

| | PROJECTS | construction costs (M€) | Operations costs (M€/year) | first possible operations or upgrade |
|---------------------------------------|---|-------------------------|----------------------------|--------------------------------------|
| Social Sciences and Humanities | CESSDA | 30 | 3 | 2013 |
| | CLARIN | 104 | 7.6 | 2014 |
| | DARIAH | 12 | 4 | 2013 |
| | European Social Survey | 54** | 9** | 2008 |
| | SHARE | 11.6 | 0.3 | 2008 |
| Environmental Sciences | AURORA BOREALIS | 635 | 32.5 | 2014 |
| | COPAL (ex EUFAR) | 50 | 3 (+6000€/hour) | 2012 |
| | <i>EISCAT_3D Upgrade</i> | 60-250 | 4-10 | 2015 |
| | EMSO | 160 | 32 | 2013 |
| | <i>EPOS</i> | 500 | 80 | 2018 |
| | EURO-ARGO (GLOBAL) | 80 | 7.3 | 2011 |
| | IAGOS | 15 | 0.5-1 | 2012 |
| | ICOS | 128 | 14 | 2012 |
| | LIFEWATCH | 370 | 71 | 2019 |
| <i>SIAEOS</i> | 50 | 9.5 | 2012 | |
| Energy | <i>ECCSEL</i> | 81 | 6 | 2011 |
| | HiPER | 800 | under discussion | 2020+ |
| | IFMIF (GLOBAL) | 1000 | 150-80 | 2020 |
| | JHR | 500 | 24-33 | 2014 |
| Biological and Medical Sciences | BBMRI | 170 | 15 | 2013 |
| | EATRIS | 255 | 50 | 2013 |
| | ECRIN | 50 | 5 | 2014 |
| | ELIXIR (GLOBAL) | 470 | 100 | 2012 |
| | <i>EMBRC</i> | 100 | 60 | 2018 |
| | <i>EU-OPENSREEN</i> | 40 | 40 | 2012 |
| | <i>EuroBioImaging</i> | 370 | 160 | 2012 |
| | <i>High Security BLS4 Laboratory</i> | 174 | 24 | 2018 |
| | Infrafrontier | 270 | 36 | 2010 |
| INSTRUCT | 300 | 25 | 2012 | |
| "Materials and Analytical Facilities" | <i>EMFL</i> | 120 | 8*** | 2015 |
| | ESRF Upgrade | 238 | 83 | 2009-2014 |
| | EuroFel (ex-IRUV-FEL) | 1200-1600 | 120-160 | 2007-2020 |
| | European Spallation Source | 1300 | 110 | 2019-2020 |
| | European XFEL | 1043 | 84 | 2014 |
| | ILL20/20 Upgrade | 171 | 5*** | 2007-2017 |
| Physical Sciences and Engineering | <i>CTA</i> | 150 | 10 | 2013 |
| | E-ELT | 950 | 30 | 2018 |
| | ELI | 400 | 50 | 2015 |
| | FAIR | 1187 | 120 | 2016 |
| | KM3NeT | 200 | 5 | 2016 |
| | PRINS | 1400 | 300 | 2009-2015 |
| | SKA (GLOBAL) | 1500 | 100-150 | 2016 |
| | SPIRAL2 | 196 | 6.6 | 2014 |
| e-Infrastructures | PRACE (ex EU-HPC) | 200-400* | 50-100 | 2009-2010 |

*estimated costs to renew the high-end infrastructure every 2-3 years

**for the integrated construction/operation process over 6 years.

***additional to current operations costs

construction "started", meaning funding and agreements almost in place

advanced preparation for construction but agreements and funding not yet in place

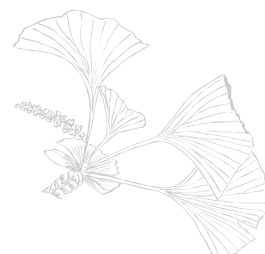
in bold italic new facilities added since the 2006 roadmap

Description

Facility to provide and facilitate access of researchers to high quality data for social sciences
 Research infrastructure to make language resources and technology available and useful to scholars of all disciplines
 Digital infrastructure to study source materials in cultural heritage institutions
 Upgrade of the European Social Survey, set up in 2001 to monitor longterm changes in social values
 Data infrastructure for empiric economic and social science analysis of ongoing changes due to population ageing



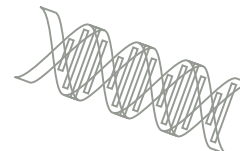
European polar research icebreaker
 Long range aircraft for tropospheric research
 Upgrade of the EISCAT facility for ionospheric and space weather research
 Multidisciplinary Seafloor Observatory
 Infrastructure for the study of tectonics and Earth surface dynamics
 Ocean observing buoy system
 Climate change observation from commercial aircraft
 Integrated carbon observation system
 Infrastructure for research on the protection, management and sustainable use of biodiversity
 Upgrade of the Svalbard Integrated Arctic Earth Observing System



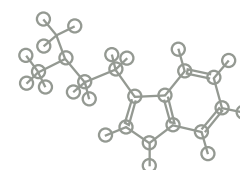
European Carbon Dioxide and Storage Laboratory infrastructure
 High power long pulse laser for fast ignition fusion
 International Fusion Materials Irradiation Facility
 High flux reactor for fission reactors materials testing



Bio-banking and biomolecular resources research infrastructure
 European advanced translational research infrastructure in medicine
 Pan-European infrastructure for clinical trials and biotherapy
 Upgrade of the European Life-science infrastructure for biological information
 European marine biological resource centre
 European Infrastructure of Open Screening Platforms for chemical biology
 Research infrastructure for imaging technologies in biological and biomedical sciences
 Upgrade of the High Security Laboratories for the study of level 4 pathogens
 European infrastructure for phenotyping and archiving of model mammalian genomes
 Integrated Structural Biology Infrastructure



European Magnetic Field Laboratory
 Upgrade of the European Synchrotron Radiation Facility
 Complementary Free Electron Lasers in the Infrared to soft X-ray range
 European Spallation Source for neutron spectroscopy
 Hard X-ray Free Electron Laser in Hamburg
 Upgrade of the European Neutron Spectroscopy Facility



Cherenkov Telescope Array for Gamma-ray astronomy
 European Extremely Large Telescope for optical astronomy
 Extreme Light Intensity short pulse laser
 Facility for Antiproton and Ion Research
 Kilometre Cube Neutrino Telescope
 Pan-European Research Infrastructure for Nano-structures
 Square Kilometre Array for radio-astronomy
 Facility for the production and study of rare isotope radioactive beams



Partnership for Advanced Computing in Europe

