



# EUROPE BIOBANK WEEK CONGRESS 19-22 MAY 2026

# ORAL PRESENTATIONS

## Abstracts

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Department of Outreach, Education and Communications

## The architecture of the BBMRI.at National Node Biobank Data Communication Platform

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*Topic: 6A: Biobanks as Local Hubs: Interfaces and Facilitators*

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**Introduction:** As part of the BBMRI.at project we analyzed the current biobank IT landscape at Austrian BBMRI Node biobanks and the requirements for automated data transfer for current BBMRI-ERIC tools. Based on this analysis, we established architecture of BBMRI.at National Node Biobank Data Communication Platform (Biobank Hub), which is currently under development.

**Methods:** The proposed architecture was developed based on the analysis of requirements for both current biobank IT systems and BBMRI-ERIC tools (Directory, Negotiator and the Federated Platform). The analysis methodology combined qualitative data collection from a questionnaire, follow-up interviews, and workshops with structured comparative analysis.

**Results:** The Biobank Hub is designed as a centrally operated automation layer at the BBMRI.at National Node (Medical University of Innsbruck), responsible for: automated acquisition and harmonization of data from partner biobanks' LIMS / BIMS / HIS systems, validated preparation and delivery of Directory metadata and Negotiator interactions, coordination and quality assurance for Federated Platform (Locator) aggregates; and maintaining a single authoritative data model aligned with MIABIS.

The Hub makes use of the Health Data Research Hub infrastructure at the Medical University of

Innsbruck and builds upon the same data model originally used in the BBMRI.at Biobank Editor but focuses on automation rather than manual editing. The new Hub user interface provides monitoring and quality-assurance functions and will later form the basis of a unified interface framework towards an EHDS compliant infrastructure.

**Discussion:** The established architecture will serve as a basis for the implementation of the Biobank Hub software, ensuring interoperability and automated data exchange.