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# The UK Research Information Infrastructure: Key Issues and Challenges

Dr Michael Jubb Director, Research Information Network

LIBER Conference, Uppsala 5 July 2006



### The RIN and its Mission

- Established in 2005 for three years in the first instance
- Sponsored by
  - the Higher Education Funding Councils for England, Scotland, Wales and Northern Ireland
  - the eight UK Research Councils
  - the British Library, and the National Libraries of Scotland and Wales
- **Mission** 
  - To lead and co-ordinate new developments in the collaborative provision of research information for the benefit of researchers in the UK



#### RIN Structure

- **Executive team of four**
- Budget of £3m (4.5m euros) over three years
- Reporting lines
  - Funders' Group (the 15 sponsors who provide the funds)
  - Advisory Board of research and information professionals)
  - Consultative Groups of representatives of the research and information communities



# Strategic Objectives

- To develop a strategic framework for enhancing the UK research information infrastructure
- To ensure the active engagement of the research community
- To act as an advocate for research information provision in the UK and internationally
- To improve the arrangements for researchers to find information sources relevant to their work
- To enhance management and development of the UK collection of hard copy research resources
- To ensure that the outputs researchers produce and need are retained and made available for use



# Information Service Infrastructure

- Key challenges in developing a distributed and federated information infrastructure
  - Context
  - **8** Key Players and their Roles
  - Scholarly Communications
  - Research Data
  - The Changing Role of Research Libraries
  - Services for Researchers
  - Key Issues for Research Funders, Universities, Libraries, and Researchers



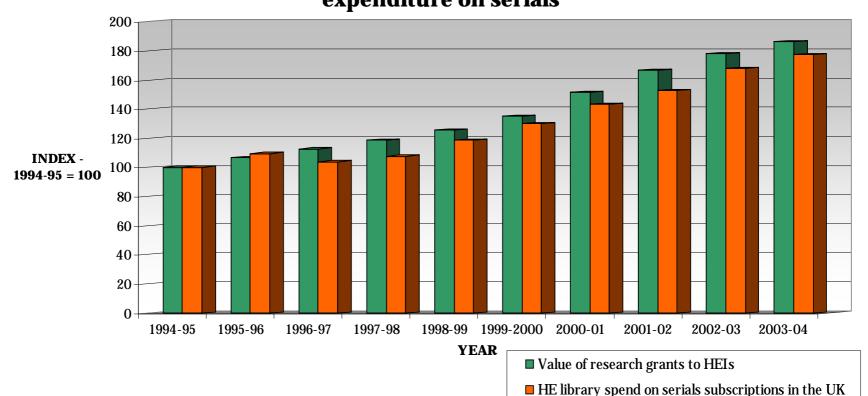
### Context:I

- Continuing growth in the volume and scale of research
  - Development of world-wide virtual research communities
- Increasing integration of conceptual and technological tools from computer science into all areas of research
- The "data deluge"
  - Forecasts that in the next five years e-science projects will produce more data than has been produced in the whole of human history up to now
  - Challenges of research data management, from data acquisition and data integration, to data treatment, provenance and persistence
- The shift of publications from print to digital
  - **Expectation of immediate access and delivery to the desktop**
  - Developing expectation of linking of publications and underlying data



# Context II: Research Grants and Library Expenditure

Research grants to UK Universities and Colleges, and library expenditure on serials

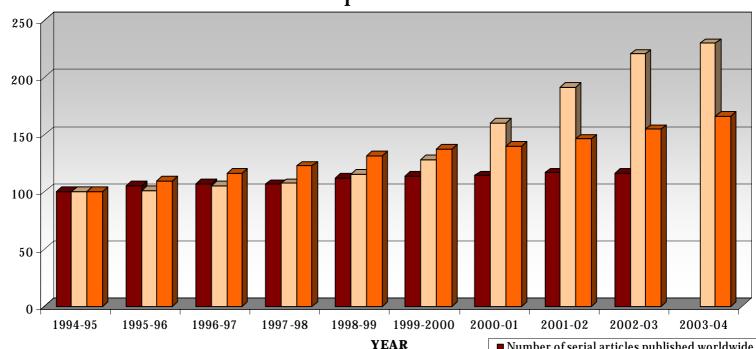




#### **Context III: Research Publications**

#### Worldwide production of serial articles, UK serial subscriptions and expenditure





■ Number of serial articles published worldwide

- Total serial titles subscribed to by HE libraries in
- HE library spend on serial subscriptions in the UK

# The UK Research Information Service Infrastructure

research

- A highly-federated and distributed system
  - Like other parts of the research infrastructure, has suffered from underinvestment
- Key players
  - National and copyright libraries, especially the British Library
  - Other major research libraries
  - Joint Information Systems Committee (JISC) and its major service providers
  - Data Centres such as the British Geological Survey, the European Bioinformatics Institute, the Arts and Humanities Data Service
  - Publishers, with services such as Science Direct, Web of Science, SCOPUS etc
- Role of Funders and Policy Makers
  - **G** Government Departments and Agencies
  - Universities and Colleges
- International connectivity
  - Opportunities and challenges



# **Scholarly Communications: I**

- Impact of new technologies on all the key stages/functions in the scholarly communications process
  - doing research and producing research outputs
  - identifying and protecting intellectual property rights
  - quality assurance and the peer review of research outputs
  - Presenting, publishing and disseminating outputs in both digital and printed forms
  - providing access to quality-assured and authentic published outputs
  - assessing usage and impact
  - preserving and providing access to published outputs in both digital and printed forms, for the indefinite future
- Changing roles of the key players, and resulting tensions between them



# **Scholarly Communications: II**

- Impact of the open access movement in its two key forms
  - Pay-to-publish journals
  - Development of institutional and subject-based repositories
- Need for a better, shared, understanding of the changes in what is being done, how, and by whom
  - in order to maximise benefits of new technologies
  - to establish an evidence base for the development of public policy
    - costs and income flows across the whole scholarly communications process
    - patterns and demographics of usage
    - linking of publications and underlying data
    - **!** impacts of development of informal communications



#### Research Data

- Increasing need to manage and provide access to digital data, as well as formal publications
- Little consistency in policy and practice across major research funders and institutions
- Need to recognise different requirements that arise in handling different kinds of data from different sources
  - experimental data; observational data; models and simulations; social survey data
- Increasing international interest
  - OECD Ministerial Declaration 2004
  - US National Science Board Report on Long-Lived Data
  - **Australian Accessibility Framework**
- Increasing need for guidelines and protocols, and for coordination



#### Research Libraries and their Role

- Change in researchers' expectation of information provision
  - interest less in the *collections* of individual libraries, more in the information resources and services to which they can provide *access*
- Change in the range of services provided by libraries, with print and digital resources and services
- Need for better understanding of the relationships between researcher behaviour and expectations, and the services that libraries can offer
- What kinds of changes are required to meet researchers' needs
  - can we sustain the necessary investment
  - are libraries an essential focus for such investment?



research

network

- Remaining importance of print and ms, especially in arts, humanities and social sciences
- Digitisation a powerful tool, but questions of integration, interoperability, and priorities
- Increasing recognition of need for collaboration at national level in management and development of hard copy and microform collections
  - Collaborative preservation and access for low-use printed material
  - Collaborative management and development of collections in specified areas



#### Researchers and their Needs

- Effective, intelligent and comprehensive resource discovery, so far as possible on a single platform
- Seamless discovery and access wherever possible
- Quality assurance (quality, authenticity and integrity)
- Interoperability and seamless access to published and unpublished data in a wide variety of formats, and to the applications necessary to make use of them
- Skilled support and training



# Challenges for Libraries, Universities, and Funders

- Need for investment and co-ordination in developing a distributed infrastructure that provides essential services for researchers across the sector
- Need for a better understanding of
  - the impact and potential of technological developments
  - changes in the functions and roles of key providers of information services
  - changes in researchers' behaviour, perceptions and needs
- In order to achieve
  - Clarity as to expectations, roles and responsibilities of key players
  - Optimal configuration of investments of key players



## Some Key Principles or Goals

- Ideas and knowledge derived from publicly-funded research should be managed and made available as widely, rapidly and effectively as practicable
  - explicit rules and codes of conduct setting out the responsibilities of researchers, their institutions, and providers of information services
  - standards and quality assurance in creating, collecting, and managing data and research outputs, and selecting and making them available to others
  - access in a managed environment which maximises ease of use while protecting the interests of creators and others who have legitimate interests
  - clarity, efficiency and cost-effectiveness in the use of public funds
  - operational and financial sustainability over the (very) long term



#### More Information about the RIN

www.rin.ac.uk