

BBMRI-ERIC DIRECTORY

MANUAL FOR DATA MANAGERS

Version 3.5.4

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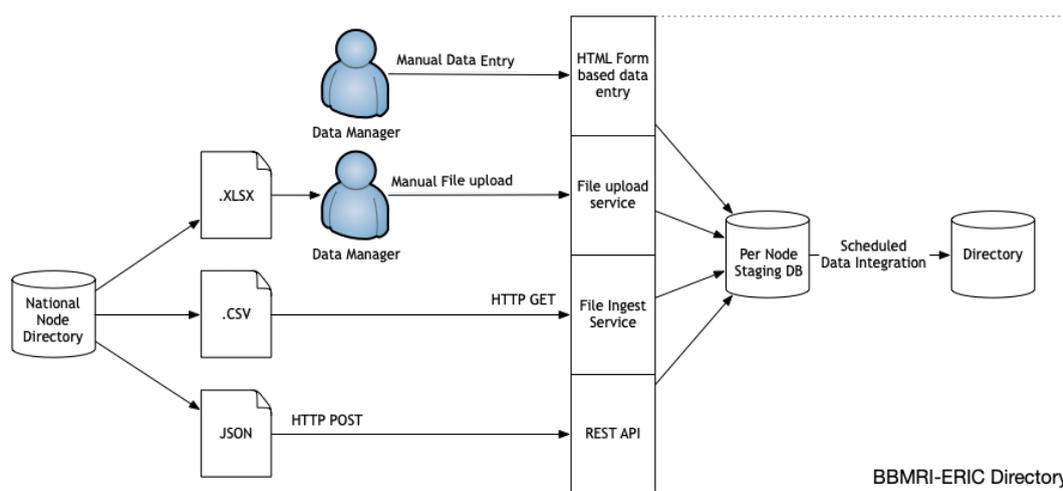
INTRODUCTION

This manual is a technical description of the BBMRI-ERIC Directory data model and the process of updating data in the Directory. The intended audience of this manual is the National Node Data Manager.

DATA INTEGRATION PROCESS

The BBMRI-ERIC Directory has a federated process of updating the data, where each National Node is responsible for updating the data for the biobanks in the node. This is done in a staging area that gives the national node exclusive access to update the data. Data in the Directory can be managed in four different ways:

1. Manual data entry if the National Node does not host a National Directory
2. Manual upload of Excel or CSV files exported from the National Directory
3. Scheduled file ingest of CSV files from the National Directory
4. Programmatic updates initiated by the National Directory (using the Directory's RESTful API's)



Regardless of the method used to update the staging area the data from the staging area is integrated into the Directory through a nightly scheduled job. This means that it takes one day before changes are visible for the outside world. In the meantime, the data manager of the National Node can access and verify the data in the National Node's staging area.

Next to the data that is provided by the National Node the Directory holds quality marks that are based upon the self-assessment filled in by the biobanks. These parameters are managed by BBMRI-ERIC's quality management team and cannot be updated by the National Node. However, for a smooth process of application for the quality marks it is paramount that the biobank and the collections are registered in the Directory before the self-assessment is filled in.

MANUAL DATA ENTRY

The manual data entry option is to be used only as a last resort option if no National Directory or database is available. Data entry is done in the staging area for the National Node and changes will be published to the production version on a daily basis based on a scheduled job that runs during the night.

1. Go to <https://directory.bbmri-eric.eu/>

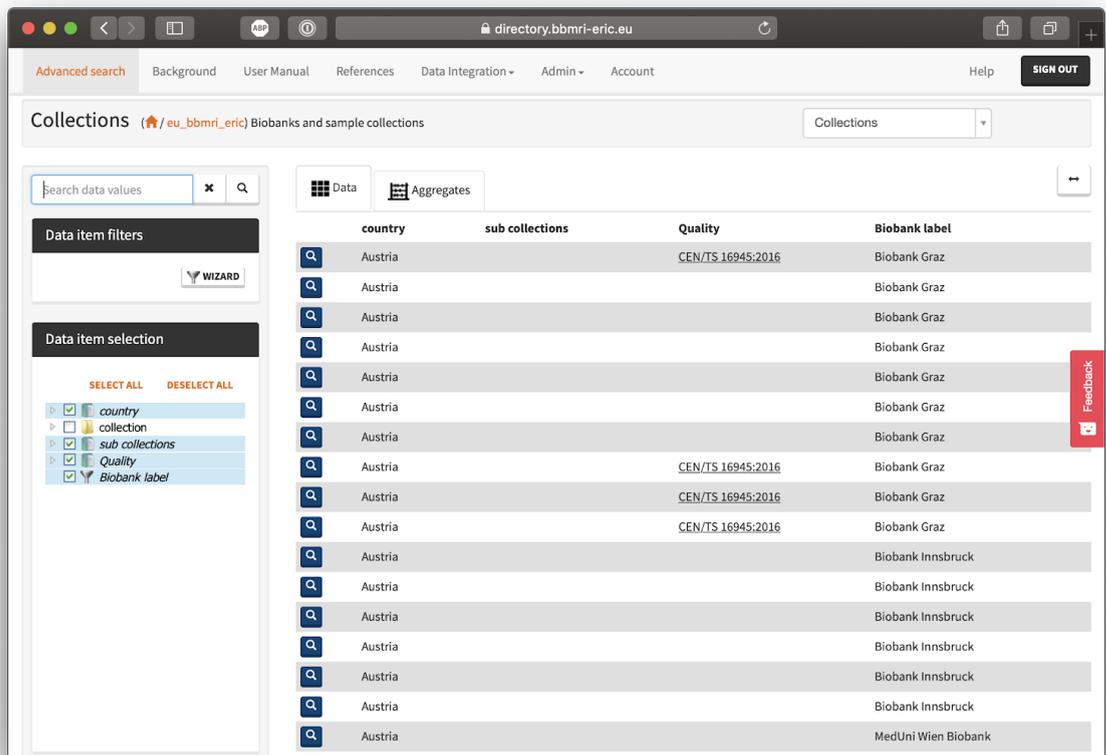
The screenshot shows the BBMRI-ERIC directory website. The browser address bar displays "directory.bbMRI-eric.eu". The navigation menu includes "Home", "Advanced search", "Rare Disease Biobanks", "Background", "User Manual", and "References". A "Sign in" button is located in the top right corner. The main content area shows a search bar with the text "Go to sample / data negotiation" and a list of 491 biobanks found. The list includes entries such as "589-00033", "ACS Biobank", "AGNES Biobank", "AHLDI", "AMC Renal Transplant Biobank", and "ANGI". Each entry displays its name, collection types, and juridical person. A "Feedback" button is visible on the right side of the page.

2. Click on “Sign in” in the right top corner of the screen.

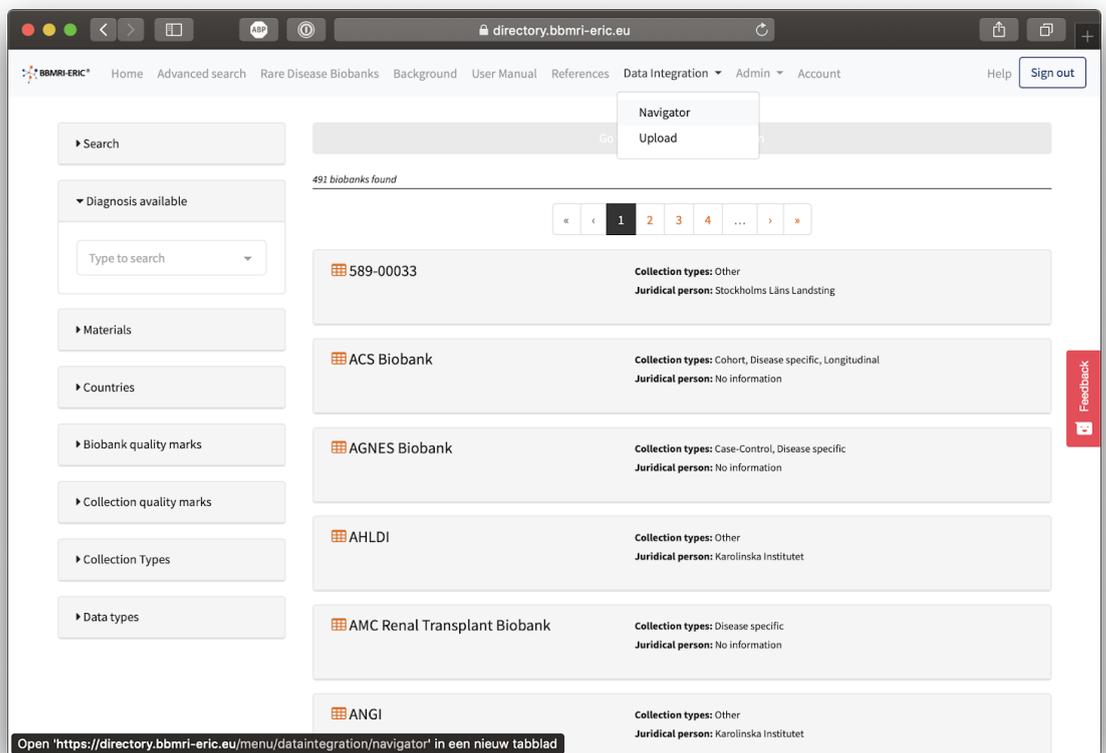
The screenshot shows the "Sign in" form. The form has a title "Sign in" and a close button (X) in the top right corner. It contains two input fields: the first for the username, which is filled with "d.van.enckevort", and the second for the password, which is filled with a series of dots. Below the input fields is a green "SIGN IN" button and a link labeled "Forgot password?" in orange text.

3. Fill in your username and password (username is usually the same the part before the @-sign in your e-mail address) and press “Sign in”.

- Click on “Data integration” in the menu.



- Click on “Navigator” in the menu.



- Click in the following screen on the link to go to your national node staging area. All countries are denoted by their eu_bbmri_eric_<CC>, where <CC> is your country code, e.g.

eu_bbmri_eric_NL.

The screenshot shows the BBMRI-ERIC directory website. The search bar contains the text "eu_bbmri_eric_NL". The search results table is as follows:

Name	Description	
eu_bbmri_eric	bbmri_eric	<input type="checkbox"/>
eu_bbmri_eric_NL	bbmri_eric	<input type="checkbox"/>

At the bottom of the page, there is a citation: "Please cite Holub Petr, Swertz Morris, Reihls Robert, van Enckevort David, Müller Heimo, and Litton Jan-Eric. Biopreservation and Biobanking. December 2016, 14(6): 559-562. doi:10.1089/bio.2016.0088 upon use." and a footer note: "7.2.4 built on 2018-10-23 08:39 UTC." A red "Feedback" button is visible on the right side.

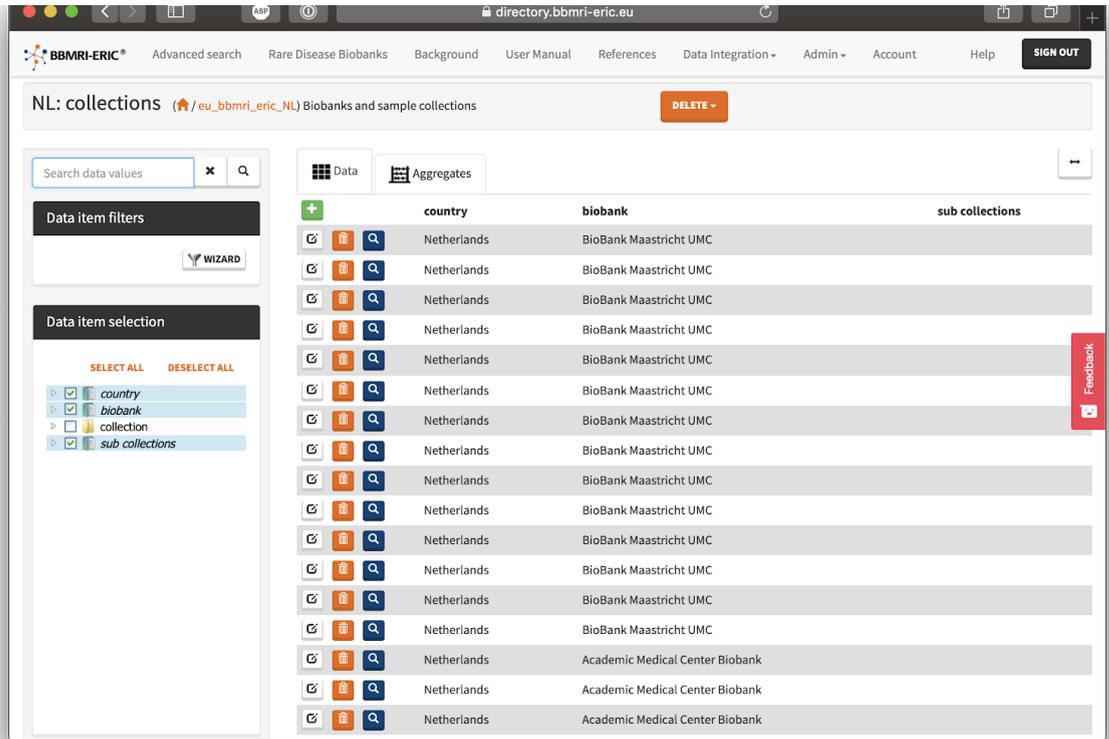
7. Click on the link for the data table you want to edit.

The screenshot shows the BBMRI-ERIC directory website with the URL "eu_bbmri_eric_NL" in the breadcrumb. The search bar is empty. The search results table is as follows:

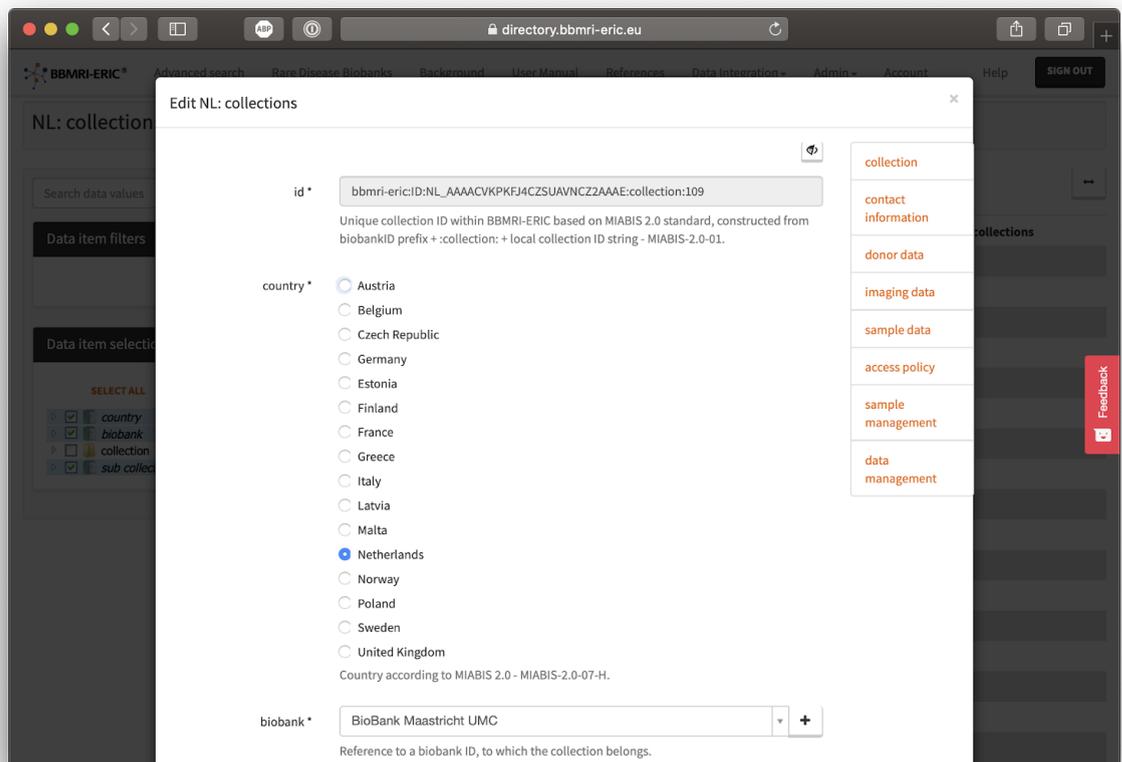
Name	Description	
NL: biobanks	Biobank (or standalone collection) Organization	<input type="checkbox"/>
NL: collections	Biobanks and sample collections	<input type="checkbox"/>
NL: networks	Biobank networks	<input type="checkbox"/>
NL: persons	Contact Information	<input type="checkbox"/>

At the bottom of the page, there is a citation: "Please cite Holub Petr, Swertz Morris, Reihls Robert, van Enckevort David, Müller Heimo, and Litton Jan-Eric. Biopreservation and Biobanking. December 2016, 14(6): 559-562. doi:10.1089/bio.2016.0088 upon use." and a footer note: "This database was generated using the open source MOLGENIS database generator 7.2.4 built on 2018-10-23 08:39 UTC." A red "Feedback" button is visible on the right side.

8. Edit the data using the edit and delete buttons.



9. When you press the edit button you get a popup to edit the data of one record.



10. To save the record you might have to scroll down to reveal the save button.

The screenshot shows a web browser window with the URL `directory.bbmri-eric.eu`. The page is titled 'sample management' and contains two main sections: 'sample management' and 'data management'. Each section has three rows of radio button options for 'Yes', 'No', and 'N/A'. The 'N/A' option is selected in all cases. Below the 'data management' section, there are 'CANCEL' and 'SAVE CHANGES' buttons. The background shows a sidebar with filters for 'country', 'biobank', 'collection', and 'sub collection', and a 'Feedback' button on the right.

11. All changes except for deletions of biobank or collection records are automatically published from staging to production during the night. These deletions are not processed automatically, because of the integration with other BBMRI-ERIC tools. You must create a ticket in the Directory helpdesk (directory@helpdesk.bbmri-eric.eu) with the ID's of the biobank or collection records that you need to have deleted for further processing.

MANUAL DATA UPLOAD OF EXCEL OR CSV FILES

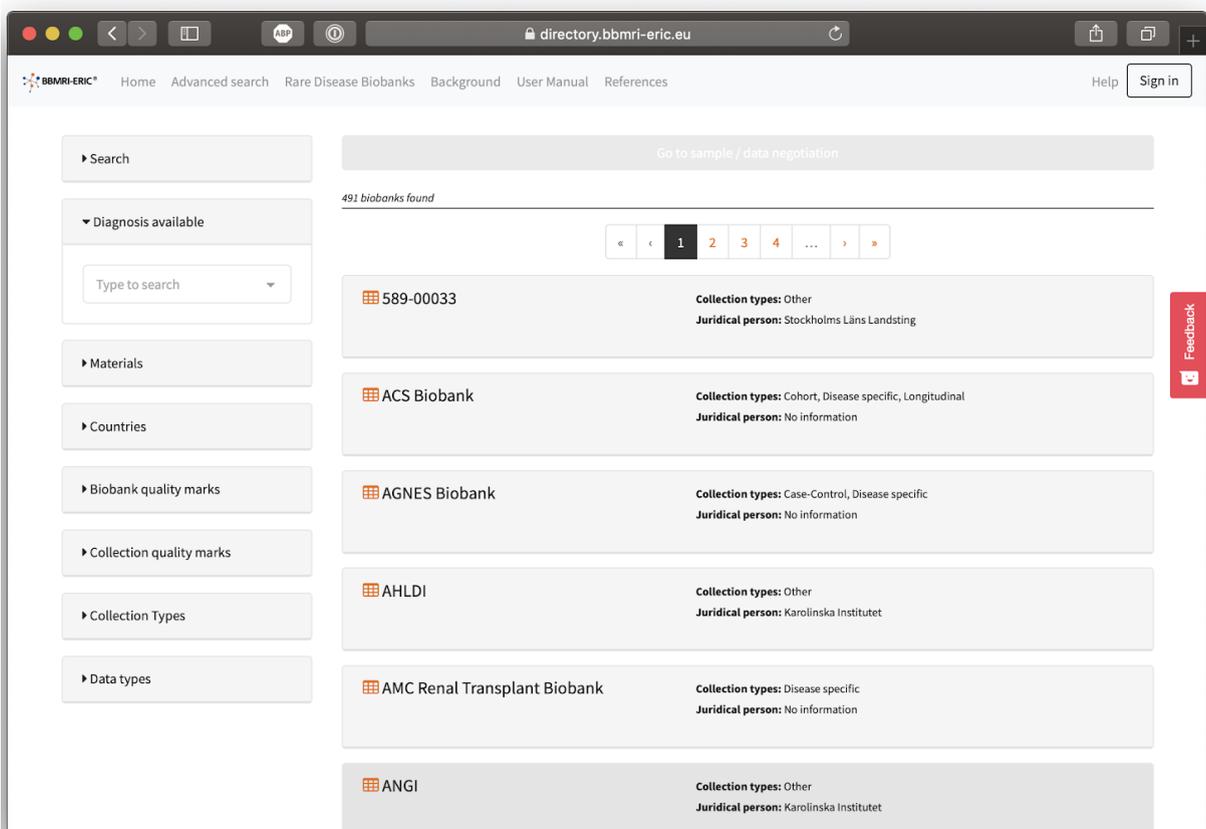
Manual upload is done in the staging area for the National Node and changes will be published to the production version on a daily basis based on a scheduled job that runs during the night. The Excel file or CSV files have to adhere to a specific structure. CSV files can be bundled together in a ZIP file, where each file has the name of the table and Excel files can have multiple sheets, where each sheet has the name of the table. The names are as followed:

- Collection: eu_bbmri_eric_<CC>_collections, e.g. eu_bbmri_eric_NL_collections
- Biobanks: eu_bbmri_eric_<CC>_biobanks, e.g. eu_bbmri_eric_NL_biobanks
- Networks: eu_bbmri_eric_<CC>_networks, e.g. eu_bbmri_eric_NL_networks
- Contact information: eu_bbmri_eric_<CC>_persons, e.g. eu_bbmri_eric_NL_persons

Our data management team will provide you with a template upon request.

The steps to upload the files are as follows:

1. Go to <https://directory.bbmri-eric.eu/>

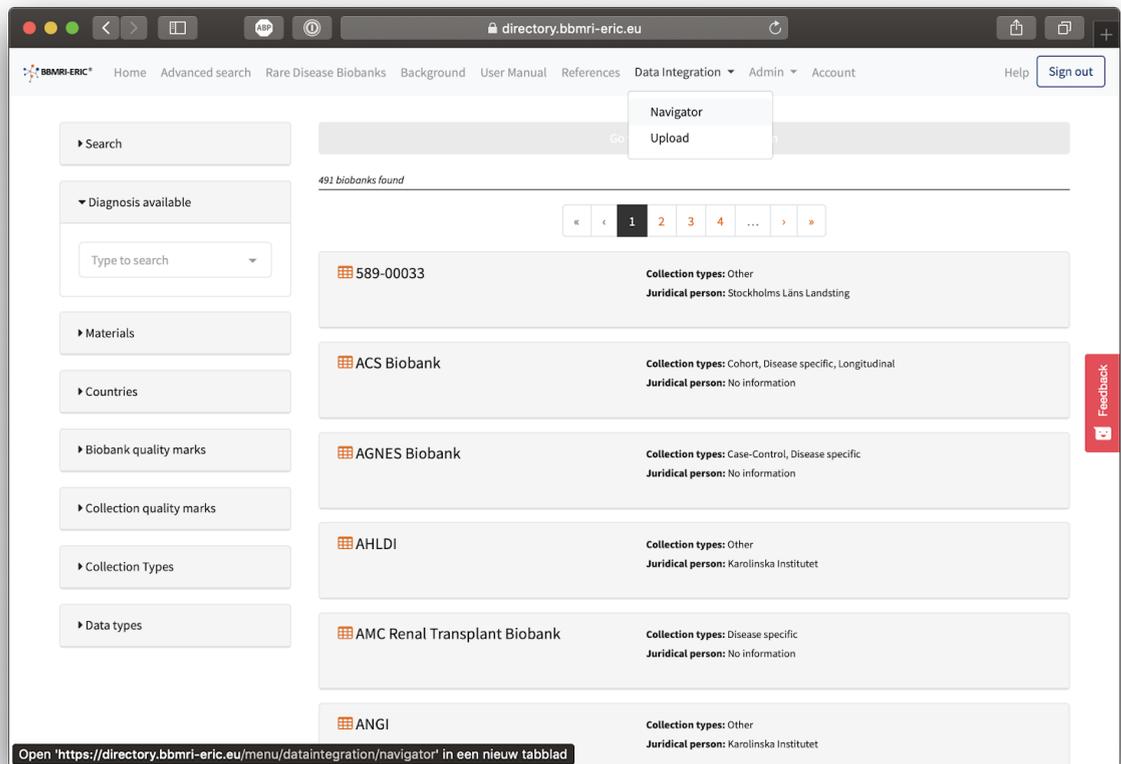


2. Click on “Sign in” in the right top corner of the screen.

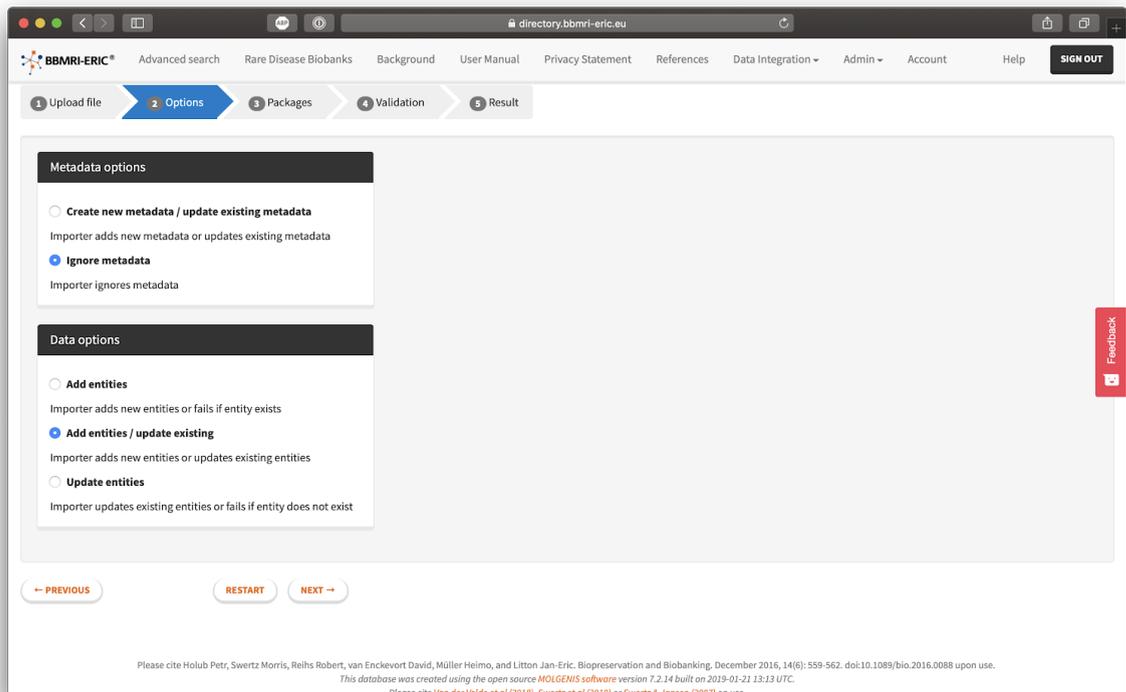


3. Fill in your username and password (username is usually the same the part before the @-sign in your e-mail address) and press “Sign in”.

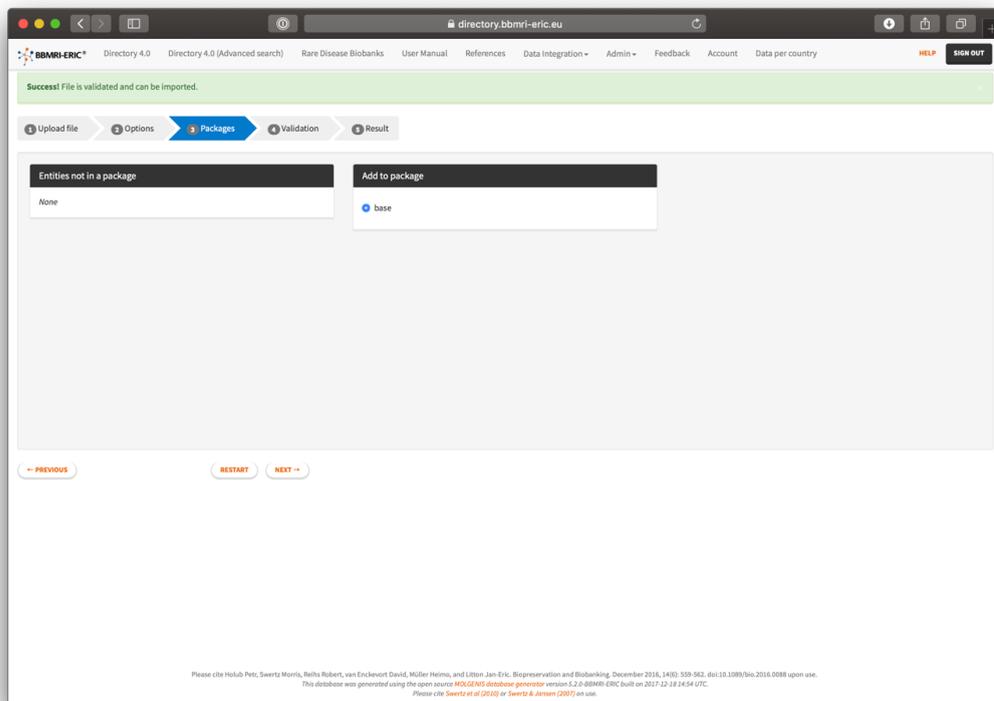
- Click on “Data integration”, “Upload” to go to the data upload wizard.



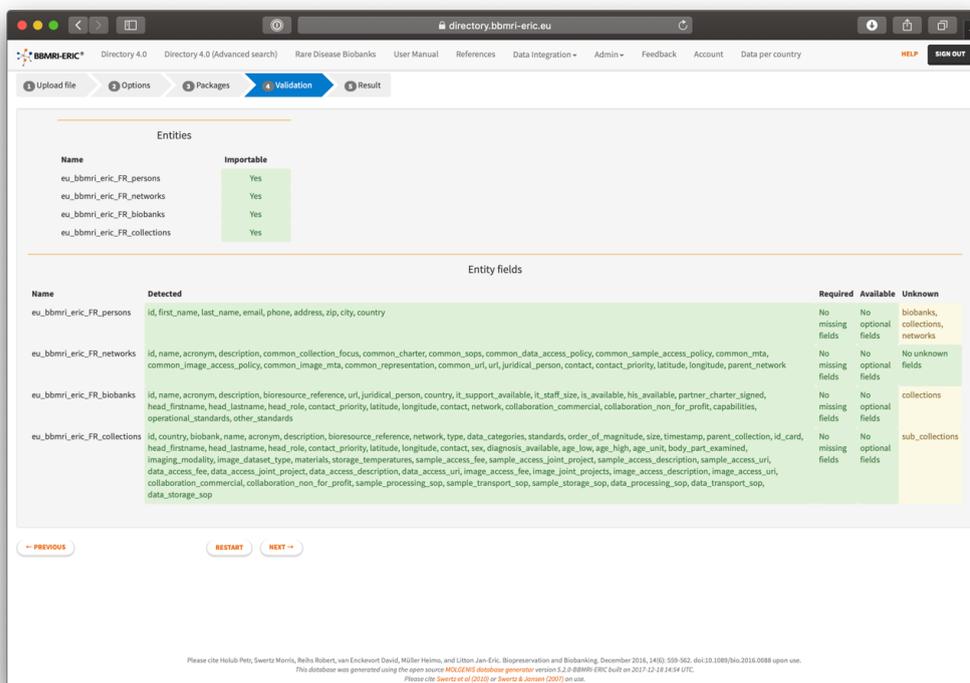
- Select your Excel file to upload and press next.
- Select the following options: “Ignore/metadata” and “Add entities / update existing” and press next.



7. Accept the default options and select next.



8. Verify that there are no Errors (denoted with a red background colour) indicated during the validation and press "Next". There might be some warnings (denoted with a yellow colour) indicated during the validation process when your file contains additional columns or does not provide data for optional columns.



9. The actual updating will now start, and at the end give a report with the number of updated records. At the end you can press “Finish” to complete the process. If the upload fails, please take a screenshot of the error report and contact the helpdesk.

SCHEDULED FILE INGEST OF CSV FILES

To setup a scheduled file ingest of CSV files you will have to provide separate files for the four different entities (biobanks, collections, networks and contact information) and they should be made available for download by the system using HTTP or HTTPS. We currently do not support authentication, but if necessary you can limit the access to your files to the IP address of the Directory. To report on failures you need to provide us with an e-mail address that will receive error notifications. You should file a ticket in the Directory queue of the BBMRI-ERIC at <https://helpdesk.bbmri-eric.eu/> to get the system setup.

STRUCTURE OF THE CSV FILES

The CSV files should be well structured and adhere to a few specific rules:

- No embedded newlines
- Text should be enclosed with double quotes
- Lists should be enclosed with double quotes and use commas as separator for the list elements
- Dates should be ISO8601 formatted
- When there is no value for a certain field you should leave it completely empty

PROGRAMMATIC UPDATES THROUGH THE RESTFUL API'S

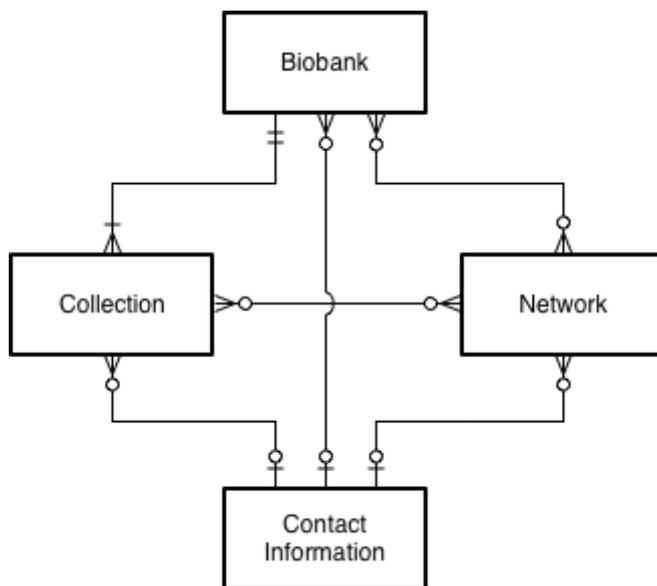
The Directory is built using the MOLGENIS Software. MOLGENIS offers a RESTful + JSON API to perform basic Create, Read, Update, Delete (CRUD) operations on the data in the Directory. Examples of these commands can be found in the accompanying Postman configuration (<https://doi.org/10.5281/zenodo.3367102>). An extensive manual for the RESTful API can be found in our Swagger developer documentation, which you will find in the ‘Data Integration’ menu.

DATA MODEL

The data model of the directory consists of 4 entities that have to be managed by the national nodes and several look-up lists for the acceptable values for the fields.

1. Biobank: Describes the biobank organisation
2. Collection: Describes the biobank collections and sub collections
3. Network: Describes networks of collaborating biobanks
4. Contact information: Describes contact information for biobanks, collections or networks

For simplicity, the supporting entities that describe the look-up lists are not described in this manual. The model can be visually represented as follows.



STRUCTURE OF THE IDENTIFIERS

The Directory is a federated infrastructure, and to prevent collisions in identifiers we have defined a specific structure for the identifiers in the Directory.

Biobank ID: bbmri-eric:ID:<CC>_<local id>

Collection ID: <Biobank ID>:collection:<local id>

Network ID: bbmri-eric:networkID:<CC>_<local id>

Contact ID: bbmri-eric:contactID:<CC>_<local id>

Where <CC> has to be replaced by the valid ISO-3166-1 alpha 2 country code for the country of residence and <local id> with a local ID generated by the national node to be unique within its context. We advise to use the ID of the entity in the national directory if one is present. All local parts should be limited to roman letters and numbers (a-z, A-Z, 0-9).

BIOBANK

The biobank entity (eu_bbmri_eric_biobanks) describes the biobank organisation.

Attribute	Description	Cardinality	Acceptable values
id	Unique identifier of this record	1	[a-z][A-Z][0-9][:-_] starting with the prefix bbmri-eric:ID: + ISO-3166-1 alpha 2 country code
name	Name of the biobank	1	Text, maximum 255 characters, recommended to be less than 60 characters
acronym	Short name or acronym of the biobank if applicable	0..1	Text, maximum 255 characters, recommended to be less than 20 characters
description	Description of the biobank in English	1	Text
bioresource_reference	Reference to be cited when the biobank is used for research	0..1	Text, maximum 255 characters, recommended to provide a persistent identifier
url	URL of the website of the biobank	0..1	URL
juridical_person	Name of the organization (legal entity) of the biobank	1	Text, maximum 255 characters, recommended to be less than 60 characters
country	The country in which the biobank resides	1	ISO-3166-1 alpha 2 country code
IT Support			
it_support_available	Indication if the biobank has dedicated IT support	0..1	true, false
it_staff_size	Size of the IT staff of the biobank	0..1	whole positive number
is_available	Indication if the biobank has an internal information management system for tracking biobank processes	0..1	true, false
his_available	Indication if the biobank has a connection to a hospital information system (HIS)	0..1	true, false
partner_charter_signed	Indication if the biobank has signed the BBMRI-ERIC partner charter, either as a direct bilateral agreement or through a wider agreement such as a National Node partner charter or	0..1	true, false

	consortium agreement		
Contact information			
head_title_before_name	Titles of the head of the biobank that are prefixed to the name (e.g. Prof. dr.)	0..1	Text, maximum 255 characters, recommended to be less than 60 characters
head_firstname	First name of the natural person in charge of the biobank	1	Text, maximum 255 characters, recommended to be less than 60 characters
head_lastname	Last name of the natural person in charge of the biobank	1	Text, maximum 255 characters, recommended to be less than 60 characters
head_title_after_name	Titles of the head of the biobank that are appended to the name (e.g. MD, PhD)	0..1	Text, maximum 255 characters, recommended to be less than 60 characters
head_role	Official role of the natural person in charge of the biobank: typically, principal investigator or director	0..1	Text, maximum 255 characters, recommended to be less than 60 characters
contact	Contact information of the primary external contact of the biobank	1	Unique identifier of the referenced contact information record
contact_priority	Priority of the contact (deprecated)	1	Priority of the contact. This field will be ignored and removed in an update.
latitude	Latitude of the location of the primary site of the biobank	0..1	WGS84 coordinate
longitude	Longitude of the location of the primary site of the biobank	0..1	WGS84 coordinate
network	List of networks in which the biobank participates	0..n	Comma separated list of unique identifiers of the referenced network information records
collaboration_commercial	Indication if the biobank is able to participate in commercial collaborations	0..1	true, false
collaboration_non_for_profit	Indication if the biobank is able to participate in collaborations with not-for-profit organisations	0..1	true, false
capabilities	List of the capabilities that the biobank can offer to a researcher as a service	0..n	Comma separated list of unique identifiers of the capabilities. (biomaterial-storage, cell-culture, data-analytics, data-storage, digital-imaging, immunohistochemistry-scoring, immunohistochemistry-staining, nucleic-acid-extraction, pathology-archive-access, recontact, tma-creation)
operational_standards	Operational standards that the biobank adheres to (deprecated)	0..n	Comma separated list of unique identifiers of the operational standards
other_standards	Other standards that the biobank adheres to that were not listed under operational_standards (deprecated)	0..1	Text, maximum 255 characters, recommended to be less than 60 characters
quality	Biobank quality assessment (read only)	0..1	Comma separated list of quality assessment marks

COLLECTION

The collection entity (eu_bbmri_eric_collections) describes the data and samples collected in the biobank at the (sub)collection level. The collection can be described with sub collections to provide detailed information on the available materials, diseases or other attributes. A collection can be subdivided on any distinct criterion, but should always maintain strict partitioning (i.e. there should not be overlap between sub collections. Each sample should be represented in only one sub collection of the collection).

Attribute	Description	Cardinality	Acceptable values
id	The unique identifier of the record	1	[a-z][A-Z][0-9][:-_] starting with the ID of the biobank in which the collection resides + :collection:
country	The country in which the collection resides	1	ISO-3166-1 alpha 2 country code
biobank	The biobank that hosts the collection	1	Unique identifier of the referenced biobank
Collection			
name	Name of the collection	1	Text, maximum 255 characters, recommended to be less than 60 characters
acronym	Short name or acronym of the collection if applicable	0..1	Text, maximum 255 characters, recommended to be less than 20 characters
description	Description of the collection in English	1	Text
bioresource_reference	Reference to be cited when the collection is used for research	0..1	Text, maximum 255 characters, recommended to provide a persistent identifier
parent_collection	Parent collection of which the collection is a part	0..1	Unique identifier of the referenced collection
network	List of networks in which the collection participates	0..n	Comma separated list of unique identifiers of the referenced network information records
type	The type of the sample collection	1..n	Comma separated list of collection types
data_categories	The categories of data that are available as part of the collection	1..n	Comma separated list of data categories
standards	Standards that the collection adheres to (deprecated)	0..1	Comma separated list of standards — This will be removed in a later version. Replaced by the Quality section, which is maintained exclusively by BBMRI-ERIC
quality	Collection quality assessment (read only)	0..1	Comma separated list of quality assessment marks
order_of_magnitude	Number of samples in the collection expressed as orders of magnitude	1	Integer n, where 10 ⁿ is the best approximation of the number of samples in the collection
order_of_magnitude_donors	Number of donors for whom there are samples and/or data in the collection expressed as orders of magnitude	1	Integer n, where 10 ⁿ is the best approximation of the size of the collection
size	Exact size of collection in number of unique sample ID's at the point in time given in the specified timestamp	0..1	Integer ≥ 0
number_of_donors	Exact number of donors for whom there are samples and/or	0..1	Integer ≥ 0

	data in the collection		
timestamp	Exact timestamp at which the size of the collection as specified in size was determined	0..1	Timestamp in ISO 8601 format (yyyy-mm-ddThh:mm:ss+nnnn), e.g. 2016-11-15T09:53:13+0100, it is acceptable to set the time component to 00:00:00 when not known.
id_card	URL of the RD-Connect ID-Card record of the collection if available	0..1	Valid URL within the address space of the ID-Card system (starting with https://catalogue.rd-connect.eu/). If specified the collection type must include Rare Disease collection.
Contact information			
head_title_before_name	Titles of the head of the collection that are prefixed to the name	0..1	Text, maximum 255 characters, recommended to be less than 60 characters
head_firstname	First name of the natural person in charge of the collection	0..1	Text, maximum 255 characters, recommended to be less than 60 characters
head_lastname	Last name or family name of the natural person in charge of the collection	0..1	Text, maximum 255 characters, recommended to be less than 60 characters
head_title_after_name	Titles of the head of the collection that are appended to the name (e.g. MD, PhD)	0..1	Text, maximum 255 characters, recommended to be less than 60 characters
head_role	Official role of the natural person in charge of the collection: typically principal investigator or director	0..1	Text, maximum 255 characters, recommended to be less than 60 characters
contact	Contact information of the primary external contact of the collection, if different from the contact of the parent collection	0..1	Unique identifier of the referenced contact information record
contact_priority	Priority of the contact (deprecated)	±	Priority of the contact. This field will be ignored and removed in an update.
latitude	Latitude of the location of the primary site of the biobank	0..1	WGS84 coordinate
longitude	Longitude of the location of the primary site of the biobank	0..1	WGS84 coordinate
Donor Data			
sex	The sex of the individuals whose samples are part of the collection	0..n	Comma separated list of
diagnosis_available	Diagnosis available in the collection	0..n	ICD-10 with the prefix urn:miriam:icd: Available diagnosis can be denoted by entire chapters (e.g. urn:miriam:icd:I), blocks (e.g. urn:miriam:icd:A00-A09), or individual codes. (e.g. urn:miriam:icd:A09).
age_low	Age of the youngest individual in the collection at the time the sample was taken	0..1	Integer ≥ 0 and \leq age_high
age_high	Age of the oldest individual in the collection at the time the sample was taken	0..1	Integer ≥ 0 and \geq age_low,
age_unit	Unit defining age low and age high	0..1	One of the following values: days, weeks, months, years; usually years except for neonatal sample collections

Imaging Data			
body_part_examined	The body part that was the target of examination for the image taken	0..n	Comma separated list of DICOM body part codes (based on SNOMED-CT codes). When specified the collection type must include Image collection.
imaging_modality	The imaging modality used for generating the image	0..n	Comma separated list of DICOM modality codes. When specified the collection type must include Image collection.
image_dataset_type	The datatype of the images in the collection	0..n	Comma separated list of DICOM image dataset types. When specified the collection type must include Image collection.
Sample Data			
materials	The types of biological material present in the collection	0..n	Comma separated list of MIABIS material types. When specified the collection type must include Sample Collection.
storage_temperatures	The temperature at which the samples are stored	0..n	Comma separated list of storage temperatures according to the MIABIS classification
Access Policy			
sample_access_fee	Indication if an access fee is required for access to samples	0..1	true, false
sample_access_joint_project	Indication if a joint project is required for access to samples	0..1	true, false
sample_access_description	Short description of the conditions for access to samples in English	0..1	Text
sample_access_uri	URL to a detailed description of the access conditions for access to samples	0..1	URL
data_access_fee	Indication if an access fee is required for access to data	0..1	true, false
data_access_joint_project	Indication if a joint project is required for access to data	0..1	true, false
data_access_description	Short description of the conditions for access to data in English	0..1	Text
data_access_uri	URL to a detailed description of the access conditions for access to data	0..1	URL
image_access_fee	Indication if an access fee is required for access to images	0..1	true, false
image_joint_projects	Indication if a joint project is required for access to images	0..1	true, false
image_access_description	Short description of the conditions for access for access to images in English	0..1	Text
image_access_uri	URL to a detailed description of the access to images conditions	0..1	URL
collaboration_commercial	Indication if the material in the collection is available for use in a commercial context	0..1	true, false
collaboration_non_for_profit	Indication if the material in the collection is available for use in a not-for-profit context	0..1	true, false
Sample Management			
sample_processing_sop	Indication if the samples in the	0..1	true, false

	collection are processed according to a predefined SOP		
sample_transport_sop	Indication if a predefined SOP is used for sample shipments	0..1	true, false
sample_storage_sop	Indication if a predefined SOP is used for storing samples	0..1	true, false
Data Management			
data_processing_sop	Indication if the data in the collection are processed according to a predefined SOP	0..1	true, false
data_transport_sop	Indication if a predefined SOP is used for data transports	0..1	true, false
data_storage_sop	Indication if a predefined SOP is used for storing data	0..1	true, false

NETWORK

The network entity (eu_bbmri_eric_networks) describes a biobank network.

Attribute	Description	Cardinality	Acceptable values
id	The unique identifier of the record	1	[a-z][A-Z][0-9][:-_] starting with the prefix bbmri-eric:networkID: + ISO-3166-1 alpha 2 country code
name	The name of the network	1	Text, maximum 255 characters, recommended to be less than 60 characters
acronym	Short name or acronym of the network, if applicable	0..1	Text, maximum 255 characters, recommended to be less than 20 characters
description	Description of the network, in English	1	Text
common_collection_focus	Indication that the network has one shared focus, e.g. rare diseases	1	true, false
common_charter	Indication that the network has a common charter or legal agreement that all participating biobanks and networks have signed	1	true, false
common_sops	Indication that the network has defined common SOPs that the participating biobanks and collections follow	1	true, false
common_data_access_policy	Indication that the network has defined a common policy that governs data access	1	true, false
common_sample_access_policy	Indication that the network has defined a common policy that governs sample access	1	true, false
common_mta	Indication that the network has defined a common MTA that is used by all participating biobanks / collections	1	true, false
common_image_access_policy	Indication that the network has defined a common policy that governs image access	1	true, false
common_image_mta	Indication that the network has defined a common MTA for images that is used by all participating biobanks / collections	1	true, false
common_representation	Indication that the network has a common representation for external contacts	1	true, false
common_url	Indication that the network has a common URL to represent the participating biobanks / collections online	1	true, false
url	URL of the website of the network	0..1	URL, required if common_url is true
juridical_person	Name of the organization (legal entity) of the network	0..1	Text

contact	Contact information of the primary external contact of the network	0..1	Unique identifier of the referenced contact information record
contact_priority	Priority of the contact (deprecated)	±	Priority of the contact. This field will be ignored and removed in an update.
latitude	Latitude of the location of the primary site of the biobank	0..1	WGS84 coordinate
longitude	Longitude of the location of the primary site of the biobank	0..1	WGS84 coordinate
parent_network	Parent or larger network that this network is a part of	0..1	Unique identifier of the parent network

CONTACT INFORMATION

The contact information entity (eu_bbmri_eric_persons) describes the contact information for a biobank, collection or network.

Attribute	Description	Cardinality	Acceptable values
id	Unique identifier of this record	1	[a-z][A-Z][0-9][:-_], starting with bbmri-eric:contactID: + ISO-3166-1 alpha 2 country code.
title_before_name	Titles that are prefixed to the name	0..1	Text, maximum 255 characters, recommended to be less than 60 characters
first_name	First name of the person to contact	0..1	Text, maximum 255 characters, recommended to be less than 60 characters
last_name	Last name of the person to contact	0..1	Text, maximum 255 characters, recommended to be less than 60 characters
title_after_name	Titles that are appended to the name (e.g. MD, PhD)	0..1	Text, maximum 255 characters, recommended to be less than 60 characters
phone	Telephone number including international prefix	0..1	Compliant to the E.123 norm, international notation including the international access number and using spaces to visually separate groups of numbers, e.g. +31 20 1234567
email	E-mail address to contact	1	text
address	Address including routing information where necessary	0..1	text
zip	ZIP or postal code	0..1	text
city	City	0..1	text
country	Country	1	ISO-3166-1 alpha 2 country code

QUALITY MARKS

The results of the BBMRI-ERIC Self Assessment Survey, certifications and Audits in the Directory are managed by the BBMRI-ERIC Quality Management programme. You will not be able to update these values yourself.

CODE LISTS

The Directory uses code lists to specify the acceptable options where there is a limited choice. Options can be referenced by their identifier and if an attribute can contain only one value the attribute value will be directly set to this identifier. For attributes that can contain multiple values the attribute will be set to a comma separated list of the option identifiers. Code lists themselves are maintained by BBMRI-ERIC and cannot be updated by a National Node's data manager.

The tables in this document are for reference only. For the actual values, please refer to the specification at <https://directory.bbmri-eric.eu/menu/main/references>

BODY PARTS

id	label	uri
T-11100	Skull	http://purl.bioontology.org/ontology/SNOMEDCT/89546000
T-11166	Zygoma	http://purl.bioontology.org/ontology/SNOMEDCT/13881006
T-11170	Maxilla	http://purl.bioontology.org/ontology/SNOMEDCT/70925003
T-11210	Sternum	http://purl.bioontology.org/ontology/SNOMEDCT/56873002
T-11300	Rib	http://purl.bioontology.org/ontology/SNOMEDCT/113197003
T-11501	Cervical spine	http://purl.bioontology.org/ontology/SNOMEDCT/122494005
T-11502	Thoracic spine	http://purl.bioontology.org/ontology/SNOMEDCT/122495006
T-11503	Lumbar spine	http://purl.bioontology.org/ontology/SNOMEDCT/122496007
T-11AD0	Sacrum	http://purl.bioontology.org/ontology/SNOMEDCT/54735007
R-FAB52	Neck and Chest	http://purl.bioontology.org/ontology/SNOMEDCT/417437006
R-FAB53	Neck, Chest and Abdomen	http://purl.bioontology.org/ontology/SNOMEDCT/416152001
R-FAB54	Neck, Chest, Abdomen and Pelvis	http://purl.bioontology.org/ontology/SNOMEDCT/416319003
R-FAB55	Chest and Abdomen	http://purl.bioontology.org/ontology/SNOMEDCT/416550000
R-FAB56	Chest, Abdomen and Pelvis	http://purl.bioontology.org/ontology/SNOMEDCT/416775004
R-FAB57	Abdomen and Pelvis	http://purl.bioontology.org/ontology/SNOMEDCT/416949008
T-04000	Breast	http://purl.bioontology.org/ontology/SNOMEDCT/76752008
T-11BF0	Coccyx	http://purl.bioontology.org/ontology/SNOMEDCT/64688005
T-12280	Scapula	http://purl.bioontology.org/ontology/SNOMEDCT/79601000
T-12310	Clavicle	http://purl.bioontology.org/ontology/SNOMEDCT/51299004
T-12340	Ilium	http://purl.bioontology.org/ontology/SNOMEDCT/22356005
T-12403	Radius and ulna	http://purl.bioontology.org/ontology/SNOMEDCT/110535000
T-12410	Humerus	http://purl.bioontology.org/ontology/SNOMEDCT/85050009
T-12420	Radius	http://purl.bioontology.org/ontology/SNOMEDCT/62413002
T-12430	Ulna	http://purl.bioontology.org/ontology/SNOMEDCT/23416004
T-12701	Tibia and fibula	http://purl.bioontology.org/ontology/SNOMEDCT/110536004
T-12710	Femur	http://purl.bioontology.org/ontology/SNOMEDCT/71341001
T-12730	Patella	http://purl.bioontology.org/ontology/SNOMEDCT/64234005
T-12740	Tibia	http://purl.bioontology.org/ontology/SNOMEDCT/12611008
T-12770	Calcaneus	http://purl.bioontology.org/ontology/SNOMEDCT/80144004
T-15290	Temporomandibular joint	http://purl.bioontology.org/ontology/SNOMEDCT/53620006
T-15430	Elbow joint	http://purl.bioontology.org/ontology/SNOMEDCT/16953009
T-15460	Wrist joint	http://purl.bioontology.org/ontology/SNOMEDCT/74670003
T-15710	Hip joint	http://purl.bioontology.org/ontology/SNOMEDCT/24136001
T-15750	Ankle joint	http://purl.bioontology.org/ontology/SNOMEDCT/70258002
T-21000	Nose	http://purl.bioontology.org/ontology/SNOMEDCT/45206002
T-24100	Larynx	http://purl.bioontology.org/ontology/SNOMEDCT/4596009
T-25000	Trachea	http://purl.bioontology.org/ontology/SNOMEDCT/44567001
T-26000	Bronchus	http://purl.bioontology.org/ontology/SNOMEDCT/955009
T-28000	Lung	http://purl.bioontology.org/ontology/SNOMEDCT/39607008
T-32000	Heart	http://purl.bioontology.org/ontology/SNOMEDCT/80891009
T-42000	Aorta	http://purl.bioontology.org/ontology/SNOMEDCT/15825003

T-43000	Coronary artery	http://purl.bioontology.org/ontology/SNOMEDCT/41801008
T-45010	Carotid Artery	http://purl.bioontology.org/ontology/SNOMEDCT/69105007
T-45526	Circle of Willis	http://purl.bioontology.org/ontology/SNOMEDCT/362047009
T-51000	Mouth	http://purl.bioontology.org/ontology/SNOMEDCT/21082005
T-53000	Tongue	http://purl.bioontology.org/ontology/SNOMEDCT/21974007
T-55000	Pharynx	http://purl.bioontology.org/ontology/SNOMEDCT/54066008
T-B3000	Adrenal gland	http://purl.bioontology.org/ontology/SNOMEDCT/23451007
T-56000	Esophagus	http://purl.bioontology.org/ontology/SNOMEDCT/32849002
T-57000	Stomach	http://purl.bioontology.org/ontology/SNOMEDCT/69695003
T-58200	Duodenum	http://purl.bioontology.org/ontology/SNOMEDCT/38848004
T-58400	Jejunum	http://purl.bioontology.org/ontology/SNOMEDCT/21306003
T-58600	Ileum	http://purl.bioontology.org/ontology/SNOMEDCT/34516001
T-59300	Colon	http://purl.bioontology.org/ontology/SNOMEDCT/71854001
T-59600	Rectum	http://purl.bioontology.org/ontology/SNOMEDCT/34402009
T-61100	Parotid gland	http://purl.bioontology.org/ontology/SNOMEDCT/45289007
T-61300	Submandibular gland	http://purl.bioontology.org/ontology/SNOMEDCT/54019009
T-62000	Liver	http://purl.bioontology.org/ontology/SNOMEDCT/10200004
T-63000	Gallbladder	http://purl.bioontology.org/ontology/SNOMEDCT/28231008
T-65000	Pancreas	http://purl.bioontology.org/ontology/SNOMEDCT/15776009
T-71000	Kidney	http://purl.bioontology.org/ontology/SNOMEDCT/64033007
T-73000	Ureter	http://purl.bioontology.org/ontology/SNOMEDCT/87953007
T-74000	Bladder	http://purl.bioontology.org/ontology/SNOMEDCT/89837001
T-75000	Urethra	http://purl.bioontology.org/ontology/SNOMEDCT/13648007
T-81000	Vulva	http://purl.bioontology.org/ontology/SNOMEDCT/45292006
T-82000	Vagina	http://purl.bioontology.org/ontology/SNOMEDCT/76784001
T-83000	Uterus	http://purl.bioontology.org/ontology/SNOMEDCT/35039007
T-83200	Cervix	http://purl.bioontology.org/ontology/SNOMEDCT/71252005
T-87000	Ovary	http://purl.bioontology.org/ontology/SNOMEDCT/15497006
T-91000	Penis	http://purl.bioontology.org/ontology/SNOMEDCT/18911002
T-9200B	Prostate	http://purl.bioontology.org/ontology/SNOMEDCT/181422007
T-94000	Testis	http://purl.bioontology.org/ontology/SNOMEDCT/40689003
T-98000	Scrotum	http://purl.bioontology.org/ontology/SNOMEDCT/20233005
T-A0100	Brain	http://purl.bioontology.org/ontology/SNOMEDCT/12738006
T-A6000	Cerebellum	http://purl.bioontology.org/ontology/SNOMEDCT/113305005
T-AA000	Eye	http://purl.bioontology.org/ontology/SNOMEDCT/81745001
T-AA110	Sclera	http://purl.bioontology.org/ontology/SNOMEDCT/18619003
T-AA200	Cornea	http://purl.bioontology.org/ontology/SNOMEDCT/28726007
T-AA810	Eyelid	http://purl.bioontology.org/ontology/SNOMEDCT/80243003
T-AB959	Internal Auditory Canal	http://purl.bioontology.org/ontology/SNOMEDCT/361078006
T-B6000	Thyroid	http://purl.bioontology.org/ontology/SNOMEDCT/69748006
T-C3000	Spleen	http://purl.bioontology.org/ontology/SNOMEDCT/78961009
T-C8000	Thymus	http://purl.bioontology.org/ontology/SNOMEDCT/9875009
T-D0010	Entire body	http://purl.bioontology.org/ontology/SNOMEDCT/38266002
T-D00F7	Cervico-thoracic spine	http://purl.bioontology.org/ontology/SNOMEDCT/297171002

T-D00F8	Thoraco-lumbar spine	http://purl.bioontology.org/ontology/SNOMEDCT/297172009
T-D00F9	Lumbo-sacral spine	http://purl.bioontology.org/ontology/SNOMEDCT/297173004
T-D0300	Extremity	http://purl.bioontology.org/ontology/SNOMEDCT/66019005
T-D04FF	Spine	http://purl.bioontology.org/ontology/SNOMEDCT/421060004
T-D1000	Head and Neck	http://purl.bioontology.org/ontology/SNOMEDCT/774007
T-D1100	Head	http://purl.bioontology.org/ontology/SNOMEDCT/69536005
T-D1160	Scalp	http://purl.bioontology.org/ontology/SNOMEDCT/41695006
T-D1200	Face	http://purl.bioontology.org/ontology/SNOMEDCT/89545001
T-D1206	Cheek	http://purl.bioontology.org/ontology/SNOMEDCT/60819002
T-D1213	Jaw region	http://purl.bioontology.org/ontology/SNOMEDCT/661005
T-D14AE	Orbital structure	http://purl.bioontology.org/ontology/SNOMEDCT/363654007
T-D1600	Neck	http://purl.bioontology.org/ontology/SNOMEDCT/45048000
T-D2100	Back	http://purl.bioontology.org/ontology/SNOMEDCT/77568009
T-D2220	Shoulder	http://purl.bioontology.org/ontology/SNOMEDCT/16982005
T-D2600	Buttock	http://purl.bioontology.org/ontology/SNOMEDCT/46862004
T-D3000	Chest	http://purl.bioontology.org/ontology/SNOMEDCT/51185008
T-D3300	Mediastinum	http://purl.bioontology.org/ontology/SNOMEDCT/72410000
T-D4000	Abdomen	http://purl.bioontology.org/ontology/SNOMEDCT/113345001
T-D6000	Pelvis	http://purl.bioontology.org/ontology/SNOMEDCT/12921003
T-D8104	Axilla	http://purl.bioontology.org/ontology/SNOMEDCT/91470000
T-D8200	Upper arm	http://purl.bioontology.org/ontology/SNOMEDCT/40983000
T-D8700	Hand	http://purl.bioontology.org/ontology/SNOMEDCT/85562004
T-D8800	Finger	http://purl.bioontology.org/ontology/SNOMEDCT/7569003
T-D8810	Thumb	http://purl.bioontology.org/ontology/SNOMEDCT/76505004
T-D9100	Thigh	http://purl.bioontology.org/ontology/SNOMEDCT/68367000
T-D9200	Knee	http://purl.bioontology.org/ontology/SNOMEDCT/72696002
T-D9400	Lower leg	http://purl.bioontology.org/ontology/SNOMEDCT/30021000
T-D9440	Calf of leg	http://purl.bioontology.org/ontology/SNOMEDCT/53840002
T-AB000	Ear	http://purl.bioontology.org/ontology/SNOMEDCT/1910005
T-D9700	Foot	http://purl.bioontology.org/ontology/SNOMEDCT/56459004
T-D9800	Toe	http://purl.bioontology.org/ontology/SNOMEDCT/29707007

CAPABILITIES

id	label
biomaterial-storage	Biological material storage
cell-culture	Cell culture
data-analytics	Data analytics
data-storage	Data Storage
digital-imaging	Digital imaging
immunohistochemistry-scoring	Immunohistochemistry scoring
immunohistochemistry-staining	Immunohistochemistry staining
nucleic-acid-extraction	Nucleic acid extraction
pathology-archive-access	Access to the full pathology archive
recontact	Ability to recontact
tma-creation	Tissue micro array creation

COLLECTION TYPES

id	label
SAMPLE	Sample collection
TWIN_STUDY	Twin-study
RD	Rare disease collection
NON_HUMAN	Non-human
BIRTH_COHORT	Birth cohort
CASE_CONTROL	Case-Control
COHORT	Cohort
CROSS_SECTIONAL	Cross-sectional
DISEASE_SPECIFIC	Disease specific
HOSPITAL	Hospital
IMAGE	Image collection
LONGITUDINAL	Longitudinal
OTHER	Other
POPULATION_BASED	Population-based
QUALITY_CONTROL	Quality control

DATA TYPES

id	label
BIOLOGICAL_SAMPLES	Biological samples
GENEALOGICAL_RECORDS	Genealogical records
IMAGING_DATA	Imaging data
MEDICAL_RECORDS	Medical records
NATIONAL_REGISTRIES	National registries
NAV	Not available
OTHER	Other
PHYSIOLOGICAL_BIOCHEMICAL_MEASUREMENTS	Physiological/Biochemical measurements
SURVEY_DATA	Survey data

DISEASE TYPES

The disease types is designed to be extensible, ontology based code list. Currently it comprises of the ICD-10 ontology, but in the future other disease ontologies such as SNOMED CT or Orphanet might be included. To support this extensibility the ICD-10 codes have been prefixed with the URI scheme urn:miriam:icd: (e.g. urn:miriam:icd:C19, urn:miriam:icd:C00-C97) as specified by the Miriam registry team EMBL-EBI. The disease types table contains entries for all levels of the ICD-10 ontology, chapters, blocks and codes and sub codes. Data integrators should refrain from creating other blocks of contiguous codes that are not specified in ICD-10. For sources that contain disease codes in another ontology data integrators should be convert these to the corresponding ICD-10 codes. Both SNOMED-CT and Orphanet maintain mappings for their ontologies. It is strongly advised to provide individual codes instead of blocks of codes.

IMAGE DATA TYPES

id	label
1.2.840.10008.5.1.4.1.1.14.1	Intravascular OCT IOD
1.2.840.10008.5.1.4.1.1.14.2	Intravascular OCT IOD
1.2.840.10008.5.1.4.1.1.2	Computed Tomography Image IOD
1.2.840.10008.5.1.4.1.1.2.1	Enhanced CT Image IOD
1.2.840.10008.5.1.4.1.1.2.2	Legacy Converted Enhanced CT Image IOD
1.2.840.10008.5.1.4.1.1.20	Nuclear Medicine Image IOD
1.2.840.10008.5.1.4.1.1.3.1	Ultrasound Multi-frame Image IOD
1.2.840.10008.5.1.4.1.1.30	Parametric Map IOD
1.2.840.10008.5.1.4.1.1.4	Magnetic Resonance Image IOD
1.2.840.10008.5.1.4.1.1.66.5	Surface Segmentation IOD
1.2.840.10008.5.1.4.1.1.67	Real World Value Mapping IOD
1.2.840.10008.5.1.4.1.1.68.1	Surface Scan Mesh IOD
1.2.840.10008.5.1.4.1.1.68.2	Surface Scan Point Cloud IOD
1.2.840.10008.5.1.4.1.1.7	Secondary Capture Image IOD
1.2.840.10008.5.1.4.1.1.4.2	MR Spectroscopy IOD
1.2.840.10008.5.1.4.1.1.4.3	Enhanced MR Color Image IOD
1.2.840.10008.5.1.4.1.1.4.4	Legacy Converted Enhanced MR Image IOD
1.2.840.10008.5.1.4.1.1.481.1	RT Image IOD
1.2.840.10008.5.1.4.1.1.481.2	RT Dose IOD
1.2.840.10008.5.1.4.1.1.481.3	RT Structure Set IOD
1.2.840.10008.5.1.4.1.1.481.4	RT Beams Treatment Record IOD
1.2.840.10008.5.1.4.1.1.481.5	RT Plan IOD
1.2.840.10008.5.1.4.1.1.481.6	RT Brachy Treatment Record IOD
1.2.840.10008.5.1.4.1.1.481.7	RT Treatment Summary Record IOD
1.2.840.10008.5.1.4.1.1.1	Computed Radiography Image IOD
1.2.840.10008.5.1.4.1.1.1.1	Digital X-Ray Image IOD
1.2.840.10008.5.1.4.1.1.1.1.1	Digital X-Ray Image IOD
1.2.840.10008.5.1.4.1.1.1.2	Digital Mammography X-Ray Image IOD
1.2.840.10008.5.1.4.1.1.1.2.1	Digital Mammography X-Ray Image IOD
1.2.840.10008.5.1.4.1.1.1.3	Digital Intra-Oral X-Ray Image IOD
1.2.840.10008.5.1.4.1.1.1.3.1	Digital Intra-Oral X-Ray Image IOD
1.2.840.10008.5.1.4.1.1.104.1	Encapsulated PDF IOD
1.2.840.10008.5.1.4.1.1.104.2	Encapsulated CDA IOD
1.2.840.10008.5.1.4.1.1.11.1	Grayscale Softcopy Presentation State IOD
1.2.840.10008.5.1.4.1.1.11.2	Color Softcopy Presentation State IOD
1.2.840.10008.5.1.4.1.1.11.3	Pseudo-color Softcopy Presentation State IOD
1.2.840.10008.5.1.4.1.1.11.4	Blending Softcopy Presentation State IOD
1.2.840.10008.5.1.4.1.1.11.5	XA/XRF Grayscale Softcopy Presentation State IOD
1.2.840.10008.5.1.4.1.1.12.1	X-Ray Angiographic Image IOD
1.2.840.10008.5.1.4.1.1.12.1.1	Enhanced X-Ray Angiographic Image IOD
1.2.840.10008.5.1.4.1.1.12.2	X-Ray RF Image IOD

1.2.840.10008.5.1.4.1.1.12.2.1	Enhanced X-Ray RF Image IOD
1.2.840.10008.5.1.4.1.1.128	Positron Emission Tomography Image IOD
1.2.840.10008.5.1.4.1.1.128.1	Legacy Converted Enhanced PET Image IOD
1.2.840.10008.5.1.4.1.1.13.1.1	X-Ray 3D Angiographic Image IOD
1.2.840.10008.5.1.4.1.1.13.1.2	X-Ray 3D Craniofacial Image IOD
1.2.840.10008.5.1.4.1.1.13.1.3	Breast Tomosynthesis Image IOD
1.2.840.10008.5.1.4.1.1.13.1.4	Breast Projection X-Ray Image IOD
1.2.840.10008.5.1.4.1.1.13.1.5	Breast Projection X-Ray Image IOD
1.2.840.10008.5.1.4.1.1.130	Enhanced PET Image IOD
1.2.840.10008.5.1.4.1.1.131	Basic Structured Display IOD
1.2.840.10008.5.1.4.1.1.4.1	Enhanced MR Image IOD
1.2.840.10008.5.1.4.1.1.66.6	Tractography Results IOD
1.2.840.10008.5.1.4.1.1.481.8	RT Ion Plan IOD
1.2.840.10008.5.1.4.1.1.481.9	RT Ion Beams Treatment Record IOD
1.2.840.10008.5.1.4.1.1.6.1	Ultrasound Image IOD
1.2.840.10008.5.1.4.1.1.6.2	Enhanced US Volume IOD
1.2.840.10008.5.1.4.1.1.66	Raw Data IOD
1.2.840.10008.5.1.4.1.1.66.1	Spatial Registration IOD
1.2.840.10008.5.1.4.1.1.66.2	Spatial Fiducials IOD
1.2.840.10008.5.1.4.1.1.66.3	Deformable Spatial Registration IOD
1.2.840.10008.5.1.4.1.1.66.4	Segmentation IOD
1.2.840.10008.5.1.4.1.1.7.1	Multi-frame Single Bit Secondary Capture Image IOD
1.2.840.10008.5.1.4.1.1.7.2	Multi-frame Grayscale Byte Secondary Capture Image IOD
1.2.840.10008.5.1.4.1.1.88.11	Basic Text SR IOD
1.2.840.10008.5.1.4.1.1.7.3	Multi-frame Grayscale Word Secondary Capture Image IOD
1.2.840.10008.5.1.4.1.1.7.4	Multi-frame True Color Secondary Capture Image IOD
1.2.840.10008.5.1.4.1.1.77.1.1	VL Endoscopic Image IOD
1.2.840.10008.5.1.4.1.1.77.1.1.1	Video Endoscopic Image IOD
1.2.840.10008.5.1.4.1.1.77.1.2	VL Microscopic Image IOD
1.2.840.10008.5.1.4.1.1.77.1.2.1	Video Microscopic Image IOD
1.2.840.10008.5.1.4.1.1.77.1.3	VL Slide-coordinates Microscopic Image IOD
1.2.840.10008.5.1.4.1.1.77.1.4	VL Photographic Image IOD
1.2.840.10008.5.1.4.1.1.77.1.4.1	Video Photographic Image IOD
1.2.840.10008.5.1.4.1.1.77.1.5.1	Ophthalmic Photography 8 Bit Image IOD
1.2.840.10008.5.1.4.1.1.77.1.5.2	Ophthalmic Photography 16 Bit Image IOD
1.2.840.10008.5.1.4.1.1.77.1.5.3	Stereometric Relationship IOD
1.2.840.10008.5.1.4.1.1.77.1.5.4	Ophthalmic Tomography Image IOD
1.2.840.10008.5.1.4.1.1.77.1.5.5	Wide Field Ophthalmic Photography Stereographic Projection Image IOD
1.2.840.10008.5.1.4.1.1.77.1.5.6	Wide Field Ophthalmic Photography 3D Coordinates Image IOD
1.2.840.10008.5.1.4.1.1.77.1.6	VL Whole Slide Microscopy Image IOD
1.2.840.10008.5.1.4.1.1.78.1	Lensometry Measurements IOD
1.2.840.10008.5.1.4.1.1.78.2	Autorefractometry Measurements IOD
1.2.840.10008.5.1.4.1.1.78.3	Keratometry Measurements IOD
1.2.840.10008.5.1.4.1.1.78.4	Subjective Refraction Measurements IOD

1.2.840.10008.5.1.4.1.1.78.5	Visual Acuity Measurements IOD
1.2.840.10008.5.1.4.1.1.78.6	Spectacle Prescription Report IOD
1.2.840.10008.5.1.4.1.1.78.7	Ophthalmic Axial Measurements IOD
1.2.840.10008.5.1.4.1.1.78.8	Intraocular Lens Calculations IOD
1.2.840.10008.5.1.4.1.1.79.1	Macular Grid Thickness and Volume Report IOD
1.2.840.10008.5.1.4.1.1.80.1	Ophthalmic Visual Field Static Perimetry Measurements IOD
1.2.840.10008.5.1.4.1.1.81.1	Ophthalmic Thickness Map IOD
1.2.840.10008.5.1.4.1.1.82.1	Corneal Topography Map IOD
1.2.840.10008.5.1.4.1.1.88.22	Enhanced SR IOD
1.2.840.10008.5.1.4.1.1.88.33	Comprehensive SR IOD
1.2.840.10008.5.1.4.1.1.88.34	Comprehensive 3D SR IOD
1.2.840.10008.5.1.4.1.1.88.35	Extensible SR IOD
1.2.840.10008.5.1.4.1.1.88.40	Procedure Log IOD
1.2.840.10008.5.1.4.1.1.88.50	Mammography CAD SR IOD
1.2.840.10008.5.1.4.1.1.88.59	Key Object Selection Document IOD
1.2.840.10008.5.1.4.1.1.88.65	Chest CAD SR IOD
1.2.840.10008.5.1.4.1.1.88.67	X-Ray Radiation Dose SR IOD
1.2.840.10008.5.1.4.1.1.88.68	Radiopharmaceutical Radiation Dose SR IOD
1.2.840.10008.5.1.4.1.1.88.69	Colon CAD SR IOD
1.2.840.10008.5.1.4.1.1.88.70	Implantation Plan SR Document IOD
1.2.840.10008.5.1.4.1.1.9.1.1	12-Lead Electrocardiogram IOD
1.2.840.10008.5.1.4.1.1.9.1.2	General Electrocardiogram IOD
1.2.840.10008.5.1.4.1.1.9.1.3	Ambulatory Electrocardiogram IOD
1.2.840.10008.5.1.4.1.1.9.2.1	Hemodynamic IOD
1.2.840.10008.5.1.4.1.1.9.3.1	Basic Cardiac Electrophysiology IOD
1.2.840.10008.5.1.4.1.1.9.4.1	Basic Voice Audio IOD
1.2.840.10008.5.1.4.1.1.9.4.2	General Audio Waveform IOD
1.2.840.10008.5.1.4.1.1.9.5.1	Arterial Pulse Waveform IOD
1.2.840.10008.5.1.4.1.1.9.6.1	Respiratory Waveform IOD
1.2.840.10008.5.1.4.1.1.90.1	Content Assessment Results IOD
1.2.840.10008.5.1.4.34.10	RT Brachy Application Setup Delivery Instruction IOD
1.2.840.10008.5.1.4.34.7	RT Beams Delivery Instruction IOD
1.2.840.10008.5.?1.?4.?1.?1.?88.?71	Acquisition Context SR IOD
1.2.840.10008.?5.?1.?4.?1.?1.?11.?6	Planar MPR Volumetric Presentation State IOD Description
1.2.840.10008.?5.?1.?4.?1.?1.?11.?7	Planar MPR Volumetric Presentation State IOD Description

IMAGING MODALITIES

id	label	description
AR	Autorefraction	An acquisition device, process or method that measures autorefraction.
AU	Audio	An acquisition device, process or method that records audio.
IOL	Intraocular Lens Data	
BDUS	Bone Densitometry (ultrasound)	An acquisition device, process or method that performs ultrasound bone densitometry.
BI	Biomagnetic imaging	An acquisition device, process or method that performs biomagnetic imaging.
BMD	Bone Densitometry (X-Ray)	An acquisition device, process or method that performs bone mineral densitometry by X-Ray, including dual-energy X-Ray absorptiometry (DXA) and morphometric X-Ray absorptiometry (MXA).
OCT	Optical Coherence Tomography (non-Ophthalmic)	An acquisition device, process or method that uses an interferometric, non-invasive optical tomographic technique to image 2D slices and 3D volumes of tissue using visible and near visible frequencies.
OPM	Ophthalmic Mapping	An acquisition device, process or method that measures corneal topography, corneal or retinal thickness, and other similar parameters that are typically displayed as maps.
OPT	Ophthalmic Tomography	An acquisition device, process or method that performs tomography of the eye that is based on light and optical principles. Tomography based on other principles, such as ultrasound, is excluded.
OPV	Ophthalmic Visual Field	An acquisition device, process or method that measures visual fields and perform visual perimetry.
OSS	Optical Surface Scan	An acquisition device, process or method that performs optical surface scanning.
PT	Positron emission tomography (PET)	An acquisition device, process or method that performs positron emission tomography (PET).
IO	Intra-Oral Radiography	An acquisition device, process or method that performs intra-oral radiography.
IVOCT	Intravascular Optical Coherence Tomography	An acquisition device, process or method that performs intravascular optical coherence tomography
IVUS	Intravascular Ultrasound	An acquisition device, process or method that performs intravascular ultrasound.
PX	Panoramic X-Ray	An acquisition device, process or method that performs panoramic X-Rays.
REG	Registration	An image processing device, process or method that creates Registration objects.
RESP	Respiratory Waveform	
RF	Radio Fluoroscopy	An acquisition device, process or method that performs radiofluoroscopy.
RG	Radiographic imaging (conventional film/screen)	An acquisition device, process or method that performs radiographic imaging (conventional film/screen).
RTDOSE	Radiotherapy Dose	A device, process or method that records radiotherapy dose.
RTIMAGE	Radiotherapy Image	An acquisition device, process or method that performs radiotherapy imaging; includes portal imaging.
RTPLAN	Radiotherapy Plan	A device, process or method that produces radiotherapy plans.
RTRECORD	RT Treatment Record	A device, process or method that records radiotherapy treatment records.
RTSTRUCT	Radiotherapy Structure Set	A device, process or method that produces Radiotherapy Structure Sets.

SEG	SEG Segmentation	An image processing device, process or method that performs segmentation.
SM	Slide Microscopy	An acquisition device, process or method that performs slide microscopy.
SMR	Stereometric Relationship	A device, process or method that records relationships between stereometric image pairs.
SR	SR Document	A device, process or method that creates Structured Report documents.
SRF	Subjective Refraction	An acquisition device, process or method that records subjective refraction.
TG	Thermography	An acquisition device, process or method that performs thermography.
US	Ultrasound	An acquisition device, process or method that performs ultrasound.
VA	Visual Acuity	An acquisition device, process or method that measures visual acuity.
XA	X-Ray Angiography	An acquisition device, process or method that performs X-Ray angiography.
XC	External-camera Photography	An acquisition device, process or method that performs photography with an external camera.
CR	Computed Radiography	An acquisition device, process or method that performs computed radiography.
CT	Computed Tomography	An acquisition device, process or method that performs computed tomography.
HD	Hemodynamic Waveform	An acquisition device, process or method that records hemodynamic waveforms.
KER	Keratometry	An acquisition device, process or method that performs keratometry.
KO	Key Object Selection	A device, process or method that creates Key Object Selection objects.
LEN	Lensometry	An acquisition device, process or method that performs lensometry.
LS	Laser surface scan	An acquisition device, process or method that performs laser surface scanning.
MG	Mammography	An acquisition device, process or method that performs mammography.
MR	Magnetic Resonance	An acquisition device, process or method that performs magnetic resonance imaging.
NM	Nuclear Medicine	An acquisition device, process or method that performs nuclear medicine imaging.
OAM	Ophthalmic Axial Measurements	An acquisition device, process or method that measures the axial length of the eye.
OP	Ophthalmic Photography	An acquisition device, process or method that performs ophthalmic photography.
DG	Diaphanography	An acquisition device, process or method that performs diaphanography.
DX	Digital Radiography	An acquisition device, process or method that performs digital radiography.
ECG	Electrocardiography	An acquisition device, process or method that performs electrocardiography.
EPS	Cardiac Electrophysiology	An acquisition device, process or method that performs cardiac electrophysiology.
ES	Endoscopy	An acquisition device, process or method that records images during endoscopy.
GM	General Microscopy	An acquisition device, process or method that performs general microscopy.
HC	Hard Copy	A device, process or method that creates images to be printed as hard copy.

LAB STANDARDS

id	label	description
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cen-ts-16835-1-2015	CEN/TS 16835-1:2015	Specifications for Pre-examination processes for venous whole blood - Part 1: Specifications for Pre-examination processes for Isolated cellular RNA
cen-ts-16835-2-2015	CEN/TS 16835-2:2015	Specifications for Pre-examination processes for venous whole blood - Part 2: Isolated genomic DNA
cen-ts-16835-3-2015	CEN/TS 16835-3:2015	Specifications for Pre-examination processes for venous whole blood - Part 3: Isolated circ. cell-free DNA from plasma
cen-ts-16945-2016	CEN/TS 16945:2016	Specifications for Pre-examination processes for metabolomics in urine, serum and plasma
cen-ts-16826-1-2015	CEN/TS 16826-1:2015	Specifications for Pre-examination processes for snap frozen tissue - Part 1: Isolated RNA
cen-ts-16826-2-2015	CEN/TS 16826-2:2015	Specifications for Pre-examination processes for snap frozen tissue - Part 2: Isolated proteins
cen-ts-16827-1-2015	CEN/TS 16827-1:2015	Specifications for Pre-examination processes for FFPE tissue - Part 1: Isolated RNA
cen-ts-16827-2-2015	CEN/TS 16827-2:2015	Specifications for Pre-examination processes for FFPE tissue - Part 2: Isolated proteins
cen-ts-16827-3-2015	CEN/TS 16827-3:2015	Specifications for Pre-examination processes for FFPE tissue - Part 3: Isolated DNA

MATERIAL TYPES

id	label	description
CDNA	cDNA / mRNA	Single-stranded DNA that is complementary to messenger RNA or DNA that has been synthesized from messenger RNA by reverse transcriptase/A class of RNA molecule containing protein-coding information in its nucleotide sequence that can be translated into the amino acid sequence of a protein. (NCI)
CELL_LINES	Cell lines	Cells of a single type (human, animal, or plant) that have been adapted to grow continuously in the laboratory and are used in research. (NCI)
DNA	DNA	A long linear double-stranded polymer formed from nucleotides attached to a deoxyribose backbone and found in the nucleus of a cell; associated with the transmission of genetic information. (NCI)
MICRO_RNA	microRNA	A type of RNA found in cells and in blood. MicroRNAs are smaller than many other types of RNA and can bind to messenger RNAs (mRNAs) to block them from making proteins. MicroRNAs are being studied in the diagnosis (NCI) and treatment of cancer.
NAV	Not available	Not available
OTHER	Other	any other type of material taken from a biological entity, e.g. amniotic fluid, cerebrospinal fluid, mitochondrial RNA,
PATHOGEN	Pathogen	A biological agent causing disease; a disease producer e.g. virus, bacterium, prion, other microorganism etc.
PERIPHERAL_BLOOD_CELLS	peripheral blood cells	A general term describing the three cellular components of blood (white blood cells, red blood cells, and platelets), all which are made in the bone marrow. (Lymphoma Information Network Glossary)
PLASMA	Plasma	Plasma is the fluid (acellular) portion of the circulating blood, as distinguished from the serum that is the fluid portion of the blood obtained by removal of the fibrin clot and blood cells after coagulation. (NCI)
RNA	RNA	One of two types of nucleic acid made by cells. RNA contains information that has been copied from DNA (the other type of nucleic acid). Cells make several different forms of RNA, and each form has a specific job in the cell. Many forms of RNA have functions related to making proteins. RNA is also the genetic material of some viruses instead of DNA. RNA can be made in the laboratory and used in research studies. Also called ribonucleic acid.
SALIVA	Saliva	A clear liquid secreted into the mouth by the salivary glands and mucous glands of the mouth; moistens the mouth and starts the digestion of starches. (NCI)
SERUM	Serum	The clear portion of the blood that remains after the removal of the blood cells and the clotting proteins. (NCI)
TISSUE_PARAFFIN_EMBEDDED	Tissue (paraffin preserved)	Tissue that is preserved and embedded in paraffin. (NCI)
URINE	Urine	The fluid that is excreted by the kidneys. It is stored in the bladder and discharged through the urethra. (NCI)
WHOLE_BLOOD	Whole Blood	Blood that has not been separated into its various components; blood that has not been modified except for the addition of an anticoagulant (NCI)
TISSUE_FROZEN	Tissue (frozen)	An anatomical structure consisting of similarly specialized cells and intercellular matrix, aggregated according to genetically determined spatial relationships, performing a specific function. (NCI), preserved by freezing in liquid nitrogen
FECES	Feces	The material discharged from the bowel during defecation. It consists of undigested food, intestinal mucus, epithelial cells, and bacteria. (NCI)

OPERATIONAL STANDARDS

id	label
iso-15189	ISO-15189
iso-15190	ISO-15190
iso-17025	ISO-17025
iso-9001	ISO-9001
nfs96-900	NFS96-900
oecd-guidelines	OECD Guidelines
others	Others

SEX

id	label	description
FEMALE	Female	Female
MALE	Male	Male
NASK	Not asked	The gender was never asked
NAV	Not available	The information is temporarily unavailable
UNDIFFERENTIAL	Undifferentiated	Undifferentiated, the gender could not be uniquely identified such as hermaphrodite
UNKNOWN	Unknown	A proper value is applicable but not known

STORAGE TEMPERATURES

id	label	description
temperature-18to-35	-18°C to -35°C	Sample storage temperature – between -18 and -35°C
temperature-60to-85	-60°C to -80°C	Sample storage temperature – between -60 and -85°C
temperature2to10	2°C to 10°C	Sample storage temperature – between 2 and 10°C
temperatureLN	Liquid Nitrogen	Sample storage temperature – liquid nitrogen, -150 to -196°C
temperatureOther	Other	Sample storage temperature – other
temperatureRoom	Room temperature	Sample storage temperature – Room temperature