

# AHRC Template

**Plan Name** AHRC Template

**Principal Investigator / Researcher** TUoS Researcher

**Funder** -

**Institution** University of Sheffield

## 1: Summary of Digital Outputs and Digital Technologies

### Summary of Digital Outputs and Digital Technologies

#### AHRC guidance:

You should provide a brief and clear description of the digital output or digital technology being proposed, considering the following aspects: purpose, source data, content, functionality, use and its relationship to the research questions. You should identify the type of access envisaged, if applicable, such as 'freely available online'.

The summary should provide clear overview of what you intend to achieve technically, to enable reviewers to assess whether the plans for achieving this are appropriate.

You should provide a level of detail which is appropriate to the digital output or digital technology being proposed and its cost and status within the project.

#### DCC guidance on methods for data sharing

Questions to consider:

- How will you make the data available to others?
- With whom will you share the data, and under what conditions?
- What data will you create?

Guidance:

Consider where, how, and to whom the data should be made available. Will you share data via a data repository, handle data requests directly or use another mechanism?

The methods used to share data will be dependent on a number of factors such as the type, size, complexity and sensitivity of data. Mention earlier examples to show a track record of effective data sharing.

#### The University of Sheffield: guidance on Method For Data Sharing

**Note:** At the end of your research project, your funder may require you to make your research data available for sharing with as few restrictions as possible. Data may be shared by being published in:-

- a Repository or Data Centre - see the University of Sheffield webpage on ['Research data repositories'](#) for guidance
- a journal as an article's supplementary material
- a data journal as a data paper.

Wherever data is published, a metadata record should be [registered in ORDA](#), the University of Sheffield data repository.

**Suggested text for use when data will be placed in a repository:** *“Data will be made available through shared research platforms [insert repository / platform relevant to project] with the relevant permissions in place.”*

**Suggested text for use when data will not be placed in a repository:** *“The lead PI and project team [including collaborators if applicable] will review applications to access experimental data and make the decision on whether to supply research data to potential applicants. Data will then be released on a case by case basis.”*

## **DCC guidance on data description**

Questions to consider:

- How will you make the data available to others?
- With whom will you share the data, and under what conditions?
- What data will you create?

Guidance:

Give a brief description of the data that will be created, noting its content and coverage.

## **The University of Sheffield: guidance on Data Description**

Please see the University of Sheffield webpage '[What is research data?](#)' for guidance.

## **2: Technical Methodology**

### **2a: Standards and Formats**

#### **AHRC**

You should provide information about your choice of data and file formats. You must provide any relevant vital statistics relating to the data, such as size, quantity and duration. Although such statistics might need to rely on estimation, you should provide the reasoning behind your calculations. You should give your reasons for using the standards or formats chosen.

## **DCC guidance on Data Volumes**

Questions to consider:

- Do you have sufficient storage?
- Do you need to include costs for additional managed storage?
- Will the scale of the data pose challenges when sharing or transferring data between sites?

Guidance:

Consider the implications of data volumes in terms of storage, backup and access.

Estimate the volume of data in MB/GB/TB and how this will grow to make sure any additional storage and technical support required can be provided.

### **The University of Sheffield: guidance on Data Volumes**

Please see the University of Sheffield Corporate Information and Computing Services webpages on '[Research data storage](#)' and '[Storage options](#)' for guidance.

### **DCC guidance on Metadata**

Questions to consider:

- How will you capture / create the metadata?
- Can any of this information be created automatically?
- What metadata standards will you use and why?

Guidance:

Metadata should be created to describe the data and aid discovery. Consider how you will capture this information and where it will be recorded e.g. in a database with links to each item, in a 'readme' text file, in file headers etc.

Researchers are strongly encouraged to use community standards to describe and structure data, where these are in place. The DCC offers a [catalogue of disciplinary metadata standards](#).

### **The University of Sheffield: guidance on Metadata**

Metadata is a structured form of documentation that identifies and describes your data. Researchers should use community standards, where they exist: see the DCC webpage on [Disciplinary metadata standards](#).

Please see the University of Sheffield webpages on '[Describing your data](#)' and '[Metadata](#)' for guidance.

### **DCC guidance on Data Format**

Questions to consider:

- What format will your data be in?
- Why have you chosen to use particular formats?
- Do the chosen formats and software enable sharing and long-term validity of data?

Guidance:

Outline and justify your choice of format e.g. SPSS, Open Document Format, tab-delimited format, MS Excel. Decisions may be based on staff expertise, a preference for open formats, the standards accepted by data centres or widespread usage within a given community. Using standardised and interchangeable or open lossless data formats ensures the long-term usability of data.

See UKDS Guidance on [recommended formats](#).

### **The University of Sheffield: guidance on Data Format**

Please see the University of Sheffield webpage on '[Organising your data: Choosing data formats](#)' for guidance.

### **2b: Hardware and Software**

#### **AHRC**

You should provide information about and the rationale for any hardware or software which will be used to support the project's research methodology, which is additional or exceptional to conventional desk-based research and institutional provision. They should be included in the Justification of Resources and cross-referenced if there is an associated budget line. Where necessary you should produce additional justification of the use of such items.

You must write 'Not applicable' if this section is not relevant to the type of digital output or digital technology proposed.

### **DCC guidance on Resourcing**

Questions to consider:

- What additional resources are needed to deliver your plan?
- Is additional specialist expertise (or training for existing staff) required?
- Do you have sufficient storage and equipment or do you need to cost in more?
- Will charges be applied by data repositories?
- Have you costed in time and effort to prepare the data for sharing / preservation?

Guidance:

Carefully consider any resources needed to deliver the plan. Where dedicated resources are needed, these should be outlined and justified. Outline any relevant technical expertise, support and training that is likely to be required and how it will be acquired. Provide details and justification for any hardware or software which will be purchased or additional storage and backup costs that may be charged by IT services. Funding should be included to cover any charges applied by data repositories, for example to handle data of exceptional size or complexity. Also remember to cost in time and effort to prepare data for deposit and ensure it is adequately documented to enable reuse. If you are not depositing in a data repository, ensure you have appropriate resources and systems in place to share and preserve the data.

See UKDS guidance on [costing data management](#).

### **The University of Sheffield: guidance on Resourcing**

The University of Sheffield [research data storage facility](#) allocates 10TB storage free to research groups during the lifetime of a project. If a larger quota is required then this will involve charges. Long-term archiving of data may involve charges also. Get in

touch with CiCS to discuss your requirements and get a quote at <https://www.sheffield.ac.uk/cics/support/help>.

[ORDA](#), the University of Sheffield research data repository is free to use. You should enquire about charges made by other data repositories you intend to use.

## **2c: Data Acquisition, Processing, Analysis and Use**

### **AHRC Guidance**

You should provide information about the process of technical development, showing how the standards and formats described in section 2.a and the hardware and software described in section 2.b relate to each other. You must show that you have considered how you will achieve your digital output or digital technology in practice, including issues of timetabling.

You should consider the technical development process from the point of data capture or data creation through to final delivery (in the case of a digital output) or analysis (in the case of a digital process). You should consider issues such as backup, monitoring, quality control and internal documentation where relevant, identifying procedures which are appropriate to the research environment. For example Technical Reviewers acknowledge that the backup procedures which are possible during fieldwork might be very different to those which are possible within an office environment.

This section needs to relate to the timetable and milestones given in the Case for Support as well as the project's overall research methodology. The Technical Reviewer will be assessing the alignment of the technical development process with other project activities for logic and timeliness.

### **DCC guidance on Data Capture Methods**

Questions to consider:

- How will the data be created?
- What standards or methodologies will you use?
- How will you structure and name your folders and files?
- How will you ensure that different versions of a dataset are easily identifiable?
- How will you control data capture to ensure data quality?
- What quality assurance processes will you adopt?

Guidance:

Outline how the data will be collected/generated and which community data standards (if any) will be used at this stage. Indicate how the data will be organised during the project, mentioning for example naming conventions, version control and folder structures. Consistent, well-ordered research data will be easier for the research team to find, understand and reuse.

### **The University of Sheffield: guidance on Data Capture Methods**

How will you organise your research data and handle version control? Please see the

University of Sheffield webpage on '[Organising your data: Naming and organising files and folders](#)' for guidance.

### **DCC guidance on Data Quality**

Questions to consider:

- How will the data be created?
- What standards or methodologies will you use?
- How will you structure and name your folders and files?
- How will you ensure that different versions of a dataset are easily identifiable?
- How will you control data capture to ensure data quality?
- What quality assurance processes will you adopt?

Guidance:

Explain how the consistency and quality of data collection will be controlled and documented. This may include processes such as calibration, repeat samples or measurements, standardised data capture or recording, data entry validation, peer review of data or representation with controlled vocabularies.

### **The University of Sheffield: guidance on Data Quality**

Please see the UK Data Service webpage on [data quality assurance](#) for guidance.

### **DCC guidance on Documentation**

Questions to consider:

- How will you capture / create the metadata?
- Can any of this information be created automatically?
- What metadata standards will you use and why?
- What metadata, documentation or other supporting material should accompany the data for it to be interpreted correctly?
- What information needs to be retained to enable the data to be read and interpreted in the future?

Guidance:

Describe the types of documentation that will accompany the data to provide secondary users with any necessary details to prevent misuse, misinterpretation or confusion. This may include information on the methodology used to collect the data, analytical and procedural information, definitions of variables, units of measurement, any assumptions made, the format and file type of the data.

### **The University of Sheffield: guidance on Documentation**

**Note:** Documentation and metadata describe the context, content and structure of your data and are essential for understanding and reusing them. See the University of

Sheffield webpage '[Describing your data](#)' for more information.

**Example text:** *"Methods and SOPs will be stored electronically in Microsoft Word documents (.doc) with the spreadsheets containing data"*

*"Explanation of the experimental and analytical methods used will be provided in text documents, stored alongside the data"*

*"Data documentation will accompany datasets submitted to the ... repository at the end of the research"*

## **DCC guidance on Storage and Backup**

Questions to consider:

- Where will the data be stored?
- How will the data be backed up? i.e. how often, to where, how many copies, is this automated...
- Who will be responsible for storage and backup?
- Do you have access to enough storage or will you need to include charges for additional services?

Guidance:

Describe how the data will be stored and backed-up to ensure the data and metadata are securely stored during the lifetime of the project. Storing data on laptops, computer hard drives or external storage devices alone is very risky. The use of robust, managed storage with automatic backup, for example that provided by university IT teams, is preferable.

See UKDA guidance on [data storage and backup](#).

## **The University of Sheffield: guidance on Storage and Backup**

Storing data on laptops, computer hard drives or external storage devices alone is not recommended. The use of robust, managed storage with automatic backup is preferred by the University and by funders.

Data and definitive project documentation should be stored on centrally provisioned University of Sheffield virtual servers and [research data storage infrastructure](#) throughout the lifetime of the project. Both Windows and Linux Virtual Servers with up to 10TB of storage are made available to research projects. Access control is by authorised University computer account username and password. Off-site access is facilitated by secure VPN connection authenticated by University username and remote password. By default, two copies of data are kept across two physical plant rooms, with a 28 day snapshot made of data and backed up securely offsite at least daily. This service is maintained by the University's Corporate Information and Computing Services.

[Google Drive](#) may be used for more flexible collaborative working but only where non personal-sensitive information is involved. Where Google Drive is used, copies of complete and definitive documents should be transferred to the main project repository

on the University research storage infrastructure.

Please see the University of Sheffield webpage on '[Keeping your data safe](#)' for further guidance.

### **3: Technical Support and Relevant Experience**

#### **Technical Support and Relevant Experience**

##### **AHRC Guidance**

You should provide information about the relevant expertise, including examples, of all individuals, facilities, organisations or services that will be responsible for the technical components of your project.

You should identify which aspects of the technical work will be undertaken by these project participants, identifying key individuals where possible. It should be clear to a reviewer that you have access to the appropriate skills and expertise that will deliver a successful project.

In your assessment of risk, under 'Project Management' in the Case for Support, you should consider the risks to the project if a key individual becomes unavailable, including the contingency plan for acquiring these skills from elsewhere.

You are encouraged, wherever appropriate, to seek partners from outside your institution to cover the technical elements of the project, and/or to seek relevant external advice. The key consideration is that your project should be informed by the right level of technical expertise in conception, development and execution. You should provide information about any external advice which you have sought.

You must identify the need for any additional training or expertise and give information as to how this will be provided.

In order to reduce risk to project development and sustainability, and unless there are good reasons not to do so, it is generally wise to ensure that the technical expertise employed by your project is supported by expertise in your institution or one that is a partner to the project. You should show how far this is the case.

The expertise and experience of the participants responsible for the project's technical components - whether internal or external to your institution - must be evident from the quality of the Technical Plan as a whole. Applicants who claim to be able to draw upon considerable expertise, but are unable to show that they have worked closely with the relevant project participants in completing the Technical Plan, will not be viewed favourably by Technical Reviewers. Similarly, it is unacceptable to state that these participants will address technical issues during the course of the project and then fail to provide sufficient technical detail in the Technical Plan.

##### **DCC guidance on Responsibilities**

Questions to consider:

- Who is responsible for each data management activity?
- How are responsibilities split across partner sites in collaborative research projects?

Guidance:

Outline the roles and responsibilities for all activities e.g. data capture, metadata production, data quality, storage and backup, data archiving & data sharing. Individuals should be named where possible. For collaborative projects you should explain the co-ordination of data management responsibilities across partners.

See UKDS guidance on data management [roles and responsibilities](#).

## **DCC guidance on Resourcing**

Questions to consider:

- What additional resources are needed to deliver your plan?
- Is additional specialist expertise (or training for existing staff) required?
- Do you have sufficient storage and equipment or do you need to cost in more?
- Will charges be applied by data repositories?
- Have you costed in time and effort to prepare the data for sharing / preservation?

Guidance:

Carefully consider any resources needed to deliver the plan. Where dedicated resources are needed, these should be outlined and justified. Outline any relevant technical expertise, support and training that is likely to be required and how it will be acquired. Provide details and justification for any hardware or software which will be purchased or additional storage and backup costs that may be charged by IT services.

Funding should be included to cover any charges applied by data repositories, for example to handle data of exceptional size or complexity. Also remember to cost in time and effort to prepare data for deposit and ensure it is adequately documented to enable reuse. If you are not depositing in a data repository, ensure you have appropriate resources and systems in place to share and preserve the data.

See UKDS guidance on [costing data management](#).

## **The University of Sheffield: guidance on Resourcing**

The University of Sheffield [research data storage facility](#) allocates 10TB storage free to research groups during the lifetime of a project. If a larger quota is required then this will involve charges. Long-term archiving of data may involve charges also. Get in touch with CiCS to discuss your requirements and get a quote at <https://www.sheffield.ac.uk/cics/support/help>.

[ORDA](#), the University of Sheffield research data repository is free to use. You should enquire about charges made by other data repositories you intend to use.

## **4: Preservation, Sustainability and Use**

## **4a: Preserving Your Data**

### **AHRC Guidance**

Preservation of digital outputs is necessary in order for them to endure changes in the technological environment and remain potentially re-usable in the future. In this section you must state what, if any, digital outputs of your project you intend to preserve beyond the period of funding.

The length and cost of preservation should be proportionate to the value and significance of the digital outputs. If you believe that none of these should be preserved this must be justified, and if the case is a good one the application will not be prejudiced.

You must consider preservation in four ways: what, where, how and for how long. You must also consider any institutional support needed in order to carry out these plans, whether from an individual, facility, organisation or service.

You should think about the possibilities for re-use of your data in other contexts and by other users, and connect this as appropriate with your plans for dissemination and Pathways to Impact. Where there is potential for re-usability, you should use standards and formats that facilitate this.

The Technical Reviewer will be looking for evidence that you understand the reasons for the choice of technical standards and formats described in Section 2.a Technical Methodology: Standards and Formats.

You should describe the types of documentation which will accompany the data. Documentation in this sense means technical documentation as well as user documentation. It includes, for instance, technical description, code commenting, project-build guidelines, the documentation of technical decisions and resource metadata which is additional to the standards which you have described in Section 2.a. Not all types of documentation will be relevant to a project and the quantity of documentation proposed should be proportionate to the envisaged value of the data.

### **DCC guidance on Preservation Plan**

Questions to consider:

- What is the long-term preservation plan for the dataset? e.g. deposit in a data repository
- Will additional resources be needed to prepare data for deposit or meet charges from data repositories?
- Where (i.e. in which repository) will the data be deposited?

Guidance:

Researchers should consider how datasets that have long-term value will be preserved and curated beyond the lifetime of the grant. Also outline the plans for preparing and documenting data for sharing and archiving.

If you do not propose to use an established repository, the data management plan should demonstrate that resources and systems will be in place to enable the data to

be curated effectively beyond the lifetime of the grant.

## **The University of Sheffield: guidance on Preservation Plan**

**Note:** For guidance see the University of Sheffield webpages on '[Preserving your data](#)' and '[Data repositories](#)'.

Long term preservation and access may be best managed by using a specialist data repository. Your funder may specify a data repository to use, such as [Archaeological Data Service](#) or [UK Data Service ReShare](#). Alternatively, look in [re3data.org](#) to find an appropriate repository. If no suitable repository is available you may [deposit data in ORDA](#), the University of Sheffield data repository. Alternatively, if you need to regulate users' access through 'Data sharing agreements', data may be retained in the University's research storage infrastructure and [registered in ORDA](#).

**Suggested text in all cases:** *"Data will be archived in line with the University of Sheffield's Research Data Management Policy, which is a component of the University's Policy on Good R&I Practices (the 'GRIP' Policy)."*

**Where data is in paper format:** *"Data collected in paper form will be routinely digitised and the paper form disposed of / stored for at least 10 years at our universities in secured areas."*

**For data deposited in external data repositories:** *"Research data selected for long-term preservation and sharing will be deposited in [name of repository/weblink]. The [name of repository] is openly accessible and searchable and will guarantee preservation of these data for ten years or more. Metadata records describing these data will be created in ORDA, the University of Sheffield research data registry and repository"*

**Where some research data are being deposited in ORDA:** *"Data that are not deposited in [name of repository/weblink] will be deposited in ORDA, a repository and registry of research data produced at the University of Sheffield, which will preserve data for ten years or more."*

**Where data is deposited in ORDA only:** *"Data selected for long-term preservation and sharing will be deposited in ORDA, a repository and registry of research data produced at the University of Sheffield, which will guarantee preservation for ten years or more."*

**Where data is being retained locally, but not made 'openly' accessible:** *"Data selected for long-term preservation and sharing will be stored on centrally provisioned University of Sheffield virtual servers and research storage infrastructure (<https://www.sheffield.ac.uk/cics/research>) for at least ten years. Records of these data will be published in ORDA, a registry of research data produced at the University of Sheffield."*

## **DCC guidance on Data Repository**

Questions to consider:

- What is the long-term preservation plan for the dataset? e.g. deposit in a data repository
- Will additional resources be needed to prepare data for deposit or meet charges from data repositories?
- Where (i.e. in which repository) will the data be deposited?

Guidance:

Most research funders recommend the use of established data repositories, community databases and related initiatives to aid data preservation, sharing and reuse.

An international list of data repositories is available via [Databib](#) or [Re3data](#).

### **The University of Sheffield: guidance on Data Repository**

**Note:** For guidance see the University of Sheffield webpages on '[Publishing and sharing your research data](#)' and '[Data repositories](#)'.

Long term preservation and access may be best managed by using a specialist data repository. Your funder may specify a data repository to use, such as [Archaeological Data Service](#) or [UK Data Service ReShare](#). Alternatively, look in [re3data.org](#) to find an appropriate repository. If no suitable repository is available you may [deposit data in ORDA](#), the University of Sheffield data repository. Alternatively, if you need to regulate users' access through 'Data sharing agreements', data may be retained in the University's research storage infrastructure and [registered in ORDA](#).

### **DCC guidance on Data Selection**

Questions to consider:

- Which data are of long-term value and should be shared and/or preserved?
- How will you decide what to keep?

Guidance:

Indicate which data you intend to preserve beyond the period of funding. This should be based on what has long-term value and is economically viable to keep. Consider how long you wish to keep the data and what will happen to it e.g. deposit in a data repository to enable reuse.

See the DCC guide: [How to appraise and select research data for curation](#).

### **The University of Sheffield: guidance on Data Selection**

Most funders now expect data underlying published papers, plus data of particular long-term value, to be made available to other researchers at the end of a project. Please see the University of Sheffield webpage on '[Preserving your data](#)' for guidance on data selection. Check your funder's policy on the University of Sheffield webpage '[Research funder policy summaries](#)'.

The Digital Curation Centre provides useful advice about [data selection and appraisal](#). The [NERC data value checklist](#) provides guidance on determining long-term value.

## **4b: Ensuring Continued Accessibility and Use of Your Digital Outputs**

### **AHRC Guidance**

In this section you must provide information about any plans for ensuring that digital outputs remain sustainable in the sense of immediately accessible and usable beyond the period of funding. There are costs to ensuring sustainability in this sense over and above the costs of preservation. The project's sustainability plan should therefore be proportionate to the envisaged longer-term value of the data for the research community and should be closely related to your plans for dissemination and Pathways to Impact.

If you believe that digital outputs should not be sustained beyond the period of funding then this should be justified. It is not mandatory to sustain all digital outputs. While you should consider the long-term value of the digital outputs to the research community, where they are purely ancillary to a project's research outputs there may not be a case for sustaining them (though there would usually be a case for preservation).

You must consider the sustainability of your digital outputs in five ways: what, where, how, for how long, and how the cost will be covered. You must make appropriate provision for user consultation and user testing in this connection, and plan the development of suitable user documentation.

You should provide justification if you do not envisage open, public access. A case can be made for charging for or otherwise limiting access, but the default expectation is that access will be open. The Technical Reviewer will be looking for realistic commitments to sustaining public access in line with affordability and the longer-term value of the digital output.

You must consider any institutional support needed in order to carry out these plans, if not covered under Section 3, as well as the cost of keeping the digital output publicly available in the future, including issues relating to maintenance, infrastructure and upgrade (such as the need to modify aspects of a web interface or software application in order to account for changes in the technological environment). In order to minimise sustainability costs, it is generally useful that the expertise involved in the development of your project is supported by expertise in your own or a partner institution.

A sustainability plan does not necessarily mean a requirement to generate income or prevent resources from being freely available. Rather it is a requirement to consider the direct costs and expertise of maintaining digital outputs for continued access. Some applicants might be able to demonstrate that there will be no significant sustainability problems with their digital output; in some cases the university's computing services or library might provide a firm commitment to sustaining the resource for a specified period; others might see the benefit of Open Source community development models. You should provide reassurances of sustainability which are proportionate to the envisaged longer-term value of the digital outputs for the research community.

When completing this section, you should consider the potential impact of the data on research in your field (if research in the discipline will be improved through the creation of the digital output, how will it be affected if the resource then disappears?), and make the necessary connections with your Impact Plan. You must factor in the effects of any IP, copyright and ethical issues during the period in which the digital output will be publicly accessible, connecting what you say with the relevant part of your Case for Support.

You must identify whether or not you envisage the academic content (as distinct from the technology) of the digital output being extended or updated beyond the period of funding, addressing the following issues: how this will be done, by who and at what cost. You will need to show how the cost of this will be sustained after the period of funding ends.

### **DCC guidance on Method For Data Sharing**

Questions to consider:

- How will you make the data available to others?
- With whom will you share the data, and under what conditions?

Guidance:

Consider where, how, and to whom the data should be made available. Will you share data via a data repository, handle data requests directly or use another mechanism?

The methods used to share data will be dependent on a number of factors such as the type, size, complexity and sensitivity of data. Mention earlier examples to show a track record of effective data sharing.

### **The University of Sheffield: guidance on Method For Data Sharing**

**Note:** At the end of your research project, your funder may require you to make your research data available for sharing with as few restrictions as possible. Data may be shared by being published in:-

- a Repository or Data Centre - see the University of Sheffield webpage on ['Research data repositories'](#) for guidance
- a journal as an article's supplementary material
- a data journal as a data paper.

Wherever data is published, a metadata record should be [registered in ORDA](#), the University of Sheffield data repository.

**Suggested text for use when data will be placed in a repository:** *“Data will be made available through shared research platforms [insert repository / platform relevant to project] with the relevant permissions in place.”*

**Suggested text for use when data will not be placed in a repository:** *“The lead PI and project team [including collaborators if applicable] will review applications to*

*access experimental data and make the decision on whether to supply research data to potential applicants. Data will then be released on a case by case basis."*

## **DCC guidance on Resourcing**

Questions to consider:

- What additional resources are needed to deliver your plan?
- Is additional specialist expertise (or training for existing staff) required?
- Do you have sufficient storage and equipment or do you need to cost in more?
- Will charges be applied by data repositories?
- Have you costed in time and effort to prepare the data for sharing / preservation?

Guidance:

Carefully consider any resources needed to deliver the plan. Where dedicated resources are needed, these should be outlined and justified. Outline any relevant technical expertise, support and training that is likely to be required and how it will be acquired. Provide details and justification for any hardware or software which will be purchased or additional storage and backup costs that may be charged by IT services.

Funding should be included to cover any charges applied by data repositories, for example to handle data of exceptional size or complexity. Also remember to cost in time and effort to prepare data for deposit and ensure it is adequately documented to enable reuse. If you are not depositing in a data repository, ensure you have appropriate resources and systems in place to share and preserve the data.

See UKDS guidance on [costing data management](#).

## **The University of Sheffield: guidance on Resourcing**

The University of Sheffield [research data storage facility](#) allocates 10TB storage free to research groups during the lifetime of a project. If a larger quota is required then this will involve charges. Long-term archiving of data may involve charges also. Get in touch with CiCS to discuss your requirements and get a quote at <https://www.sheffield.ac.uk/cics/support/help>.

[ORDA](#), the University of Sheffield research data repository is free to use. You should enquire about charges made by other data repositories you intend to use.