

**ΠΑΡΑΡΤΗΜΑ ΙΙ: ΕΡΓΑ ΟΔΙΚΟΥ ΧΑΡΤΗ ESFRI 2016**

**ESFRI PROJECTS**

Ακρωνύμιο	Πλήρης Τίτλος	Σύντομη Περιγραφή
<b>ENERGY</b>		
<b>ECCSEL</b>	European Carbon Dioxide Capture and Storage Laboratory Infrastructure	ECCSEL aims at opening access to top quality research devoted to next generation Carbon Capture and Storage (CCS) technologies with an efficient and structured approach to help enabling low to CO <sub>2</sub> emissions from industry and power generation to combat global change.
<b>EU-SOLARIS</b>	European SOLAR Research Infrastructure for Concentrated Solar Power	EU-SOLARIS aims to become the reference for Concentrating Solar Thermal and Solar Chemistry and maintain Europe at the forefront of these technologies by providing the most complete, high quality scientific portfolio and facilitating the access of researchers to highly specialised facilities via a single access point
<b>MYRRHA</b>	Multi-purpose hYbrid Research Reactor for High-tech Applications	MYRRHA is a first-of-a-kind, innovative nuclear research reactor designed to operate as an Accelerator Driven System, able to operate in subcritical and critical modes.
<b>WindScanner</b>	European WindScanner Facility	The European WindScanner Facility is a coordinated and joint European development and dissemination programme for full scale atmospheric boundary-layer experimental research in wind and turbulence fields for wind energy.
<b>ENVIRONMENT</b>		
<b>ACTRIS</b>	Aerosols, Clouds and Trace gases Research Infrastructure	ACTRIS is a distributed infrastructure dedicated to high-quality observation of aerosols, clouds, trace gases and exploration of their interactions.
<b>DANUBIUS-RI</b>	International Centre for Advanced Studies on River-Sea Systems	DANUBIUS-RI is a distributed research infrastructure building on existing expertise to support interdisciplinary research on large river-sea systems.
<b>EISCAT_3D</b>	Next generation European incoherent scatter radar system	EISCAT_3D will be a three-dimensional imaging radar to study the atmosphere and the near-Earth space environment above the Fenno-Scandinavian

		Arctic as well as to support the solar system and radio astronomy sciences.
<b>EPOS</b>	European Plate Observing System	EPOS aims at creating a pan-European infrastructure to monitor and unravel the dynamic and complex solid Earth System, by integrating the diverse and advanced research facilities and resources for solid Earth science and relying on new e-science opportunities.
<b>SIOS</b>	Svalbard Integrated Arctic Earth Observing System	SIOS is a distributed world-class research infrastructure that will establish a regional observational system in and around Svalbard to address Earth System Science (ESS) questions related to Global Change.
<b>HEALTH AND FOOD</b>		
<b>AnaEE</b>	Infrastructure for Analysis and Experimentation on Ecosystems	AnaEE aims, through state-of-the-art experimental facilities, to support scientists in testing the potential impacts of climate change and land use in Europe, and forecasting the risks on European ecosystems, including agricultural systems.
<b>EMBRC</b>	European Marine Biological Resource Centre	EMBRC is a distributed research infrastructure aiming at providing a strategic delivery mechanism for excellent and large-scale marine science in Europe.
<b>EMPHASIS</b>	European Infrastructure for multi-scale Plant Phenomics and Simulation for food security in a changing climate	EMPHASIS is a distributed research infrastructure to develop and provide access to facilities and services addressing multi-scale phenotyping in different agro-climatic scenarios.
<b>ERINHA</b>	European research infrastructure on highly pathogenic agents	ERINHA aims to develop an adequate and coordinated effort to address the challenges posed by the emergence or re-emergence of highly dangerous human and animal micro-organisms infecting humans with high risks for public health, society and the economy.
<b>EU-OPENSREEN</b>	European Infrastructure of Open Screening Platforms for Chemical Biology	EU-OPENSREEN is a distributed research infrastructure that aims to develop novel small chemical compounds which elicit specific biological responses on organisms, cells or cellular components.
<b>Euro-Biolmaging</b>	European Research Infrastructure for Imaging	Euro-Biolmaging will provide open physical user access to a broad range of state-of-the-art

	Technologies in Biological and Biomedical Sciences	technologies in biological and medical imaging for life scientists in Europe and beyond.
<b>ISBE</b>	Infrastructure for Systems Biology Europe	ISBE is distributed research infrastructure that will enable efficient access to the best systems biology expertise, resources and services (state-of-the-art facilities, data, models, tools and training) by interconnecting national systems biology centres and making them easily accessible for all European researchers.
<b>MIRRI</b>	Microbial Resource Research Infrastructure	MIRRI is a distributed research infrastructure that aims to coordinate access to individually managed resources by developing a platform to support research and development in the field of biotechnology.

### PHYSICAL SCIENCES & ENGINEERING

<b>CTA</b>	Cherenkov Telescope Array	CTA will be an advanced facility for ground-based very high-energy gamma-ray astronomy.
<b>EST</b>	European Solar Telescope	EST is a 4-metre class telescope dedicated to study the fundamental processes in the Sun that control the solar atmosphere and its activity and the physical conditions in the heliosphere.
<b>KM3NeT 2.0</b>	Astroparticle & Oscillations Research with Cosmics in the Abyss	KM3NeT 2.0 intends to examine astrophysical objects by detecting their high-energy neutrino emission and to investigate neutrino properties by measuring neutrinos produced through cosmic-ray interactions in the atmosphere.

### SOCIAL & CULTURE INNOVATION

<b>E-RIHS</b>	European Research Infrastructure for Heritage Science	E-RIHS will support research on heritage interpretation, preservation, documentation and management.
---------------	---	--

### ESFRI LANDMARKS

Ακρωνύμιο	Πλήρες Τίτλος	Σύντομη Περιγραφή
<b>ENERGY</b>		
<b>JHR</b>	Jules Horowitz Reactor	A material test reactor that will replace the EU's existing reactors. It is designed for a variety of research uses by nuclear utilities, nuclear

		steam system suppliers, nuclear fuel manufacturers, research organisations and safety authorities.
<b>ENVIRONMENT</b>		
<b>EMSO</b>	European Multidisciplinary Seafloor and water-column Observatory	Aims to further explore the oceans, to gain a better understanding of phenomena happening within and below them and to elucidate the critical role that these phenomena play in the broader Earth systems.
<b>EURO-ARGO ERIC</b>	European contribution to the international Argo Programme	It is a global array of autonomous instruments, deployed over the world ocean, reporting subsurface ocean properties to a wide range of users via satellite transmission links to data centres to help understand and monitor the role of the ocean in the Earth's climate system.
<b>IAGOS</b>	In-service Aircraft for a Global Observing System	It conducts long-term observations of atmospheric composition, aerosol and cloud particles on a global scale from commercial aircraft of internationally operating airlines as reliable predictions of the future climate are central for determining future mitigation strategies.
<b>ICOS ERIC</b>	Integrated Carbon Observation System	Provides harmonized and high precision scientific data on carbon cycle and greenhouse gas budget and perturbations
<b>LifeWatch</b>	e-infrastructure for Biodiversity and Ecosystem Research	A distributed research infrastructure to advance biodiversity research and address the big environmental challenges and support knowledge-based strategic solutions to environmental preservation.
<b>HEALTH AND FOOD</b>		
<b>BBMRI ERIC</b>	Biobanking and BioMolecular resources Research Infrastructure	Provides a gateway for access to biobanks and biomolecular resources coordinated by national nodes. Aims at improving the accessibility and interoperability of the existing comprehensive collections, either population-based or clinical-oriented of biological samples from different sub-populations of Europe or rare diseases.
<b>EATRIS ERIC</b>	European Advanced Translational Research Infrastructure in Medicine	Focuses on supporting clients in drug and diagnostics development by matching their needs with the unique services provided by top-level European academic research centres. Clients from industry and academia find resources in EATRIS for advancing medical discoveries, from laboratory or clinic, into novel

		products to be first tested safely in humans completing the clinical proof of concept stage.
<b>ECRIN ERIC</b>	European Clinical Research Infrastructure Network	It promotes multinational, high-quality, transparent clinical trials by overcoming the obstacles caused by fragmentation and poor interoperability of the national, clinical research environment
<b>ELIXIR</b>	A distributed infrastructure for life-science information	ELIXIR consolidates Europe's national centres, services and core bioinformatics resources into a single, coordinated infrastructure and by doing so supports the data-related needs of Europe's 500.000 life-scientists and addresses the challenges across life science from marine research via plants and agriculture to health research and medical sciences.
<b>INFRAFRONTIER</b>	European Research Infrastructure for the generation, phenotyping, archiving and distribution of mouse disease models	It provides open access to international resources for mouse models, data, scientific platforms and services to study the functional role of the genome in human health and disease and supports the global user community in biomedical research.
<b>INSTRUCT</b>	Integrated Structural Biology Infrastructure	A distributed research infrastructure that provides peer-reviewed access to a broad palette of state-of-the-art technology and expertise as well as training and technique development in the area of integrated structural and cell biology to promote innovation in the biological and medical sciences.
<b>PHYSICAL SCIENCES &amp; ENGINEERING</b>		
<b>E-ELT</b>	European Extremely Large Telescope	A revolutionary new ground-based telescope (the largest optical/near-infrared telescope in the world) for the advancement of astrophysical knowledge, allowing detailed studies of objects including planets around other stars, the first objects in the Universe, super-massive black holes and the nature and distribution of the dark matter and dark energy which dominate the Universe.
<b>ELI</b>	Extreme Light Infrastructure	A research infrastructure of pan-European interest for experiments on extreme light-matter interactions at the highest intensities, shortest time scales and broadest spectral range.
<b>EMFL</b>	European Magnetic Field Laboratory	Dedicated to generate the highest possible magnetic fields that can be used for scientific

		research and make them available to the scientific community.
<b>ESRF UPGRADES</b>	Phase I Phase II: Extremely Brilliant Source	A world leading source of synchrotron X-rays operating 43 beamlines with state-of-the-art instrumentation for imaging and studying the structure of the matter at the atomic and nanometric scale in all fields of research.
<b>European Spallation Source ERIC</b>	European Spallation Source	Committed to the goal of building and operating the world leading facility for research using neutrons. It will deliver a neutron peak brightness of at least 30 times greater than the current state-of-the-art, thus providing transformative capabilities for interdisciplinary research in the physical and life sciences.
<b>European XFEL</b>	European X-Ray Free-Electron Laser Facility	A world leading facility for the production of high repetition rate ultra-short X-ray flashes with a brilliance that is a billion times higher than that of the best synchrotron X-ray radiation sources. The goal is to exploit these X-rays for revolutionary scientific experiments in a variety of disciplines, including physics, chemistry, materials science and biology.
<b>FAIR</b>	Facility for Antiproton and Ion Research	A new accelerator complex providing high-energy, high intensity primary and secondary beams of antiprotons and ions to enable forefront research into the structure and dynamics of matter under extreme conditions thereby also providing new insights into the evolution of the Universe and the nucleosynthesis in start and star explosions.
<b>HL-LHC</b>	High-Luminosity Large Hadron Collider	The highest-energy particle collider in the world which studies the fundamental constituents of matter and their interactions. The ATLAS and CMS experiments at the LHC have provided the breakthrough discovery of the so-called Higgs boson.
<b>ILL 20/20</b>	Institut Max von Laue-Paul Langevin	An international research centre at the leading edge of neutron science and technology, to support researchers in a variety of fields – condensed matter physics, chemistry, biology, nuclear physics and materials science – and make their combined know-how available to the scientific community.
<b>SKA</b>	Square Kilometre Array	A global effort to build the largest radio telescope on Earth, with eventually over one million square metres of collecting area. It will be able to look back into the furthest reaches of the cosmos to study the first structures in the Universe, helping to understand some of the

		most fundamental questions in physics, as well as probing the nature of gravity and cosmic magnetism and exploring the origins of life itself.
<b>SPIRAL2</b>	Systeme de Production d'Ions Radioactifs en Ligne de 2e generation	A new facility to extend significantly the actual possibilities of Radioactive Ion Beam (RIB) physics and related applications. SPIRAL 2 will produce the only ion beams of their kind in the world to support research from hadron and isotope therapy to the physics of the atom and its nucleus, from condensed matter to astrophysics.
<b>SOCIAL &amp; CULTURE INNOVATION</b>		
<b>CESSDA</b>	Consortium of European Social Science Data Archives	It provides large scale, integrated and sustainable data services to the social sciences and beyond by supporting high-quality, national and international research and cooperation. It brings together social science data archives across Europe, with the aim of facilitating social, economic and political research and by doing so allows researchers to gain a better understanding of the challenges facing society today and to help to solve them.
<b>CLARIN ERIC</b>	Common Language Resources and Technology Infrastructure	It provides easy and sustainable access for scholars in the humanities and social sciences to digital language data – in written, spoken or multimodal form – and advanced tools to discover, explore, exploit, annotate, analyse or combine them, independent of their location. To this end, CLARIN is building a networked federation of language data repositories, service centres and centres of expertise, with single sign-on access for all members of the academic community in all participating countries.
<b>DARIAH ERIC</b>	Digital Research Infrastructure for the Arts and Humanities	Its aim is to enhance and support digitally-enabled research and teaching across the humanities and arts. It is a network of people, expertise, information, knowledge, content, methods, tools and technologies from various countries that develops, maintains and operates an infrastructure in support of ICT-based research practices and sustains researchers in using them to analyse and interpret digital resources.
<b>ESS ERIC</b>	European Social Survey	A pan-European survey carried out every two years since 2001. It assembles, interprets and disseminates data on social attitudes and

		behaviours that are gathered in each of the participating countries. It responds to academic, public policy and the societal need to understand social stability and change within the European context.
<b>SHARE ERIC</b>	Survey of Health, Ageing and Retirement in Europe	A multidisciplinary database of microdata on health, socio-economic status, social and family networks of individuals from 20 European countries plus Israel, aged 50 or older. It aims at documenting and better understanding the repercussions of demographic ageing for individuals and the European society as a whole, and forming a sound scientific basis for countermeasures adopted by health and social policy.
<b>E - RESEARCH INFRASTRUCTURES</b>		
<b>PRACE</b>	Partnership for Advanced Computing in Europe	A pan-European supercomputing RI providing access to computing and data resources and services for large-scale scientific and engineering applications at the highest performance level. It enables high impact scientific discovery and engineering research and development across all disciplines by offering world-class computing and data management resources and services through a peer-review process. It also seeks to strengthen the European users of High Performance Computing (HPC) in industry through various initiatives and has a strong interest in improving energy efficiency of computing systems and reducing their environmental impact.