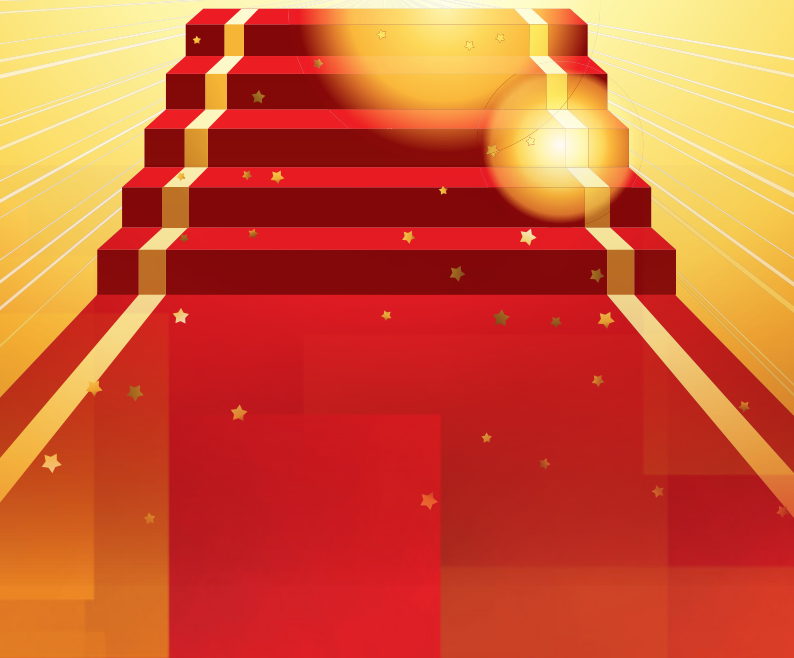# 5 Steps to Research Data Readiness -

a guide for IT managers

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5 Steps to Research Data Readiness -
a guide for IT managers

Research data is a valuable resource that needs to be properly managed if the maximum return on research investment is to be realised. Recognition of its importance is reflected in the policies of the principal research funders, as well as by an emerging suite of institutional data management policies.

Much of the responsibility for providing an effective data management infrastructure will fall upon IT services, who will be expected to store, protect, preserve and facilitate the retrieval of a wide range of data in order to enable the optimum exploitation of research outputs – often in ways not predicted by the original data creators.

To ensure that you are ready to meet these responsibilities follow our **5 Steps to Research Data Readiness**. At each step we give you links to tools and resources to help you on your way.

Step 1: Take stock

You are probably already responsible for quite a lot of research data, but just how much do you have and how much do you need to keep? Until you know what you have, where it came from and for how long it needs to be kept accessible, you will struggle to plan your future strategy effectively.

• The *Data Asset Framework* provides a methodology and an online tool to allow a systematic audit of your institution's existing data holdings:
  www.dcc.ac.uk/resources/tools-and-applications/data-asset-framework

• The DCC's guide *How to Appraise & Select Research Data for Curation* will give you practical advice on working with data creators, helping you to decide which data should be archived for the long term and which can be safely destroyed after set periods of time:
  www.dcc.ac.uk/resources/how-guides/appraise-select-data

Step 2: Let research needs drive your strategy

Once you know what data is being held you can design a strategy for the future management of existing and new research data. Creating systems and policies that support the needs of both data creators and data users is crucial. After all, there is no point in holding onto data if users can't find it, access it and use it when they need it.

- Start by reviewing your institution's research codes of practice and related policies. Are these currently being supported by IT infrastructure and services? Research funders publish their requirements for data retention, with most now expecting that data should be held for 10 years or more. Just as important is making sure that any sensitive data isn't kept for longer than is legally allowed. The DCC has gathered together funder policies, useful tools and legal guidance at www.dcc.ac.uk/resources/policy-and-legal

- Many research funders now require applicants to submit Data Management Plans as part of their grant applications. Ensuring that you are aware of and can contribute to the DMPs being produced in your institution will give you a good idea of what kinds of data are going to be generated, enabling you to prepare your support to researchers both during and after a research programme. Find out more about DMPs at www.dcc.ac.uk/resources/data-management-plans

There will be a lot to consider – but remember, you're not alone. Get others involved in this step – staff from the research support office, library, archives and the FoI office should be contributing.

Step 3: Re-evaluate your existing infrastructure and data architecture

Knowing what data you currently hold and what the future needs of your research community are will allow you to re-evaluate your existing infrastructure and data architecture to ensure that it is fit for purpose.

- A *CARDIO* assessment, conducted in collaboration with members of the research community and other key stakeholders, such as the library and research support office, can help you to identify which parts of your systems currently work well and which will need development or re-design: **cardio.dcc.ac.uk/**

Step 4: Get to know the new technologies and standards

Technologies and standards relating to data management are developing rapidly and it is essential to keep pace with these advances if your systems are to be fit for the future.

- The DCC website is a great source of information on new developments; in addition, the DCC has created a suite of useful tools that can be found at www.dcc.ac.uk/resources/tools-and-applications

- We also offer a catalogue of relevant tools and applications produced by other experts, which can be accessed at www.dcc.ac.uk/resources/external/software-and-hardware/tools. The majority of these are freely available so you won't need to worry about securing extra budget allocation to test these out at your institution.

- New JISC-funded services that provide computing 'in the cloud' as an alternative to expensive campus servers are progressively being brought to market. Details can be found on their website at www.jisc.ac.uk/

- The JISC Managing Research Data programme will be of particular interest as a source of case studies in the delivery of infrastructure and services: www.jisc.ac.uk/whatwedo/programmes/di_researchmanagement/managingresearchdata.aspx.

Step 5: Bring your staff up to speed

So, all the policies, procedures, systems, hardware and software are in place. Now you need to make sure your staff are up to speed.

It is important first of all that they understand what your institution's researchers are trying to do – and why – for which they must be equipped to join and engage with them. Some familiarity with the key characteristics of the research disciplines will always be helpful but a sound grounding in the principal aims and techniques of research data management will be essential.

- The DCC's *Digital Curation 101* and *Tools of the Trade* training courses can help here: **www.dcc.ac.uk/training**. The DCC also offers train the trainer courses to help equip your support staff in basic data management techniques.

- There may also be useful course material available from the Research Data Management Training (RDMTrain) projects being funded by JISC: **www.jisc.ac.uk/whatwedo/programmes/mrd/rdmtrain.aspx**

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We hope these steps will provide you with insight into achieving research data readiness. We are, of course, always ready to give you further advice and assistance:

- Email: Info@dcc.ac.uk
- Help desk telephone: 0131 651 1239
- Web: www.dcc.ac.uk