

Euro-BioImaging: European Research Infrastructure for Imaging Technologies in Biological and Biomedical Sciences



Euro-BioImaging (www.eurobioimaging.eu) is a large-scale pan-European research infrastructure project on the ESFRI Roadmap¹. Its mission is to provide a clear path of access to a complete range of essential imaging technologies for every biologist and biomedical scientist in Europe.

Euro-BioImaging will deploy a distributed biological and biomedical imaging infrastructure in Europe in a coordinated and harmonized manner. By providing access to and training in imaging technologies, and by sharing of best practice and image data, Euro-BioImaging will become an engine that will drive European innovation in imaging research and technologies.

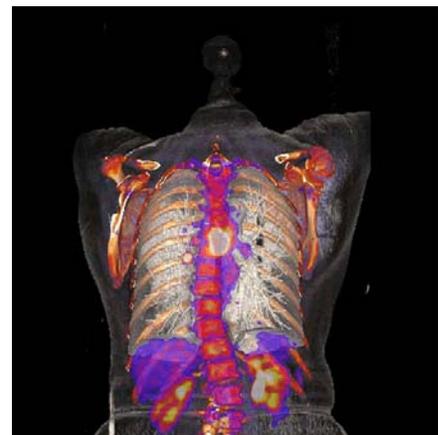
Biomedical imaging in brief

For medical research, imaging includes Magnetic Resonance Imaging (MRI), X-ray Computed Tomography (CT), but also many other imaging technologies. Medical imaging can provide insight into the function and metabolism of organs allowing the visualization of the effectiveness of new targeted therapies, e.g. in cancer patients.

For example, better detection of occluded blood vessels to improve the prediction of heart attack, earlier detection of growing tumours to improve the success rate in the fight against cancer, or monitoring the normal development of a foetus during pregnancy are all dependent on biomedical imaging.

In biology, visualizing cells and tissues by light and electron microscopy has led to more discoveries than any other technology. By seeing how they look, function can be extracted and comparison of how healthy cells and tissues look in comparison to their pathological state provides extraordinary insight into the molecular nature of disease.

Imaging technologies are thus the central technology platform that drives fundamental research in most disciplines within the biological and biomedical sciences.

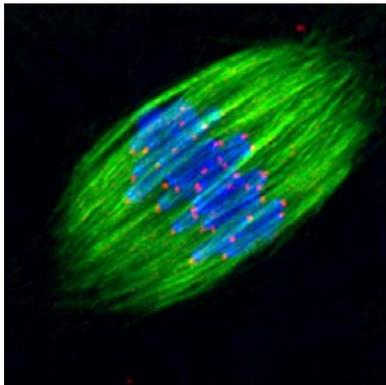


¹ ESFRI, the European Strategy Forum on Research Infrastructures, is a strategic instrument to develop the scientific integration of Europe and to strengthen its international outreach. The competitive and open access to high quality Research Infrastructures supports and benchmarks the quality of the activities of European scientists, and attracts the best researchers from around the world. (Source: ESFRI website of the European Commission <http://ec.europa.eu/research/infrastructures/>)

Who is behind Euro-Biolmaging?

Preparatory Phase Partners

Euro-Biolmaging has a strong and growing supporter base. The consortium of the initial project phase is scientifically coordinated by the European Molecular Biology Laboratory (EMBL, DE) and the European Institute for Biomedical Imaging Research (EIBIR, AT). It comprises 39 beneficiaries from 15 European Member States and associated countries, and more than 180 associated partners from 26 European Member States and associated countries. Euro-Biolmaging is formally endorsed by over 200 universities, research councils, funding bodies, ministries, and industry partners.



Collaboration with national imaging communities

Furthermore, the Euro-Biolmaging infrastructure project is the driving force to organize the European biological and biomedical imaging. The first step in this process is the self-organization of national imaging infrastructure providers in the Member States to define their needs and capabilities. The second step is to form a pan-European community of imaging infrastructure providers from the Member States that supports the Euro-Biolmaging principles of coordination and harmonized infrastructure deployment, open access and highest training standards.

Added value for Europe

Euro-Biolmaging will have a profound impact on the European Research Area, European health and quality of life as well as European competitiveness in key industry sectors (imaging technologies, biotechnology, medical technologies, pharmaceutical industry).

ACCESS TO IMAGING TECHNOLOGIES: Euro-Biolmaging will allow scientists from all Member States to access a broad range of cutting edge imaging technologies they require for their valuable biological or medical research. Euro-Biolmaging will guarantee that investment in imaging infrastructure is used in the most cost-effective and efficient way by applying Euro-Biolmaging quality standards in management, access and service of imaging facilities.

TRAINING: Standardized and high quality education of tomorrow's scientists in applying advanced imaging technologies to study the single cell to the entire human being will be one of the major challenges in biology and medicine. Specific training programmes at Euro-Biolmaging facilities will complement national efforts in education and Member States will benefit from an increase in expertise.

IMAGING DATA: Biological and biomedical imaging will become one of the major data producers in the future and researchers are facing unprecedented challenges concerning image data management and analysis. The Euro-Biolmaging infrastructure will offer platforms for storing, sharing and processing biological and medical imaging data

on a large scale.

ECONOMIC VALUE: Implementing the Euro-Biolmaging infrastructure with its nodes in different regions of Europe will bring new job opportunities and perspectives for researchers, engineers, administrative and related staff. These positive effects will also radiate into the surrounding areas of technology development and services.

EUROPEAN RESEARCH AREA: Euro-Biolmaging closely cooperates with all Biological and Medical Sciences Research Infrastructures to overcome the fragmentation of the European research landscape.

When will Euro-Biolmaging be launched and its benefits realized?

Preparatory Phase: 2010-2013. A construction plan for a pan-European research infrastructure for biological and biomedical imaging technologies is developed. The legal, governmental and financial framework for implementation of the Euro-Biolmaging infrastructure is being established. Costs are €7.9m with €5.2m funded by an EU Framework contract.

Construction Phase: 2014-2017. The Euro-Biolmaging infrastructure will be deployed by either newly constructed or major upgrades of existing facilities funded mainly by Member States. Total anticipated costs are of the order of several €100m, but due to the modular nature of Euro-Biolmaging infrastructure nodes, investment can be scaled to national needs and capabilities.

Operational Phase: 2017 onwards. Euro-Biolmaging will provide training programmes in and access to state-of-the-art imaging technologies in a distributed infrastructure of imaging facilities throughout Europe. Operating costs will be approximately 20% of construction cost per year to ensure continuous technology upgrades and the provision of highly trained staff. Quality of service will be continuously reviewed. Funding mechanisms through a mix of European and Member State measures will be laid out in the Preparatory Phase business plan.

More information



Further information on Euro-Biolmaging and a list of the participating organizations can be accessed at www.eurobioimaging.eu

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