

# MAKING NEW TREAT MENTS POSSIBLE

**BBMRI-ERIC FEDERATED PLATFORM**  
A DISCOVERY SERVICE FOR BUILDING CROSS-BORDER COHORTS

Konrad Lang

- BBMRI-ERIC
- BioBanking and Molecular Research Infrastructure ERIC
- Providing tools and services for samples and data
- Make samples and data findable
- Service to negotiate on sample and data exchange



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# EUROPEAN RESEARCH INFRASTRUCTURE FOR BIOBANKING

## PROJECTS

- BY-COVID
- CY-Biobank
- DIAMONDS
- EHDS2
- EOSC Future
- EOSC4CANCER
- EPND
- EuCanImage
- INTERVENE
- ISIDORe
- BIGPICTURE
- canSERV
- CETOCOEN II
- ConcePTION
- EJP RD
- EUCAN-Connect
- IC2PerMed
- PROPHET
- HealthyCloud

# WHY FEDERATED PLATFORM

## EXPECTATIONS

### Researcher

- ✓ Donor and sample level information
- ✓ Real-time search



© German Biobank Node

### Biobanker

- ✓ Data harmonized & ready to use
- ✓ Less inadequate requests



© German Biobank Node

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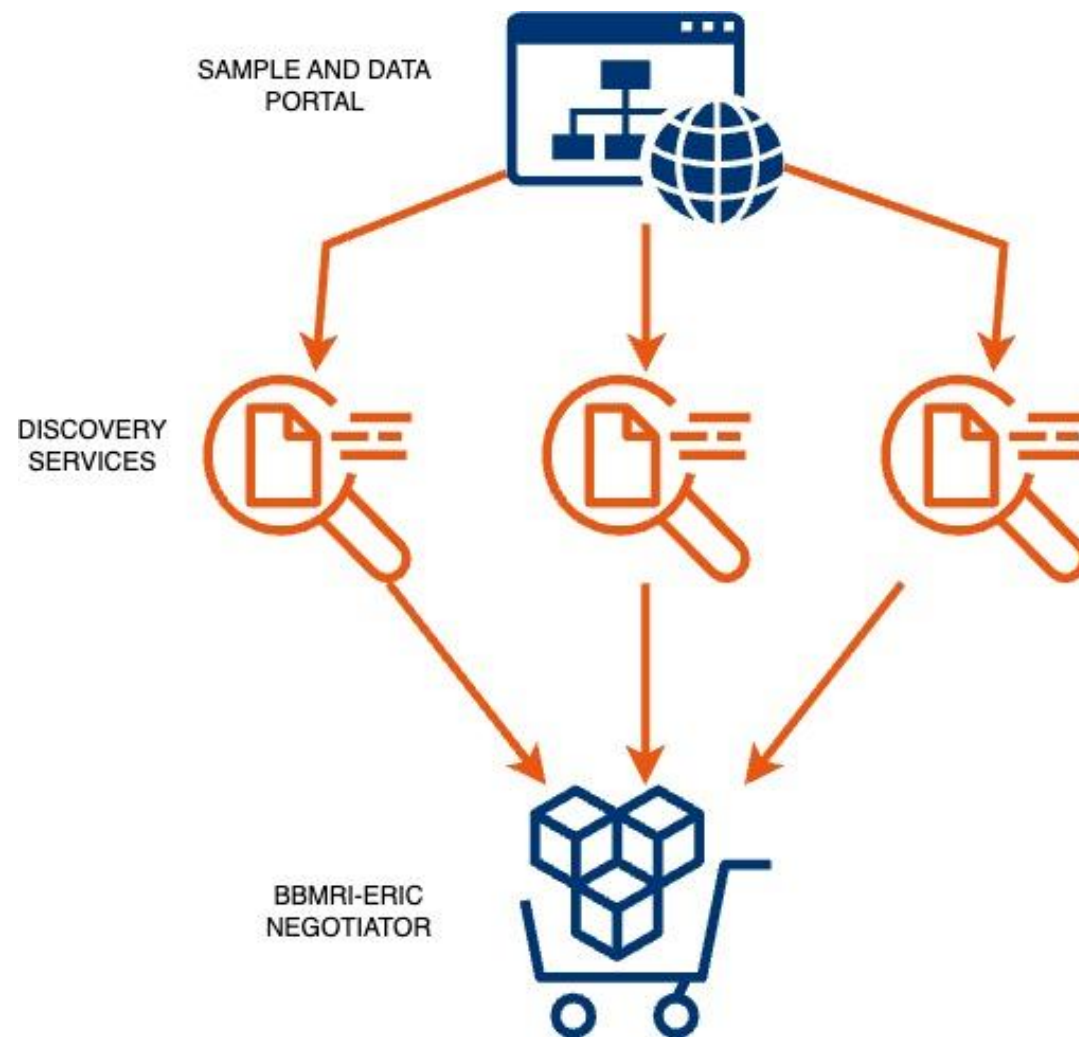
# A FEDERATION REQUIRES A FEDERATED SOLUTION

MEMBERS, OBSERVERS, AND THE POTENTIAL

## Main Objectives

- ✓ An interconnected system that is safe and spans across borders
- ✓ Federated analysis on Sample and Donor level
- ✓ A community driven data model
- ✓ Expediting data access
- ✓ Increase the datafication of biobanks to prepare for the EHDS regulation

# HOW?

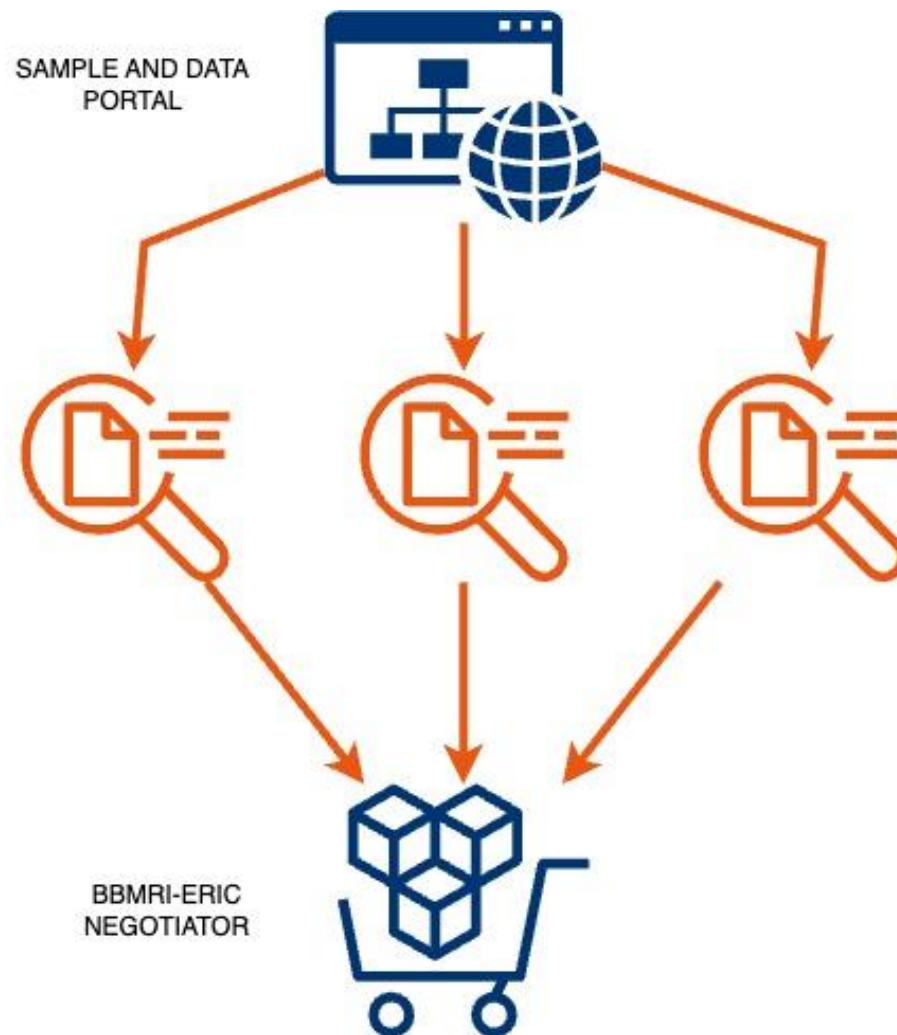


# HOW?

*"I need tissue and liquid samples fitting to my research scope."*

- The **Locator** is your access to the samples and data associated to the samples based on real-time search on donor and sample level.

DISCOVERY SERVICES



*"I am interested more in genomics and population data analysis than samples themselves."*

- The **Finder** is a data analysis tool focused on clinical, phenotypic and genomics data.

*"I want to browse all biobanks in the BBMRI-ERIC."*

- The **Directory** is a broad catalogue of our biobanks with aggregated information on their collections. You can browse and filter by country, sample type, quality marks and more.

# BBMRI-ERIC DIRECTORY



[Home](#) [Background](#) [Map of Biobanks](#) [Privacy Statement](#) [Manuals](#)

[Help](#) [Sign in](#)

×

Diagnosis available

Countries

Collection type

Categories

Material type

Biobank services

Quality labels

Network

Data type

☐ Available to commercial use

Request 0

Search results

Organisations: 424

Collection(s): 1455

Subcollection(s): 1093

<< < 1 2 3 4 ... > >>

AGNES Biobank

[View biobank](#)

1 collection available

Arrhythmia genetics in the Netherlands

☐

[More details](#)

ALLBIO INTERNATIONAL

[View biobank](#)

1 collection available

Ability to collect COVID-19 cases

☐

[More details](#)

AMC Renal Transplant Biobank

[View biobank](#)

1 collection available

AMC Renal Transplant Biobank

☐

[More details](#)

ARC-Net

[View biobank](#)

1 collection available

Collection all Samples

☐

[More details](#)

ARGOS Biobank

[View biobank](#)

1 collection available

Association study of coronary heart disease Risk factors in the Genome using an Old-versus-young Setting

☐

[More details](#)

ARREST Biobank

[View biobank](#)

1 collection available

Amsterdam Resuscitation Studies

☐

[More details](#)

Acibadem University Biobank

[View biobank](#)

1 collection available

existing collection(s) of data/samples relevant for COVID-19

☐

Available: 227 samples

[More details](#)

Acutelines

[View biobank](#)

1 collection available

AcuteLines

☐

Available: 3500 samples

[More details](#)

19.01.2024

VHT ECOSYSTEM Meeting

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# JUST A METADATA CATALOGUE

×

Request **0**

Diagnosis available ▼

Countries ▼

Collection type ▼

Categories ▼

Material type ▼

Biobank services ▼

Quality labels ▼

Network ▼


Data type ▼

☐ Available to commercial use

Based on MOLGENIS, can hold  
any metadata

# SAMPLES COLLECTION DESCRIPTION

## Cells

<b>Id:</b>	bbmri-eric:ID:CZ_MMCI:collection:Cells 
<b>Size:</b>	100 - 1000
<b>Age:</b>	18-100 Year
<b>Type:</b>	Hospital, Sample collection
<b>Sex:</b>	Female, Male
<b>Materials:</b>	Cell lines, Peripheral blood cells
<b>Storage:</b>	Liquid Nitrogen
<b>Data:</b>	Biological samples Imaging data Medical records National registries Survey data Physiological/Biochemical measurements
<b>Diagnosis:</b>	Malignant neoplasm of oesophagus Malignant neoplasm of stomach Malignant neoplasm of colon Malignant neoplasm of rectum Malignant neoplasm of bronchus and lung Malignant melanoma of skin Malignant neoplasm of ovary Malignant neoplasm of kidney, except renal pelvis

# FINDER.BBMRI-ERIC.EU



History Prostate pressure New Query

Collections 7

Select gene

+ Add filter

New Query

Group 1 AND

✓ Asthma

✓ Abnormal breathing

OR AND

Group 2 AND

✓ Abnormal breathing

Add filter

Count details

Send cohort for data request

Collection	Total ↓	Status	Relative
Estonia	6813	Job done	6813 82.90%
Graz	1392	Job done	1392 16.94%
THL	13	Job done	13 0.16%
BBMRI	0	Job done	0.00%
Swiss Biobank	0	Job done	0.00%

Age in years

Graz

Sex

Female Male

Graz

THL

19.01.2024

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# LOCATOR.BBMRI-ERIC.EU



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## BBMRI-ERIC Locator

Search for human biospecimens across European biobanks

[Start typing your search criteria and select from the list offered]



Search

Clear

Full Parameter Search

Results

Sites: 18

Patients: 133000

Specimens: 1791860

<input type="checkbox"/>	Sites	Patients	Specimen
<input type="checkbox"/>	Heidelberg	36210	1519230
<input type="checkbox"/>	Brno	27310	29870
<input type="checkbox"/>	Frankfurt	20270	19940
<input type="checkbox"/>	Olomouc	15610	25530
<input type="checkbox"/>	Aachen	13950	76100
<input type="checkbox"/>	Dresden	7920	39150
<input type="checkbox"/>	Würzburg	7610	32640
<input type="checkbox"/>	Cyprus	1730	22000
<input type="checkbox"/>	Marburg	910	5030
<input type="checkbox"/>	Berlin	640	13180

<< < 1 2 > >>

Ask 0 sites to negotiate

# FSP LANDING PAGE

[HTTPS://BBMRI-ERIC.EU/BBMRI-SAMPLE-AND-DATA-PORTAL/](https://bbmri-eric.eu/bbmri-sample-and-data-portal/)

BBMRI-ERIC Sample and Data Portal


## BBMRI-ERIC SAMPLE AND DATA PORTAL

### SEARCH BY BIOBANKS AND COLLECTIONS

#### DIRECTORY

*"I want to browse all biobanks in the BBMRI-ERIC."*

The Directory is a broad catalogue of our biobanks with aggregated information on their collections. You can browse and filter by country, sample type, quality marks and more.

 [Guide for the Directory](#)

[Go to Directory](#)

### SEARCH BY SAMPLE AND DONOR INFORMATION

#### FEDERATED PLATFORM TOOLS

*"I need tissue and liquid samples fitting to my research scope."*

The Locator is your access to the samples and data associated to the samples based on real-time search on donor and sample level.

 [Guide for the Locator](#)

[Go to Locator](#)

*"I am interested more in genomics and population data analysis than samples themselves."*

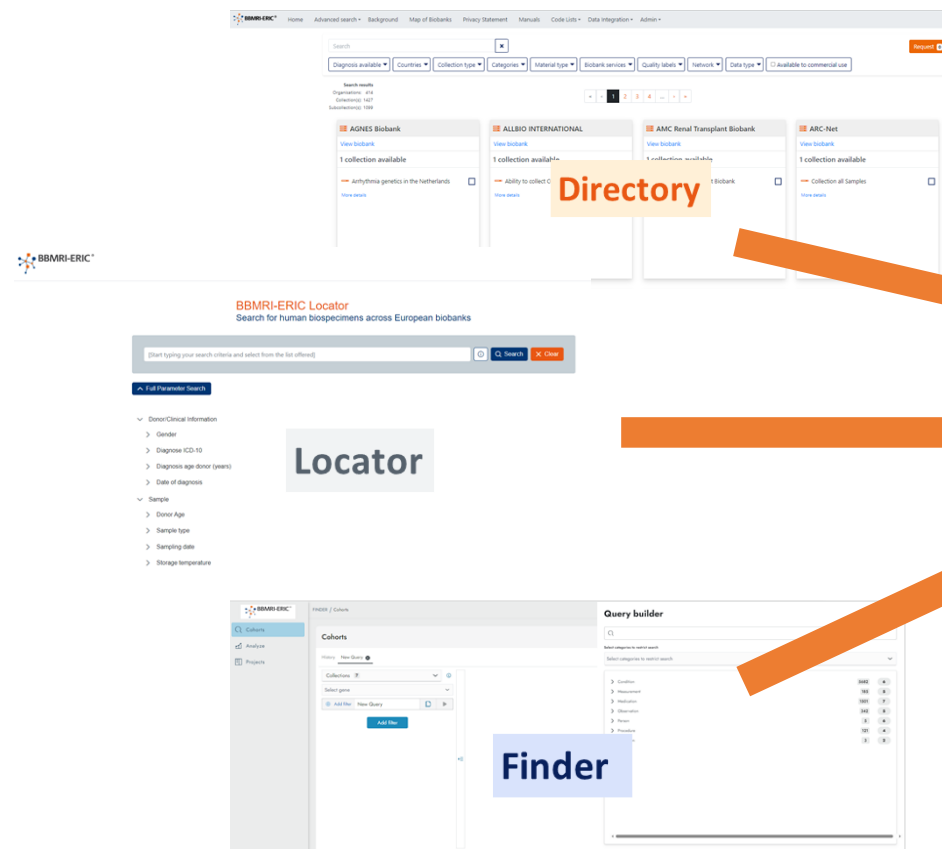
The Finder is a data analysis tool focused on clinical, phenotypic and genomics data.

 [Guide for the Finder](#)

[Go to Finder](#)

# NEGOTIATOR

## ACCESS NEGOTIATION



The image shows two screenshots of the BBMRI-ERIC web portal. The top screenshot is the 'Directory' page, which lists various biobanks and their available collections. The bottom screenshot is the 'Locator' page, which provides a search interface for human biospecimens across European biobanks. An orange arrow points from the 'Directory' page to the 'Locator' page.

**BBMRI-ERIC Directory**

Search:

Diagnosis available:  Countries:  Collection type:  Categories:  Material type:  Biobank service:  Quality labels:  Network:  Data type:  Available to commercial use: ☐

Search results:

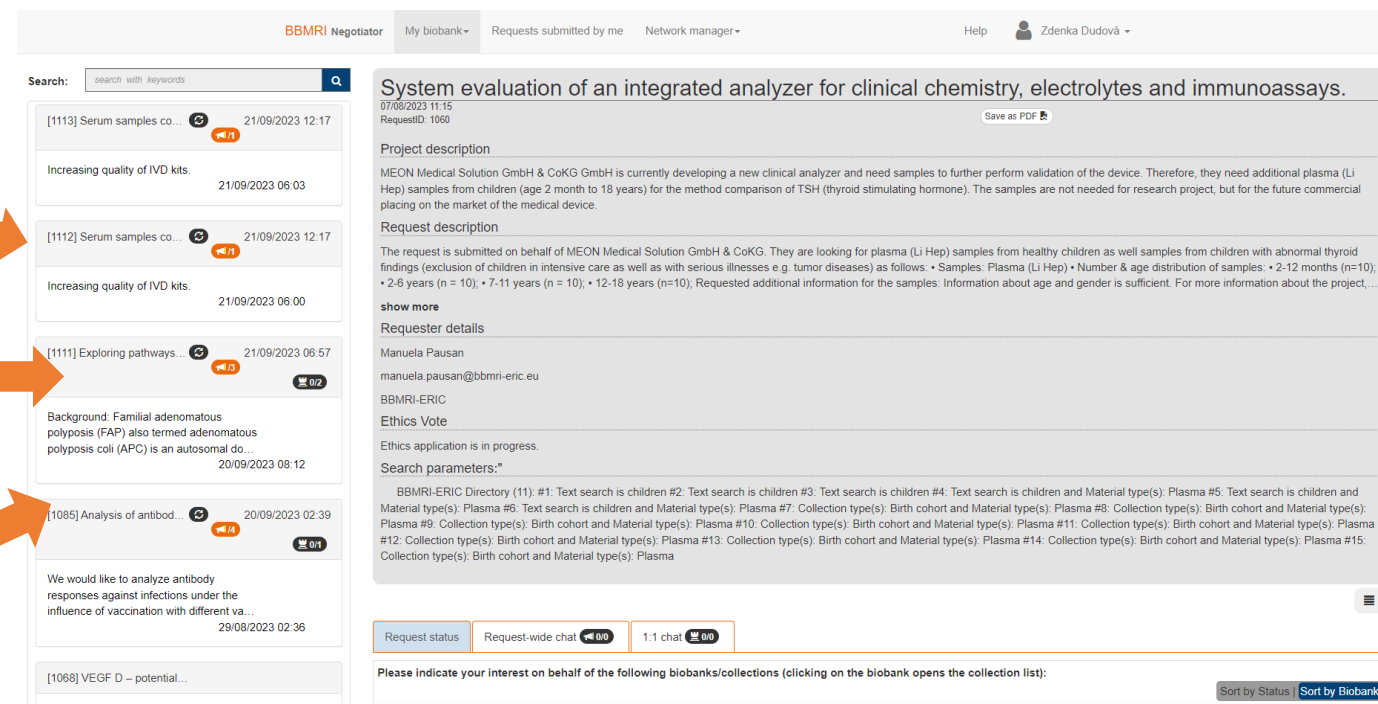
- AGNES Biobank: 1 collection available
- ALLBIO INTERNATIONAL: 1 collection available
- AMC Renal Transplant Biobank: 1 collection available
- ABC-Net: 1 collection available

**BBMRI-ERIC Locator**

Search for human biospecimens across European biobanks

Full Parameter Search

- Donor/Clinical information
  - Gender
  - Diagnosis ICD-10
  - Diagnosis age donor (years)
  - Date of diagnosis
- Sample
  - Donor Age
  - Sample type
  - Sampling date
  - Storage temperature



The image shows the BBMRI Negotiator interface, which is used for requesting samples from biobanks. It includes a search bar, a list of search results, and a detailed view of a specific request.

**BBMRI Negotiator**

My biobank:  Requests submitted by me:  Network manager:  Help:  Zdenka Dudová

Search:

Search results:

- [1113] Serum samples co... 21/09/2023 12:17
- [1112] Serum samples co... 21/09/2023 12:17
- [1111] Exploring pathways... 21/09/2023 06:57
- [1085] Analysis of antibod... 20/09/2023 02:39
- [1068] VEGF D – potential... 29/08/2023 02:36

**System evaluation of an integrated analyzer for clinical chemistry, electrolytes and immunoassays.**

07/08/2023 11:15  
RequestID: 1060

Project description

MEON Medical Solution GmbH & CoKG GmbH is currently developing a new clinical analyzer and need samples to further perform validation of the device. Therefore, they need additional plasma (Li Hep) samples from children (age 2 month to 18 years) for the method comparison of TSH (thyroid stimulating hormone). The samples are not needed for research project, but for the future commercial placing on the market of the medical device.

Request description

The request is submitted on behalf of MEON Medical Solution GmbH & CoKG. They are looking for plasma (Li Hep) samples from healthy children as well samples from children with abnormal thyroid findings (exclusion of children in intensive care as well as with serious illnesses e.g. tumor diseases) as follows: • Samples: Plasma (Li Hep) • Number & age distribution of samples: • 2-12 months (n=10); • 2-6 years (n = 10); • 7-11 years (n = 10); • 12-18 years (n=10), Requested additional information for the samples: Information about age and gender is sufficient. For more information about the project,...

show more

Requester details

Manuela Pausan

manuela.pausan@bbmri-eric.eu

BBMRI-ERIC

Ethics Vote

Ethics application is in progress.

Search parameters:"

BBMRI-ERIC Directory (11): #1: Text search is children #2: Text search is children #3: Text search is children #4: Text search is children and Material type(s): Plasma #5: Text search is children and Material type(s): Plasma #6: Text search is children and Material type(s): Plasma #7: Collection type(s): Birth cohort and Material type(s): Plasma #8: Collection type(s): Birth cohort and Material type(s): Plasma #9: Collection type(s): Birth cohort and Material type(s): Plasma #10: Collection type(s): Birth cohort and Material type(s): Plasma #11: Collection type(s): Birth cohort and Material type(s): Plasma #12: Collection type(s): Birth cohort and Material type(s): Plasma #13: Collection type(s): Birth cohort and Material type(s): Plasma #14: Collection type(s): Birth cohort and Material type(s): Plasma #15: Collection type(s): Birth cohort and Material type(s): Plasma

Request status:

Please indicate your interest on behalf of the following biobanks/collections (clicking on the biobank opens the collection list):

Sort by Status | Sort by Biobank

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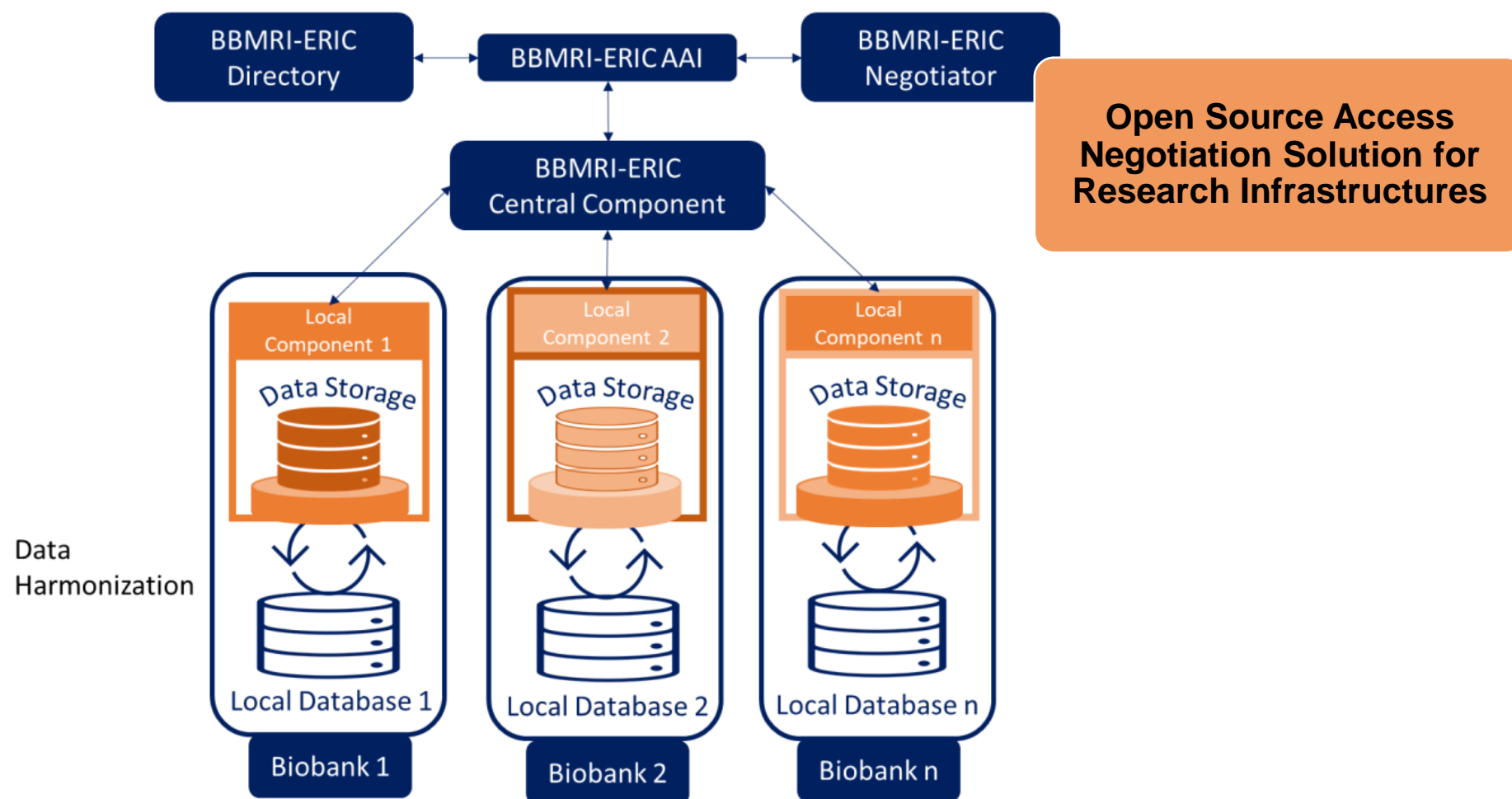
# LS LOGIN

AUTHENTICATION AND AUTHORIZATION

- A single login for using all services in Life Science RI



# FEDERATED SEARCH SOLUTION ARCHITECTURE





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# FEDERATED SEARCH TASK FORCE

IN-KIND EFFORT TO REACH BIG GOALS

- ✓ Participants from all national nodes

## Role

- ✓ Supportive group to provide leadership and guidance on the development of the BBMRI-ERIC Federated Search tools
- ✓ Suggesting practical solutions to assist the longer-term interoperability between the systems
- ✓ Suggesting the visions -> Management Committee & Assembly of Members approval
- ✓ Tight communication with solution providers (deliverables, timeframe)

**MAKING**  
NEW **TREAT**  
**MENTS**  
POSSIBLE

THANK YOU!

✉ [contact@bbmri-eric.eu](mailto:contact@bbmri-eric.eu)  
🌐 [www.bbmri-eric.eu](http://www.bbmri-eric.eu)  
🐦 @BBMRIERIC  
in BBMRI-ERIC