



Biocenter Finland

*National and European-level strategies for
implementing open access research infrastructures*

Euro-BioImaging Stakeholder meeting
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Own perspectives

1. Director of Biocenter Finland (a nationwide distributed life science infrastructure)
2. Chair of National Infrastructure Committee in Finland (“FIRI Expert Group”); funding of national infrastructures and participation in ESFRI infrastructures; also responsible for updating the first national research infrastructure roadmap of 2009.
3. (Part time) Executive manager of BBMRI during the Preparatory Phase and an expert during the ERIC application phase.
4. Chair (& national delegate), EMBL Council - an alternative funding scheme of large infrastructures (investments, operation and access) by members states (also “ELIXIR perspective”)

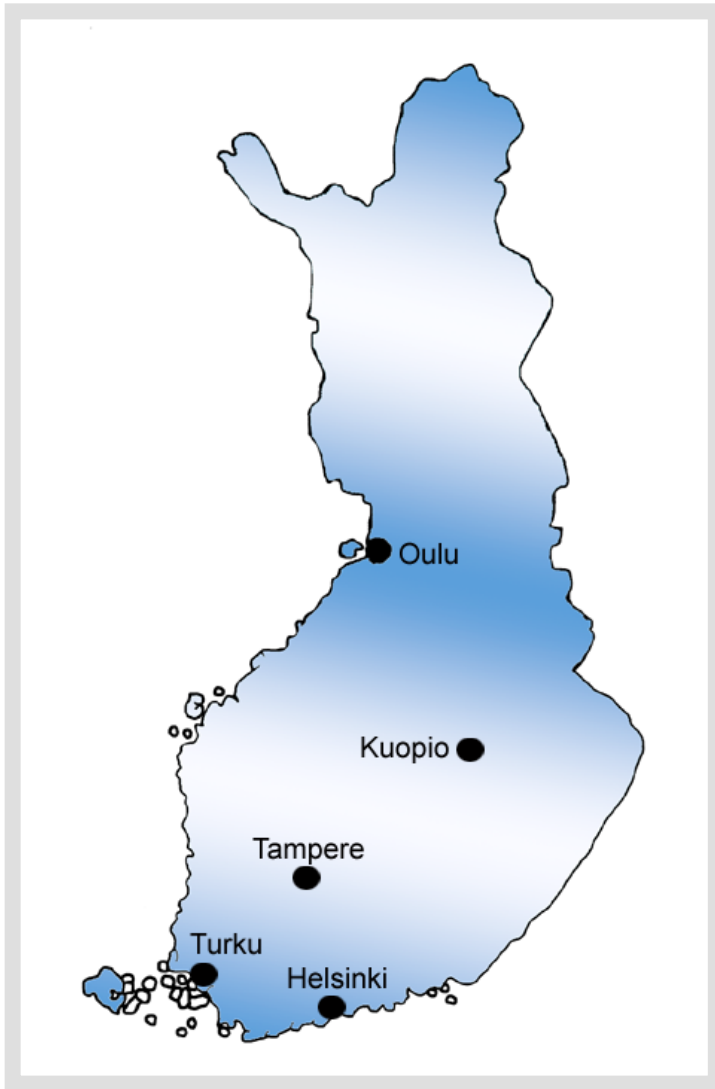
Own perspectives

5. Deputy for BBMRI coordinator (Kurt Zatloukal) in the BMS (Biological and Medical Sciences) ESFRI coordinators' group - and their unofficial chair
6. "Brussels perspective" - how EC and ESFRI are trying to support BMS ESFRI projects towards construction and implementation.

1. Biocenter Finland in a nutshell

Founded in August 2006 by six Finnish Universities hosting biocenters (in Helsinki, Kuopio, Oulu, Tampere and Turku), the Biocenter Finland today provides an umbrella organization for

- seven biocenters comprising;
- more than 200 principal investigators and 2000 other scientists working in different fields of biological and medical sciences;
- about 20 doctoral training programmes (“graduate schools”) with about 1000 trainees;
- opportunities for structured research career;
- a nationwide network of infrastructures and technology platforms serving the entire Finnish scientific community;
- technology transfer support.



Earmarked funding in 2010-12 for development of research infrastructures and technology services: Biocenter Finland received 45 mill € to support its nine research infrastructure networks with an aim to restructure national technology services.

A wide range of technology services was established in the participating biocenters providing a unique solution for organizing research infrastructures at national level. The infrastructure networks of Biocenter Finland also provide an interface to the European Research Infrastructures on the ESFRI Roadmap.

Biocenter Finland - activities in 2010-2012

Earmarked funding from OKM (15 mill € per year)

- funding to consortia offering technology services to the entire scientific community
 - funding based on international peer review (SAB)
 - joint agreement on organisation and division of responsibilities
 - avoidance of overlapping investments and activities
 - coordination of national infrastructures
- funding to support research careers
- BF International Visitor Program
- Annual BF Infrastructure day and other seminars

Biocenter Finland infrastructure networks

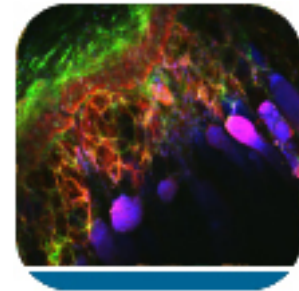
- bioinformatics
- **biological imaging (3 technology platforms): LM, EM and *in vivo* imaging**
- genome-wide methods
- model organisms (2 technology platforms): mouse, non-mammalian
- proteomics and metabolomics (2 technology platforms): proteomics, metabolomics
- stem cells and biomaterials
- structural biology and biophysics (3 technology platforms): X-ray, gateway to structures, NMR
- translational research technologies (2 technology platforms): chemical biology, biobanks
- viral gene transfer and cell therapy

Emerging technologies: LentiGEMM, Small animal molecular imaging, Proteome-wide profiling of kinase substrates/membrane proteins and Recombinant antibody generation platform

National Imaging Infrastructure Network (NIIN) ([BF www](http://www.biocenter.fi))

Three technology service platforms:

- Electron microscopy
- Light microscopy
- In vivo imaging



Electron microscopy technology platform

- Service providers: BCH, BI, BCO
- Summary of services: Three-dimensional imaging; personal user support and general support activities; maintenance of imaging systems; teaching activities; data processing

Light microscopy technology platform

- Service providers: BCH, BI, BCO, BCK, IMT, BioCity
- Summary of services: High resolution light microscopy; label-free technologies; light microscopy for studying biological interactions; training, consultation and support

National in vivo imaging technology platform

- Service providers: BCH, BCK, BioCity
- Summary of services: MRI; PET; optical imaging; from consultation and training to full service

Involvement of Biocenter Finland partners in BMS ESFRI projects of the first and second roadmaps



BBMRI - Translational research technologies Infrastructure Network and
Genome-wide methods Infrastructure Network

EATRIS - Translational research technologies Infrastructure Network

ECRIN - Viral gene transfer and cell therapy Infrastructure Network

ELIXIR - Bioinformatics Infrastructure Network

EU-Openscreen - Translational research technologies Infrastructure Network

Euro-BioImaging - National Imaging Infrastructure Network

INFRAFRONTIER - Model organisms Infrastructure Network

INSTRUCT - Structural Biology Infrastructure Network

Biocenter Finland thus provides an interface (and an already existing national structure) to several European Research Infrastructures on the ESFRI Roadmap.

2. FIRI Expert Group 2012-2013 - immediate tasks

- to **update the national research infrastructure roadmap** of 2009
- to make recommendations on distribution of FIRI funds:
 - to support Finnish participation in ESFRI and other international research infrastructures; national contributions towards joint budget and national commitments (also to make recommendations to Ministries/Government for joining them)
 - to support national research infrastructures; focus on **investments; operational costs** responsibility of host institutions (and user fees)
- to obtain a comprehensive picture of the research infrastructure scene in Finland

Why an update of the 2009 national roadmap?

The first national roadmap was based on information available in 2008.

Since then, the ESFRI roadmap has been updated twice, in 2008 and 2010,
-> structuring role of ESFRI roadmaps on national scientific community,
-> the staging of ESFRI roadmap projects requires updates of national roadmaps, too.

Biocenter Finland has brought together essentially all national life science infrastructures into a new entity (which was also recommended by the international experts who evaluated the applications to the first roadmap).

The new national roadmap will replace the old one: all infrastructures will have to write an application to get on the updated roadmap. Two-stage application process; evaluation by international experts.

The new roadmap will guide future funding at national level.

3. Setting up BBMRI-ERIC: from Preparatory Phase to ERIC application

BBMRI = Biobanking and Biomolecular Resources Research Infrastructure
Distributed infrastructure with >30 countries (some 300 participating biobanks) involved during the Preparatory Phase

Host country Austria (Graz)

Lessons learned:

- Scientific and technical challenges are small compared to the financial, administrative and governance issues;
- ERIC (European Research Infrastructure Consortium) as legal structure
- Difficulties in finding an acceptable model for calculating the basis of national contributions towards a (small) joint coordination budget.
- Difficulties in agreeing on details of the governance model (also voting rights, language issues, etc)
- The process should have involved representatives from ministries much earlier.

4. The EMBL experience

EMBL = European Molecular Biology Laboratory

Main laboratory: Heidelberg; Outstations in Hamburg, Grenoble, Hinxton and Monterotondo

Based on an intergovernmental agreement; governance, financial contributions, voting rights all clear; a language issue remains

Several features of a pan-European Research Infrastructure funded by 20 member states: annual budget of appr. 100 mill €; bioinformatics, structural biology (x-ray beamlines); imaging etc.

Use of intergovernmental agreement (Special Project) of EMBL as a legal basis for ESFRI infrastructures (ELIXIR as an example; problems with the consortium agreement and with national contributions towards joint budget)

Establishment of national hubs (with specific functions) with national funding.

5. Collaboration across BMS ESFRIs

BMS (Biological and Medical Sciences) ESFRI coordinators' group

The type of activities the different ESFRI infrastructures are planning to establish are very different. Also the proposed funding models are very different.

Now that ESFRI projects are being established the roles of ESFRI and European Commission are likely to decrease, as their ownership is that of Members States.

Some EC-funded coordination activities: BioMedBridges

Many I3-projects also include coordination of activities with other (BMS) ESFRI projects

-> there is a real need for the directors of BMS ESFRIs to set up a communication platform

6. “Brussels perspective”

When ESFRI was started, member states were reluctant to fund it at European level; yet securing national funding to national ESFRI nodes has been notoriously difficult. Different national principles of fund allocation, different time schedules, different expectations.

European Commission is not in a situation to fund investments into infrastructures, but has supported ESFRI projects for preparatory work, coordination, access to infrastructures and research closely linked to infrastructures. (3 instrument).

Now both EC and ESFRI have a new kind of interest in research infrastructures on the roadmap: implementation & construction, assessment, evaluation, even prioritization

6. “Brussels perspective” (2) ESFRI Implementation Group (2011)

- Identify/analyse bottlenecks for implementation and propose solutions
- Support implementation regarding:
 - Governance
 - Legal issues
 - Access and Data policy
- Stimulate communication between scientific communities and funding agencies
- Summarize lessons learned/provide recommendations

Interim Conclusions:

- Projects on ESFRI roadmap are at very different stages of maturity
- Governments are not enough connected to ESFRI projects
- Most projects start preparatory phase without (financial) commitment
- Transition from preparatory phase to implementation is problematic

6. “Brussels perspective” (3) ESFRI Implementation Group (2011)

Bottlenecks

- Related to Finance
- Securing the necessary financial investment
- Developing a suitable funding model
- **Money for the coordinating activities of the hub !**
- Difficult for distributed RI to demonstrate full construction and operation costs
- Varying speed and processes of (political decisions) among MS

6. “Brussels perspective” (4) ESFRI Implementation Group (2011)

Bottlenecks

Related to Governance

Design of an integrated and effective

Related to Legal

Choosing the most appropriate legal model. Negotiations are lengthy and challenging and full of difficulties

The combined effect of **Legal and Governance** bottlenecks results in lengthy delays to the construction and implementation of the projects.

6. “Brussels perspective” (5) EC Expert Group on Assessment of ESFRI Projects

The members of the Expert Group are high level managers expert in setting up and managing Ris.

This group will assess the financial and managerial maturity of all 48 projects of the ESFRI roadmap.

The Implementation WG will work together with the this Expert Group and the Strategy Working Groups to assist the implementation of he projects.

Prioritization??