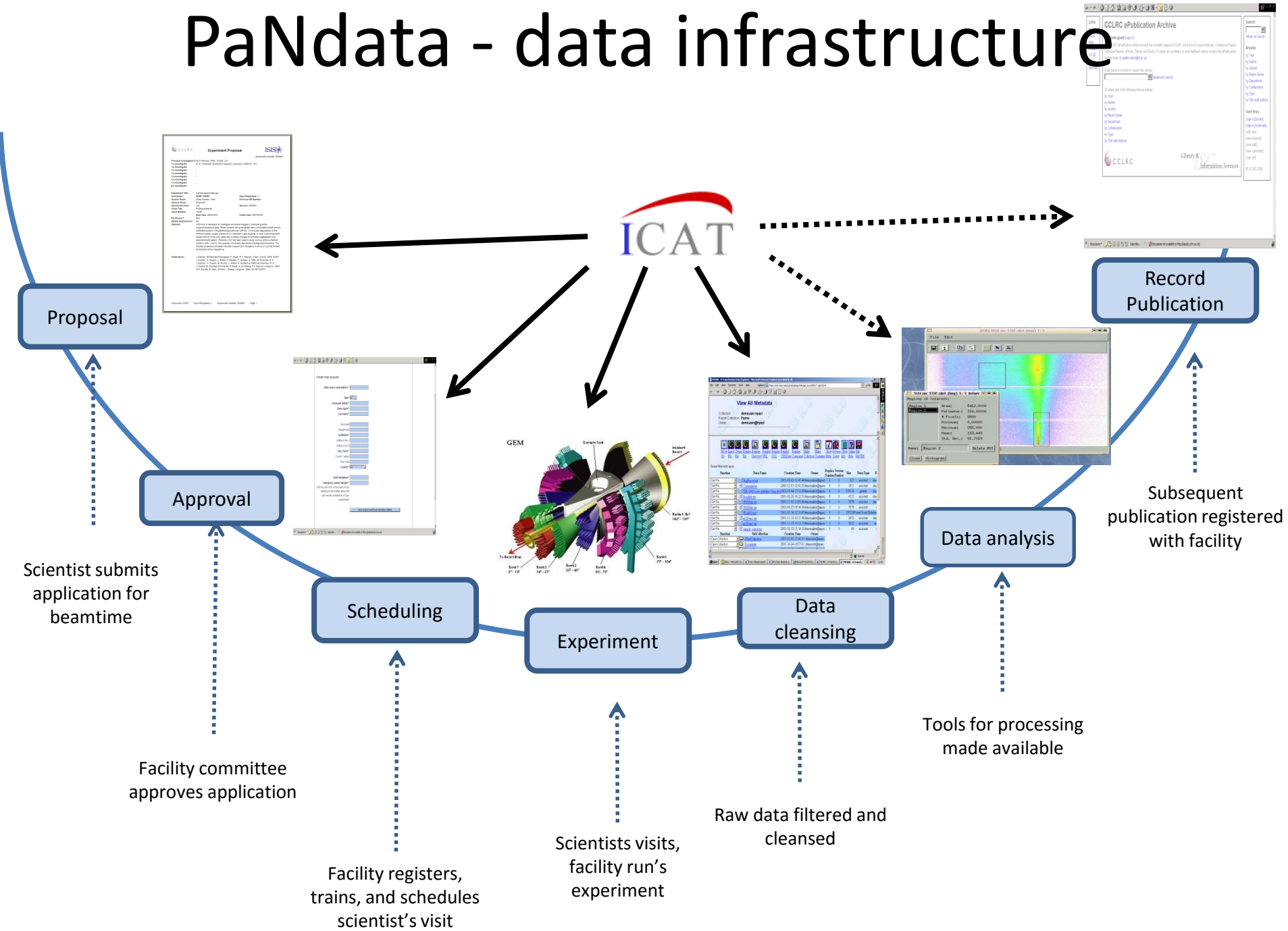


PaNdata
Photon and Neutron Data Infrastructure

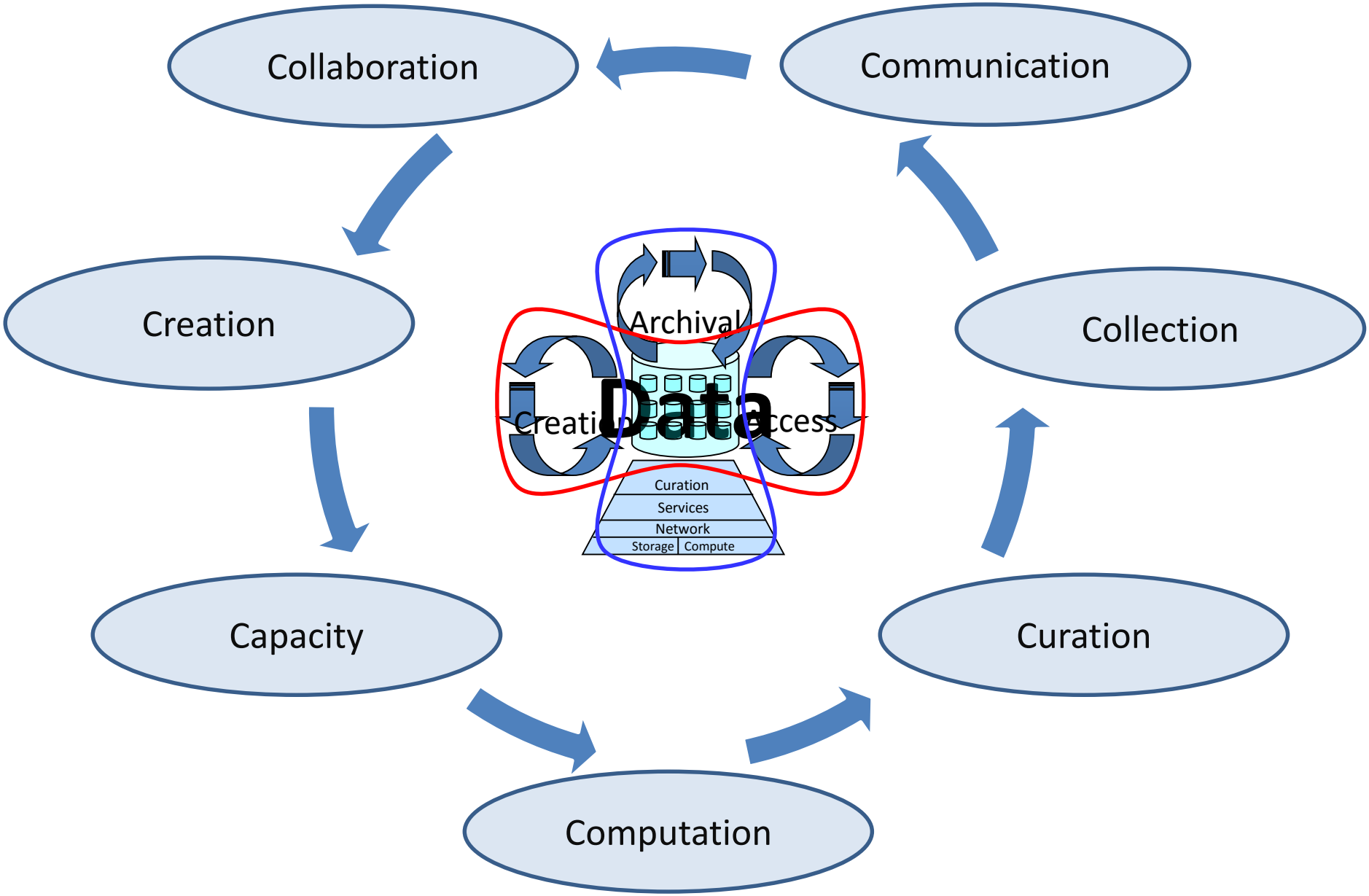
Single Infrastructure → Single User Experience

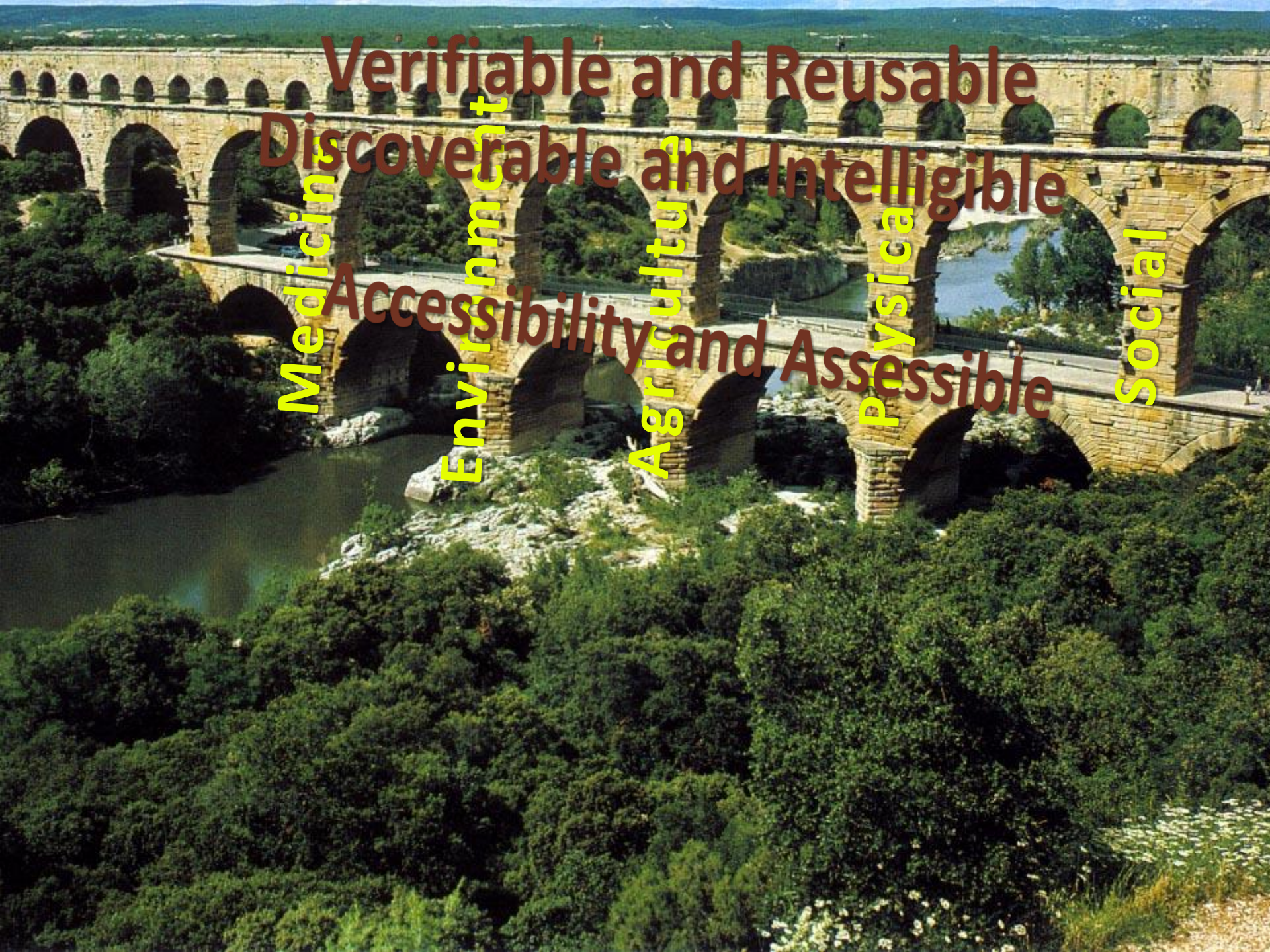


PaNdata - data infrastructure



The 7 C's


Collaboration
Communication
Creation
Collection
Capacity
Curation
Computation
Archival
Data
Curation
Services
Network
Storage
Compute


Verifiable and Reusable
Discoverable and Intelligible
Accessibility and Assessible
Medicine
Environment
Agriculture
Physical
Social

Open-Data Science Environment

- Reduction of fragmentation - leveraging of existing components (rather than starting from scratch)
- Partnership - including users and providers of services and infrastructure.
- Open Science - including opening up access to data, analysis software and publications, in way that is makes data verifiable and reusable.
- Open Infrastructure - built from interoperable “plug and play” components
- Supporting the entire science process – “from proposal to publication”
- Data Centric - involving Data Centres to store data, Networks to move data, Computers to analyse data, and Publications that draw conclusions from data.
- A strong social dimension - existing consortia working together to find the best integrated solution