

Research Infrastructures For Top Research

EUPRO team meeting

December 14, 2017

Czech University of Life Sciences Prague

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International RIs
Intergovernmental RIs
Pan-European RIs
National RIs of European interest





3D dipole integration at the Large Hadron Collider

More about CERN

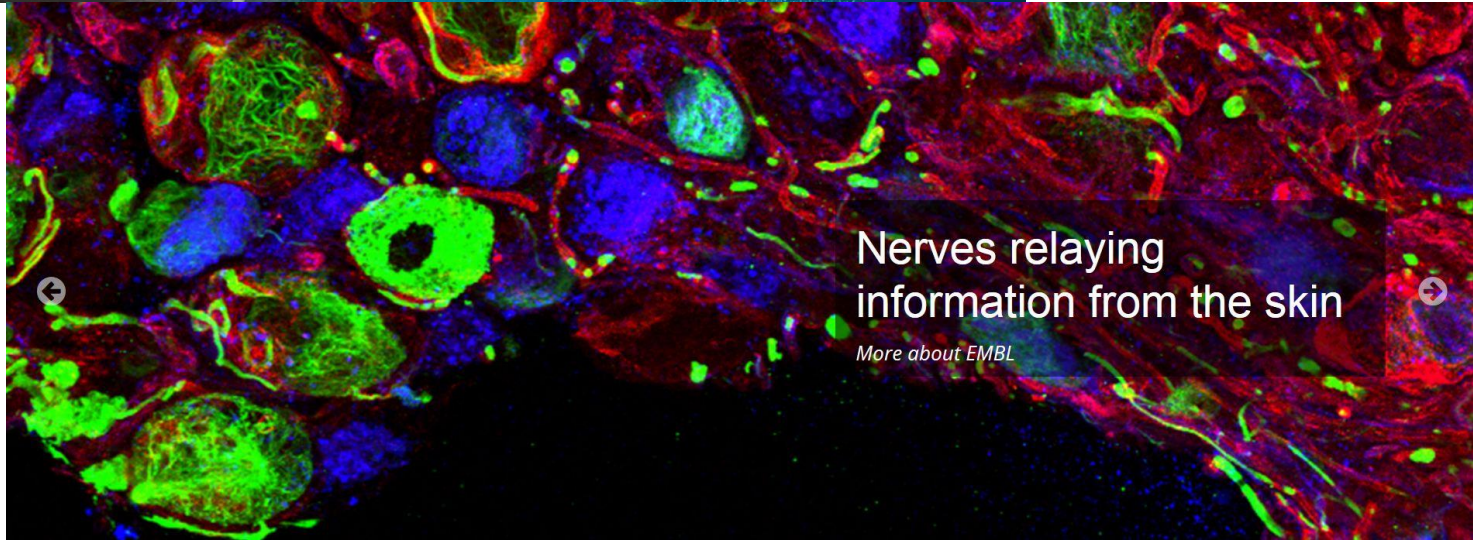


home.cern
Geneva, Switzerland

EMBL



www.embl.de
Heidelberg, Germany



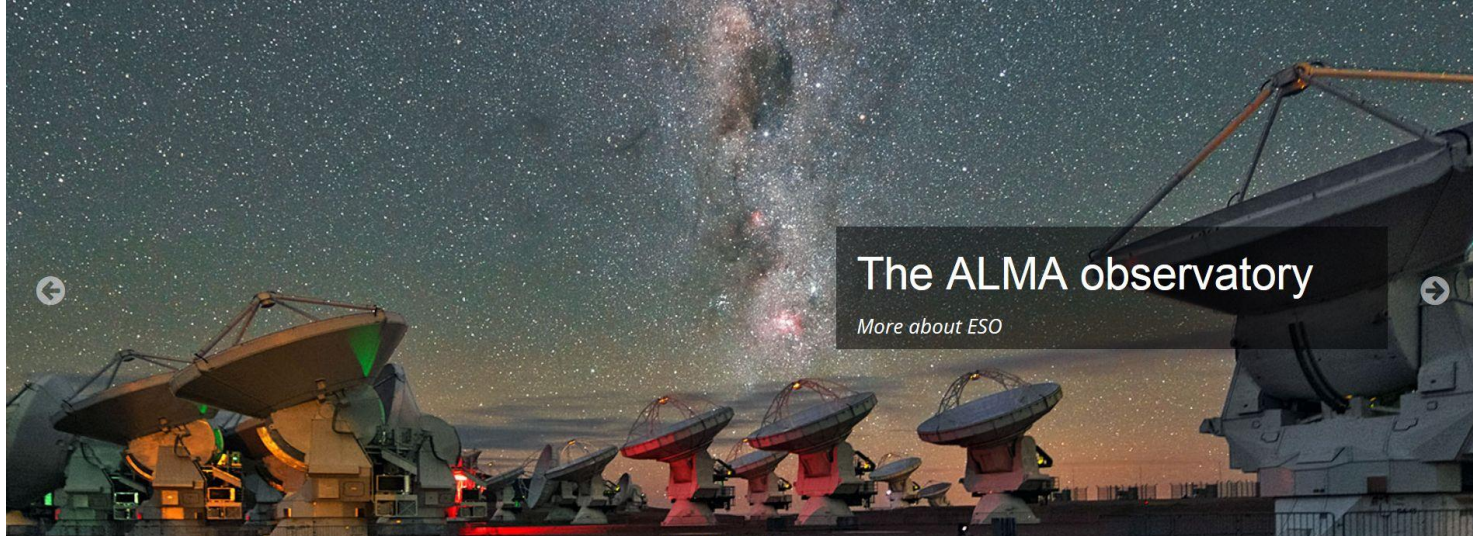
Nerves relaying information from the skin

More about EMBL



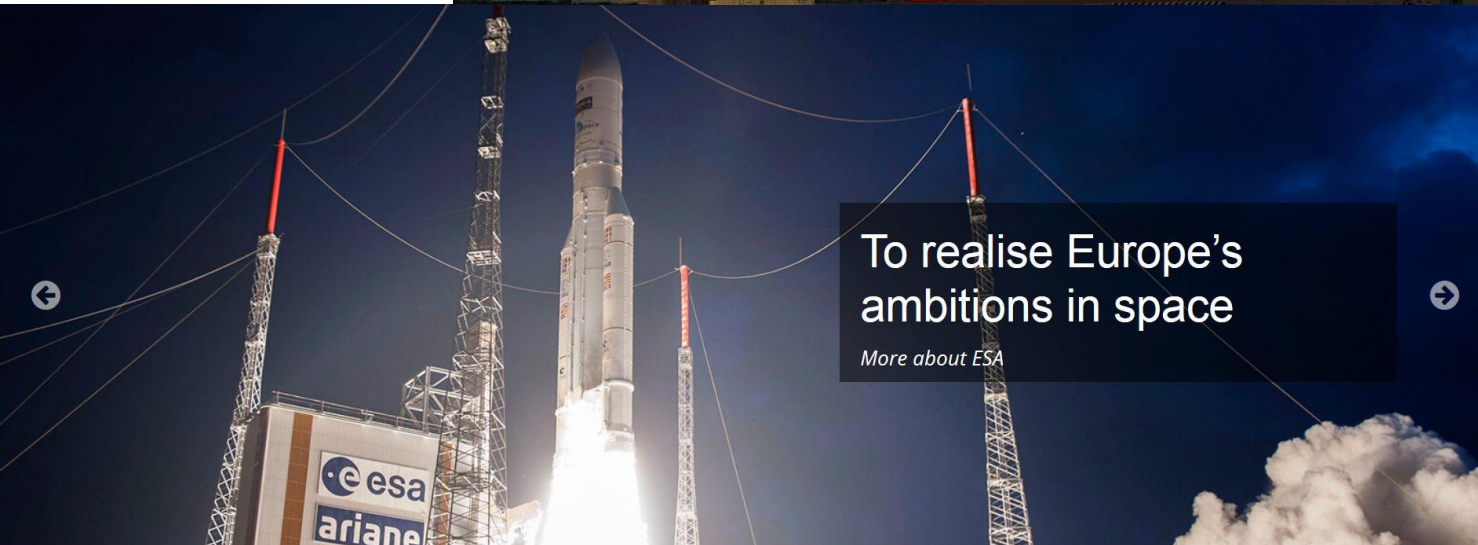


www.eso.org
Garching, Germany



The ALMA observatory

More about ESO



To realise Europe's ambitions in space

More about ESA



European Space Agency

www.esa.int
Paris, France



A bright light for science

More about ESRF



ESRF

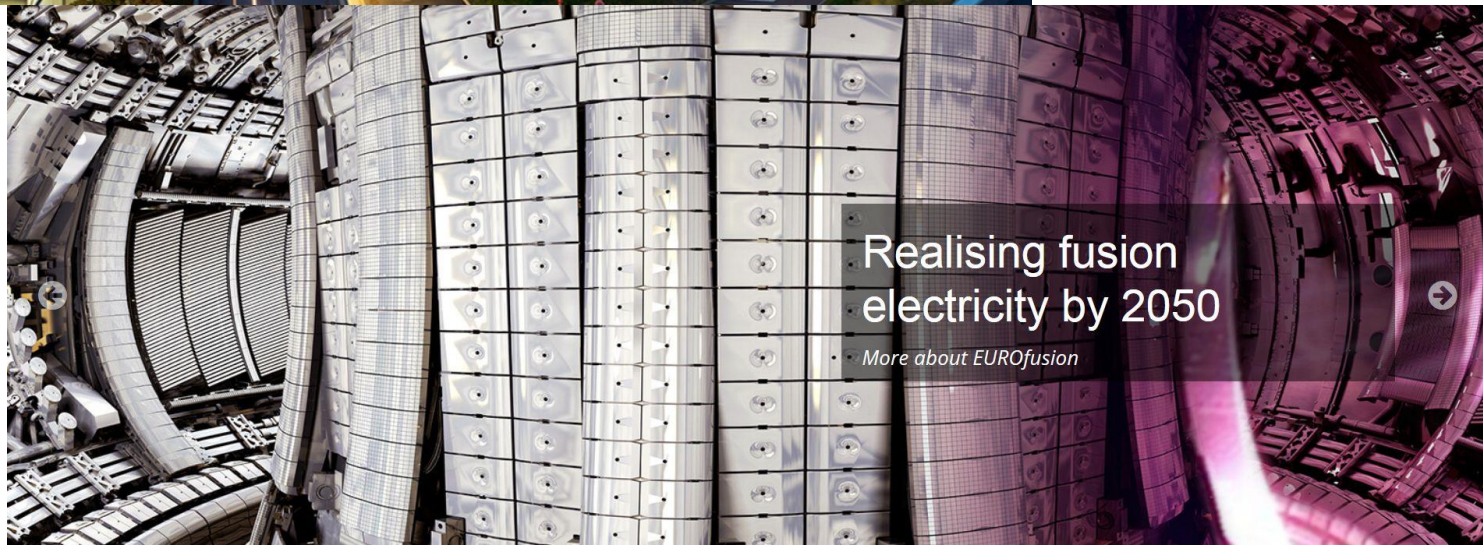
The European Synchrotron

www.esrf.eu
Grenoble, France



EUROfusion

www.euro-fusion.org
Garching, Germany



Realising fusion electricity by 2050

More about EUROfusion





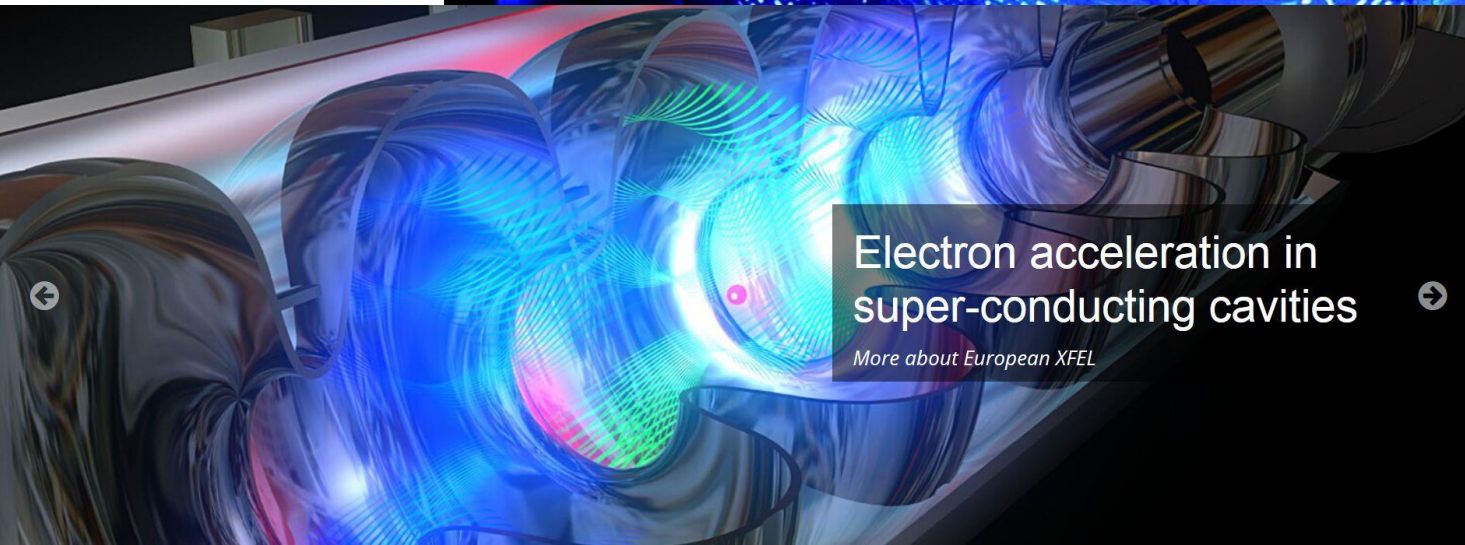
NEUTRONS
FOR SOCIETY

www.ill.eu
Grenoble, France



The ILL High Flux
nuclear reactor

More about ILL



Electron acceleration in
super-conducting cavities

More about European XFEL



www.xfel.eu
Schenefeld, Germany



EMBL



European Space Agency

www.eiroforum.org

Intergovernmental RIs





Intergovernmental RIs

Garching, Germany
▪ ESO, EUROfusion

Geneva, Switzerland
▪ CERN

Grenoble, France
▪ ESRF, ILL

Heidelberg, Germany
▪ EMBL

Paris, France
▪ ESA

Schenefeld, Germany
▪ XFEL



Pan-European RIs

www.esfri.eu

Physical Sciences & Engineering (7)

Materials (7)

Energy (7)

Environmental Sciences (9)

Biomedical Sciences (13)

Social Sciences & Humanities (5)

E-infrastructures (1)



Pan-European RIs

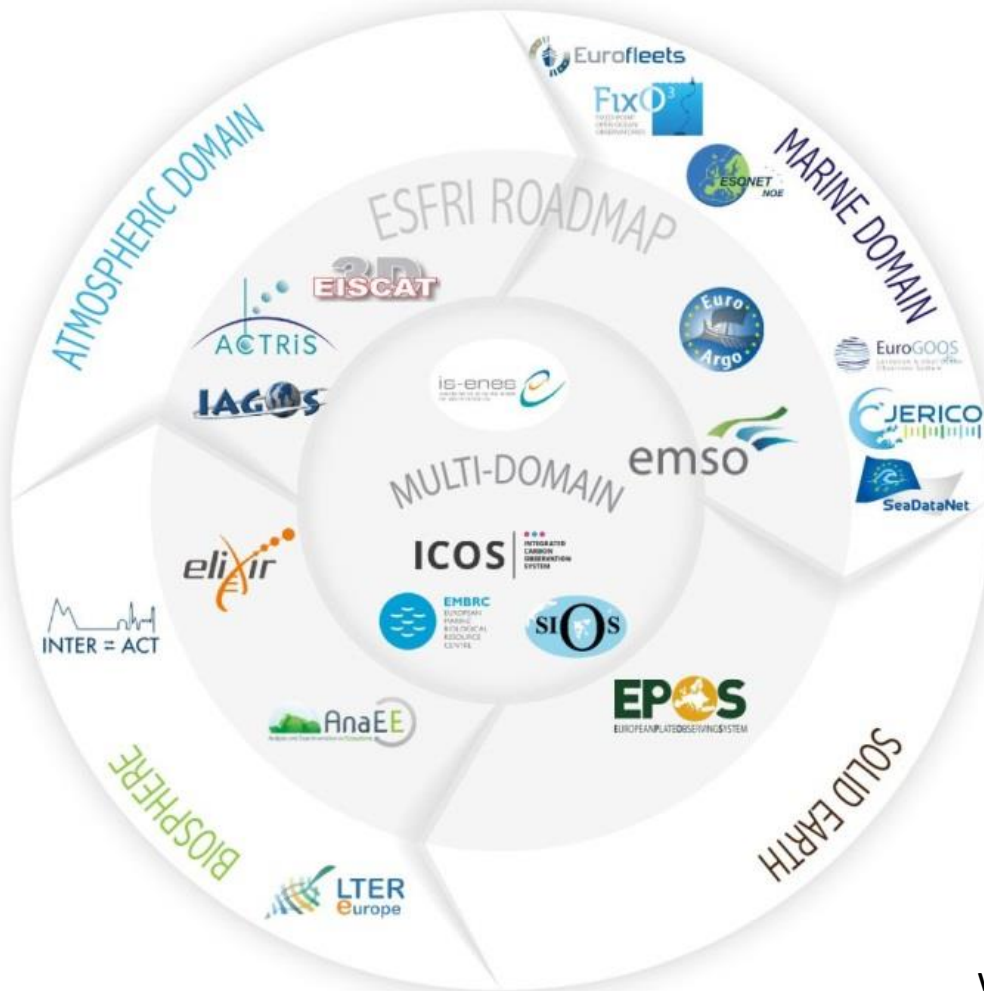
www.esfri.eu

Environmental Sciences

- COPAL, Toulouse, France
- EISCAT_3D, Kiruna, Sweden
- EMSO, Rome, Italy
- EPOS, Rome, Italy
- EURO-ARGO ERIC, Plouzané, France
€40 million
- IAGOS, Brussels, Belgium
- ICOS, Helsinki, Finland
€130 million
- LIFEWATCH, Seville, Spain
€255 million
- SIOS, Longyearbyen, Norway



www.envriplus.eu/research-infrastructures



National RIs of European interest

www.esfri.eu/national-roadmaps

www.msmt.cz/vyzkum-a-vyvoj-2/cestovni-mapa-cr-velkych-infrastruktur-pro-vyzkum

- National and regional RIs that receive EU support, in particular through Integrating Activities projects for transnational access
- Open to all European researchers from academia and industry

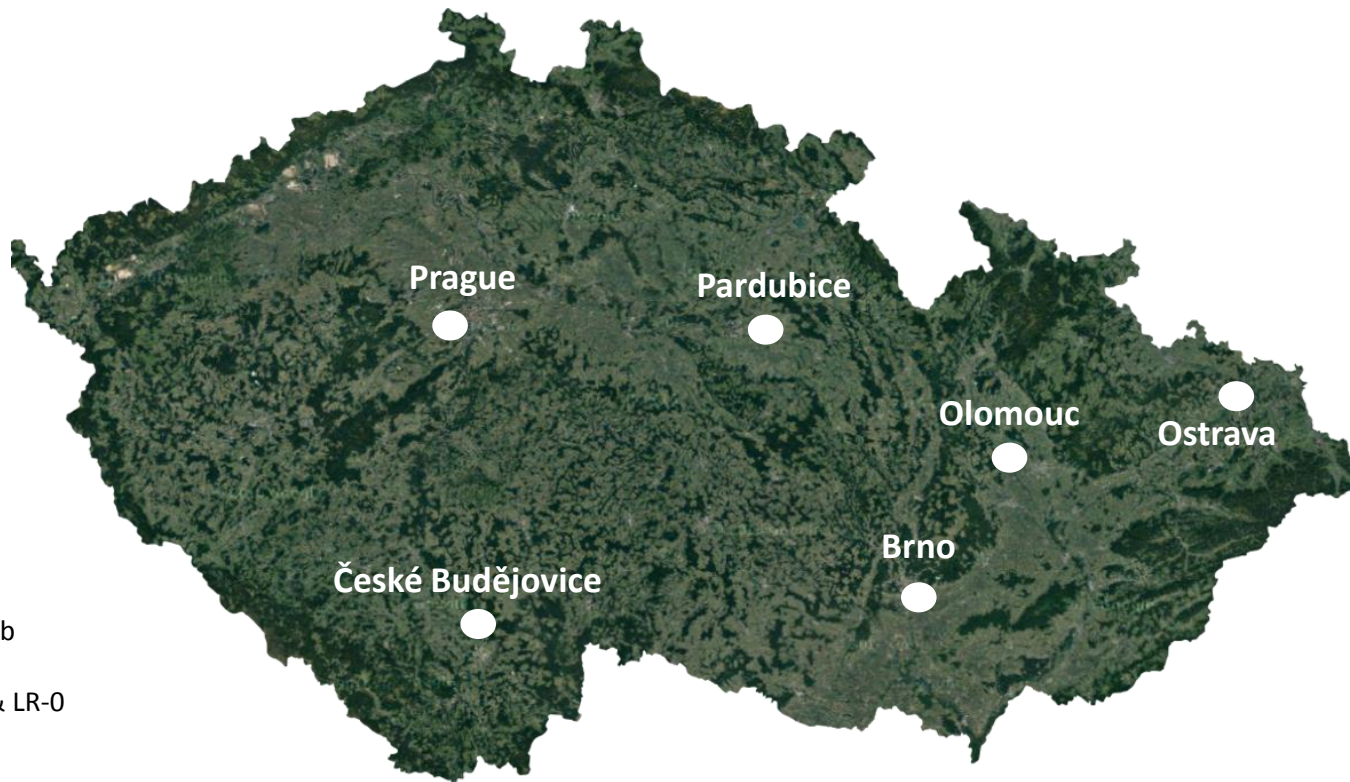


AUGER-CZ
BNL-CZ
CANAM
CEITEC Nano
CENMAT
CERN-CZ
CTA-CZ
ELI Beamlines
ESS-CZ
EU-ARC.CZ
FAIR-CZ
Fermilab-CZ
HiLASE
ILL-CZ
IPMINFRA
LNSM
LSM-CZ
PALS
SAFMAT
SPIRAL2-CZ
SPL-MSB
VdG
CATPRO
COMPASS
CVVOZEPPowerLab
JHR-CZ
Reactors LVR-15 & LR-0
RINGEN
SUSEN

58 Czech RIs

www.esfri.eu/national-roadmaps

www.msmt.cz/vyzkum-a-vyvoj-2/cestovni-mapa-cr-velkych-infrastruktur-pro-vyzkum



WCZV
ACTRIS-CZ
CzeCOS
CzechGeo/EPOS
CzechPolar2
NanoEnviCz
RECETOX
SoWa
BBMRI-CZ
C4SYS
CCP
CIISB
CZECRIN
Czech-Biolmaging
CZ-OPENSREEN
EATRIS-CZ
ELIXIR-CZ
NCMG
AIS CR
CLB
CNC
CSDA
ESS-CZ
LINDAT/CLARIN
RIDICS
SHARE-CZ
CERIT-SC
CESNET
IT4Innovations



58 Czech RIs

www.esfri.eu/national-roadmaps

www.msmt.cz/vyzkum-a-vyvoj-2/cestovni-mapa-cr-velkych-infrastruktur-pro-vyzkum

International RIs (4)

AUGER-CZ, BNL-CZ, EU-ARC.CZ, Fermilab-CZ

Intergovernmental RIs (2)

CERN-CZ, ILL-CZ

Pan-European RIs (21)

CTA-CZ, ELI Beamlines, FAIR-CZ, LSM-CZ, SPIRAL2-CZ, ESS-CZ, COMPASS, JHR-CZ, ACTRIS-CZ, CzechGeo/EPOS, BBMRI-CZ, CZECRIN, EATRIS-CZ, ELIXIR-CZ, CZ-OPENSREEN, Czech-BioImaging, CSDA, ESS-CZ, LINDAT/CLARIN, SHARE-CZ, IT4Innovations

National RIs of European interest (31)

CANAM, CEITEC Nano, CENMAT, HiLASE, IPMINFRA, LNSM, PALS, SAFMAT, SPL-MSB, VdG, CATPRO, CVVOZEPPowerLab, Reactors LVR-15 & LR-0, RINGEN, SUSEN, WCZV, CzeCOS, CzechPolar2, NanoEnviCz, RECETOX, SoWa, C4SYS, CCP, CIISB, NCMG, AIS CR, CLB, CNC, RIDICS, CERIT-SC, CESNET

Research Infrastructures in Prague

Institute of Physics CAS (8+1): AUGER-CZ, CERN-CZ, CTA-CZ, ELI Beamlines, Fermilab-CZ, HiLASE, LNSM, SAFMAT + PALS
Charles University Prague (4+12): LL-CZ, SPL-MSB, RINGEN, NCMG + AUGER-CZ, BNL-CZ, CERN-CZ, CTA-CZ, FAIR-CZ, Fermilab-CZ, CzechGeo/EPOS, SoWa, BBMRI-CZ, Czech-Biolmaging, EATRIS-CZ, ELIXIR-CZ
Czech Technical University in Prague (4+4): BNL-CZ, LSM-CZ, VdG, WCZV + CERN-CZ, FAIR-CZ, Fermilab-CZ, RINGEN
Nuclear Physics Institute CAS (4+3): CANAM, ESS Scandinavia-CZ, FAIR-CZ, SPIRAL2-CZ + BNL-CZ, CERN-CZ, EATRIS-CZ
Institute of Molecular Genetics CAS (3+1): CCP, Czech-Biolmaging, CZ-OPENSREEN + ELIXIR-CZ
Research Centre Řež (3+0): JHR-CZ, Reactors LVR-15 & LR-0, SUSEN
Institute of Plasma Physics CAS (2+0): PALS, COMPASS
Institute of Microbiology CAS (1+2): C4SYS + EATRIS-CZ, ELIXIR-CZ
Institute of Experimental Medicine CAS (1+1): NanoEnviCz + EATRIS-CZ
Institute of Organic Chemistry and Biochemistry CAS (1+1): ELIXIR-CZ + EATRIS-CZ
Czech Hydrometeorological Institute (1+0): ACTRIS-CZ
Institute of Physics of Materials CAS (1+0): IPMINFRA
J. Heyrovský Institute of Physical Chemistry CAS (1+0): NanoEnviCz
University of Chemistry and Technology Prague (0+3): CZ-OPENSREEN, EATRIS-CZ, ELIXIR-CZ
Institute of Biotechnology CAS (0+2): CIICB, ELIXIR-CZ
Institute of Chemical Process Fundamentals CAS (0+1): ACTRIS-CZ
Institute of Experimental Botany CAS (0+1): Czech-Biolmaging
Institute of Macromolecular Chemistry CAS (0+1): EATRIS-CZ
(hosting + partner)





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Search

Advanced Search

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Welcome

The MERIL (Mapping of the European Research Infrastructure Landscape) portal provides access to a database that stores information about openly accessible research infrastructures (RIs) in Europe, across all scientific domains, including the social sciences and humanities.

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 654296.

Please note that the MERIL portal is being regularly upgraded and populated with new information on ongoing basis. For any request or issue, please contact [meril\[at\]esf.org](mailto:meril[at]esf.org).

Latest Additions

- [Grid5000](#)
- [ELIXIR Luxembourg \(ELIXIR-LU\)](#)
- [Luxembourg Institute of Socio-Economic Research \(LISER\)](#)
- [Materials Research and Technology - Luxembourg Institute of Science and Technology \(MRT-LIST\)](#)
- [IT for Innovative Services - Luxembourg Institute of Science and Technology \(ITIS-LIST\)](#)

Tweets by @MERILdatabase

MERIL Retweeted

 **InRoad**
@InRoad_Project

The 2nd @InRoad_Project Regional Workshop attracted participants from all over Europe highlighting the relevance of the topics discussed! Links to other #ResearchInfrastructure projects

portal.meril.eu



home.cern

Research infrastructures

<http://ec.europa.eu/research/infrastructures>

- represent unique facilities, resources, collections & related services used by the scientific community to conduct top-level research
- offer unique research services to users from different countries, attract young people to science & help to shape scientific communities
- bring together a wide diversity of stakeholders to look for solutions to many of the problems society is facing today
- are responsible for some of the greatest scientific discoveries & technological developments
- play an increasingly important role in the development of knowledge and technology

Research infrastructures

<http://ec.europa.eu/research/infrastructures>

- unique facility
- excellent research
- international overlap
- open access services

Czech funding / Czech science policy

www.msmt.cz/vyzkum-a-vyvoj-2/velke-infrastruktury-vyzkumu

2010-2015

- grants MEYS: 3.97 bil CZK

2016-2019

- LM grants MEYS: ? CZK
- OPVVV call 02-16-013 RIs MEYS: 4 bil CZK

2020-2022 according to evaluation 2017*

- LM grants MEYS: ? CZK
- OPVVV RIs2 MEYS: ? CZK

*excellent A-21-36%, high B-22-38%, good C-12-21%, low D-1-2%, E-2-3%

European funding / European science policy

<http://ec.europa.eu/research/infrastructures>

2018-2020

- 6 calls and 15 topics, total allocated budget more than 1.2 bil EUR

The calls will address:

- The long term sustainability of pan European RIs
- The implementation of the European Open Science Cloud
- The integration and opening of RIs of European interest
- The European data Infrastructure
- The translation of Open Science into Open Innovation
- The policy and international cooperation measures for RIs

European funding in H2020

Deadline 17:00 Brussels time	Open calls 2018	378 million EUR
Tue 20 Mar 2018	INFRAIA-01-2018-2019 Integrating Activities for Advanced Communities	101.5
Thu 22 Mar 2018	INFRA SUPP-01-2018-2019 Policy and international cooperation measures for research infrastructures	12.6
Thu 22 Mar 2018	INFRA DEV-03-2018-2019 Individual support to ESFRI and other world-class research infrastructures	60.0
Thu 22 Mar 2018	INFRA EOSC-01-2018 Access to commercial services through the EOSC hub	12.0
Thu 22 Mar 2018	INFRA EOSC-04-2018 Connecting ESFRI infrastructures through Cluster projects	95.0
Thu 22 Mar 2018	INFRA EDI-01-2018 Pan-European High Performance Computing infrastructure and services (PRACE)	24.0
Thu 22 Mar 2018	INFRA EDI-02-2018 HPC PPP - Centres of Excellence on HPC	72.0
Thu 22 Mar 2018	INFRA EDI-03-2018 Support to the governance of High Performance Computing Infrastructures	0.9

INFRAIA-01-2018-2019 (101.5 mil EUR)

Integrating Activities for Advanced Communities

The aim is to bring together, integrate on European scale, and open up key national and regional RIs to all European researchers, from both academia and industry, ensuring their optimal use and joint development.

- 1) **Networking activities**, to foster a culture of co-operation between RIs, scientific communities, industries and other stakeholders as appropriate, and to help develop a more efficient and attractive ERA;
- 2) **Trans-national access** or virtual access activities, to support scientific communities in their access to the identified key RIs;
- 3) **Joint research activities**, to improve, in quality and/or quantity, the integrated services provided at European level by the infrastructures.

INFRAIA-01-2018-2019 (101.5 mil EUR)

Integrating Activities for Advanced Communities

Biological and Medical Sciences: (1) Microbial Resource Centres for biotechnology, (2) high throughput DNA sequencing, (3) replacement, reduction and refinement (3 Rs) of non-human primate testing, (4) proteome analysis, structural proteomics and structural bioinformatics

Solar Energy: (5) solar power, (6) photovoltaic

Environmental and Earth Sciences: (7) forest ecosystem and resources research, (8) Natural history collections, (9) Research aircrafts for environmental and geo-science research, (10) Research vessels, (11) Earth's climate system modelling, (12) anthropogenic impacts for ecosystem functioning and biodiversity research

Mathematics and ICT: (13) virtual reality visualisation, holographic image processing, computer graphics and animation

Material Sciences, Analytical facilities and Engineering: (14) Electron Microscopies for advanced imaging, diffraction, spectroscopy and metrology of materials, (15) High and low energy ion beam labs, (16) Neutron Scattering and Muon Spectroscopy, (17) materials under extreme temperature conditions, (18) turbulence phenomena and applications

Physical Sciences: (19) hadron physics, (20) high resolution solar physics

Social Sciences and Humanities: (21) assessment of science, technology and innovation policies, (22) Digital archives on European history, (23) paleo-anthropology, bioarchaeology and environmental archaeology

<http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/topics/infraia-01-2018-2019.html>

INFRASUPP-01-2018-2019 (12.6 mil EUR)

Policy and international cooperation measures for RIs

The aim is to set the conditions for effective investment and optimise the use of research infrastructures of European interest.

- 1) Development and installation of a dedicated beam-line in [SESAME](#);
- 2) Structural collaboration and coordination to the [ERIC network](#);
- 3) [International visibility](#) of European research infrastructures;
- 4) [Catalogue](#) of research infrastructure services;
- 5) Development of the [ESFRI](#) Road map and activities;
- 6) Support to the e-Infrastructure Reflection Group ([e-IRG](#));
- 7) Cooperation with the [Russian Federation](#) in the RI domain;
- 8) Cooperation with [CELAC](#) (legal entities in Brazil and Mexico).

INFRADEV-03-2018-2019 (60 mil EUR)

Individual support to ESFRI and other world-class RIs

This topic targets the **long-term sustainability** of new RIs, **ESFRI** and other world-class RIs of European Interest, with established governance and legal structure, notably on the basis of the European Research Infrastructure Consortium (**ERIC**) or any other suitable structure with international membership.

Long-term sustainability, including enlargement of the membership, European coverage, international cooperation, limited pilots of access provision for testing and improving user services to increase reliability and create trust, definition of service level agreements and business/funding plan, outreach, and technology transfer activities, interaction with industry and SMEs...

INFRAEOSC-01-2018 (12 mil EUR)

Access to commercial services through the EOSC hub

The challenge is to set-up a legal and technical mechanism to integrate supplementary commercial services into the **EOSC hub** in order to make them available to the scientists: cloud services (storage, computing, applications), software licenses, simulation tools, collaboration and virtualization tools.

- 1) Commodity type commercial digital services that are necessary for interdisciplinary research
- 2) Secure Earth Observation commercial services, use of Copernicus open data accessible through the 'DIAS' platforms

INFRAEOSC-04-2018 (95 mil EUR)

Connecting ESFRI infrastructures through Cluster projects

This topic will ensure the connection of the research infrastructures identified in the [ESFRI](#) Roadmap to the European Open Science Cloud ([EOSC](#)) for effective data preservation and open access for immediate and future sharing and re-use.

[Cluster projects](#) gathering ESFRI projects and landmarks in each of the following large thematic domains: (1) Biomedical Science, (2) Environment and Earth Sciences, (3) Physics and Analytical Facilities, (4) Astronomy, (5) Energy, (6) Social Science and Humanities

Specific data policies (e.g. acquisition, deposit, curation, preservation, access, sharing and re-use)

INFRAEDI-01-2018 (24 mil EUR)

Pan-European High Performance Computing RIs and services (PRACE)

The aim is to create a world-class pan-European **High Performance Computing** (HPC) infrastructure and to provide state-of-the-art services accessible by users independently of their location, by pooling, integrating and rationalising the HPC resources at EU level.

Efficient Europe-wide Tier-0 service, software development and implementations, coordination of activities with the European Technology Platform for HPC (**ETP4HPC**) and the Centres of Excellence in HPC...

INFRAEDI-02-2018 (72 mil EUR)

HPC PPP - Centres of Excellence on HPC

The aim is to support Centres of Excellence (CoE) that promote the use of upcoming exascale and extreme performance computing capabilities in areas:

- 1) **Engineering**: aeronautics, automotive and/or new combustion engines;
- 2) **Environmental sciences**: climate and weather simulation, natural hazards forecast and prevention;
- 3) **Biomolecular research**: combined research in chemical, biological, physical, computational science;
- 4) **Health/medicine**: computational methods and simulation in the biomedical domain;
- 5) **Materials science & engineering**: materials design, simulation and modelling;
- 6) **Energy**: optimising energy consumption, supporting the transition to a reliable and low carbon, clean energy supply;
- 7) **Big Data and Global Challenges**: Big Data analytics for strategic global issues;
- 8) **Performance optimisation**: optimisation and productivity services for HPC academic and industrial code(s) including support to selected Centres of Excellence
- 9) **Other** domains

High Throughput Computing (**HTC**), High-Performance Data Analytics (**HPDA**)

INFRAEDI-03-2018 (0.9 mil EUR)

Support to the governance of High Performance Computing RIs

The aim is to support the governance of the [High Performance Computing \(HPC\)](#) Infrastructures and the coordination of the relevant public and private stakeholders.

- > Promotion of the objectives of the European Cloud Initiative
- > Development of the computing and data infrastructures and services
- > Establishment of a communication platform for the dialogue of stakeholders
- > Spreading of excellence on HPC and Big Data across Europe

- European Research Area (ERA): <http://ec.europa.eu/research/era>
- Research Infrastructures (RIs): <http://ec.europa.eu/research/infrastructures>
- EIROforum = Cluster of European intergovernmental RIs, www.eiroforum.org
- European Strategy Forum on Research Infrastructures (ESFRI) = Strategic instrument to develop the scientific integration of Europe, www.esfri.eu
 Cluster of Pan-European RIs: www.esfri.eu/roadmap-2016
 Overview of the national RIs: www.esfri.eu/national-roadmaps
- European Research Infrastructure Consortium (ERIC) = Specific legal form to facilitate the establishment and operation of RIs with European interest
https://ec.europa.eu/research/infrastructures/index_en.cfm?pg=eric
- European Environmental Research Infrastructures (ENVRI) = Cluster of environmental RIs across Europe, www.envriplus.eu
- Mapping of the European Research Infrastructure Landscape (MERIL) = Database of European RIs, portal.meril.eu
- Czech RIs: www.msmt.cz/vyzkum-a-vyvoj-2/velke-infrastruktury-vyzkumu
- www.vyzkumne-infrastruktury.cz





European
Research Area



www.nasa.gov



Intergovernmental RIs

Garching, Germany
▪ ESO, EUROfusion

Geneva, Switzerland
▪ CERN

Grenoble, France
▪ ESRF, ILL

Heidelberg, Germany
▪ EMBL

Paris, France
▪ ESA

Schenefeld, Germany
▪ XFEL



Pan-European RIs

www.esfri.eu

Physical Sciences & Engineering (7)

Materials (7)

Energy (7)

Environmental Sciences (9)

Biomedical Sciences (13)

Social Sciences & Humanities (5)

E-infrastructures (1)



Pan-European RIs – Physical Sciences & Engineering (7)

http://ec.europa.eu/research/infrastructures/index_en.cfm?pg=mapri_european

- **CTA:** Cherenkov Telescope Array
Heidelberg, Germany, www.cta-observatory.org
- **E-ELT:** European Extremely Large Telescope
Garching, Germany, www.eso.org/public/teles-instr/elt
- **ELI:** Extreme Light Infrastructure
Brussels, Belgium, www.eli-beams.eu
- **FAIR:** Facility for Antiproton and Ion Research
Darmstadt, Germany, www.fair-center.eu
- **KM3NeT:** Kilometre Cube Neutrino Telescope
Amsterdam, Netherlands, www.km3net.org
- **SKA:** Square Kilometre Array
Manchester, UK, skatelescope.org
- **SPIRAL2:** Facility for the production and study of rare isotope radioactive beams
Caen, France, www.ganil-spiral2.eu



Pan-European RIs

www.esfri.eu

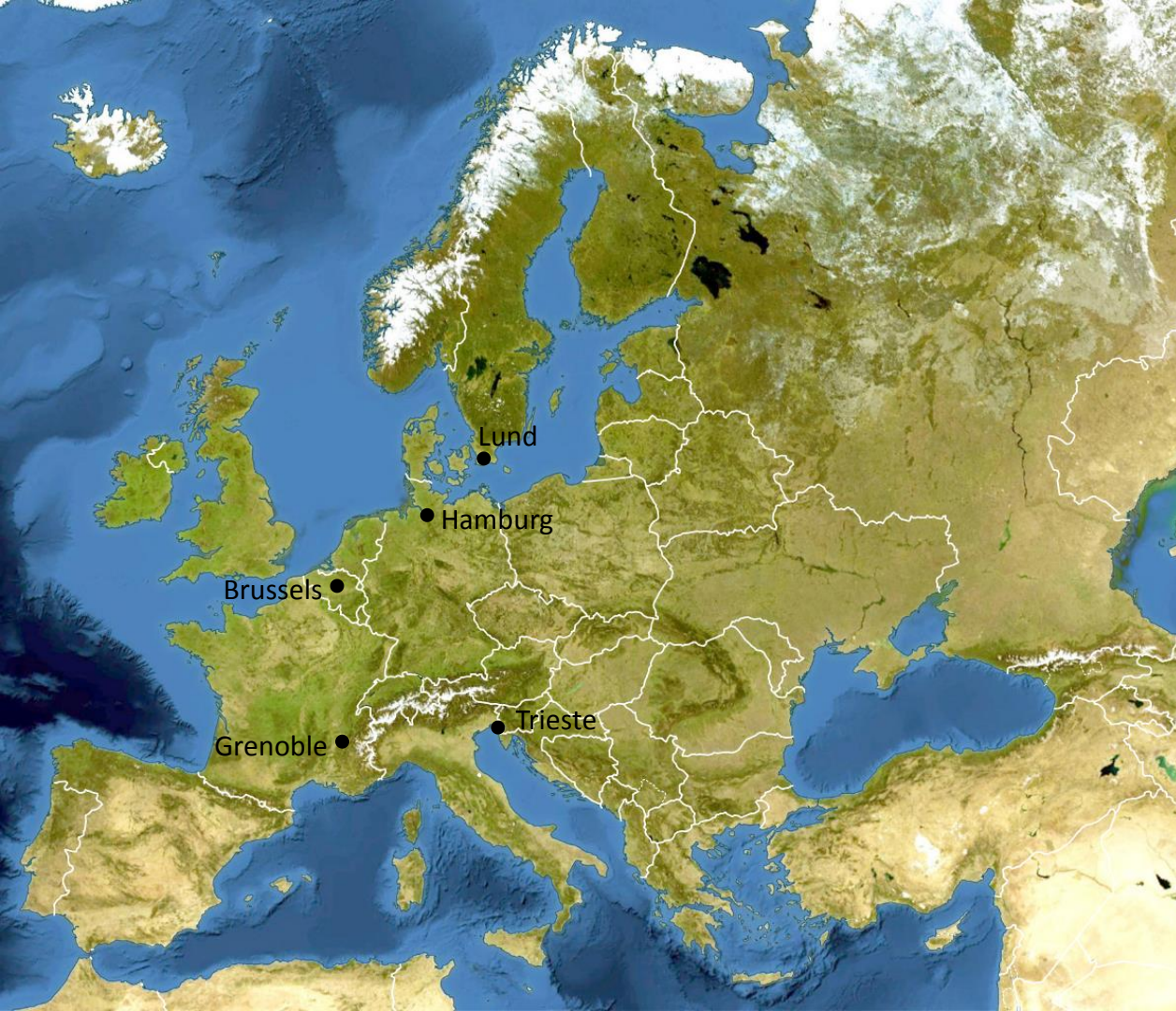
Physical Sciences & Engineering (7)

- CTA, Heidelberg, Germany
€? m
- E-ELT, Garching, Germany
€1.1 billion
- ELI, Brussels, Belgium
€845 million
- FAIR, Darmstadt, Germany
€1 billion
- KM3NeT, Amsterdam, Netherlands
€? m
- SKA, Manchester, UK
€1.5 billion
- SPIRAL2, Caen, France
€196 million

Pan-European RIs – Materials (7)

http://ec.europa.eu/research/infrastructures/index_en.cfm?pg=mapri_european

- **CERIC-ERIC**: Central European Research Infrastructure Consortium
Trieste, Italy, www.ceric-eric.eu
- **EMFL**: European Magnetic Field Laboratory
Brussels, Belgium, www.emfl.eu
- **ESRF**: Upgrade of the European Synchrotron Radiation Facility
Grenoble, France, www.esrf.eu
- **ESS**: The European Spallation Source
Lund, Sweden, europeanspallationsource.se
- **EUROFEL**: Free Electron Lasers of Europe
Hamburg, Germany, www.iruvx.eu/e20
- **XFEL**: European X-Ray Free-Electron Laser Facility GmbH
Hamburg, Germany, www.xfel.eu
- **ILL**: Upgrade of the European Neutron Spectroscopy facility based at the Institut Laue Langevin
Grenoble, France, www.ill.eu



Pan-European RIs

www.esfri.eu

Materials (7)

- CERIC-ERIC, Trieste, Italy
€? m
- EMFL, Brussels, Belgium
€? m
- ESRF, Grenoble, France
€241 million
- ESS, Lund, Sweden
€1.5 billion
- EUROFEL, Hamburg, Germany
€? m
- XFEL, Hamburg, Germany
€1.1 billion
- ILL, Grenoble, France
€171 million

Pan-European RIs – Energy (7)

http://ec.europa.eu/research/infrastructures/index_en.cfm?pg=mapri_european

- **ECCSEL**: European Carbon Dioxide Capture and Storage Laboratory Infrastructure
Trondheim, Norway, www.eccsel.org
- **EU-SOLARIS**: European Solar Research Infrastructure for Concentrating Solar Power
Almeria, Spain, www.eusolaris.eu
- **HIPER**: High Power Laser Energy research Facility
Oxford, United Kingdom, www.hiper.org
- **IFMIF**: International Fusion Materials Irradiation Facility
Rokkasho, Japan, www.ifmif.org
- **JHR**: Jules Horowitz Reactor
Cadarache, France, www-rjh.cea.fr
- **MYRRHA**: European Fast Spectrum Irradiation Facility
Mol, Belgium, <http://sckcen.be/en>
- **WINDSCANNER**: The European Windscanner Facility
Roskilde, Denmark, www.windscanner.eu



Pan-European RIs

www.esfri.eu

Energy (7)

- ECCSEL, Trondheim, Norway
€? m
- EU-SOLARIS, Almeria, Spain
€? m
- HIPER, Oxford, UK
€? m
- IFMIF, Rokkasho, Japan
€? m
- JHR, Cadarache, France
€750 million
- MYRRHA, Mol, Belgium
€? m
- WINDSCANNER, Roskilde, Denmark
€? m

Pan-European RIs – Environmental Sciences (9)

http://ec.europa.eu/research/infrastructures/index_en.cfm?pg=mapri_european

- **COPAL**: Heavy Payload Long Endurance Tropospheric Aircraft
Toulouse, France, www.eufar.net/copal
- **EISCAT_3D**: The next Generation European Incoherent Scatter Radar System
Kiruna, Sweden, www.eiscat.se
- **EMSO**: European Multidisciplinary Seafloor Observatory, Rome, Italy, www.emso-eu.org
- **EPOS**: European Plate Observing System, Rome, Italy, www.epos-ip.org
- **EURO-ARGO ERIC**: Global Ocean Observing Infrastructure
Plouzané, France, www.euro-argo.eu
- **IAGOS**: In-Service Aircraft for a Global Observing System, Brussels, Belgium, www.iagos.org
- **ICOS**: Integrated Carbon Observation System, Helsinki, Finland, www.icos-infrastructure.eu
- **LIFEWATCH**: Science and Technology Infrastructure for Biodiversity and Ecosystem Research
Seville, Spain, www.lifewatch.eu
- **SIOS**: The Svalbard Integrated Arctic Earth Observing System
Longyearbyen, Norway, www.sios-svalbard.org



Pan-European RIs

www.esfri.eu

Environmental Sciences (9)

- COPAL, Toulouse, France
- EISCAT_3D, Kiruna, Sweden
- EMSO, Rome, Italy
- EPOS, Rome, Italy
- EURO-ARGO ERIC, Plouzané, France
€40 million
- IAGOS, Brussels, Belgium
- ICOS, Helsinki, Finland
€130 million
- LIFEWATCH, Seville, Spain
€255 million
- SIOS, Longyearbyen, Norway

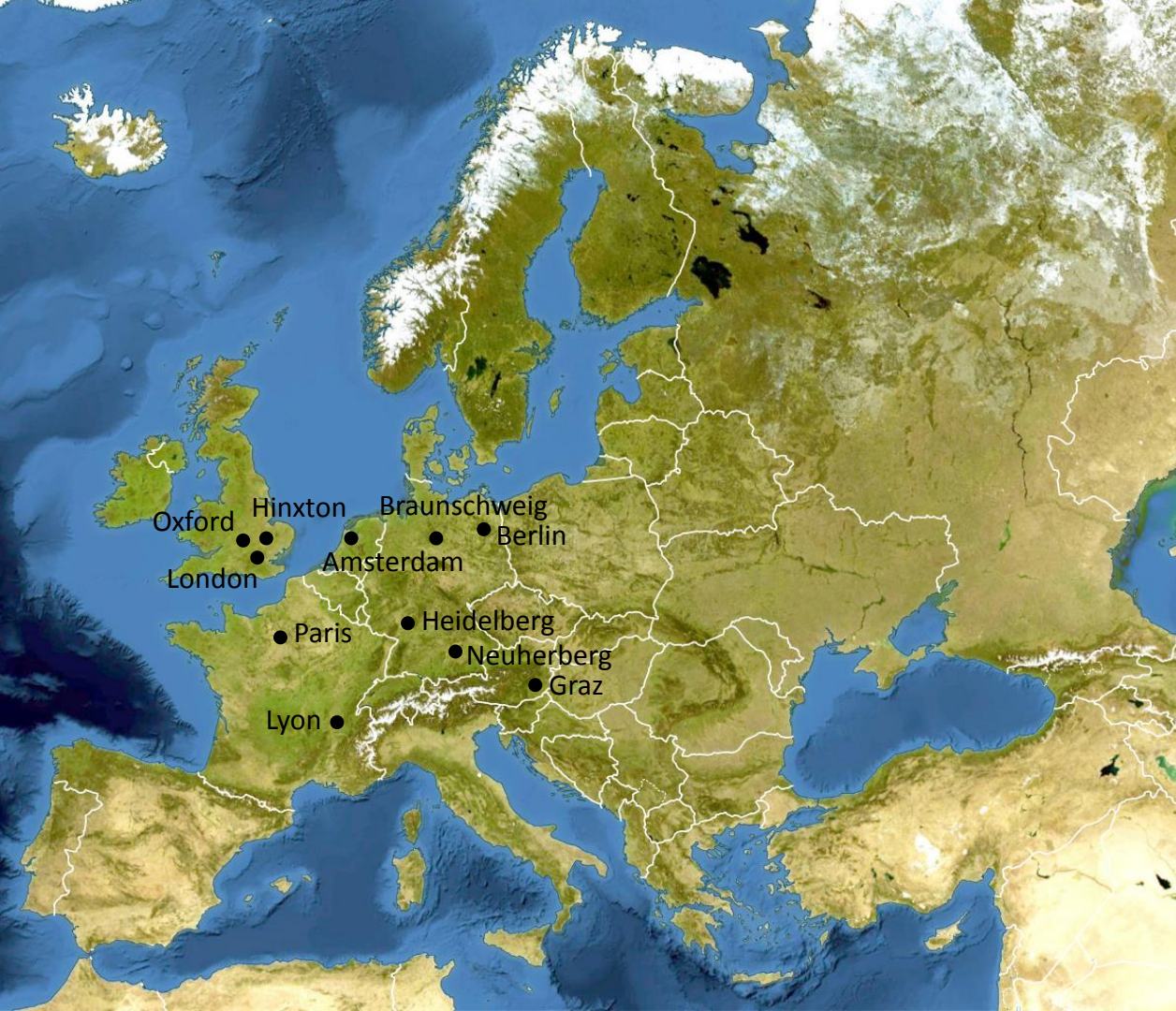


www.envriplus.eu

Pan-European RIs – Biomedical Sciences (13)

http://ec.europa.eu/research/infrastructures/index_en.cfm?pg=mapri_european

- **ANAEE**: Infrastructure for Analysis and Experimentation on Ecosystems, Paris, France, www.anaee.com
- **BBMRI-ERIC**: Biobanking and BioMolecular resources Research Infrastructure
Graz, Austria, www.bbmri-eric.eu
- **EATRIS-ERIC**: European Advanced Translational Research Infrastructure in Medicine
Amsterdam, Netherlands, eatris.eu
- **ECRIN-ERIC**: European Clinical research Infrastructures Network, Paris, France, www.ecrin.org
- **ELIXIR**: European Life-science Infrastructure for Biological Information, Hinxton, UK, www.elixir-europe.org
- **EMBRC**: European Marine Biological Resource Centre, Paris, France, www.embrc.eu
- **ERINHA**: European research Infrastructure on Highly Pathogenic Agents, Lyon, France, www.erinha.eu
- **EU-OPENSREEN**: European Infrastructure of Open Screening Platforms for Chemical Biology
Berlin, Germany, www.eu-openscreen.eu
- **EURO-BIOIMAGING**: European Research Infrastructure for Biomedical Imaging
Heidelberg, Germany, www.eurobioimaging.eu
- **Infrafrontier**: European Infrastructure for Phenotyping and Archiving of Model Mammalian Genomes
Neuherberg, Germany, www.infrafrontier.eu
- **INSTRUCT**: Integrated Structural Biology Infrastructure, Oxford, UK, www.structuralbiology.eu
- **ISBE**: Infrastructure for Systems Biology-Europe, London, UK, project.isbe.eu
- **MIRRI**: Microbial Resource Research Infrastructure, Braunschweig, Germany, www.mirri.org



Pan-European RIs

www.esfri.eu

Biomedical Sciences (13)

- ANAEE, Paris, France
- BBMRI-ERIC, Graz, Austria, €170 m
- EATRIS-ERIC, Amsterdam, Netherlands
- ECRIN-ERIC, Paris, France
- ELIXIR, Hinxton, UK, €470 million
- EMBRC, Paris, France
- ERINHA, Lyon, France
- EU-OPENSREEN, Berlin, Germany
- EURO-BIOIMAGING, Heidelberg, Germ.
- Infrafrontier, Neuherberg, Germany
€180 million
- INSTRUCT, Oxford, UK, €300 million
- ISBE, London, UK
- MIRRI, Braunschweig, Germany

Pan-European RIs – Social Sciences & Humanities (5)

http://ec.europa.eu/research/infrastructures/index_en.cfm?pg=mapri_european

- **CESSDA**: Consortium of European Social Science Data Archives
Bergen, Norway, www.cessda.eu
- **CLARIN ERIC**: Common Language Resources and Technology Infrastructure
Utrecht, Netherlands, www.clarin.eu
- **DARIAH-ERIC**: Digital Research Infrastructure for the Arts and Humanities
Paris, France, www.dariah.eu
- **ESS ERIC**: European Social Survey
London, UK, www.europeansocialsurvey.org
- **SHARE-ERIC**: Survey of Health, Ageing and Retirement in Europe
Munich, Germany, www.share-project.org



Pan-European RIs

www.esfri.eu

Social Sciences & Humanities (5)

- CESSDA, Bergen, Norway
€30 million
- CLARIN ERIC, Utrecht, Netherlands
€104 million
- DARIAH-ERIC, Paris, France
€20 million
- ESS ERIC, London, UK
€2 million
- SHARE-ERIC, Munich, Germany
€23 million

Pan-European RIs – E-infrastructures (1)

http://ec.europa.eu/research/infrastructures/index_en.cfm?pg=mapri_european

- **PRACE**: Partnership for Advanced Computing in Europe
Brussels, Belgium, www.prace-ri.eu



Pan-European RIs

www.esfri.eu

E-infrastructures (1)

- PRACE, Brussels, Belgium
€100 million

Key words for searching at RIs

<http://ec.europa.eu/research/infrastructures>

- Equipment
- Facility
- Services
- Open access
- Application form
- Booking system
- ...

Open Access Services of RIs

- 1) Checking of facilities and services of the RI.
 - 2) Formulation of research project.
 - 3) Preparation of an application form.
 - 4) Submission of project application before specific deadlines.
 - 5) Review report of responsible experts.
 - 6) Evaluation of the project by the RI according to technical aspects, feasibility, costs, scientific excellence, novelty, uniqueness and impact of your project.
 - 7) Final decision and detailed feedback to the proposal.
 - 8) Specification of analysis & time schedule, signing of a contract agreement.
 - 9) Preparation of samples and analysis according to instructions.
 - 10) Analysis of samples by the RI, data interpretation.
 - 11) Receiving of analysed data from measurements, consultation & discussion.
 - 12) Acknowledgement to the RI in publications and whenever you will present the data.
- You are expected to share the results in **open access** regime.