BBMRI-ERIC ®

The European research infrastructure
for biobanking and biomolecular
resources in health and life sciences

ANNUAL REPORT 2024

ANNUAL REPORT 2024 – DRAFT[1]

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[1] Draft annual report 2024 presented for content approval. Print formatting to take place after the June Assembly of Members meeting.

EXECUTIVE SUMMARY

For 2024, BBMRI-ERIC continued its focus on the three overarching topics of (1) sustainability, (2) community and (3) collaboration as part of our third year of our Work Programme. Marking the research infrastructure's decade of operation provided a vital opportunity to highlight how the community of biobanks and National Nodes scientifically contribute to and advance the health and life sciences landscape. We did this in several ways:

Increasing sustainability

Activities in2024 contributed to rising awareness of BBMRI's wide portfolio of scientific affairs in IT, Biobanking Development, Ethical, Legal and Societal Implications (ELSI) and Quality Management. This was underpinned by integral support provided by the functions of Finance and Project Management, Public Affair, Outreach, Education and Communications and Central Office to provide support for the multitude of stakeholders.

Major outreach activities focused on BBMRI-ERIC's strategic stakeholders such as February's 10-year anniversary workshop at the Austrian Embassy in Brussels. Here, we discussed with representatives from Member State ministries, the European Commission, and fellow research infrastructures how ERICs constitute a strong value proposition today and in the future.

2024 also marked mapping the future through the finalised BBMRI-ERIC 10-Year Roadmap. This was constructed through an unparalleled community and stakeholder co-creation process that led to a revised vision, mission and eight strategic objectives building on the developments and services of the research infrastructure's first decade of existence. The Roadmap adopts the "One Health" approach to prioritise the interconnection between human, animal, and environmental health.

The BBMRI-ERIC 10-Year Roadmap 2025 – 2030 was launched that October in Brussels together with our Member State delegates, National Node directors and representatives from the European Commission and partner organisations including scientific societies, research infrastructures and ERICs.

Strengthening community

The 10-Year Roadmap 2025 – 2030 informed a new Work Programme 2025-2027 and development of this began in 2024 in partnership with the National Nodes, biobanks and Stakeholder Forum Patient Pillar. The Work Programme will address all eight strategic objectives with a focus on prioritised operational goals. New and special emphasis was given on wider National Nodes and biobank engagement for the implementation by incorporating their expertise as responsible leads of individual operational goals. This enables them to act as "champions" for the wider BBMRI community and create more synergies by benefiting from each other's cross-border activities, responsible investment of resources yet also acceleration of innovation.

Meanwhile, BBMRI continuously fostered education, training and capacity building through BBMRI-ERIC's Academy, including CME accredited online courses and webinars. The flagship event, in partnership with ESBB, was the relaunched Europe Biobank Week congress (EBW) as an in-person event at the Hofburg in Vienna in May 2024. This congress was attended by 653 participants from 38 countries representing citizens and patient organisations, clinicians, scientists and biobankers, policy makers and industry.

Leading collaboration

BBMRI-ERIC successfully continued its collaborations with scientific societies such as ESBB, EORTC, the Life Science Research Infrastructures and ERICs.

Our continued coordination of the ERIC Forum 2 project was marked by onboarding three new ERICs, preparing a face-to-face consortium meeting for January 2025, and substantially supporting the revision of the ERIC implementation statutes groups lead by the European Commission.

2024 saw the launch of major projects coordinated by BBMRI-ERIC and its community including IntegrateLMedC with our National Node Director of Norway acting as the scientific coordinator. Key to strengthening the community and sustainability was the launch of EvolveBBMRI with specific emphasis on exploring new partnership models and datafication. BBMRI-ERIC continued to coordinate canSERV with 336 applications until Dec 2024 from 41 countries worldwide and so far 56 service provisions.

During 2024, BBMRI-ERIC and its wider community invested substantial resources in EU project proposal applications in support of the Cancer Mission and synergistic developments among ERICs. As such, BBMRI-ERIC will be substantial partner in EU-CIP (building the European Cancer Patient Portal), CANDLE (conceptualise the National Cancer Data nodes connectivity to UNCAN) and UNCAN-CONNECT (building the European Understanding Cancer Platform being piloted through various use cases) and coordinate PERIFORMANCE – a project aiming to identify, optimise, and promote innovative stakeholder engagement in cancer research by addressing the ethical, legal, and societal implications (ELSI). These projects will kick off in June and September 2025.

In addition, BBMRI-ERIC will closely interact with INFRAFRONTIER, which obtained ERIC status in 2024, in the funded project PRIMTECH3R which will allow both ERICs to explore closer interactions for service provision, e.g. by visualising state-of-the-art in vitro models from mouse disease models, complementing existing in vivo models, via BBMRI-ERIC's federated access platform.

BBMRI-ERIC successfully piloted the European Health Data Space and substantially supported the building of the EOSC Federation by chairing the EOSC Health Data Task Force and applying as EOSC Node. In fact, BBMRI-ERIC was selected as one of the first 13 EOSC Nodes in February 2025 with its unique value proposition in the sensitive Health Data domain. This is based on BBMRI-ERIC's long-standing federated access and analysis platform connecting around 500 biobanks and 25 National Nodes across 32 countries with representation of over 7 Mio. citizens characterised by OMOP variables including clinical phenotype data. This comprises biochemical data, genomes and other OMICs related data, radiology and pathology imaging data as well as links to patient reported outcomes and survival registries along with various clinical sample types. This data conforms to FAIR principles and in a fully GDPR compliant manner to the highest technical readiness level (TRL9).

It is thus with some pride that we present our key achievements.

Service achievements for 2024

Common Service IT

In 2024, BBMRI-ERIC significantly expanded its IT services, addressing broader needs of biobanks and biomolecular resources. A key advancement was the extended support for services and capabilities beyond the previously available access to retrospective samples and data. Building on insights from projects like canSERV, EvolveBBMRI and EOSC4Cancer, BBMRI-ERIC implemented comprehensive updates to the MIABIS vocabulary and data model, facilitating better service description and integration within the Directory, Negotiator, and LifeScience Login authorisation model. This step allows clearer, standardised communication between biobanks and researchers, enhancing interoperability and security across BBMRI-ERIC services. Systematic User Experience analyses were performed across all services, leading to continuous improvements aimed at enhancing user satisfaction.

Directory

A notable infrastructure improvement in 2024 was migrating the BBMRI-ERIC Directory to the Molgenis EMX2 platform. This migration not only simplified deployment and operation but also prepared the Directory to host larger medical cohorts by integrating variable descriptors developed in the IntegrateLMedC project. Enhanced ontology and semantic data support aligned with FAIR principles now enables machine-actionable data encoding, significantly improving search and analysis capabilities. Extensive updates to the quality analysis tools and sophisticated scripting ensured the smooth transition and added powerful new functionalities. The Directory also integrated Data Use Conditions (DUC) support, following recent published community standard. Collaboration of BBMRI-ERIC and ECRIN resulted in linking clinical trials with biobanks through the Directory and ECRIN's clinical trials repository thanks to EOSC-Future project.

Negotiator

The launch of Negotiator Version 3 represented another major upgrade, introducing flexible request forms and state management, coupled with a modernised user interface and robust software quality assurance practices through continuous integration and deployment (CI/CD). Negotiator's integration within prominent EU initiatives such as canSERV, ISIDORe, and EUCAIM projects underscores its central role in facilitating secure, streamlined access to European biobanks. Negotiator team has added robust monitoring tools in the Negotiator to assist National Nodes with efficient tracking of access request processes.

LifeScience Login/AAI

All of the BBMRI-ERIC services have successfully transitioned to the LifeScience Login, a collaborative effort with ELIXIR and INSTRUCT, marked a key milestone for unified, secure authentication across research infrastructures.

MIABIS and Interoperability

BBMRI-ERIC's ongoing development of MIABIS in 2024 culminated in the publication of the MIABIS Core 3.0 paper, marking substantial progress in standardising biobank metadata. In alignment with the upcoming HealthDCAT-AP standard from the European Health Data Space, BBMRI-ERIC further developed the dataset component of MIABIS, ensuring compliance and interoperability with emerging European data standards. Furthermore, in collaboration with the EUCAIM project, a first proposal for incorporating digital pathology into MIABIS was initiated, representing a significant step toward standardising imaging data in biobanking.

Operational updates included the restructuring of the Helpdesk for improved responsiveness and the reorganisation of MIABIS hosting on GitHub, now a definitive resource for MIABIS adopters. Maintenance updates were issued for MIABIS Sample and Donor components (version 1.1).

Federated Platform

The Federated Platform Task Force continued its vital work, onboarding new biobanks into Locator and Finder services, fostering active collaboration with solution providers to enhance service delivery and operational excellence.

Hosting centralised cohorts and data sets

In partnership with the EOSC4Cancer project, BBMRI-ERIC integrated the widely-used cBioPortal with the xOpat viewer. This integration facilitates simultaneous access to clinical, omics, and digital pathology data, initially piloted on the BBMRI colorectal cancer cohort and anonymised Whole Slide Images, offering researchers comprehensive, user-friendly analysis capabilities.

Continuous support to Nodes

Throughout 2024, BBMRI-ERIC continued to provide dedicated support to National Nodes, assisting with updates to data models and cohort documentation, and reactivating the Negotiator monitoring group to maintain high standards in access request handling and guide future service development.

ELSI Services and Research

Multidisciplinary Expertise

The ELSI Services & Research Department operates in partnership with a **multidisciplinary network of experts from across the Headquarters, the National Nodes, and project partners, reaching different corners of science, technology and society.** Our expertise comprises knowhow on privacy aspects, ethics of AI, integration of sex and gender, or risk typologies. We deliver reliable, practical, and sustainable services based on state-of-the-art research for the immediate benefit of the life sciences community by setting standards, promoting best practices, and enabling a sustainable platform for internal and public knowledge exchange.

Knowledge Generation and Transfer

Ethical, legal, and societal expertise was provided for **23 research consortia**, among which the ELSI team has been in the leading role for **nine work packages**, such as the European projects INTERVENE, EHDS2-Pilot, EuCanImage, Bigpicture or Healthy Cloud. In 2024, we published **five peer-reviewed articles**, numerous public and confidential deliverable reports. In addition, Headquarter ELSI staff served as ethics reviewers (assessing Horizon Europe and MSCA proposals), ethics advisors (providing practical guidance for granted EU projects), members of Scientific and Ethical Advisory Boards (SEAB), and evaluators. Moreover, they participated as keynote speakers and panel discussants in conferences and organised workshops.

Key activities:

- Workshop at EBW 2024: Ethics of AI: Hypes, Hopes and Risks of AI in Biobanking
- Presentation at EBW 2024: Unlocking the Potential of Big Data and AI in Medicine: Insights from Biobanking
- Keynote at the 4th Paula Rantakallio symposium in Oulu, Finland
- Invited Speakers at ECR 2024: Societal Implications of AI in Radiology
- Workshop: Trustworthy AI and Guidance on Ethical and Societal Implications (Bigpicture Annual Meeting, 2024).
- Invited speaker at the BY-COVID Fest - Training in data sharing and reuse under GDPR IDTk contentathon (23-25 January 2024, Athens)

1 ELSI Dialogues event promotion

BBMRI-ERIC Academy ELSI Symposium ETHICAL, LEGAL AND SOCIETAL INSIGHTS AND OUTLOOK FOR BIOBANKS AND BIOMEDICAL RESEARCH (IARC, Lyon)
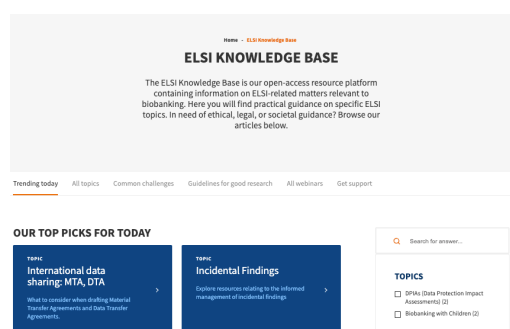
The BBMRI-ERIC, UNIMIB and IARC organised Symposium "Ethical, Legal and Societal Insights & Outlook for Biobanks and Medical Research" was held at the headquarters of the International Agency for Research on Cancer (IARC) in Lyon, France from **June 4th to 6th 2024.**

Over the course of two and a half days, the symposium featured **seven keynotes** and **30 unique presentations**, offering cutting-edge perspectives on ethical, legal, and societal implications (ELSI) relevant for biobanks and biomedical research. The event celebrated the diverse range of ELSI expertise across different countries and disciplines, encompassing interdisciplinary services and research areas such as GDPR compliance, genetic counselling, science and technology studies, ethics, or social sciences. A **travel grant for young researchers** was awarded as part of the symposium.

See this interactive multimedia story for more information.

Practical Expert Guidance

The ELSI Knowledge Base is an open access platform that translates research findings on ELSI-related matters relevant to biobanking into hands-on guidance. It promotes practical know-how for a diverse group of users ranging from researchers, biobankers, research participants to industry. Instead of lengthy lists of regulations, it strives to focus on "archetypical" situations (both topics and scenarios), so that users can quickly identify relevant best practices and frameworks. They can also find FAQs, model templates, and how-to guides—all vetted for long-term sustainability by an expert team. This

2 Image from the Knowledge Base

approach ensures the Knowledge Base remains both user friendly and accurate over time, thereby closing the gap between researchers' practical needs and high-level compliance mandates. First conceptualised in 2018, the Knowledge Base is now solidified as an accurate, self-serving platform, which also promotes our ELSI Dialogues recordings that have reached an audience of 8959 views since 2017 (an increase of 2000+ views within the last year).

ELSI Helpdesk – A Network of Experts

The ELSI Helpdesk is continuously helping researchers navigate compliance with regulations (also informing about the new/upcoming regulations such as the Artificial Intelligence Act or the European Health Data Space Regulation), ensures ethical best practices, and addresses societal concerns related to emerging technologies and biomedical research. At the same time, it allows the ELSI team at HQ to identify emerging topics relevant for the community, which can be turned into future proposals, webinars or trainings.

Focus areas and topics are often identified via ELSI Helpdesk requests. They come from across all stakeholders of the life sciences. The ELSI Helpdesk queries are counted since 2017 (a total of 558 requests, comprising Ethics Checks, ELSI Helpdesk requests, and consultations). In 2024, the ELSI Helpdesk responded to 109 requests, equalling 304 expert hours. Repeated topics included data privacy and genomics, ethics advisory boards or gender bias. The hours reported correspond to the time of the ELSI experts at the Headquarters alone. Whereas some requests can be solved in a few minutes, substantial requests required consultation among the ELSI Helpdesk Network, which comprises a distinct group of experts across BBMRI Member and Observer countries. The Network meets quarterly, promoting knowledge transfer across Nodes.

Quality Management

Activities on standard developments

In 2024, the Quality Management (QM) department continues supporting the biobanking community in standardisation. BBMRI-ERIC is an active liaison partner in ISO, the International Organization for Standardization, and CEN, the European Committee for Standardization. QM representatives participate in ISO/TC 276 Biotechnology, ISO/TC 212 Clinical laboratory testing and in vitro diagnostic test systems, ISO/TC 215 Health Informatics and in CEN/TC 140 In vitro diagnostic medical devices, and provide updates, advice and training to the biobanking community on relevant standards.

In ISO/TC 276 Working Group (WG) 2, the QM department is actively participating in the Systemic Review of the ISO 20387:2018 standard "General requirements for biobanking", contributing feedback and expertise from across its community to help improve and future-proof this standard. The revision is ongoing and anticipated for publication in 2026.

Furthermore, the ISO/TC 276 WG 5 decided to already revise Part 1: Design concepts and general requirements of the planned seven-part ISO 23494 series on a provenance information model for biological material and data. The revision is led by the BBMRI-ERIC IT experts, and it includes restructuring the standard and addressing requirements which cannot be classified by different provenance information process stages. Additionally, the third part about the Provenance of Biological Material (ISO 23494-3) was approved as New Work Item Proposal.

Auditing for excellence

Once again, biobanks that have committed themselves to excellence have been awarded the BBMRI-ERIC Quality Label by the QM department. Hannover Unified Biobank received it through the newly established fast-track pathway, following its successful ISO 20387 accreditation by DAkkS, Germany's national accreditation body. This procedure simplifies the process of obtaining a BBMRI-ERIC Quality Label and is being used more and more frequently by the community, which shows that the added value of having a BBMRI-ERIC Quality Label is being recognised.

3 EBW24 BBMRI-ERIC Quality Label Award Ceremony

At Europe Biobank Week 2024 in Vienna, the commitment to quality was celebrated as three biobanks received their BBMRI-ERIC Quality Label certificates and trophies in an official ceremony. These recognitions underline the growing community of biobanks that fulfil the requirements of European and international standards.

EU projects benefiting from QM expertise

The QM department was actively involved in the IMI projects ConcePTION and EPND, the H2020 project CY-Biobank and the Horizon Europe projects canSERV, EvolveBBMRI, INTEGRATE-LMedC,

ISIDORe and QUANTUM. In particular, the contribution to quality-related tasks in two projects should be highlighted:

During the final year of the ConcePTION project important quality-related output was compiled in a publicly available deliverable called "Standard Documents for pre-examination processes for breast milk handling and Guideline for Biobanking". This and other key results of the project aiming at enhancing knowledge on the effects and safety of medication used during pregnancy and breastfeeding were celebrated at the closing event of the project in November in Brussels with all the key partners attending.

The QUANTUM project started in 2024 with a kick-off meeting taking place in February in Brussels. The QM department co-leads Work Package 4 on "Capacity building, community engagement and scale up", where a milestone was achieved after conducting a survey on stakeholder learning needs in data quality leading to submitting the publicly available deliverable "Stakeholder learning needs assessment mapped to learning objectives".

Our active contribution in writing proposals led to the involvement in one approved Horizon Europe project called PRIM-TECH3R whose results are expected to fit well into BBMRI's One Health vision and which will start in 2025.

BBMRI.QM contributions to training
The QM department contributes to the improvement of skills and knowledge in QM through a variety of activities.

In 2024, lectures have been given by QM department members to biobanking dedicated meetings such as the BBMRI.it National Day in Bologna (Italy) and the ISCIII Platform meeting in Lleida (Spain) as well as part of educational courses such as the biobanking trainings at Medical University of Graz (Austria), a Training School in Izmir (Türkiye), and the Swiss Biobanking Platform biobanking courses. Topics focused on the importance of QM in biobanking and included introductions to the ISO 20387 standard and the BBMRI-ERIC audit programme. Furthermore, video modules on "Quality Management in biobanks" were created and offered to industry professionals and start-ups by EIT Health as part of a comprehensive biobanking course several BBMRI-ERIC departments contributed to. A pre-conference workshop was organised at EBW24 titled "Making your way to ISO 20387 accreditation". A balanced mix of theoretical input and exchange among the participants was achieved through an introduction to the standard and hands-on training in four groups with insights from experts of already accredited biobanks.

Additionally, three sessions with a focus on Data Quality have been organised as part of the BBMRI-ERIC Academy. These activities were combined with work of the EU project EvolveBBMRI WP1: Acceleration of datafication of biobanks and biomolecular resources to enable reproducible advanced medical research. Trainings were conceptualised in the task "Support for BBMRI Nodes to develop IT expertise and operate Task Forces" and delivered as informational sessions on data standards in the context of the BBMRI.QM Newsroom, or as data quality themed training sessions. The QM department provided support for organising and hosting the sessions, and recordings are available on the BBMRI-ERIC Academy website.

Engaging with the BBMRI-ERIC community on quality topics

As in previous years, the focus was on building a network of people interested in quality issues and promoting the exchange of knowledge and experience in various formats. In particular, the addition of data quality to our thematic focus led to a significant expansion of our network to over 290 experts. Internally, the QM department was strengthened by the recruitment of Stella Antoniou.

In 2024, the Working Group Quality Management System (WG QMS) held five meetings, engaging 281 participants

4 Group picture during Training School in Izmir (Türkiye)

from BBMRI-ERIC member and observer countries. Discussions in 2024 covered crucial topics such as innovative quality control approaches, the importance of certified sample containers, accreditation efforts at national level, SBP Quality Labels approach, and the potential of veterinary samples in advancing "One Health" research. Additionally, 59 participants engaged in two meetings dedicated to understanding the ISO 20387 standard and preparing for the BBMRI-ERIC Quality Label certification.

As complementary to the WG QMS a new Working Group Data Quality was established to address topics specifically related to data quality and quality of data management. It is a bridge between quality and IT in biobanking, targeted to a wider community. The aim is to support biobanks to verify and monitor the quality of data they host, and to facilitate data interoperability within biobanks. The topics of the WG Data Quality are planned to be varied, ranging from organisational guidelines and standards to data standards and data models. At the end of 2024, two meetings were arranged with a total of 144 participants. During one meeting the WG and its aim were introduced, whereas the other one focused on Data quality, utility and maturity in the QUANTUM project.

The well-established virtual format QM Newsroom attracted in four sessions 373 participants, not only from Member and Observer countries but also from Egypt, UK, France, South Africa and Moldova. In line with the expansion of our data quality capabilities, the focus this year has been on informing our community about activities such as MIABIS, OMOP and FHIR to standardise data in biobanks and improve their data interoperability and quality.

Biobanking Development

The Biobanking Development (BBD) department experienced a dynamic 2024, marked by the launch of numerous new initiatives and an expansion of the team to address emerging needs. BBD maintained its core activities and services to support our community, as detailed below:

Community engagement through Green Biobanking

BBD led the strategic activities towards Green Biobanking within BBMRI-ERIC through its leadership of the **Teaming with Industry towards Green Biobanking** within the **EvolveBBMRI** project that started in January 2024. Here we teamed up with BBMRI.AT to engage with our biobanking community to map gaps and challenges in implementing and maintaining green biobanking practices. The main intention of this work package is to collaboratively establish a Green Biobanking Strategy with key industrial partners to co-create sustainable solutions aimed at reducing the environmental impact of daily biobanking practices while enhancing the long-term sustainability of biobanks.

Within this scope, BBD launched the Green Biobanking survey that was well received by our community as it focused on key environmental practices such as Energy Sources and Technology, water conservation, waste management, and the three Rs (Reduce, Reuse and Recycle). In addition, BBD led two Green Biobanking workshops: "Greening of Biobanking" during the Europe Biobank Week, May 2024 and "How to make Biobanking Greener" at the Nordic Conference on Future Health, September 2024, with active participation from our BBMRI Biobanking community as well as key industry partners where best practices and challenges were presented and discussed with the community.

5 The Greening workshop at EBW

This work has laid the foundation for the development of the **Foster green biobanking and Research Infrastructure operations** strategic objective within the BBMRI 10-year Roadmap that launched on the 15th of October 2024.

In addition, the **INTEGRATE-LMedC** project also launched in January 2024. The objective of the project is to develop a comprehensive framework for managing and optimising the integration of large medical cohorts within research infrastructures. This involves establishing effective governance structures, defining clear policies and procedures and facilitating data sharing agreements. The project aims to enhance collaboration among researchers and healthcare providers, ensuring that patient benefits are prioritised. Ultimately, the goal is to accelerate scientific and medical advancements by improving the utilisation and harmonisation of medical cohort data across Europe and beyond. BBD is

leading a work package on the Governance Framework and co-leading two other work packages, all of which will commence activities in 2025 and 2026. This project relies on strong leadership from our National Node in Norway.

BBD supports BBMRI-ERIC Access-pipeline Tools

BBD continued to support enquiries of researchers, biobankers and industries who are using our access pipelines (Directory, Negotiator and Federated Platform) to identify and gain access to samples/data essential for their research projects. BBD continuously monitored these submitted requests to ensure smooth communication and timely response by the biobanks within our network. Moreover, BBD continued to coordinate the Negotiator Monitoring Group which engages with representatives from the community to examine issues pertaining to requests and the use of the Negotiator tool, development of new features etc, in collaboration with colleagues from the BBMRI IT department. BBD played a leading role in the coordination of the BBMRI Virtual Cohorts with strong participation from our National Nodes with cohorts that meet the pre-determined criteria to engage with academic and industry partners in future projects.

Enhanced visibility of our community through EU projects

Over 2024, BBD continued to lead scientific activities in on-going EU projects that rely on strong participation from the BBMRI Biobanking community, such as:

ISIDORe: BBD continued to facilitate samples/data exchange of retrospective and on-demand collections of high-quality human biological samples (and associated clinical phenotype data) and high-quality data for the purpose of research projects on COVID-19 and different SARS-CoV-2 variants and epidemic-prone pathogens. Transnational Access (TNA) service within the ISIDORe project came to an end by January 2025. The project relied on the engagement of 40 biobanks from our 11 member states of our wider BBMRI community.

canSERV: BBD leads work packages to provide access to samples and data to cancer researchers worldwide, relying on the active participation of 32 biobanks from 11 member states. In 2024, access to our biobanks for samples and data provision was requested in 22 submitted proposals.

In addition, BBD continued its activities in the **CY-Biobank** through collaboration on developing a state-of-the-art biobanking facility.

Outreach, Education and Communications

Developing outreach

2024 marked the final year over delivering the Work Programme 2022-2024, with its emphasis on community outreach and engagement. OEC welcomed new team members with specialist skills to support and enrich in-house processes that better serve and amplify National Nodes, biobanks and our wider community.

Improvements included refining BBMRI's image and event presentation, further developing the BBMRI-ERIC brand as part of the 10-Year design and marketing and highlighting BBMRI's achievements. Our 36 news articles in 2024 aimed at a variety of

6 Logo with new mission

stakeholders and covered major strategic perspectives such as FP10 and the value of QM, IT, BBD and ELSI training to the community. Our multimedia coverage approach also included producing engaging storytelling and social media content, building on our strong podcast platform with 14 rich community stories and training episodes related to the core BBMRI-ERIC scientific services. By continuing to bring in-house print and production services we are able to constitute deeper engagement that enhances value, visibility and recognisability of BBMRI-ERIC and its core services.

Supporting projects and highlighting BBMRI-ERIC's contribution

Over 2024, OEC provided key stakeholder dissemination and outreach support to 25 EU funded projects including **ERIC Forum 2**.

OEC played a key role in the flagship project **canSERV**. During 2024, this entailed outreach support on Open Calls, organising outreach webinars and materials and coordination of the annual meeting held in Brussels during October. OEC increased ambition for outreach for this project through a series of User Stories – real use cases of scientists talking about their canSERV facilitated cancer research projects. From interviews, graphic stories geared to different stakeholder audiences and audio were created for social media, presentations and the canSERV website.
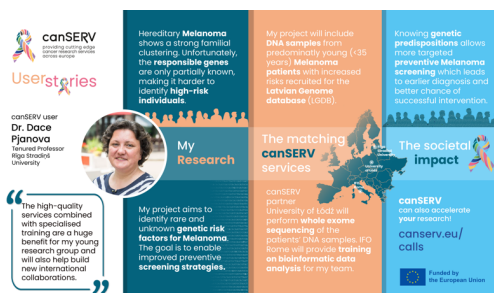
7 canSERV User Story for wider public audiences

These were particularly well received by the European Commission. In addition, key stakeholder video interviews were recorded and released that focus on the value that canSERV provides across the translational cancer research communities.

EvolveBBMRI, an infrastructure development project, launched in January with OEC partnering with BBMRI.de to lead and develop communications and outreach. As part of the training and outreach work package, the team worked with National Nodes to produce strategic materials. This core element of the project, core to supporting the BBMRI community is detailed below. In addition, articles, newsletters and social media coverage has emphasised key messages and outputs of the project thus far.

OEC leads the communications work for **INTEGRATE-LMedC** that also launched in 2024 and centres on building a concept for large medical cohorts. Outreach activities included designing the visual branding, developing the plan for communications and outreach, producing articles and newsletters for internal and external stakeholders and building presence on social media.

Outreach goals of the **EHDS2Pilot** project were met by OEC producing podcast and accompanying content from the patient focused EHDS workshop. This profiled input from the European Commission, patient organisations, data and legal specialists as well as healthcare professionals.

Strengthening community

Task Force Communications and Outreach took on a stronger shaping role in 2024 as the main collaborative environment for communications tasks in the EvolveBBMRI project. It played a pivotal role in developing the Plan for Communications and Dissemination, pitching and developing value demonstrating success stories aimed at key stakeholders (patient advocates, scientists, clinicians, and institutions (universities, university hospitals, scientific societies)) and contributing to brand resources. This agile method of working supported not only the EvolveBBMRI project but facilitated this task force meeting its aims and delivering the work programme. The outcomes of this work benefit the entire community and support their sustainability.

The **10th anniversary workshop**, held on Brussels on 29 February, provided a key opportunity to showcase a decade of the research infrastructure to high-level stakeholders. OEC supported this by shaping communications, 10-year branding and, in particular, success stories that were collaboratively told by National Node representative and service heads. These were captured in case study and podcast form and augmented by National Node and Assembly of Members video portraits.

The first part of 2024 saw intense preparation of the first post-pandemic in-person **Europe Biobank Week Congress**. Overseen by BBMRI-ERIC and the European, Middle Eastern and African Society for Biopreservation and Biobanking (ESBB), the Congress was held at The Hofburg, Vienna from 14-17 May. It was supported by over 650 delegates, sponsors and speakers. The four days played host to high-quality workshop education, keynotes, parallel sessions and industry input. OEC provided comprehensive support through

8 Group photo from EBW Congress

strategic marketing, uniform branding, social media campaigns and producing #EBWLive (an ambitious series of articles, full photography coverage, podcasts and video). This last element adds distinct identity and lasting value to the congress whilst also forms soft marketing for future years. Getting the congress back onto a yearly cycle is a major outreach and education achievement.

Developed over a series of workshops and key stakeholder consultations, the BBMRI-ERIC **10-year Roadmap** launched at a high-profile Brussels event on 15 October. For the Roadmap, OEC pushed forward BBMRI-ERIC branding with a fresher look that incorporates the new vision 'biobanking for a healthier world'. This soft rebrand informs our look and feel for 2025 and beyond. The Roadmap itself contains a strong thread of developing value and impact focused communications and outreach that is led by the BBMRI-ERIC community with strong OEC support.

Public Affairs

Driving Impactful Engagement in the European Research Area for the Research Infrastructure Community

After a decade of operation, BBMRI-ERIC's 10th anniversary event took place in Brussels in February 2024. The high-level workshop brought together around 100 representatives of Member States, National Nodes, as well as key European partners and high-level officials of the European Commission. It highlighted examples of BBMRI-ERIC's achievements and impact in a session featuring headquarters staff, Member State National Node Directors and key biobanking community experts. The European Commission also outlined the successes of BBMRI-ERIC in a welcome speech, which was delivered by Ms Signe Ratso, DG RTD Deputy Director General. The keynote was delivered by Prof. Walter Ricciardi, EU Cancer Mission Board Chair and Chair of the BBMRI-ERIC Scientific and Ethical Advisory Board.

During 2024, BBMRI-ERIC furthermore deepened its engagement with already existing member and observer states. In this context, BBMRI-ERIC has participated in a variety of stakeholder events with Member States, including a presentation by DG Jens Habermann at the Nordic Conference on Future Health: Biobanks, Research, Innovation, Precision Medicine in Trondheim, Norway. Also, the Director General visited several Member States and met with the national biobanking communities and government representatives, including meeting with Prof. Maria Mrówczyńska, Undersecretary of State for Science and Education, meeting with Laetitia Philippe, Vice Director, Head of the National Research and Innovation Division at the Swiss State Secretariat for Education, Research and Innovation, and meeting with Cypriot government and community representatives. By the end of 2024 the research infrastructure had 25 Members and Observers.

Throughout the year, BBMRI-ERIC also continued to reach out to countries which are interested to join or cooperate with the community. Visits were made to non-member countries, such as Ireland in September, where a presentation was delivered at the 3rd BioBANC Symposium – a key event hosted by the University of Galway. In December, BBMRI was also represented at the congress *"102 Years Institute of Pathology (Back to the Future)"* at the University of Zagreb School of Medicine in Croatia, as well as at the ICRI 2024 Global Conference on Research Infrastructures in Brisbane, Australia.

9 BBMRI team with Ireland team

Through these visits and the surrounding activities, meaningful relationships were established with national stakeholders and the local biobanking community.

Towards BBMRI-ERIC 10-Year Roadmap and 3-Year Work Programme – jointly with Member States

Over the past decade, BBMRI-ERIC has successfully implemented cutting-edge services to support the European biobanking community in fulfilling its core mission: facilitating access to samples, data, and biomolecular resources for public benefit. Building on this foundation, BBMRI-ERIC launched the development of a strategic roadmap for 2025-2035 through a co-creation process in autumn 2024.

This 10-Year Roadmap was adopted at the Assembly of Members in June 2024 and officially launched at a policy event in Brussels in October 2024. The event attracted over 60 participants from different directorates of the European Commission, ESFRI representatives, and representatives of other Research Infrastructures and communities related to One Heath paradigm. The roadmap aims to enable ground-breaking science that benefits European patients, citizens, and economies, while also recognising the critical
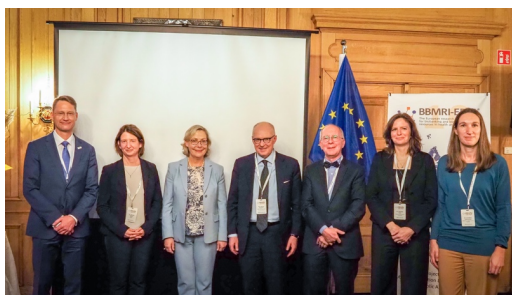
10 Launch of the 10-Year Roadmap in Brussels

interdependence between environmental and health outcomes. In this context, it embraces the "One Health" approach, prioritising the interconnectedness of human, animal, and environmental health. The roadmap provides a strategic alignment framework for BBMRI-ERIC, grounded in the values of scientific excellence, equity, diversity, inclusion, and fairness.

Following its adoption, the process began to develop the Work Programme 2025-2027, which operationalises the first three years of the co-created 10-Year Roadmap. Adopted at the AoM in November 2024, the Work Programme outlines strategic objectives and operational goals for biobanks, National Nodes, and the BBMRI-ERIC Headquarters. Its implementation will be jointly led by the National Nodes and the Headquarters, guiding BBMRI's operations in the coming years.

Stakeholder Forum – Patients and Citizens' Pillar

Relations with patient organisations and patient representative were further strengthened. In 2024, BBMRI-ERIC organised two meetings of its Patients and Citizens' Pillar, where further organisations joined in. By the end of 2024, the Pillar had 23 members from 14 countries and eight organisations on the European level organisation. New members joined from Bulgaria, Italy, the Netherlands, and EU level. The patient organisations, under the leadership of the Chair, prepared for their participation at the Europe Biobank Week in 2024 and have been involved in public activities related to the legislative process of the European Health Data Space, as well as in the activities of several EU projects, where BBMRI-ERIC oversees stakeholder and patient engagement.

ERIC Forum

In 2024, BBMRI-ERIC continued its role as coordinator of the ERIC Forum – a clear sign of the trust placed in the research infrastructure by the broader ERIC community. The second phase of the ERIC Forum project (ERIC Forum 2) aims to further structure cooperation among ERICs, support the implementation of the ERIC Regulation and related services, and strengthen their integration within the European Research Area (ERA). It emphasises deeper contributions to research policy, the systematic collection of aggregated and coherent data across ERICs, and addresses key topics such as VAT implementation and engagement with third countries.

As project coordinator, BBMRI-ERIC remains committed to ensuring the timely and high-quality delivery of project activities and outputs. It also continues to serve as the secretariat for the ERIC Forum Executive Board and drives a variety of activities. In this context, the ERIC Forum Annual Meeting was organised in Brussels in February 2024, and the ERIC Forum Position Paper was published in April regarding "The Role of ERICs in the 10th Framework Programme (FP10)". Additionally, BBMRI-ERIC's Head of Public Affairs contributed as an expert to the European Commission's revision of the practical guidelines on implementing the ERIC Regulation.

EvolveBBMRI

The EvolveBBMRI project, coordinated by the Public Affairs department at BBMRI-ERIC in close partnership with ten National Nodes, kicked off in Vienna on 30 January 2024. The three-year project aims to further develop the research infrastructure for the advantage of its scientific communities and users, to increase its capacity to serve EU policy priorities and further deepen its collaboration with industry. With its focus on datafication, greening, collaborations, training and outreach, EvolveBBMRI activities and outputs will increase the long-term

11 Launch of the EvolveBBMRI project - joint MC/AoM

sustainability of BBMRI-ERIC and contribute to a better structured and strengthened European research infrastructure landscape.

Key partnerships

Chairing the European Life Science Research Infrastructures cluster: Until October 2024, BBMRI-ERIC DG Jens Habermann has been Chairing the Life Science Research Infrastructure Strategy Board. In this role, BBMRI-ERIC organised the second in-person meeting of the cluster and acted as the contact for the Belgium EU Presidency and the EC, enabling the cluster to present at the EU Presidency event in 2024. Under the chair of BBMRI-ERIC, the European Life Science Research Infrastructures have furthermore launched a joint LS-RI Position Paper, outlining key messages for the next Framework

Programme for Research (FP10): "Driving Innovation and Collaboration: A Strategic Vision for European Life Science Research Infrastructures in Framework Programme 10".

EU-AMRI: In 2024, BBMRI-ERIC chaired the European Alliance of Medical Research Infrastructures (EU-AMRI). EU-AMRI is the collaboration between the European research infrastructures BBMRI-ERIC, EATRIS-ERIC, and ECRIN-ERIC. The three research infrastructures work in parallel to provide complementary services to researchers in the field of biomedical sciences and support the development of personalised medicine and new treatments. BBMRI-ERIC has organised regular meetings to exchange and drive joint activities.

EOSC: BBMRI-ERIC represented the ERIC Forum as mandated organisation in EOSC Association until May 2024. As such BBRMRI-ERIC has also been chairing the ERIC Forum Working Group *ERICs in EOSC* and is representing ERIC Forum in the ESFRI-EOSC Task Force. BBMRI-ERIC coordinated the provision of collective input on materials produced by EOSC Association from the ERICs, advocating on behalf of the whole ERIC community for a clear and transparent process on key topics, such as establishment of EOSC Nodes. As a member of the EOSC Association, BBMRI-ERIC engaged in various EOSC Association task forces.

Other partnerships and public affairs activities: In 2024, we furthermore strengthened our biobank community by connecting partners:

BBMRI has been coordinating the AoM Working Group on *Strategic Partnerships* with drafting support for the concept for Strategic Partnership. This is a new concept for BBMRI-ERIC, which will be tested with a pilot use case in 2025.

In 2024, the Public Affairs department was responsible for organising two meetings of the *Scientific and Ethical Advisory Board* (SEAB) of BBMRI. One online meeting regarding the periodic implementation review took place in April, plus several bilateral exchanges. Another online meeting regarding the ELSI review took place in November.

In May 2024, the BBMRI-ERIC Position Paper was published on the next *Framework Programme 10*, outlining six key topics (focus on One Health, prioritise research in cancer, rare diseases and paediatrics, shape EHDS, strengthen international partnerships, enable access to different funding initiatives, and avoid diversification). The paper was timed with the current evaluation of Horizon Europe and mapping out the research, technology and innovation policies that should be shaped beyond 2027.

Finance and Project Management

In order to leverage the organisation's growth over the last three years, the digitalisation of processes and automation of financial data management were and are key to keeping the resources as flat as possible.

In 2024, the incoming invoices' approval process as well as the time sheet approval process were digitalised, two processes which were quite time-consuming and inefficient, not only for the finance team but also for the employees and their respective supervisors.

The database-structured approach to handle financial data has allowed to prepare external (e.g., reports for EC funded projects, year-end closing, etc.) as well as internal standard and ad-hoc reports with less effort and higher reliability.

In project management, the competencies and know how were enlarged in the course of the execution of the projects, which BBMRI coordinates. In particular the project canSERV with a consortium of 18 partners, a catalogue of more the 400 services offered by more than 150 service providers and a project budget of appr. 15 Mio. € created a very valuable knowledge base, not only for BBMRI but also for other potential future EC funded SERV-projects, which can be built upon the established structures of BBMRI. An exchange with the respective department of the European Commission to build upon the experience and know how already took place.

Central Office

Facilitating the core services of BBMRI-ERIC

In 2024, the Central Office of BBMRI-ERIC continued to play a vital role as the administrative backbone of the organisation, supporting internal operations and facilitating effective coordination across scientific departments. It remained central to delivering efficient, high-quality services and enabling smooth communication and collaboration across the wider BBMRI community.

In its support role, the Central Office contributed to the planning and execution of conferences, workshops and stakeholder meetings, further strengthening BBMRI-ERIC's event management capabilities and engagement with external partners. It oversaw all related travel logistics, including bookings, invoice control and reimbursement processes. In addition, the Central Office prepared regular reports, analyses and presentations for management and governance bodies.

In addition to operational tasks, the Central Office supported the development and refinement of internal policies, as well as the continuous improvement of organisational standards and procedures.

Working closely with the ELSI and IT teams, the Central Office also supported key functions such as the Data Protection Officer, the Gender and Diversity Expert, and Systems Administration.

SERVICE KPIS SUMMARY - 2024

KPI #01: Users of BBMRI Directory: **10,444**

KPI #02: Active Users of the BBMRI Negotiator: **46 requesters, 44 biobanker and biomolecular resource representatives**[1]

KPI #03: Requests filed into the BBMRI Negotiator (total/year): **88**

KPI #04: Requests successfully handled via BBMRI Negotiator in that calendar year (total/year): **6**

KPI #05: Requests successfully handled outside of the BBMRI Negotiator (total/year): **8,718**

KPI #06: Hours of BBMRI ELSI Services provided (total/year): **304 hours**

KPI #07: Number of Attendees in BBMRI ELSI Dialogues (total/year): **209 attendees**

KPI #8: Number of BBMRI Quality (Q)-Labels on BBMRI Biobank, Laboratory/Institute or Expert Centre level in BBMRI Directory (total/year): **1**

KPI #9: Number of BBMRI Quality (Q)-Labels on Collection / Subcollection level in BBMRI Directory (total/year): **0**

KPI #10: Number of Certified/Accredited BBMRI Biobanks, Laboratories/Institutes & Expert Centres (total/year): **6**

KPI #11: Total number of publications involving BBMRI-ERIC in 2024: **3116**

KPI #12: Total number of participants reached by BBMRI outreach events in 2024: **38,421**

KPI #13: Number of participants in Stakeholder Forum (total/year): **116**

KPI #14: Number of successful grants (total/year): **390**

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[1] Note: 2024 is based on the new methodology approved by AoM, asking for separate number of requesters and biobank representatives.

PART TWO

Financial information

Core budget expenditures and allocated competitive research grants

The inflationary development in Europe over the last three years has necessitated a gradual shift in BBMRI capacities from Core to project activities. The impact on the financial stability was partially also compensated by an increase in membership fees from existing member states as well as the stepping up of some observer states to member status.

2024 was a particular successful year in the acquisition of new EC grants. In total 5,1 Mio. € in research grant funding were secured for BBMRI in seven new projects with a project duration between three and seven years. At the beginning of 2025 an additional project (PERIFORMANCE) was granted, which BBMRI-ERIC will coordinate (starting date: September 2025, grant amount: 0,86 Mio. € for BBMRI). Together with this project, BBMRI will then coordinate five projects in total.

Profit & Loss Statement

In EUR	2020	2021	2022	2023	2024
Turnover	3.305.108	3.292.908	3.920.923	4.334.553	5.556.156
Other operating income	8.907	7.441	7.537	72.327	106.123
Material/Service Expenses	-	-	(1.920)	(291.054)	(329.875)
Staff expenses	(2.143.081)	(2.477.511)	(3.053.131)	(3.389.773)	(4.058.794)
Amortisation	(30.000)	(54.819)	(52.595)	(48.282)	(53.101)
Other operating expenses	(847.735)	(758.648)	(791.673)	(786.231)	(1.388.099)
Operating result	**293.198**	**9.371**	**29.142**	**(108.460)**	**(167.590)**
Other interest and similar income	-	-	1.355	3.548	200.617
Interest and similar expenses	(54)	(204)	(21)	-	(0)
Financial result	(54)	(204)	1.333	3.548	200.617
Loss from operating activities, Earnings before taxes	**293.144**	**9.167**	**30.475**	**(104.911)**	**33.027**
Taxes on income and revenue			(339)	339	(5.494)
Profit of the year	**293.144**	**9.167**	**30.136**	**(104.573)**	**27.532**
Reversal of profit reserves	-	-	-	-	-
Allocation to profit reserves	(293.144)	(9.167)	(30.136)	104.573	(27.532)
Profit carried forward from the previous years	367.775	367.775	367.775	367.775	367.775
Balance sheet profit	**367.775**	**367.775**	**367.775**	**367.775**	**367.775**

Balance Sheet

In EUR	2020	2021	2022	2023	2024
Intangible Assets	2.820	91.920	68.940	45.960	22.980
Tangible Assets	54.414	41.891	37.777	32.984	40.950
Fixed Assets	**57.233**	**133.811**	**106.717**	**78.944**	**63.930**
Receivables and other Assets	299.341	439.425	409.394	880.771	801.309
Receivables arising from deliveries services	93.001	254.117	51.397	167.914	173.581
Other receivables and assets	206.340	185.308	357.997	712.857	627.728
Cash on hand and Bank deposits	2.491.713	2.667.526	9.633.534	7.963.174	8.375.429
Current Assets	**2.791.055**	**3.106.951**	**10.042.927**	**8.843.945**	**9.176.738**
Prepaid expenses, deferred charges	2.811	3.923	1.453	1.643	51.734
Assets	**2.851.099**	**3.244.685**	**10.151.097**	**8.924.532**	**9.292.401**
Reserves pursuant to the articles of association	884.166	893.333	923.470	818.897	846.429
Balance sheet profit	367.775	367.775	367.775	367.775	367.775
Investment grants	-	13.189	9.791	6.448	3.217
Capital and Reserves	**1.251.941**	**1.274.297**	**1.301.036**	**1.193.120**	**1.217.421**
Other accruals	68.792	127.273	119.580	158.468	159.401
Accruals	**68.792**	**127.273**	**119.580**	**158.468**	**159.401**
Liabilities arising from deliveries and services	30.026	246.162	220.003	92.274	181.155
Other liabilities	396.798	221.866	312.529	221.685	263.182
Liabilities	**426.824**	**468.027**	**532.532**	**313.959**	**444.337**
Deferred income	1.103.541	1.375.087	8.197.949	7.258.986	7.471.241
Liabilities and Owner´s Equity	**2.851.099**	**3.244.685**	**10.151.097**	**8.924.532**	**9.292.401**

Cash Flow

In EUR	2020	2021	2022	2023	2024
Profit of the year	293.144	9.167	30.136	(104.573)	27.532
Amortisation	30.000	54.819	52.595	48.282	53.101
Cash Flow from the Result	**323.144**	**63.986**	**82.731**	**(56.291)**	**80.633**
Δ Receivables arising from deliveries services	(6.258)	(161.116)	202.721	(116.518)	(5.667)
Δ Other receivables and assets	50.142	21.032	(172.689)	(354.860)	85.129
Δ Liabilities arising from deliveries and services	(196.610)	216.136	(26.158)	(127.729)	88.881
Δ Other liabilities	11.441	(174.932)	90.664	(90.844)	41.497
Δ Prepaid expenses, deferred charges	2.221	(1.113)	2.471	(190)	(50.091)
Δ Accruals	(593.752)	330.027	6.815.168	(900.075)	213.189
Δ Investment grants	-	13.189	(3.397)	(3.344)	(3.231)
Δ Working Capital	**(732.817)**	**243.223**	**6.908.778**	**(1.593.560)**	**369.708**
Cash Flow from Operations	**(409.672)**	**307.209**	**6.991.509**	**(1.649.851)**	**450.341**
Investing / Deinvesting	(15.256)	(131.397)	(25.501)	(20.508)	(38.086)
Cash Flow from Investing Activities	**(15.256)**	**(131.397)**	**(25.501)**	**(20.508)**	**(38.086)**
Δ Capital and Reserves					
Cash Flow from Financing Activities	**-**	**-**	**-**	**-**	**-**
Total Cash Flow	**(424.928)**	**175.813**	**6.966.008**	**(1.670.360)**	**412.255**
Cash Beginning	2.916.641	2.491.713	2.667.526	9.633.534	7.963.174
Δ	(424.928)	175.813	6.966.008	(1.670.360)	412.255
Cash End	2.491.713	2.667.526	9.633.534	7.963.174	8.375.429

The cash flow in 2023 of +0,4 Mio. EUR shows, that cash-out as well as cash-in from membership fees and project payments (relating to finalised and approved reporting periods from 2023 and 2024) are well balanced.

Over the next 1,5 years approx. 5 Mio. EUR from the current cash position will be used to finance CanSERV TNA services (Transnational Access services) for the research community in the field of cancer research as well as the respective management, communication and dissemination activities.

PART THREE

Projects launched in 2024

INTEGRATE-LMedC	*EvolveBBMRI*	*Quantum*	*ERDERA*
BBMRI budget: 862,286.25 EUR	**BBMRI budget:** 2,683,178.75 EUR	**BBMRI budget:** 170,000.00 EUR	**BBMRI budget:** 111,878.75 EUR
Start: 01.01.2024	Start: 01.01.2024	Start: 01.01.2024	Start: 01.09.2024

The INTEGRATE-LMedC consortium will develop a new concept to guide and support decision-making for the next-generation research infrastructure (RI) to facilitate efficient utilisation and harmonisation of large medical cohorts (LMedC), and to accelerate scientific and medical breakthroughs in Europe and beyond. Achievement of the ambitious objectives will only be possible through the integration of 11 highly interdisciplinary partners including established ERIC / ESFRI infrastructures such BBMRI, ECRIN, EIRENE and EBRAINS with unique expertise in conceptualising and implementing European RIs.

The EvolveBBMRI project aims to further develop BBMRI-ERIC for the benefit of its scientific communities and users, increase its capacity to serve EU policy priorities, and further deepen its collaboration with industry. The project is structured in four thematic pillars: 1) Acceleration of datafication of biobanks and biomolecular resources to enable reproducible advanced medical research in support of EU health priorities; 2) teaming up with industry to facilitate greener biobanking; 3) setting long-term sustainability measures for BBMRI that also address RI landscape gaps; and 4) strengthened approaches related to career paths, training and outreach activities to maximise impact.

Data users (i.e., researchers, innovators, regulation agencies and policy-makers) need high-quality data. In HealthData@EU, data holders are expected to make their datasets available for secondary use, providing a notion of their quality and utility and the maturity of their data quality procedures. In article 56 in the HealthData@EU proposed regulation, this notion would take the form of a label. With a consortium of 35 partners, QUANTUM is an EU-funded project that aims to create a common label system for Europe that guarantees the quality and utility of datasets for scientific and health innovation purposes. These labels will enable researchers, policymakers, and healthcare professionals to identify high-quality data for research and decision making.

The European Rare Diseases Research Alliance (ERDERA) aims to improve the health and well-being of the 30 million people living with a rare disease in Europe, by making Europe a world leader in Rare Disease (RD) research and innovation, to support concrete health benefits to rare disease patients, through better prevention, better diagnosis, better treatment. This Partnership will deliver a RD ecosystem that builds on the successes of previous programmes by supporting robust patient need-led research, developing new diagnostic methods and pathways, spearheading the digital transformational change connecting the dots between care, patient data and research, while ensuring strong alignment of strategies in RD research across countries and regions.

Projects active in 2024
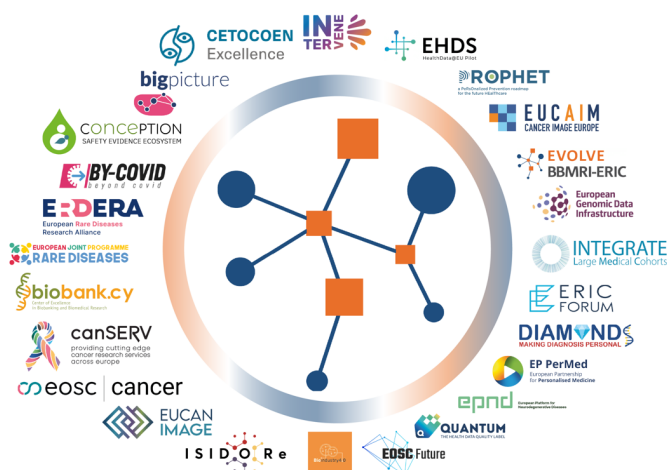
BBMRI-ERIC was active in the following projects during 2024:

BIGPICTURE: Central repository of digital pathology slides to support the development of artificial intelligence tools

BIOINDUSTRY 4.0: R&D for the next generation of scientific instrumentation, tools and methods

BY-COVID: BeYond-COVID (BY-COVID) aims to provide comprehensive open data on SARS-CoV-2 and other infectious diseases across scientific, medical, public health and policy domains.

canSERV: European wide research infrastructures, oncology experts, and patient associations team up to battle cancer by providing transnational access to cutting-edge transnational research services.

CETOCOEN EXCELLENCE: To create the European Centre of Excellence in Environmental Health Sciences

CONCEPTION: Building an ecosystem for better monitoring and communicating of medication safety in pregnancy and breastfeeding

CY-BIOBANK: Towards the Establishment of a Research and Innovation Center of Excellence for Biobanking and Biomedical Research at the University of Cyprus

DIAMONDS: Demonstration pilots for implementation of personalised medicine in healthcare

EHDS2 PILOT: For developing a pilot project for an EU infrastructure ecosystem for the secondary use of health data for research, policy-making and regulatory purposes

EJP RD: Expanding research infrastructure visibility to strengthen strategic partnerships

EOSC4CANCER: FAIR and open data sharing in support of cancer research

EOSCFuture: Integration and consolidation of the existing pan-European access mechanism

to public research infrastructures and commercial services through the EOSC Portal

EPND: A platform for accelerating biomarker discovery and validation to support therapeutics development for neurodegenerative diseases

EPPERMED: European partnership for personalised medicine

ERDERA: Improve the health and well-being of the 30 million people living with a rare disease in Europe.

ERIC FORUM 2: Coordination and Monitoring of the European Research Infrastructure Consortia (ERICs)

EUCAIM: Federated European infrastructure for cancer images data

EuCanImage: A European Cancer Image Platform Linked to Biological and Health Data for Next-Generation Artificial Intelligence and Precision Medicine in Oncology

EvolveBBMRI: Further develop BBMRI-ERIC for the benefit of its scientific communities and users.

GDI: Federated European infrastructure for genomics data

INTEGRATE-LMedC: A new concept to guide and support decision-making for the next-generation research infrastructure (RI) to facilitate efficient utilisation and harmonisation of large medical cohorts (LMedC).

INTERVENE: International consortium for integrative genomics prediction

ISIDORE: Research infrastructure services for rapid research responses to COVID-19 and other infectious disease epidemics

PROPHET: PeRsOnalized Prevention roadmap for the future HEalThcare

QUANTUM: To create a common label system for Europe that guarantees the quality and utility of datasets for scientific and health innovation purposes.

PART FOUR

National Nodes

National Node AUSTRIA

2024 KPIs	
KPI 5: Requests successfully handled outside of the BBMRI Negotiator (total)	409
KPI 11: Publications in Pubmed (total)	81
KPI 12: Number of participants reached by outreach events (total)	
KPI 14: Number of successful grants (total)	113

National Node introduction

BBMRI.at comprises the Medical Universities of Graz, Vienna, Innsbruck, Salzburg, the JKU Linz, and the University of Veterinary Medicine with their biobanks. The University of Vienna brings in legal expertise. BBMRI.at develops the Austrian biobanking research infrastructure and links it to the European community. Focus is to increase close cooperation and harmonisation between biobanks and foster research collaborations using samples/data and expertise. BBMRI.at partners harbour 22+ million human and animal samples with associated data to support academic and industrial research. BBMRI.at was established in 2013 and is funded by the Federal Ministry of Education, Economy and Research. More at www.bbmri.at

Top three areas of expertise

1. **Quality & data management**: Developing/implementing ISO/CEN (pre-analytics) standards; QM-cross-audits; Training/webinars; BSL-3 high-risk-pathogen-containing material biobanking; Data quality; High-capacity tissue slide digitalisation (whole-slide-imaging) & AI; Trusted data environment/access model; Catalogue/Biobank-Editor; Input to BBMRI-ERIC-Directory/Negotiator development;
2. **Non-human & green biobanking**: Veterinary/animal biobanking for comparative medicine/One-Health; Non-human biobanks (QM, ELSI); Green biobanking;
3. **Stakeholder/user engagement**: Public engagement (e.g., Long-Night-of-Research, biobank tours, children's-courses); Online-Donor-Portal; Education/training (e.g., QM, standards & IVDR; biobanking (MSc, courses)); Industry cooperation; BBMRI.at-Legal-Helpdesk operation;

Top three achievements of 2024

1. **Harmonisation & standardisation**: Leading "ISO-18701 human specimens for microbiome DNA"; ISO-24051-2 "Digital pathology & AI-based-image analysis" development: remote QM-cross-audits; Preparation for ISO-21899 implementation; driving the Austrian-Cohort-Initiative as platform for research groups with cohorts; Implementation of BBMRI.at-Legal-Helpdesk & Knowledge-Base supporting ELSI harmonisation
2. **Data management**: Austrian biobank data landscape analysis; "trusted environment for patient/research data" in EvolveBBMRI; complementing biobank samples with digital whole-slide-images (WSI);
3. **Stakeholder/user information and engagement**: Multiple grants and industry collaborations with BBMRI.at partner contributions; Awareness raising on veterinary biobank collections' potential for comparative medicine/One-Heath, and on environmental biobank sustainability; Joint BBMRI.at, BBMRI.de/GBN and BBMRI.ch/SBP animated video 'biobanks for researchers'; Numerous scientific publications with biobank/BBMRI.at contribution, presence in/on public media, newsletters, websites, social media; Biobanking education (e.g. courses, MSc programme);

Image: ©BBMRI.at (BBMRI.at team at 56 MC Meeting, 13 May 2024 at UNIVIE)

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National Node BELGIUM

2024 KPIs	
KPI 5: Requests successfully handled outside of the BBMRI Negotiator (total)	408
KPI 11: Publications in Pubmed (total)	18
KPI 12: Number of participants reached by outreach events (total)	905
KPI 14: Number of successful grants (total)	5

National Node introduction

Belgium's scientific participation in BBMRI-ERIC was initiated in 2013 by merging the three existing Belgian network biobank initiatives. The activities of BBMRI.be are coordinated from the coordination office located at the Belgian Cancer Registry. All relevant biobank topics are addressed by more than 60 biobank experts in the six working groups of BBMRI.be (IT, ELSI, Quality, Sustainability, Stakeholder Involvement, Networking & Valorisation). The BBMRI.be network currently connects 21 Belgian biobanks linked to public institutions such as hospitals, universities and research centres and three biobank user partners.

Top three areas of expertise

1. Clinical biobanks
2. Healthcare integrated biobanking
3. Quality management of samples and data

Top three achievements of 2024

1. **Release of first annual BBMRI.be report with KPI's of BBMRI.be and BBMRI-ERIC**. These KPIs will support the visualisation of BBMRI.be's added value, both nationally and internationally, while driving continuous improvement and alignment with strategic goals.
2. **Development of a template to map all biobank related costs**. Within the BBMRI.be sustainability working group, a tool has been developed to visualise the costs associated with biobanks. This will enable them to share these financial insights with researchers as well as

the institutions management and help the biobanks with transparent reimbursement of their biobank costs.

3. **Development of support documents SOP's and templates to support biobanks in the quality improvement process towards ISO-20387 accreditation (B3-ISO project).** Templates have been harmonised and integrated in the domains of IT, ELSI and sustainability. These project deliverables received positive feedback from participating biobanks and are being validated by both biobanks and stakeholders.

Group picture BBMRI.be taken at the BBMRI.be annual meeting on November 7th 2024 in Liège.

Commentato [ES3]: Missing photographer credit

National Node BULGARIA

2024 KPIs	
KPI 5: Requests successfully handled outside of the BBMRI Negotiator (total)	64
KPI 11: Publications in Pubmed (total)	56
KPI 12: Number of participants reached by outreach events (total)	42
KPI 14: Number of successful grants (total)	49

National Node introduction

The Bulgarian National Node of BBMRI is based at Molecular Medicine Center, Medical University of Sofia, hosting the biggest national biobank with various clinical research collections. At present the biobanking network involves biobanks and collections in two of the biggest Medical Universities in Sofia and Plovdiv. Since 2019 the Ministry of Education and Science has supported the establishment of the National Node and biobanking network in Bulgaria in the frame of the National Roadmap of Research Infrastructures. Currently, biobanking is done in research and diagnostic setting and various types of samples are collected, processed and stored such as tissue, serum, plasma, DNA and RNA, cell lines and associated clinical, and demographical data. The goal of the NN is to establish national biobanking network and integrate it in BBMRI-ERIC, increasing the international visibility and further use of the available collections, supporting high quality technical and ethical standards, and contributing to health research and precision medicine.

Top three areas of expertise

1. Research biobanking in oncology
2. Clinical biobanks for research in rare diseases
3. National expertise in QC and ELSI issues

Top three achievements of 2024

1. **More than 1000 participants** from Sofia and Plovdiv were recruited for the pilot 1000 Bulgarian Genomes Project, data collected, DNA isolated and genome sequencing in progress.

2. **Participation in several large infrastructure projects** such as EvolveBBMRI, GDI and Genome of Europe aiming at datafication of biobanks and biomolecular resources for advanced medical research and support for the 1+MG initiative.
3. **Stakeholders and users' information and engagement.** Participation in multiple scientific events; presence in public media; working closely with patients' organisations, pharmaceutical industry, clinical researchers and public authorities to increase the knowledge and awareness of the role of biobanking and genomics for personalised medicine

One of the biggest achievements in 2024 was the recruitment of more than 1000 samples for the Genome of Bulgaria project. The picture is from the seminar organised in 2024 by the Medical University of Sofia and the UK embassy for the future of Genomic medicine where I presented our BBMRI activities and the Genome of Bulgaria as part of the Genome of Europe Project. The photographer is Krasimira Pastirova

National Node CYPRUS

2024 KPIs	
KPI 5: Requests successfully handled outside of the BBMRI Negotiator (total)	8
KPI 11: Publications in Pubmed (total)	6
KPI 12: Number of participants reached by outreach events (total)	Not reported
KPI 14: Number of successful grants (total)	3

National Node introduction

BBMRI.cy is the Cypriot National Node led by the Ministry of Health (MoH). Dr. Carolina Stylianou, Chief Inspector in the MoH, spearheads this initiative in collaboration with Prof. Constantinos Deltas, Coordinator of the biobank.cy Centre of Excellence in Biobanking and Biomedical Research, University of Cyprus Medical School, which is hosting the Biobank of Cyprus. Also engaged in the BBMRI.cy is a representative from the Cyprus Institute of Neurology and Genetics.

BBMRI.cy encompasses the nation's two biobanks and coordinates local collections. The Node offers secure, GDPR-compliant access to high-quality samples and data, provides ELSI expertise, and links Cypriot researchers, clinicians, industry, and international partners to Europe's federated biobanking platform.

Top three areas of expertise

We have been at the forefront of pioneering research in inherited kidney disorders for over 30 years, making a significant impact both locally and internationally. Currently, the CoE is expanding its scope to encompass a broader range of inherited disorders, as well as complex genetic traits found within the Cypriot population. This expansion is driven by a systematic integration of biobanking and research.

1. General population
2. Kidney disorders
3. Heart conditions
4. Eye problems
5. Others

Top three achievements of 2024

National and international level achievements for 2024:

1. Participation at the Genome of Europe project (GoE)
2. Completion of the CYPROME_v3 project (Cyprus Human Genome Project)
3. Renewal of ISO 9001-2015

Title: biobank.cy CoE team portrait 2023. Photographer: UCY

National Node CZECH REPUBLIC

2024 KPIs	
KPI 5: Requests successfully handled outside of the BBMRI Negotiator (total)	129
KPI 11: Publications in Pubmed (total)	102
KPI 12: Number of participants reached by outreach events (total)	6958
KPI 14: Number of successful grants (total)	12

National Node introduction

BBMRI.cz is a distributed large research infrastructure supported by the Ministry of Education, Youth and Sports through the project called: "Network of Czech Biobanks". Since 2023, this infrastructure has 8 members, including specialised medical institutions (3) and universities cooperating with faculty hospitals (5). Our biobanks store material from donors with cancer diagnoses, rheumatological diseases, diseases associated with hematopoietic disorders, or material collected in population or environmental studies. In addition to biological material and data, BBMRI.cz offers a unique set of technologies, services and knowledge needed especially for translational research.

Top three areas of expertise

1. Fairification and datafication of biobanks
2. Digital and molecular pathology with focus on liquid biopsies
3. Analysis of exosomes and circulating DNA

Top three achievements of 2024

1. **Datafication:** Seven of our eight member biobanks are already connected to the BBMRI-ERIC Federated Platform via Locator tool.
2. **Scientific awareness:** Memorandum of understanding between BBMRI.cz and Czech Health Research Council was signed to raise awareness of biobanks, as a source of quality biological material, processed and archived in a standardised manner. Representatives of BBMRI.cz

participated in multiple scientific and student events to increase the visibility of BBMRI.cz among scientists.

3. **Visibility of BBMRI.cz at public authorities and patients:** Participation on patients conference, Czech article popularising biobanking and podcast about biobanks were released. Also on occasion of the 10-year anniversary of BBMRI-ERIC, the Czech national node was selected to showcase the benefits of LRI to society through "success stories" (02/2024).

Photographer: Petr Uhlíř. The team at Masaryk Memorial Cancer Institute

National Node DENMARK

2024 KPIs	
KPI 5: Requests successfully handled outside of the BBMRI Negotiator (total)	
KPI 11: Publications in Pubmed (total)	
KPI 12: Number of participants reached by outreach events (total)	
KPI 14: Number of successful grants (total)	

Commentato [JH4]: All KPIs missing!

National Node introduction

The Danish Biobank Network is a national network that brings together Danish population-based, research, and clinical biobanks to support scientific progress. By facilitating Denmark's participation as an observer in BBMRI, the network enhances international collaboration, linking Danish biobanks with European partners to promote knowledge exchange and joint research efforts. Additionally, the network ensures strong cooperation among Danish biobanks, fostering synergy and coordination across institutions. The network consists of members from the Danish regions, the Ministry of the Interior and Health, universities with health faculties and the Danish National Biobank, creating a strong foundation for cooperation in biomedical research.

Top three areas of expertise

1. **Strong Data Foundation**
    a. Large population cohorts and high-quality disease specific biobanks available for research
    b. Extensive research data
    c. Seamless linkage to national health registries
2. **Strong National Network**
    a. National collaboration in a robust and open network
3. **Extensive experience in providing and utilising biobank data**
    a. High trust and support from the citizens
    b. Extensive Use of Biobank Samples
    c. High utilisation of biobank samples in active research

Top three achievements of 2024

Commentato [JH5]: Four instead of three are given!

1. **Biobank Network Established and Strengthened**
    a. Successfully consolidated a national biobank network

  b. Cross-national strategic goals defined

  c. Joint application for funding

2. Returning Findings to Donors

  a. First phase: Returning incidental findings on familial hypercholesterolemia (400 individuals)

  b. Next steps: Expansion to cancer-related findings (BRCA and Lynch syndrome)

  c. Ethically responsible process with strict adherence to Danish guidelines on clinical validity and treatment pathways

3. Generating new knowledge

  a. Danish Biobank Data contribute to a broad range of publications for the benefit of public health

4. Transparency & Citizen Involvement

  a. Notified 1.3 million individuals, increasing transparency and public engagement

  b. Ensured correct ethical handling and communication of findings

> **Commentato [JH6]:** Could be deleted with the KPI given above.

Representatives of the Danish Biobank Network (BBMRI.dk) at the network's steering committee meeting on the 3rd of September 2024. Photographer: Eva Albertsen

National Node ESTONIA

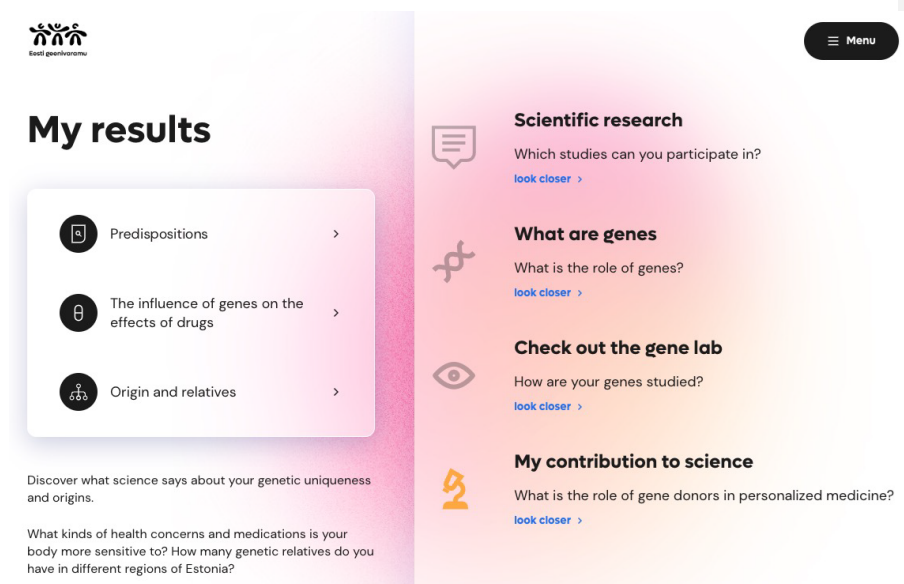| 2024 KPIs	
KPI 5: Requests successfully handled outside of the BBMRI Negotiator (total)	41
KPI 11: Publications in Pubmed (total)	50
KPI 12: Number of participants reached by outreach events (total)	260
KPI 14: Number of successful grants (total)	15

National Node introduction

The Estonian Biobank (EstBB) is a volunteer-based prospective and longitudinal biobank, maintaining and managing the biological samples and healthcare, lifestyle and omics data of 212,000 biobank participants. Available samples include DNA, plasma and buffy coat cells for all participants, and more sample types for smaller subsets. Available data includes periodically updated health records from national healthcare and other relevant registries, genotyping data from Illumina GSA microarrays and metabolomics data from Nightingale Health for all participants. Smaller subsets of participants have WGS (short-read and long-read), gut metagenome sequencing data, clinical biochemistry measurements, RNAseq and other data. More at www.biobank.ee

Top three areas of expertise

1. Sample and data collection from biobank participants, including initial recruitment as well as follow-up visits for specific research purposes. Recall studies can be conducted based on specific genetic findings.
2. Integration of electronic health records from structured data sources and transformation of more detailed free-form medical records to a research-ready format.
3. DNA analysis, including long-read whole genome sequencing, genotyping arrays, and metagenomic sequencing.

Top three achievements of 2024

1. The public launch of the Estonian Biobank participant portal "MyGenome", providing all biobank participants with personalised information on their genetic predisposition to type II diabetes and coronary artery disease, pharmacogenetic reports, genetic ancestry information and fun facts.
2. Acquiring 3 PacBio Revio long-read sequencers for the Institute of Genomics of the University of Tartu as part of a project for long-read whole genome sequencing of at least 10,000 DNA samples from Estonian Biobank participants.
3. Estonian Genome Centre microbiome research group headed by Professor Elin Org recognised with Estonian national research award for the work series "*Gut microbiome and health relations – new perspectives in health research*", utilising the Estonian Microbiome Cohort (EstMB) at the Estonian Biobank.

The Estonian Biobank's "MyGenome" participant portal landing page illustrating the educational content (right) and personalised reports (left) available in the portal.

National Node FINLAND

2024 KPIs	
KPI 5: Requests successfully handled outside of the BBMRI Negotiator (total)	243
KPI 11: Publications in Pubmed (total)	750
KPI 12: Number of participants reached by outreach events (total)	423
KPI 14: Number of successful grants (total)	3

National Node introduction

BBMRI.fi (www.bbmri.fi) is a research infrastructure comprising ten biobanks in Finland. Finnish Biobank Cooperative – FINBB has coordinated BBMRI.fi since 2020, appointed by the Finnish Ministry of Education and Culture.

Top three areas of expertise

1. National one-stop shop biobank services for researchers through Fingenious® services which includes Availability, Request and Recruit Services. More information: www.fingenious.fi
2. High quality sample collections with associated clinical data derived from EHRs, as well as study / population cohorts and expert data analysis capabilities
3. Capability and processes to contact biobank sample donors for participation in clinical and other studies and to inform them of research results and incidental findings

Top three achievements of 2024

1. Fingenious® services continue to enhance international collaboration. Already over 2000 researchers from 40 countries have registered at www.fingenious.fi. Over 400 projects have been conducted and 2000 scientific papers published in peer-reviewed journals
2. BBMRI.fi grant application got excellent expert reviews and lead to a grant of over 3 MEUR by the Research Council of Finland (for 2025-2027)
3. FINBB organised 2024 Fingenious® Symposium "From Target Discovery to Precision Medicine – the Unique Potential of Finnish Biobanks in Biomedical Research", which was a great success

and received praise from the participants (e.g. "Real life cases, practical approach, and excellent speakers. Whole Fingenious ecosystem was presented.")

The BBMRI.fi team

National Node GERMANY

2024 KPIs	
KPI 5: Requests successfully handled outside of the BBMRI Negotiator (total)	1631
KPI 11: Publications in Pubmed (total)	473
KPI 12: Number of participants reached by outreach events (total)	13725
KPI 14: Number of successful grants (total)	90

National Node introduction

The German Biobank Node (GBN) serves as the umbrella organisation for academic biobanks in Germany that manage human biospecimens and associated data. As a founding member of BBMRI-ERIC, GBN has been driving progress in biobanking for over a decade. Under its coordination, 36 academic biobank sites and an IT development centre have joined forces in the German Biobank Alliance (GBA). Committed to improving biomedical research and ensuring reproducibility, GBA biobanks provide high-quality biospecimens and data for research throughout Europe. GBN is funded by the German Federal Ministry of Education and Research (BMBF). Learn more at bbmri.de.

Top three areas of expertise

1. **Diverse expertise**: GBA biobanks provide bioresources for almost all anatomical sites and diseases. A matrix is being developed showing where specific services are offered.
2. **Quality management**: Most GBA biobanks have trained auditors conducting 'friendly audits'. Hannover Unified Biobank was first in Germany to achieve a BBMRI-ERIC 'Quality Label' and is ISO 20387 accredited.
3. **Networking**: GBA biobanks are increasingly integrated into research initiatives, with 50% collaborating with industry.

Top three achievements of 2024

1. **Community-based strategy process:** Based on a survey of GBA biobanks, a strategy meeting was held, from which the idea of 'biobanking on demand' emerged to efficiently support multicentre studies. Details of the concept are being developed.
2. **Activities at European level:** The EvolveBBMRI collaborative project has given an even greater focus to work at EU level. GBN also carried out a proficiency test with 21 biobanks from six European countries and produced a promotional video for researchers together with BBMRI.at and BBMRI.ch.
3. **Patient participation:** Together with representatives of several national patient organisations, GBN published a position paper on strengthening academic biobanks, which now serves as a basis for collaborative lobbying.

Meeting of the German Biobank Alliance (GBA) in Göttingen. © GBN / Verena Huth

National Node GREECE

2024 KPIs	
KPI 5: Requests successfully handled outside of the BBMRI Negotiator (total)	
KPI 11: Publications in Pubmed (total)	
KPI 12: Number of participants reached by outreach events (total)	
KPI 14: Number of successful grants (total)	

National Node introduction

Top three areas of expertise

Top three achievements of 2024

50

National Node HUNGARY

2024 KPIs	
KPI 5: Requests successfully handled outside of the BBMRI Negotiator (total)	18
KPI 11: Publications in Pubmed (total)	248
KPI 12: Number of participants reached by outreach events (total)	1405
KPI 14: Number of successful grants (total)	16

National Node introduction

The BBMRI Hungarian Biobank Node (HBN) serves as the national umbrella for Hungary's largest biobanks and represents the Hungarian biomedical research community within BBMRI-ERIC. Established in 2021 and supported by the Hungarian Research and Innovation Office, HBN connects six key biobanks from major academic, clinical, and industry institutions. Its mission is to ensure ethical, standardized, and FAIR-compliant access to high-quality biospecimens and clinical data, supporting precision medicine and research innovation. HBN also fosters collaboration, training, and infrastructure development to enhance the national and international visibility and impact of Hungarian biobanks.

Top three areas of expertise

1. Disease-focused biobanking with rich, longitudinal clinical and molecular data
2. Supporting clinical trials, especially in oncology, rare diseases, and cardiovascular disorders
3. High-throughput, quality-controlled biospecimen processing for academic and industry partners. Several sites contribute to real-world evidence generation and are active participants in the EMA's DARWIN project.

Top three achievements of 2024

1. Semmelweis Federated Data Warehouse was launched to enable secure, FAIR-aligned data sharing among biobank partners.
2. University of Szeged upgraded its biobanking system with a Liconics robotic platform and a new BSL-2 lab, enhancing capacity and biosafety.

3. HBN reached over 48,000 citizens through a YouTube campaign co-created with a local influencer to raise awareness of biobanking and the BBMRI mission (link). Together, these efforts strengthen infrastructure, visibility, and public engagement.

From left to right: Dr. Gergely Kriván, Dr. Hajnalka Andrikovics, Dr. Marta Szell, Dr. Maria Judit Molnar, Dr. Gyorgy Nemeth, Dr. István Balogh, Dr. Attila Gyenesei. The lab photo is from the Institute of Genomic Medicine and Rare Disorders, shot by David Kresalek.

National Node IARC/WHO

2024 KPIs	
KPI 5: Requests successfully handled outside of the BBMRI Negotiator (total)	16
KPI 11: Publications in Pubmed (total)	0
KPI 12: Number of participants reached by outreach events (total)	4
KPI 14: Number of successful grants (total)	0

National Node introduction

The International Agency for Research on Cancer (IARC) is the specialised cancer agency of the World Health Organization (WHO). The objective of IARC/WHO is to promote international collaboration in cancer research. The Agency is interdisciplinary, bringing together skills in epidemiology, laboratory sciences, biobanking and biostatistics to identify the causes of cancer so that preventive measures may be adopted and the burden of disease and associated suffering reduced. A significant feature of IARC/WHO is its expertise in coordinating research across countries and organisations; its independent role as an international organisation facilitates this activity. IARC/WHO has a particular interest in conducting research in low- and middle-income countries through partnerships and collaborations with researchers in these regions.

Top three areas of expertise

Laboratory Support, Biobanking, and Services (LSB) is a cross-cutting function of IARC/WHO, providing core laboratory and biobank services in order to support ongoing research across the continuum of activities at the Agency, serving as a reference point for many studies across the WHO. Three areas of expertise are:

1. The IARC/WHO biobank conducts its own research activities (e.g., in particular in infrastructure research and ethics).
2. It provides laboratory safety advice and training across IARC/WHO and serves as the interface with regulatory authorities and external collaborating bodies on these issues.
3. The IARC/WHO biobank provides expert support and leadership to biobanks internationally through the Biobank and Cohort Building Network (BCNet) focusing on low- and middle-income countries (LMICs).

Top three achievements of 2024

1. The hosting of the inaugural "BBMRI-ERIC Academy: Symposium – Ethical, legal and societal insights & outlook for biobanks and medical research". A showcase of 10 years of insights and perspectives on ethical, legal, and social implications (ELSI) that are relevant for biobanks and biomedical research (June 04-06 2024)

2. The presentation of the ASEAN Healthcare study on biobanking, informing the 'ASEAN Leaders' Declaration on Strengthening Regional Biosafety, and Biosecurity' (October 09 2024).

3. The hosting of a side-event at the World Health Assembly dedicated to "Childhood Cancer and Nutrition" (May 28 2024)

Title: IARC/WHO biobank team
Photographer: Xuexun Zhou

National Node ITALY

2024 KPIs	
KPI 5: Requests successfully handled outside of the BBMRI Negotiator (total)	121
KPI 11: Publications in Pubmed (total)	76
KPI 12: Number of participants reached by outreach events (total)	2957
KPI 14: Number of successful grants (total)	50

National Node introduction

The Italian node of BBMRI (BBMRI.it), established in 2013, is a distributed infrastructure including biobanks and biological resource centers located throughout Italy and a large community of researchers involved in disease-oriented projects that relies on the use of collections of biological resources. BBMRI.it includes National Institute of Health, CNR, 19 universities, 33 research hospitals, 45 hospitals, 15 patient associations and 98 biobanks, organized in thematic networks.

BBMRI.it has developed a web portal, a Help Desk and Common Services for ICT, Quality and ELSI have been set up to support the network and 290 research groups. Annually, BBMRI.it Help Desk process a median of 250 requests related to ethical and legal issues and 300 request related to quality matters.

Top three areas of expertise

Commentato [JH9]: Four instead of three areas.

1. Quality Management (QM): QM trainings and support to biobanks. Support to implementation of ISO 20387 standard.
2. Healthcare integrated biobanking.
3. ELSI with a specific focus on co-production of knowledge as well as on stakeholder and user engagement.
4. Data management: secure IT solution for managing big data and sensitive data. Adoption of BBMRI-ERIC standards and development of tools to improve interoperability of research databases.

Top three achievements of 2024

1. Development of an Audit process for BBMRI biobanks aimed at ensuring quality, regulatory compliance and the adoption of best practices in the management of biobanks.
2. Launch of the Knowledge Base digital platform and the Community of Practice Platform, collaborative virtual spaces to consolidate the extended BBMRI community as an ELSI/RRI community of practice.
3. To improve the interoperability of biobanks and enable their connection to the BBMRI-ERIC federated platform, a small-fire (https://github.com/bbdataeng/a-small-fire) has been developed. It is a framework designed to convert MIABIS-based minimum information datasets (https://github.com/BBMRI-ERIC/miabis) into HL7-FHIR transaction packets. Two additional biobanks joined the BBMRI-ERIC federated platform in 2024.

The large BBMRI.it community attending the BBMRI.it National Day. Credit: Lorenzo Merignati as photographer.

National Node LATVIA

2024 KPIs	
KPI 5: Requests successfully handled outside of the BBMRI Negotiator (total)	80
KPI 11: Publications in Pubmed (total)	<mark>Not reported</mark>
KPI 12: Number of participants reached by outreach events (total)	3280
KPI 14: Number of successful grants (total)	3

National Node introduction

The aim of BBMRI.LV is to provide resources for biomedicine research in Latvia and collaborate with institutions abroad, ensuring knowledge circulation, development and setting of new goals, that will encompass international standards, best practices, and promote scientific excellence.

Top three areas of expertise

1. Biological samples of population-based and disease-specific collections, survey data and information retrieval from health care system
2. Large-scale sequencing (genome, transcriptome, exome, metagenome) and digitalisation of biological samples in national scale "omics" projects
3. Activities in ELSI and quality management on national and international level

Top three achievements of 2024

1. Whole Genome sequencing and establishment of genomic data storage and processing infrastructure in Latvia for Latvian Genome Reference project under the "European Million Genomes Initiative" (1+MG). This will serve as foundation of future personalised medicine development in Latvia.
2. Organisation of national-level activities for biobanks and researchers about ELSI, QM and data protection and local level consultations. Promotion of Biobank law for coming in into force in Latvia participation in the working group for development of national regulation for secondary data use for research.

3. Participation in the development of more than 20 national-level and more than 10 international-level research projects; proposals include areas of diabetes, tumour research, rare disease, microbiome, omics data, ELSI and other.

Kristine at work in The Genome Database of the Latvian Population (LGDB)

Commentato [ES10]: Missing photographer credit

National Node LITHUANIA

2024 KPIs	
KPI 5: Requests successfully handled outside of the BBMRI Negotiator (total)	7
KPI 11: Publications in Pubmed (total)	9
KPI 12: Number of participants reached by outreach events (total)	106
KPI 14: Number of successful grants (total)	4

National Node introduction

The National Cancer Institute of Lithuania (NCI) coordinates the BBMRI.lt infrastructure in partnership with Vilnius University, Vilnius University Hospital Santaros Klinikos (VUHSK), Innovative Medicine Centre, Lithuanian University of Health Sciences, and The Hospital of Lithuanian University of Health Sciences Kauno Klinikos. The National Biobank Network maintains a comprehensive collection of oncology, haematology, rheumatology, and infectious disease samples. These include unfixed, snap-frozen, and formalin-fixed paraffin-embedded tissue samples and digital images, as well as blood, serum, plasma samples, viable cells, DNA/RNA, and associated clinical/demographic data. The collection will be enriched through the expanded inclusion of biological material from various segments, including population-based collections.

Top three areas of expertise

1. Advanced biorepositories for oncological and other diseases are being developed, integrating cutting-edge freezing and storage technologies tailored for preserving high-quality samples, including living tissue and cells. 3D cell cultures for advanced in vitro models.
2. NGS methodologies alongside data science to explore various diseases and population-based health concerns.
3. High-capacity pathology data digitalisation of whole slide images. AI solutions.

Top three achievements of 2024

1. As presented at the "Biobank Infrastructure for Future Biomedicine" closing conference, the Human Biological Resources Center (HBRC) project has established a national biobank

infrastructure with a standardised system for collecting and storing biological samples and managing related health data to advance biomedical science and health innovation.

2. HBRC is part of the Lithuanian RI Roadmap 2024 as an established research infrastructure and a member of BBMRI-ERIC.

3. HBRC plays a critical role in biomedical research, as evidenced by the results of the Kidney Cancer Mutographs published in Nature (NCI co-author) and the first dissociated tissue cell lines, along with the ONCOINTEGRA project focused on kidney, prostate and colorectal cancer research (VUHSK).

Commentato [ES11]: Missing caption and credit

National Node MALTA

2024 KPIs	
KPI 5: Requests successfully handled outside of the BBMRI Negotiator (total)	2
KPI 11: Publications in Pubmed (total)	3
KPI 12: Number of participants reached by outreach events (total)	70
KPI 14: Number of successful grants (total)	1

National Node introduction

The Malta NN is the smallest within the BBMRI-ERIC. It was established at the University of Malta, Faculty of Medicine and Surgery in conjunction with the signing of the ERIC, after many years of biobanking. The national biobank in Malta is DwarnaBio, a national initiative led by the University of Malta with the primary goal of establishing a central population-based biobank representative of the general Maltese population.

The University of Malta launched DwarnaBio, the country's national population biobank in June 2023. To date, approximately 300 have participated in this initiative, which collects and stores biological samples, such as blood or saliva, from volunteer participants across the Maltese Islands. These samples, along with health and lifestyle data, will serve as a resource for researchers investigating genetic links to various diseases.

DwarnaBio's primary objective is to establish a comprehensive representative collection of biological samples and associated clinical and genomic data, with consent to access health records and for longitudinal follow-up.

One of the standout features of DwarnaBio is its dynamic consent system, accessible via the web portal **dwarna.mt**. Unlike traditional models, DwarnaBio will allow participants to actively manage how their samples and data are used in research. Participants can amend or withdraw consent via the webportal, ensuring transparency and ongoing engagement. The portal will be further developed into a platform for disseminating research findings to the public.

Through collaboration with the Ministry for Health and Active Ageing, DwarnaBio is in the process of performing whole genome sequencing on its collection, aiming to build a reference genomic database. This resource will provide access to both clinicians and researchers to aggregate anonymised genomic data from the biobank. This data help scientists understand genetic factors influencing both common and rare health conditions, while serving as an invaluable resource for the interpretation of genetic

test results. Access and sharing of personalised data from DwarnaBio is regulated by an independent access committee. This initiative also forms part of Malta's contribution to the pan-European 1 Million Genomes of Europe initiative.

DwarnaBio is hosted at the Centre for Molecular Medicine and Biobanking within the University of Malta, which is part of the European network for biobanking, BBMRI-ERIC. This affiliation ensures that the biobank adheres to international standards for biobanking practices.

The project is open to volunteers from the general population, and those interested can register via the **dwarna.mt** portal.

Top three areas of expertise

1. Population biobanking
2. Dynamic consent models
3. Rare disease genetics

Top three achievements of 2024

1. Ongoing recruitment for the Genomes of Malta project – to date over 300 participants recruited, with access to health records, DNA and genome sequencing in progress
2. Participation in large infrastructure events – Genome of Europe
3. Incorporation of existing collections in DwarnaBio – the establishment of a rare neurological disorders collection, the rare skin disorders collection and the use of these collections in several projects and publications.

BBMRI.mt team with the local university of Malta administration

Commentato [ES12]: Missing photographer credit

National Node THE NETHERLANDS

National Node introduction

Health-RI aims to enable data-driven health and life sciences research and to provide the national infrastructure to make health and life science data reusable at scale for research, policy, and innovation. Health-RI collaborates with university medical centres, universities, private research organisations, patient organisations, national ministries, and funders. Health-RI hosts the distributed national nodes of BBMRI, EATRIS, and ELIXIR, and works towards a shared, ESFRI-overarching, international-grade service portfolio. BBMRI.nl facilitates harmonised collection, management, and distribution of health records, images, and biomaterials originating from a wide range of registries, cohorts, data- and biobanks.

Top three areas of expertise

1. Promoting harmonisation by (further) developing and implementing procedures, guidelines, and standards for biomaterial, image, and associated data collections based on evidence and (inter)national alignment
2. Providing support by (co-) developing, implementing, advertising, and supporting Health-RI services that enable the finding and sharing of biomaterials, images, and associated data
3. Distributing knowledge with added value for the biobanks and collections via websites, contribution to current discussions, and gatherings of the community

Top three achievements of 2024

1. Annual Health-RI conference with theme 'Trusting Forward', held on October 10th attracted more than 600 professionals from health care, policy, research and innovation. Together we strive for national agreements on and the implementation of the health data infrastructure.

2. Three national projects running to harmonise the pre-analytic process ("Dutch biobanking standard") and the consent procedures ("Mutual recognition") for biobanks and to provide guidance for the evaluation of biobank collections and ensuring long-term sustainability.
3. Regional biobank representatives of the seven academic hospitals and the two dedicated cancer hospitals meet at a monthly basis to work on the agenda of Health-RI, including the onboarding of collections towards a national catalogue, and the activities of BBMRI.

On Tuesday 19 November 2024, the second edition of the Knooppuntendag took place in the Experience Center of the Radboudumc in Nijmegen. Under the theme "Advancing Together – accelerate & strengthen in a common course", the nodes came together to work on the future of the health data infrastructure.

National Node NORWAY

2024 KPIs	
KPI 5: Requests successfully handled outside of the BBMRI Negotiator (total)	615
KPI 11: Publications in Pubmed (total)	71
KPI 12: Number of participants reached by outreach events (total)	631
KPI 14: Number of successful grants (total)	10

National Node introduction

Biobank Norway (bbmri.no) is a large-scale national research infrastructure for clinical and population-based biobanks, established in 2011. Over the last years, Biobank Norway has increased the number of users exponentially, offering a wide range of well described, richly annotated biospecimens and corresponding health related data, as well as genome wide genetic analyses (array-based) on 450 000 samples from population studies. These efforts have contributed to several hundred research projects subsequently published in a vast number of high-profiled publications.

Top three areas of expertise

1. Initiating and running population-based and clinical biobanks
2. Digitised biobank data – secure solution for handling of sensitive big data
3. Integrating data from multiple sources, such as national and local registries, electronic health records and population studies, mostly accessed through one national entry point

Top three achievements of 2024

1. *Nordic Conference on Future Health* arranged in Trondheim with 450 participants/21 countries
2. *Scientific coordination of the EU-project INTEGRATE-LMedC 2024-2027*
3. Internal audit on ISO 20387 performed

Panel discussion during Nordic Conference on Future Health arranged by bbmri.no Sept. 2024.

Photo credit: Geir Otto Johansen, Norwegian University of Science and Technology.

National Node POLAND

2024 KPIs	
KPI 5: Requests successfully handled outside of the BBMRI Negotiator (total)	37
KPI 11: Publications in Pubmed (total)	7
KPI 12: Number of participants reached by outreach events (total)	158
KPI 14: Number of successful grants (total)	13

National Node introduction

The Polish national node coordinates the activities of the Polish biobanking community and its integration with the European infrastructure. The core BBMRI.pl consortium currently consists of eight biobanking institutions, with many others collaborating under the Polish Biobanking Network (https://polskasiecbiobankow.pl/EN/home). Our node is responsible for internal and external communications, maintaining contacts and coordination with BBMRI-ERIC, representing the Polish biobanking community to national and international stakeholders, and promoting Polish biobanking experts in the European initiatives and working groups. Our shared vision is to continue developing and expanding an integrated, sustainable, and state-of-the-art biobanking network in Poland. To realize this vision, the biobanking community is committed to enhancing coordination, efficiency, and quality in the management of biobank samples.

Top three areas of expertise

1. Collaborative biobanking with an expanded research dimension: an ability to bridge biobanking and disease research with the special focus on the new cellular models and digital pathology data acquisition and analysis, specifically tailored for the individual research projects.
2. Advisory role for the medical staff on the best practices for collecting and preparing the biological samples for state-of-art biobanking.
3. Extensive expertise in quality management in biobanking, aligning its practices with international standards such as ISO 20387. The consortium supports the implementation of robust quality systems across Polish biobanks, offering training, audits, and guidance to ensure high-quality, reliable biological samples and data.

Top three achievements of 2024

1. Collaborative Initiative towards a Harmonized European Quality Handbook for Biobanks-Quality Leaders from: BBMRI.pl (Agnieszka-Matera-Witkiewicz), BBMRI.be (Annemieke De Wilde), BBMRI.de (Nguyen Nhutuyen), BBMRI.ch (Josephine Uldry)
2. Collaborative Initiative towards Code of conduct for biomedical research BBMRI-ERIC- Dorota Krekora-Zając as BBMRI.pl ELSI representative together with BBMRI.de, BBMRI.pl, BBMRI.sp, BBMRI.it, BBMRI.se, BBMRI.fi, France representatives
3. Regional Digital Medicine Centers (RDMC) Network formation- financed by Medical Research Agency- ECRIN member (in 10 RDMCs Polish Biobanking Network Members are Leaders)

Commentato [JH13]: Correct reference?

The Team of the Laboratory for Cell Research and Application, Medical University of Warsaw, BBMRI.pl; Credit: Medical University of Warsaw

National Node QATAR

2024 KPIs	
KPI 5: Requests successfully handled outside of the BBMRI Negotiator (total)	102
KPI 11: Publications in Pubmed (total)	1
KPI 12: Number of participants reached by outreach events (total)	254
KPI 14: Number of successful grants (total)	0

National Node introduction

Qatar Biobank (QBB), operating under the Qatar Precision Health Institute (QPHI) and Qatar Foundation, serves as the national biobanking infrastructure advancing precision health in the State of Qatar. As Qatar's designated National Node within the BBMRI-ERIC network, QBB-QPHI plays a central role in the ethically governed collection, processing, and long-term storage of high-quality biospecimens and associated health data from both population- and disease-based cohorts.

Through ISO-certified and CAP-accredited operations, QBB supports local and international biomedical research, enables clinical translation of scientific discoveries, and informs national health strategies. By engaging actively with the BBMRI-ERIC community, QBB-QPHI contributes to shaping a global biobanking ecosystem grounded in innovation, inclusivity, and operational excellence.

Top three areas of expertise

QBB-QPHI speciali*ses in:*

1. Large-scale longitudinal cohort studies (both population- and disease-specific) with deep phenotypic and multi-omic profiling
2. Integration with the national healthcare system to enable early intervention and delivery of personalized preventive care based on genetic and pharmacogenomic risk
3. Biospecimen quality governance under ISO 20387, with rigorous standards for traceability, reproducibility, and harmonization

69

Top three achievements of 2024

In 2024, QBB-QPHI made strategic advances in its national and international mandate:

1. Launched two landmark initiatives: the first Multiple Sclerosis (MS) Disease Cohort in Qatar and a Twin Study, both designed to investigate genetic, environmental, and lifestyle determinants of disease, contributing new insights to global precision health research.
2. Established and operationalized a national referral pathway connecting biobank participants to the healthcare system, enabling clinical decision-making based on individual pharmacogenomic and genetic risk profiles.
3. Strengthened global visibility by leading the high-impact session "Ensuring Excellence: Elevating Data Quality in Biobanking" at Europe Biobank Week 2024 and organizing the workshop "Achieving Biological Material Quality Harmonization Outcomes" at the ISBER Annual Conference 2024. These activities, alongside leadership roles in BBMRI-ERIC, ISBER, and ESBB, underscored QBB's commitment to shaping international biobanking best practices.

Copyright 2025: Qatar Precision Health Institute

National Node SLOVENIA

2024 KPIs	
KPI 5: Requests successfully handled outside of the BBMRI Negotiator (total)	14
KPI 11: Publications in Pubmed (total)	10
KPI 12: Number of participants reached by outreach events (total)	677
KPI 14: Number of successful grants (total)	1

National Node introduction

BBMRI.si consists of all three Slovenian public universities, Slovenian National Institute of Biology, University Medical Centre Maribor, and University Clinic Golnik. It is very interdisciplinary in its nature covering medical, biological, biochemical, IKT, legal, ethical, and societal aspects.

Top three areas of expertise

1. Autoimmune disorders
2. Cancer
3. Rare diseases

Top three achievements of 2024

1. Obtaining stable government funding.
2. Inclusion of several Slovenian biobanks and their sample collections into Directory.
3. Shooting a 60-minute documentary about biobanking for the Slovenian public television to capture the interest of a general audience.

Portrait of Urban Bren, National Node Director of Slovenia

National Node SPAIN

2024 KPIs	
KPI 5: Requests successfully handled outside of the BBMRI Negotiator (total)	1464
KPI 11: Publications in Pubmed (total)	732
KPI 12: Number of participants reached by outreach events (total)	3118
KPI 14: Number of successful grants (total)	2

National Node introduction

The ISCIII Biomodels and Biobanks Platform (P_ISCIII_BB) is a national infrastructure under the Institute of Health Carlos III (ISCIII) and serves as Spain's BBMRI-ERIC national node. It currently consists of 42 core units and 23 affiliated units, structured into four scientific-technological HUBs: Biobanks (56 units), Organoids (25 units), Animal Models (28 units), and 3D Printing (21 units). Operating across 14 Autonomous Communities, P_ISCIII_BB enhances biomedical research by facilitating the collection, handling, and supply of biological samples, along with associated clinical data, to support scientific and technological advancements on a national and international level.

Top three areas of expertise

1. **ELSI** experts within the P_ISCIII_BB provide top-tier guidance, training, and consultations for researchers both nationally and internationally, responding to 4 ELSI-related consultations via P_ISCIII_BB website helpdesk in 2024.
2. The P_ISCIII_BB **Quality Management team**, composed of 60+ members, oversees quality management, SOPs, and the implementation of ISO 20387 in biobanking.
3. The P_ISCIII_BB enhanced visibility through an intense activity in **Communication and Dissemination**, contributing to 580 courses, 1.477 national projects, and over 1.100 dissemination activities in 2024.

Top three achievements of 2024

1. **Extensive Support for Research**: The Biobank HUB catalogue expanded to 47 COVID-19 collections (69.552 samples) and 452 Rare Disease collections (106.166 samples), while the Animal Model HUB grew to 827 identifiers/services. Over **353.000 samples** were provided for research, supporting biomedical studies and innovation.
2. **Strong Patient and Research Collaborations**: With **307 partnerships** with patient associations and national platforms, along with **152 international collaborations**, the network continues to foster meaningful connections between researchers and the broader community.
3. **Strengthening Global Research Collaboration:** With participation in **213** international research projects, the network has reinforced its role in high-impact studies. In line with this commitment, it co-organised the II JORNADAS DE LAS PLATAFORMAS ISCIII in October 2024, fostering national and international collaboration in biomedical and health sciences research.

Representatives of the Spanish National Node (BBMRI.es) at the BBMRI-ERIC – MC & AoM F2F Meeting (February 25-27, 2025)

Commentato [ES15]: Missing photographer credit

National Node SWEDEN

2024 KPIs	
KPI 5: Requests successfully handled outside of the BBMRI Negotiator (total)	992
KPI 11: Publications in Pubmed (total)	351
KPI 12: Number of participants reached by outreach events (total)	1002
KPI 14: Number of successful grants (total)	0

National Node introduction

Biobank Sweden is not a biobank but a national infrastructure for biobanking where healthcare, academia, industry, and patient organisations collaborate to attain good healthcare and research. We do this by national coordination of regulatory and operative management including documentation, communication, education, quality management and ELSI-matters. Biobank Sweden also builds a national biobank registry with several functionalities including consent management for health care samples, finding sample for research and healthcare, management of biobank applications and management of applications for clinical trials that need access to biobank samples.

Top three areas of expertise

- Regulatory management
- Operative services for collecting, storing and accessing samples
- Access to pathology samples

Top three achievements of 2024

- New long-term plan for 2025-2029 produced and decided as well as secured funding as an infrastructure of national relevance from the Swedish research council 2025-2028.
- Continued implementation of the biobank legislation including harmonised nationwide interpretation
- 12 new national coordinated studies started and a national network for pathology study coordinators has started

Staff at Uppsala Biobank working with DNA extraction from whole blood. Photographer: Åsa Forsberg

National Node SWITZERLAND

2024 KPIs	
KPI 5: Requests successfully handled outside of the BBMRI Negotiator (total)	59
KPI 11: Publications in Pubmed (total)	46
KPI 12: Number of participants reached by outreach events (total)	110
KPI 14: Number of successful grants (total)	1

National Node introduction

In Switzerland, many biobanks operate with heterogeneous processes making the usability and comparability of samples difficult. Moreover, biobanking practices have greatly evolved over the last ten years, from individual collections of biological material to professional infrastructures. In 2013, the SNSF launched a competitive call for constituting a national biobanking platform. Swiss Biobanking Platform (SBP) concept was selected by an international panel of experts in biobanking activities. Today, SBP is the national coordination platform for human and non-human biobanks which supports biomedical and biological research to address questions around quality, access, interoperability and the interconnectedness of biobanks and their related data.

Top three areas of expertise

1. Quality and Practice Harmonisation – SBP supports biobanks through documentation and its SBP Labels strategy, ensuring compliance with legal, ethical, and professional standards (e.g., ISO 20387).
2. Interoperability and Visibility – SBP BIMS integrates SBP Datasets to streamline biobank data management and enhance biobanks and samples visibility via NExT.
3. Education – SBP offers a CAS in Biobanking in 3 modules to increase knowledge and competencies in biobanking.

Top three achievements of 2024

1. **SBP BIMS**: Developed with DiData to support sample management, this professional Biobank Information Management System features two modules to configure intuitive workflows and facilitate operations and documentation by integrating datasets for various environments (e.g., Human Liquid, Bacteria).
2. **A Certificate of Advanced Studies (CAS) in Biobanking**: Launched in collaboration with Geneva University and Pasteur Institute, this online training covers foundational insights, implementation, and professional management, engaging Swiss and international experts to address the demand for skilled biobankers.
3. **Enhanced collaborations with national and European initiatives**: Support of national projects (Genome of Switzerland, map of services, Biology Roadmap) and strengthen collaborations with national initiatives (SCTO) and at the European level with BBMRI (Film for researchers, Quality Manual, Quality Labels, 10 Year Roadmap).

The Swiss National Node team. Photographed by Louise Roy.

National Node TÜRKIYE

2024 KPIs	
KPI 5: Requests successfully handled outside of the BBMRI Negotiator (total)	
KPI 11: Publications in Pubmed (total)	
KPI 12: Number of participants reached by outreach events (total)	
KPI 14: Number of successful grants (total)	

National Node introduction

Top three areas of expertise

Top three achievements of 2024

LEGAL NOTICE

Legal Address	*Court Jurisdiction*
BBMRI-ERIC	Court of Justice of the European Union
Neue Stiftingtalstrasse 2/B/6	
8010 Graz, Austria	
Phone: +43 316 34 99 17-0	*Liability*
Fax: +43 316 34 99 17-99	Members of BBMRI-ERIC
Email: contact@bbmri-eric.eu	
This legal notice applies to the following internet addresses:	*Procurement and Tax Exemption*
• bbmri-eric.eu • twitter.com/BBMRIERIC • linkedin.com/company/bbmri-eric • youtube.com/channel/UCL2n13WcvK4jLg6AkFner4Q	BBMRI-ERIC benefits from tax exemption as outlined in Article 6 of the BBMRI-ERIC Statutes.
Name	*Members*
Biobanking and BioMolecular resources Research Infrastructure – European Research Infrastructure Consortium (BBMRI-ERIC)	Republic of Austria, Kingdom of Belgium, Republic of Bulgaria, Republic of Cyprus, Czech Republic, Republic of Estonia, Republic of Finland, Federal Republic of Germany, Hellenic Republic, Hungary, Italian Republic, Republic of Latvia, Republic of Lithuania, Republic of Malta, Kingdom of the Netherlands, Kingdom of Norway, Republic of Poland, Republic of Slovenia, Kingdom of Sweden, Swiss Confederation
Legal Entity	
European Research Infrastructure Consortium (ERIC)	
Entry Into Force	
On November 30, 2013, the BBMRI-ERIC Statutes were published in the Official Journal of the Euro- pean Union and entered into force three days after publication on 3 December 2013. As from this date, the Biobanking and Biomolecular resources Research Infrastructure (BBMRI) was officially awarded the Community legal framework for a European Research Infrastructure Consortium (ERIC) and is henceforth to be called BBMRI-ERIC.	*Observers*
	Denmark, International Agency for Research on Cancer (IARC/WHO), Qatar, Kingdom of Spain, Republic of Turkiye

Philosophy, Nature and Purpose of Business	*Values*
BBMRI-ERIC is designed to facilitate the joint establishment and operation of research infrastructures of European interest. The ERIC status allows pulling together biobanks and biomolecular resources into a pan-European facility and providing access to collections of partner biobanks and biomolecular resources, their expertise and services on a non-economic basis. BBMRI-ERIC is established for an unlimited period of time. *Vat Number* ATU 68520549	The activities of BBMRI-ERIC shall be politically neutral and guided by the following values: pan-European in scope, combined with scientific excellence, transparency, openness, responsiveness, ethical awareness, legal compliance, and human values.

APPENDIX ONE: AUDITOR'S REPORT