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The Research infrastructures, innovation and knowledge transfer

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Research infrastructures are

- essential tools for an increasing variety of subjects
- initially physics, astronomy
- presently chemistry, humanities, life sciences, environmental sciences...

Research infrastructure provide opportunities for innovation

- their own technology
- measuring or computing capacities
- generic support infrastructures
- down stream services

Questions on how to accelerate innovation

- based on research infrastructures

« Good » adhesion

- Example : Access to synchrotron
- Need : Measurement of volume and surface properties of complex material
- Implies : Access to a variety of synchrotron lines with their instrumentation
- Approach : Contract with synchrotron facilities (ESRF, Soleil)
Buying machine time and service

Computer facilities

- Need : Complement internal (strategic) capacities with more powerful machines; test new architectures appropriately and develop codes
- Implies : Access to small amounts of computer time in a variety of centers
Partner with laboratories to develop algorithms, solvers, codes
Partner with companies to benchmark new architecture
- Approach : Long term partnership with laboratories
Buying machine time and service

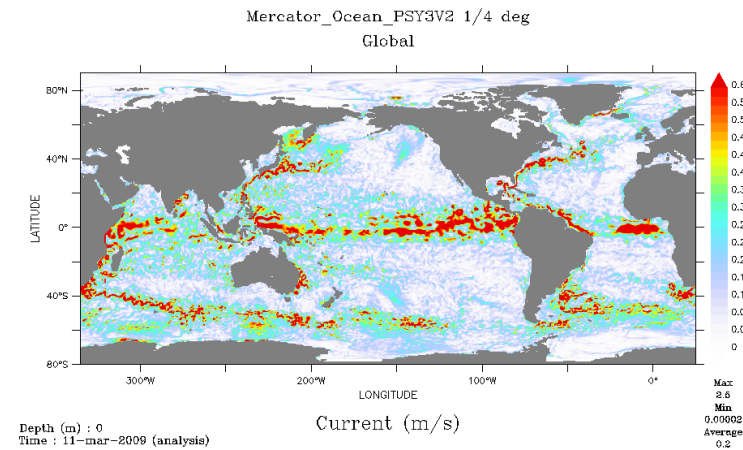


High performance computing

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- Example : Accessing and using oceanographic vessels and tools
- Need : Developing research on key subjects for offshore oil and gas exploitation
Survey in specific areas using advanced tools
- Approach : Partnering with Research Institutes to develop joint oceanographic campaigns
Buying ship time and service for more operational purposes
Participating the development of new ocean instruments

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- An aerial photograph of a shipbreaking yard in the Arctic, showing a large area of broken ice. Three ships are visible, each circled in red. Two of the ships are labeled "Icebreakers" and the third is labeled "Drill-ship".



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Overall approach : anticipate the future

- Monitor strategy in public research infrastructure (national, ESFRI)
- Provide specifications as one input to new projects
- Contract with managing institutes
for access and services
- Develop long term research partnerships with research laboratories
for research of common interest or tailored developments
- Facilitate innovation in service companies (SMEs)
to maintain them competitive
and obtain tailored services

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