**Equipment data service data model and guidance**

Please use this guidance to populate your spreadsheet. Here is a [spreadsheet template](https://zenodo.org/records/15799790?token=eyJhbGciOiJIUzUxMiJ9.eyJpZCI6IjNjYWZiYmJlLWY1ZWQtNGQyOC1hNzAwLTQ5NjFkMzA4NTIzZCIsImRhdGEiOnt9LCJyYW5kb20iOiJhNzIzNGIwMDFiYjFhMGFiMjQ1OWQ2ZjgzYzQzODU0MyJ9.5H-c6pFaEXaRRgZHNEyiSuxMTIOwhRX0WitKsMO6hsfiqn4l0B1XF3_6yvlyUOBOJxNZrlpg-jGhHFsMabyrqw) for you to download.

**Mandatory fields in data model**

* The mandatory fields for the service are in the first table below. If you want the service to assign a DOI for equipment records, then these mandatory fields must be completed.
  + 1.2 - Internal record ID
  + 1.4 - Name
  + 1.5 - Description
  + 2.1 - Manufacturer (for equipment-type records only)
* Note that the service does not assign DOIs for records automatically if the mandatory criteria are met. You will need to request DOIs as part of the workflow before publishing. We will not assign DOIs for existing DOIs or for facility records.
* See the full data model fields below the mandatory field table.

| **Section** | **No** | **Field** | **Type: Equipment or Facility** | **Obligation**  **M= Mandatory**  **O= Optional** | **Occ** | **Definition** | **Allowed values, constraints, remarks** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 1. Description | 1.2 | Internal record ID | E/F | M | 1 | A unique identifier for the record within the institution. If you want to assign a DOI for a record, this MUST be filled in.  If you have an existing DOI, you will still need to need to provide an internal record ID.  If you don’t have an internal record ID for this record, you can add the same DOI as 1.3 here to act as the internal record ID.  Alternatively, you can use the stem of the existing DOI here to act as the internal ID (e.g. /267). Make sure the internal record IDs are the same as your system’s. | String or URL |
| 1. Description | 1.4 | Name | E/F | M | 1 | The name by which the equipment or facility is known. | Free text |
| 1. Description | 1.5 | Description | E/F | M | 0-1 | A description (such as use cases or capabilities) of the equipment or facility.  These questions can help you to create a great description:   * How is the equipment/facility operated? What can the equipment/facility do? * Who may want to use it? * How can users access it? * What problems could it help solve? * Are support and expertise available to operate it? * What format is the data available in? | Free text |
| 2. Details | 2.1 | Manufacturer | E | M | 1 | The manufacturer or developer of the equipment. This may be an institution for custom built equipment. If you want a DOI for the equipment record this must be filled in. | Free text |

**Full Data Model**

**The data model has the following sections:**

1. Description
2. Details
3. Access
4. Relations
5. Funding

**Section one - description**

| **Section** | **No** | **Field** | **Type:**  **Equipment or Facility** | **Obligation**  **M= Mandatory**  **O= Optional** | **Occ** | **Definition** | **Allowed values, constraints, remarks** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 1. Description | 1.1 | Type | E/F | O | 0-1 | Specify whether the item is a piece of equipment or a facility. | If left blank, the system assumes the record is for a piece of equipment. No DOI will be assigned for a facility, these should use RORs (put RORs in section 3.4.1) |
| 1. Description | 1.2 | Internal record ID | E/F | M | 1 | A unique identifier for the record within the institution. If you want to assign a DOI for a record, this MUST be filled in.  If you have an existing DOI, you will still need to need to provide an internal record ID.  If you don’t have an internal record ID for this record, you can add the same DOI as 1.3 here to act as the internal record ID.  Alternatively, you can use the stem of the existing DOI here to act as the internal ID (e.g. /267). Make sure the internal record IDs are the same as your system’s. | String or URL |
| 1. Description | 1.3 | Digital Object Identifier (DOI) | E | O | 0-1 | If you have an existing DOI, put this here.  If you want us to assign a DOI for a record, leave this blank and ensure all **mandatory** fields (1.2, 1.4, 1.5, and 2.1) are met for us to assign a DOI.  Please note 2.1 is only mandatory for equipment-type records. | Jisc will assign a DOI if mandatory fields are met. URL:  Existing DOI.  https://doi.org/10.xxxx/xxx String: 10.xxxx/xxx |
| 1. Description | 1.4 | Name | E/F | M | 1 | The name by which the equipment or facility is known. | Free text |
| 1. Description | 1.5 | Description | E/F | M | 0-1 | A description (such as use cases or capabilities) of the equipment or facility.  These questions can help you to create a great description:   * How is the equipment/facility operated? What can the equipment/facility do? * Who may want to use it? * How can users access it? * What problems could it help solve? * Are support and expertise available to operate it? * What format is the data available in? | Free text |

**Section two - details**

| **Section** | **No** | **Field** | **Equipment or Facility** | **Obligation**  **M= Mandatory**  **O= Optional** | **Occ** | **Definition** | **Allowed values, constraints, remarks** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 2. Details | 2.1 | Manufacturer | E | M | 1 | The manufacturer or developer of the equipment. This may be an institution for custom built equipment. If you want a DOI for the equipment record this must be filled in. | Free text |
| 2. Details | 2.1.1 | Manufacturer ID | E | O | 1 | A globally unique identifier for the manufacturer. | Free text, should be a globally unique ID. |
| 2. Details | 2.2 | Model | E | O | 0-1 | The model name or type of the equipment. | Free text |
| 2. Details | 2.2.1 | Model ID | E | O | 1 | A globally unique identifier for the model. | Free text, should be a globally unique ID. |
| 2. Details | 2.3 | Commissioned date | E/F | O | 0-1 | The date when the equipment or facility was commissioned. | Date ISO 8601. This date contains non-numerical characters. Please provide a valid date in the following format: YYYY-MM-DD |
| 2. Details | 2.4 | Decommissioned date | E/F | O | 0-1 | The date when the equipment or facility was decommissioned. | Date ISO 8601. This date contains non-numerical characters. Please provide a valid date in the following format: YYYY-MM-DD |
| 2. Details | 2.5 | Measured variables | E | R | 0-n | Refers to the specific quantities or attributes that a piece of equipment is designed to measure or observe such as temperature, pressure or humidity. | Free text |
| 2. Details | 2.6 | Relevant subject | E/F | O | 0-n | The subjects relevant to the equipment or facility as defined by the institution. | Free text |
| 2. Details | 2.7 | InfraPortal discipline | E/F | O | 1-n | The discipline relevant to the equipment or facility as defined by the UKRI InfraPortal. | Controlled vocabulary InfraPortal Disciplines:   * Biological Sciences, Health & Food * E-Infrastructure & Data * Energy * Environment * Physical Sciences & Engineering * Public Policy or Delivering Public Services * Social Sciences, Arts & Humanities |

**Section three - access**

| **Section** | **No** | **Field** | **Type Equipment or Facility** | **Obligation**  **M= Mandatory**  **O= Optional** | **Occ** | **Definition** | **Allowed values, constraints, remarks** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 3. Access | 3.1 | Contact name | E/F | O | 0-1 | The full name of the contact person. | First name, last name, special characters. |
| 3. Access | 3.1.1 | Contact ID | E/F | O | 0-1 | A globally unique ID for the contact person, preferably the full ORCID link. | Free text, should be a globally unique ID preferably ORCID |
| 3. Access | 3.2 | Contact email | E/F | O | 0-1 | The email address for enquiries, preferably a shared mailbox. | email address, preferably shared mailbox. |
| 3. Access | 3.3 | Managing department | E/F | O | 0-1 | The name of the department managing the equipment or facility. | Free text |
| 3. Access | 3.3.1 | Managing department ID | E/F | O | 0-1 | A globally unique ID for the managing department. | Free text, should be a globally unique ID. |
| 3. Access | 3.4 | Managing facility | E | O | 0-n | The name of the facility managing the equipment or facility. | Free text |
| 3. Access | 3.4.1 | Managing facility ID | E | O | 0-1 | A globally unique ID for the managing facility, preferably ROR. | Free text, should be a globally unique ID (preferably [ROR](https://ror.org/)) link. If you don’t have a ROR ID you can request from [ROR](https://ror.org/registry/). |
| 3. Access | 3.5 | Location | E/F | O | 0-1 | The geographical location of the equipment or facility (e.g., address or building). | Free text |
| 3. Access | 3.6 | Postcode | E/F | O | 0-1 | The postcode of the equipment or facility. | UK postcode |
| 3. Access | 3.7 | Access | E/F | O | 0-1 | The access information about the equipment or facility. This may include whether it can be accessed remotely, by internal or external staff, and whether an application, screening, security clearance or training is needed. | Free text |

**Section four - relations**

| **Section** | **No** | **Field** | **Type: Equipment or Facility** | **Obligation**  **M= Mandatory**  **O= Optional** | **Occ** | **Definition** | **Allowed values, constraints, remarks** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 4. Relations | 4.1 | Photo link | E/F | O | 0-n | A link to photographs of the equipment or facility. | URL |
| 4. Relations | 4.2 | Web page link | E/F | O | 0-n | A link to web pages related to the equipment or facility. | URL |
| 4. Relations | 4.3 | Research outputs | E/F | O | 0-n | If you give us DOIs we will populate the references on the record pages | ARK, arXiv, bibcode, DOI, EAN13, EISSN, Handle, IGSN, ISBN, ISSN, ISTC, LISSN, PMID, PURL, RAiD, RRID, UPC, URL, URN, w3id |
| 4. Relations | 4.4 | Documentation link | E/F | O | 0-n | A link to documentation related to the equipment or facility. | URL |
| 4. Relations | 4.5 | Related information link | E/F | O | 0-n | A link to other related information. Do not use an existing equipment DOI in this field. For an existing equipment DOI, see 1.2 and 1.3. | URL |
| 4. Relations | 4.6 | Related services | E/F | O | 0-n | A link to related services. This might be a link to a service that manages the scheduling and booking. | URL |

**Section five - funding**

| **Section** | **No** | **Field** | **Type:**  **Equipment or Facility** | **Obligation**  **M= Mandatory**  **O= Optional** | **Occ** | **Definition** | **Allowed values, constraints, remarks** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 5. Funding | 5.1 | Main funder | E/F | O | 0-1 | The name of the main organisation that funded the equipment or facility. | Free text |
| 5. Funding | 5.1.1 | Main funder ID | E/F | O | 0-1 | A globally unique ID for the main funder (preferably ROR). | Free text, should be a globally unique ID (preferably [ROR](https://ror.org/)). |
| 5. Funding | 5.2 | Award name | E/F | O | 0-1 | The name of the funding award. | Free text |
| 5. Funding | 5.2.1 | Award ID | E/F | O | 0-1 | A globally unique ID for the funding award such as a grant number. | Free text, should be a globally unique ID, could be grant number. |
| 5. Funding | 5.3 | Award date | E/F | O | 0-1 | The date the funding was awarded. | Date ISO 8601. This date contains non-numerical characters. Please provide a valid date in the following format: YYYY-MM-DD |
| 5. Funding | 5.4 | UKRI funding over reporting threshold | E | O | 0-1 | Indicates whether the equipment or facility was at least partly funded by the UKRI and its value at purchase was over the UKRI reporting threshold. | Yes/No |
| 5. Funding | 5.5 | Additional funding information | E/F | O | 0-1 | Add any other funding information such as other funding sources. | Free text |

**Key**

| **Term** | **Explanation** |
| --- | --- |
| DOI | Digital Object Identifier |
| ISO | International Organisation for Standardisation |
| No | Number |
| PID | Persistent Identifier |
| Occ | Occurrence |
| ORCID | Open Researcher and Contributor ID |
| ROR | Research Organisation Registry |
| UKRI | UK Research and Innovation |