EMBL

EMBL's scientific services

Providing a unique European portfolio for life scientists

embl.org

European Molecular Biology Laboratory

A unique approach to scientific services in Europe

Scientific services are at the heart of all of EMBL's missions. EMBL provides life science researchers in Europe and beyond with access to the very latest in scientific technologies, infrastructure, and data resources. Combined with our scientific and technical expertise, these services provide researchers with the highest quality results and enable significant fundamental research that is essential to solving global societal challenges.

EMBL's unique portfolio of integrated scientific services enables researchers from our member states and around the world to access a broad range of world-class infrastructures and resources through a single Europe-wide partner.

EMBL's scientific services encompass over 40 bioinformatics and data resources, and more than 20 experimental services in the fields of structural biology, imaging, genomics, proteomics, metabolomics, *in vivo* gene editing, and chemical biology.

EMBL data and experimental services at a glance

OPENLY ACCESSIBLE DATA RESOURCES

EMBL's European Bioinformatics Institute (EMBL-EBI) develops and maintains the world's most comprehensive range of freely available and up-to-date molecular data resources. Developed in collaboration with scientists worldwide, these open databases, tools, and software can be accessed by anyone around the world.

107 million
Requests to our data resource websites on an average day

41 million
Unique IP addresses per year

WORLD-CLASS EXPERIMENTAL SERVICES

EMBL experimental services span a range of infrastructures and facilities that support academic and industry users throughout Europe and globally. The scientific expertise and collaborative nature of the support provided, combined with state-of-the-art technical infrastructure, enables users to pose novel scientific questions and conduct more complex research that is shared with the scientific community.

3,617
Users of experimental services

594
Scientific publications enabled

2022 figures

EMBL's scientific service provision is based on three key principles:

Accessible infrastructure

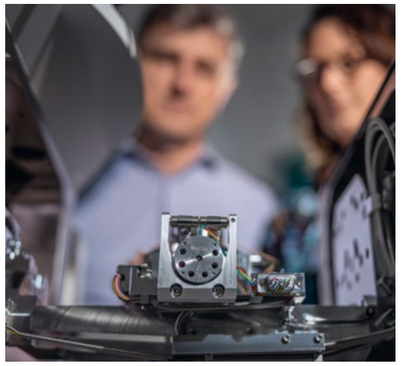
EMBL enables researchers to access state-of-the-art infrastructures and international open data resources that are beyond the means of individual research organisations.

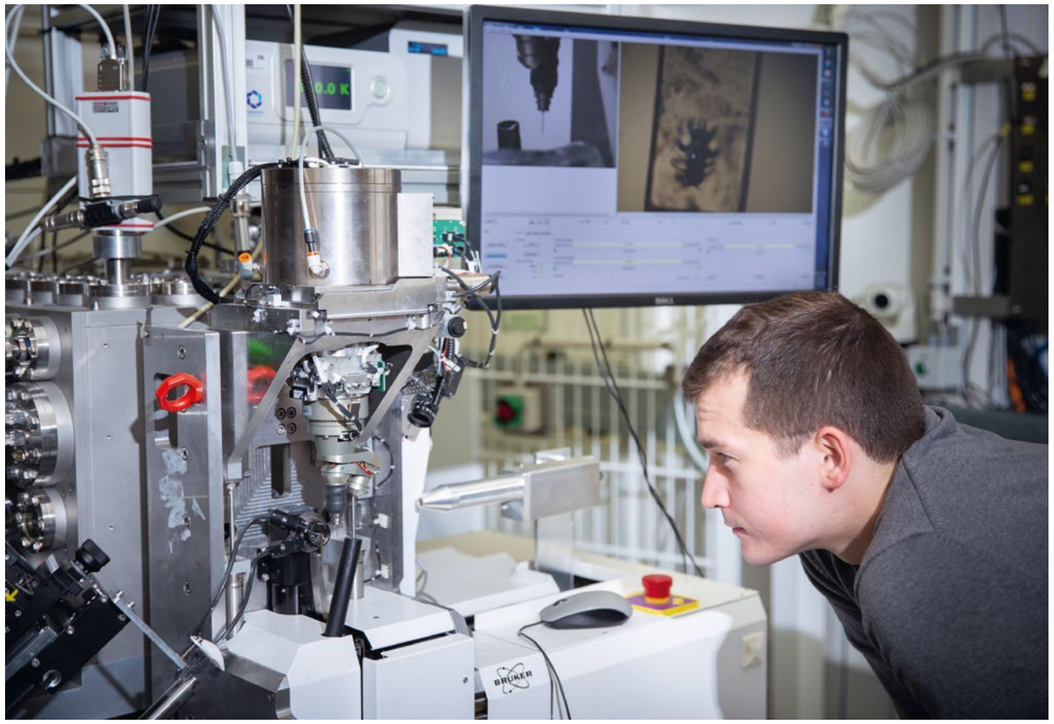
Invaluable expertise

EMBL provides advanced expertise in service infrastructure. From support provision to collaborative engagement, EMBL's experts help to solve experimental challenges and provide advanced training in complex technologies.

Quality assurance

EMBL uses rigorous quality control and validation measures for optimal results. Experimental and data standards are set in collaboration with the community, enabling high-quality and consistent data generation, management, and access.





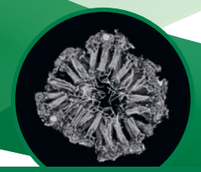
EMBL scientific services

Experimental services

EMBL experimental services span a range of infrastructures and facilities that support academic and industry users throughout Europe and globally. Structural biology and imaging services enable life to be visualised across scales: from atomic snapshots of moving proteins to detailed videos of molecules within cells, tissues, or organisms. EMBL also supports researchers in performing functional genomic analyses, precisely editing the genomes of cells or whole organisms, screening small molecules to gain insights into protein function, and many more activities.

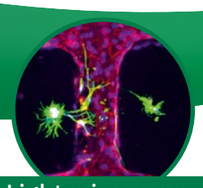
X-ray beamlines

Macromolecular crystallography services
Small-angle X-ray scattering services



Electron microscopy

Electron microscopy facilities



Light microscopy

Advanced light microscopy facilities
Mesoscopic Imaging Facility

Imaging Centre

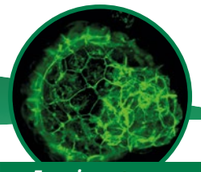
Correlative microscopy services
Electron microscopy services
Light microscopy services

Multi-omics facilities

Genomics Core Facility
Proteomics Core Facility
Metabolomics Core Facility
Flow Cytometry facilities

Chemical biology services

Chemical Biology Core Facility



In vivo gene editing services

Genetic and Viral Engineering Facility
Gene Editing and Embryology Facility

Mobile services

Light microscopy
Sample preparation for (cryo)-electron microscopy
Single-cell and single-nuclear prep for single-cell genomics

Sample preparation

High-Throughput Crystallisation Facility
Histology Service
Protein Expression and Purification Core Facility
Sample Preparation and Characterisation Facility

See a full list of EMBL's scientific services: www.embl.org/services

Data resources

EMBL's European Bioinformatics Institute (EMBL-EBI) develops and maintains numerous open community databases, tools, and software that are freely available to all. These make it possible to deposit, search, visualise, and reuse diverse open data produced by researchers globally. This work supports millions of researchers working in all areas of the life sciences, impacting medicine, biology, ecology, and agriculture. Types of data resources include:

Literature Services

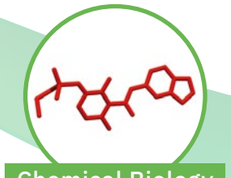
EuropePMC

Genes, Genomes, and Variation

Ensembl
VEuPathDB
WormBase

Proteins and Protein Families

MGnify
InterPro
UniProt



Chemical Biology

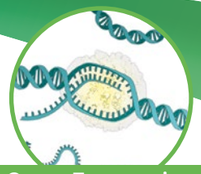
ChEMBL
MetaboLights
SureChEMBL

Bioimaging

BioImage Archive

Molecular Archives

COVID-19 Data Portal
European Genome-phenome Archive (EGA)
European Nucleotide Archive (ENA)
European Variation Archive (EVA)



Gene Expression

Expression Atlas
Proteomics IDEntification (PRIDE)
Single Cell Expression Atlas

Molecular and Cellular Structure

AlphaFold DB
Electron Microscopy Data Bank (EMDB)
Electron Microscopy Public Image Archive (EMPIAR)
Protein Data Bank in Europe (PDBe)

Molecular Systems

Complex Portal
IntAct
Reactome

See a full list of EMBL's data resources: www.ebi.ac.uk/services

Benefits and added value

Research

- EMBL offers users ‘end-to-end’ services, from experimental design, sample preparation, and data generation to data analysis and management. Novice users can receive comprehensive training and hands-on support, while experienced scientists can work independently.
- Remote access to EMBL’s experimental facilities whenever possible reduces the need to travel, making services more accessible and improving sustainability.

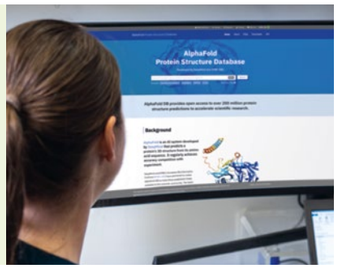
Collaboration

- EMBL services save users the time, effort, and cost required to find collaborators with expertise in service infrastructure, by facilitating access to multidisciplinary experts and service infrastructure within a single partner.

Open data resources

“EMBL-EBI is providing molecular biology data to Europe and to the world; they are a trusted authoritative source on all molecular biology data.”

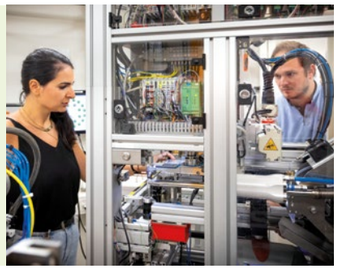
Prof. Inge Jonnasen
University of Bergen/Elixir, Norway



Beamline services

“Thanks to this collaboration with EMBL experts, we’re going beyond technical and technological boundaries. We also have enriching exchanges about biological questions to see how we can make improvements.”

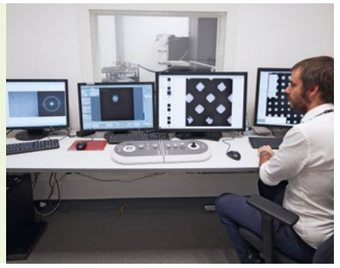
Prof. Mohamed-Ali Hakimi
Institute for Advanced Biosciences (IAB), Université Grenoble, France



EMBL Imaging Centre

“The scientists at EMBL are among the best in the world in using these techniques.”

Pia Lavriha
ETH Zurich and Paul Scherrer Institute, Switzerland



Sample Preparation and Characterisation Facility

“From sample characterisation all the way to data analysis, the personal engagement and expertise of EMBL Hamburg staff have been essential to the success of our project.”

Prof. Sebastian Springer
Jacobs University Bremen, Germany

Protein Expression and Purification Core Facility, Genomics Core Facility

“With the core facilities, we developed a protocol that reduces next-generation sequencing library preparation costs by 100-fold. Sharing our results allowed the global scientific community to benefit from our expertise.”

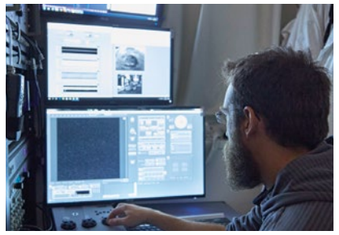
Prof. Lars Steinmetz
EMBL Heidelberg, Germany/Stanford University, USA

Training

- EMBL service experts collaborate extensively with users to give them technical training and provide troubleshooting support and bespoke advice.
- EMBL service experts share their knowledge with students and researchers through practical and theoretical courses held online, at host institutions, and at EMBL sites.

Technology development and innovation

- EMBL co-invents bespoke technologies with partners in technology development companies. These technologies are made available to users to drive their discoveries.
- EMBL is part of unique public-private partnerships such as Open Targets, which focuses on systematic drug target identification and prioritisation.
- EMBL transfers its technology and expertise to national facilities and institutes. For example, more than 100 instruments co-developed by X-ray beamline specialists at EMBL and technology partners are currently installed at 26 sites worldwide.



Society

- EMBL benefits the global scientific community and society at large by promoting open science and continually sharing knowledge.

Discover more about the scientific, financial, and socio-economic impacts of EMBL scientific services:

The value and impact of EMBL-EBI managed data resources
Charles Beagrie Ltd

Review of the impacts of EMBL experimental services
Technopolis Group

EMBL Barcelona
PRBB Campus
Barcelona, Spain

EMBL European Bioinformatics Institute
Wellcome Genome Campus
Hinxton, United Kingdom

EMBL Grenoble
EPN Science Campus
Grenoble, France

EMBL Hamburg
DESY Campus
Hamburg, Germany

EMBL Heidelberg
Headquarters
Heidelberg, Germany

EMBL Rome
Adriano Buzzati-Traverso Campus
Monterotondo, Rome, Italy

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Imprint
Publisher: EMBL, 2023
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EMBL member states

Austria | Belgium | Croatia | Czech Republic | Denmark
Estonia | Finland | France | Germany | Greece | Hungary
Iceland | Ireland | Israel | Italy | Lithuania | Luxembourg
Malta | Montenegro | Netherlands | Norway | Poland | Portugal
Slovakia | Spain | Sweden | Switzerland | United Kingdom
Australia (associate member state)

EMBL prospect member states

Latvia | Serbia