

Research Infrastructures - Forskningsinfrastruktur i Horisont 2020

Møte med referansegruppe for SC2,
Gardermoen 4. april 2014



Horisont 2020
Fremragende forskning

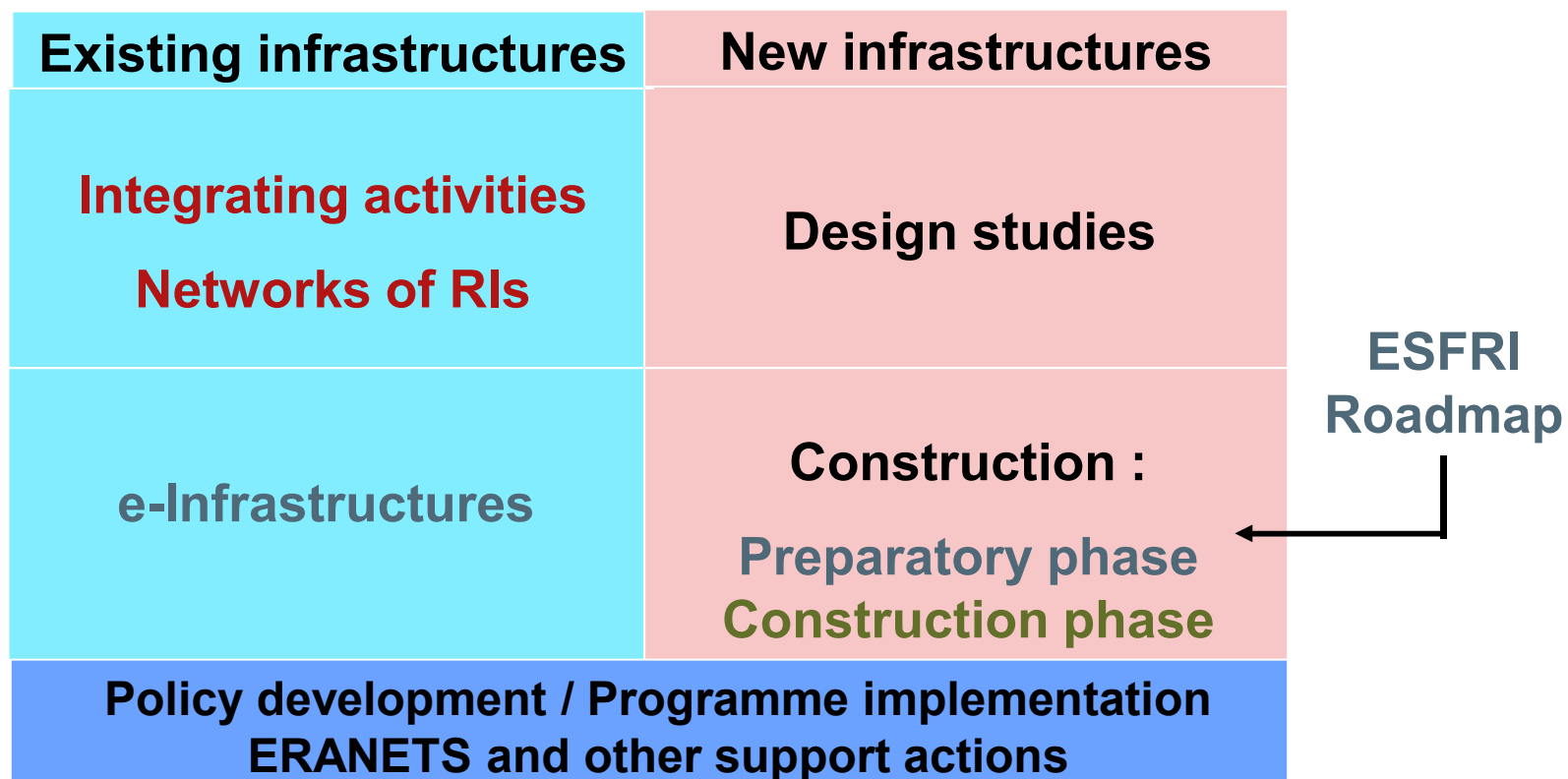
Pillar 1 of Horizon 2020: Excellent Science

- European Research Council
Frontier research by the best individual teams
- Future and Emerging Technologies
Collaborative research to open new fields of innovation
- Marie Skłodowska-Curie actions
Opportunities for training and career development
- **Research infrastructures (incl. e-infrastructures)**
Ensuring access to world-class facilities

Mål for infrastrukturprogrammet i Horisont 2020:

- utvikle og støtte fremveksten av nye **felleseuropeiske forskningsinfrastrukturer**
- bidra til **åpen tilgang** til eksisterende nasjonale og regionale infrastrukturer
- fremme infrastrukturenes innovasjonspotensial
- bidra til å utvikle personell knyttet til infrastrukturene og styrke europeisk forskningsinfrastrukturpolitikk

Mye som videreføres fra FP7:



Virkemidlene/utlysninger

- Virkemidlene rettet mot ny infrastruktur (*INFRADEV*):
 - *Design studies* er «Bottom up»
 - Støtte til prosjekter på ESFRI Roadmap
- Virkemidler rettet mot eksisterende infrastruktur (*INFRAIA*):
 - ***Integrating activities*** i arbeidsprogrammet for 2014-15 omhandler ca 40 tema
- e-Infrastruktur (*EINFRA*):
 - HPC, big data, open access to data
- Annen støtte (*INFRASUPP*):
 - NCP-nettverk, policyarbeid, mm.

Integrating activities

Tematiske utlysninger innenfor områdene

- **Biological and Medical Sciences**
- Energy
- **Environmental and Earth Sciences**
- Mathematics and ICT
- Engineering, Material Sciences and Analytical facilities
- Physical Sciences
- Social Sciences and Humanities

Arbeidet med nytt arbeidsprogram for 2015-2016

- Vil gjøres i samarbeid med den strategiske konfigurasjonen og involvere *Advisory Groups*, programkomiteer og *Horizon Groups* (*EC interservice groups*)
- Planen er å konsultere *Advisory Groups* om mulige prioriteringer før sommeren og diskutere med medlemslandene i andre halvdel av 2014

Tema innenfor BioMed 2014-2015:

- Health information, clinical data, samples and medical images – support to population studies
- New tools and resources for analysing and integrating genomic, epigenomic, proteomic, metabolomic and phenomic data
- Plant and forestry material resources
- European nanomedicine characterisation infrastructure
- Research infrastructures supporting rare diseases research
- High-containment biosafety facilities and virus collections including for high-risk human/animal pathogens
- Vaccine infrastructures
- Research infrastructures for translating research on biological structures into innovation in biomedicine
- Research infrastructures in aquaculture

Tema innenfor Environ/Earth Sciences 2014-15:

- RIs for hydrological/hydrobiological research
- RIs for research on crustal fluids and geo-resources
- RIs for long-term ecosystem and socio-ecological research
- RIs for ocean drilling
- Aerosol, clouds, and trace gases research infrastructure
- RIs for environmental hydraulic research
- RIs for terrestrial research in the Arctic
- RIs for forest ecosystem and resources research
- RIs for integrated and sustained coastal observation

Relevante ESFRI-prosjekter

- **EMSO** (European Multidisciplinary Seafloor Observatory)
- **LIFEWATCH** (Science and Technology Infrastructure for Research on Biodiversity and Ecosystems)
- **ANAEE** (Infrastructure for Analysis and Experimentation on Ecosystems)
- **ELIXIR** (European Life-Science Infrastructure for Biological Information)
- **EMBRC** (European Marine Biological Resource Centre)
- **EU-OPENSREEN** (European Infrastructure of Open Screening Platforms for Chemical Biology)
- **ISBE** (Infrastructure for Systems Biology-Europe)

Forskningsinfrastruktur

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Integrating activities

- **Mål:** optimalisere utnyttelse og videreutvikle *eksisterende* infrastrukturer i Europa
- I3-prosjekter – består av 3 ulike aktiviteter:
 - Nettverksaktiviteter,
 - «Transnational access» og/eller service aktiviteter
 - Felles forskningsaktiviteter om utvikling av infrastrukturene



Participant Portal for mer info:

<http://ec.europa.eu/research/participants/portal/desktop/en/home.html>

Transnational access:

- Integrating activities-prosjektene lyser ut midler som skal bidra til å gjøre andre forskere i stand til å benytte infrastrukturene
- Dette gir norske forskere tilgang til infrastrukturer de selv ikke har
- **VIKTIG:** midlene lyses ut via prosjektene og ikke kommisjonen:
<http://www.euroris-net.eu/transnational-access-opportunities>

Arbeidsprogrammet 2014-2015

Temaer innenfor *Integrating activities* er rettet mot «grupper» av søkere:

- *Starting Communities*: whose research infrastructures show a limited degree of coordination and networking at present. The strongest impact for these communities will be expected typically to arise from a focus on networking, standardisation and establishing a common access procedure, which lay the foundation for well-used transnational and virtual access provision.
- *Advanced Communities*: whose research infrastructures show an advanced degree of coordination and networking at present, in particular, through Integrating Activities awarded under previous Framework Programmes. The strongest impact for these communities will be expected typically to arise from focusing on innovation aspects and on widening trans-national and virtual access provision.

Forskningsinfrastruktur , call 2 – temaer foreslått innenfor **Energy**:

For *Starting Communities*:

- European facilities for electrochemical storage testing
- Testing of wind turbines, ocean energy converters and electrical subsystems for grid integration under laboratory conditions

For *Advanced Communities*:

- European smart grids research infrastructure

Forskningsinfrastruktur , call 2 – temaer foreslått innenfor **Mathematics and ICT**:

For *Starting Communities*:

- Distributed, multidisciplinary European Infrastructure on Big Data and social data mining

For *Advanced Communities*:

- Integrating activity for facilitating access to HPC (High Performance Computing) centres

Forskningsinfrastruktur , call 2 – temaer foreslått innenfor **Engineering, Material Sciences and Analytical facilities:**

For *Starting Communities*:

- Advanced frontier research in nano-electronics

For *Advanced Communities*:

- Advanced nanofabrication
- Advanced material research based on large-scale facilities
- Leading-edge research based on advanced laser sources
- Functional materials for special applications
- Facilities for research on materials under extreme conditions
- Large-scale testing facilities for engineering applications

Forskningsinfrastruktur , call 2 – temaer foreslått innenfor **Physical Sciences**:

For Starting Communities:

- European laboratory astrophysics
- Research infrastructures for high-energy astrophysics
- Science at deep-underground laboratories
- Integrating gravitational wave research

For Advanced Communities:

- Detectors for future accelerators
- Research infrastructures for nuclear physics
- European planetary science

Forskningsinfrastruktur , call 2 – temaer foreslått innenfor **Social Sciences and Humanities**:

For Starting Communities:

- Generations and Gender: A cross-national longitudinal data infrastructure for research on social cohesion and social inclusion and for the study of inter-generational relations in an ageing society
- Research Infrastructure for studying the role of intangible investment for economic growth and for the study of cultural, historical and institutional innovation processes

For Advanced Communities:

- Contemporary European History: European Holocaust Research Infrastructure
- European Research Infrastructure for Restoration and Conservation of Cultural Heritage

Bergen-Espegrend



Ny Ålesund-KBML



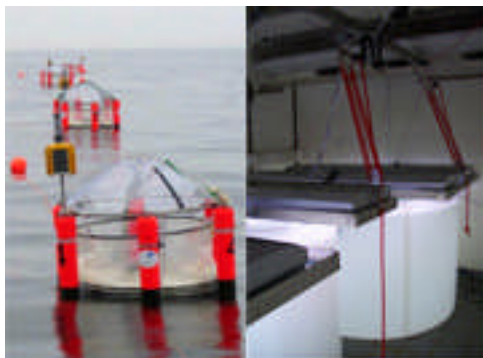
Heraklion-CRETACOSMOS



Umeå-UMSC



Kiel-KOSMOS & Kiel-Indoor



Montpellier/Sète-MEDIMEER



MESOAQUA : Nettverk av ledende MESOkosm fasiliteter for
Horisont 2020
Fremragende forskning
å studere AQUATiske økosystemer fra Arktis til Middelhavet