

Organisation for Economic Co-operation and Development
Global Science Forum



Large-Scale International Scientific Cooperation: A View from OECD

A personal unofficial view

Through the Global Science Forum, senior government officials develop findings and action recommendations on specific science policy issues.

1995 – 2006 Topics:

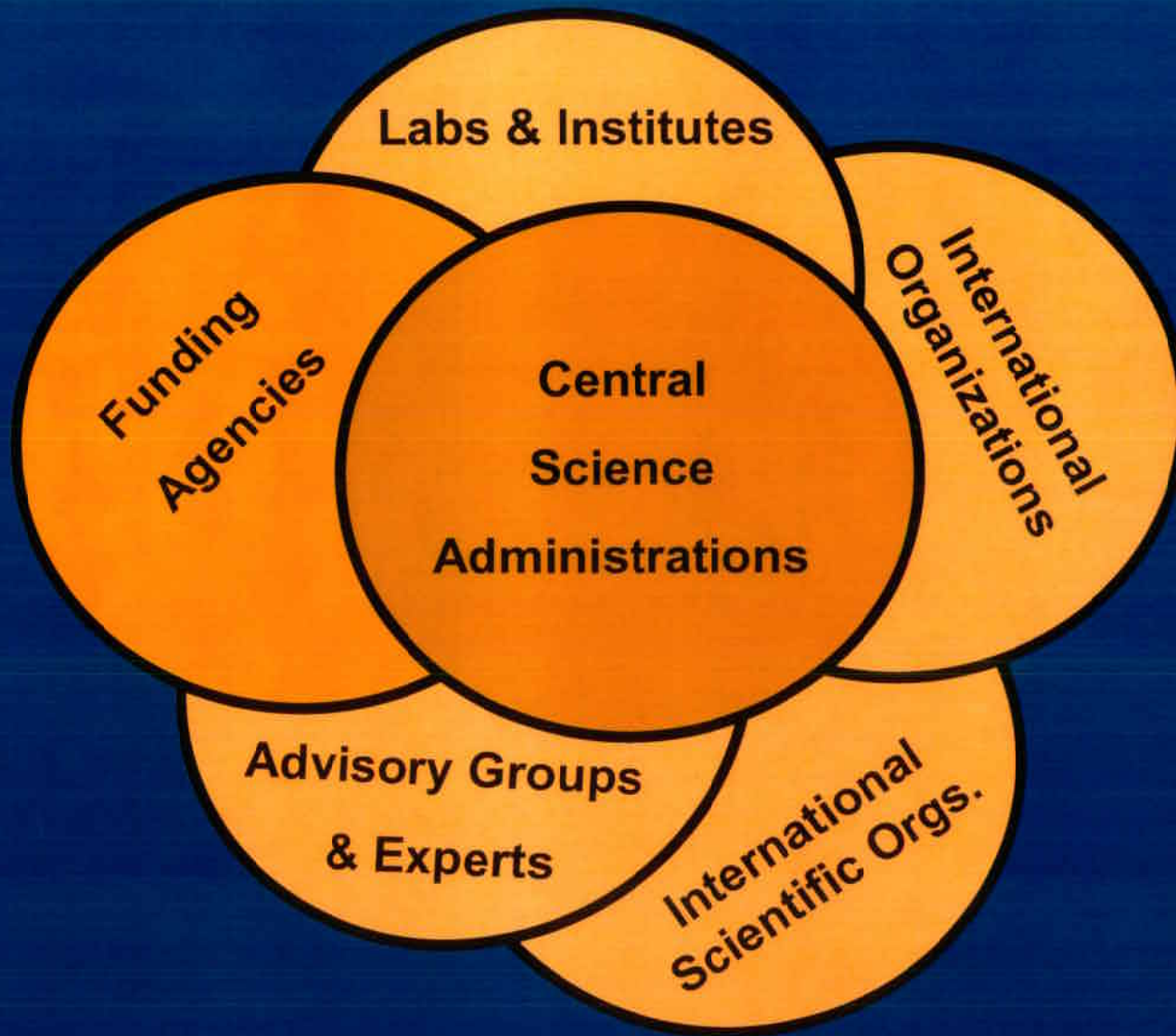
- Neutron Sources
- High-Energy Neutrinos
- Radio Astronomy
- Proton Accelerators
- Nuclear Physics I
- Structural Genomics
- Condensed Matter Facilities
- High-Intensity Lasers
- Astronomy and Astrophysics
- High-Energy Physics
- Grid Computing
- Science indicators and Models
- Science Education
- Science for a Safer Society
- Bioinformatics
- Neuroinformatics
- Administrative Practices
- ***Energy Research***
- ***Earthquake Science***
- ***Nuclear Physics II***
- ***Research Misconduct***
- ***Scientific Collections***

Global Science Forum activities are proposed by member delegations (governments). If approved, they are organised/facilitated by a small secretariat of international civil servants.

All Global Science Forum activities result in a publicly-available policy-level report containing findings and action recommendations for governments, inter-governmental organisations, or the international scientific community.

www.oecd.org/sti/gsf





GSF Stakeholders

Lessons learned: Undertaking an activity

- Scientific opinion should be mature. Scientists should acknowledge need for some “top down” guidance or help
- Interesting science is not enough. Must have a specific problem/challenge/opportunity
- Need interest in 3 regions, and at least some projects for success (ideally, a Ministerial-level endorsement at the end)
- Boundaries must be correctly chosen, especially given increasing links between fields
- Activity must be visible/transparent/inclusive, especially with regard to the scientific community

In most GSF activities, scientific organisations have been invited to participate as equal partners

For example,
Working Group on Nuclear Physics
has 13 countries, plus:

- IUPAP/ICNP
- NuPECC
- CERN
- JINR
- EURISOL

- UNESCO
- Euroscience
- ICSU
- ESF
- IAU
- IUGG

Lessons learned: Externalities

Globalisation Is Happening

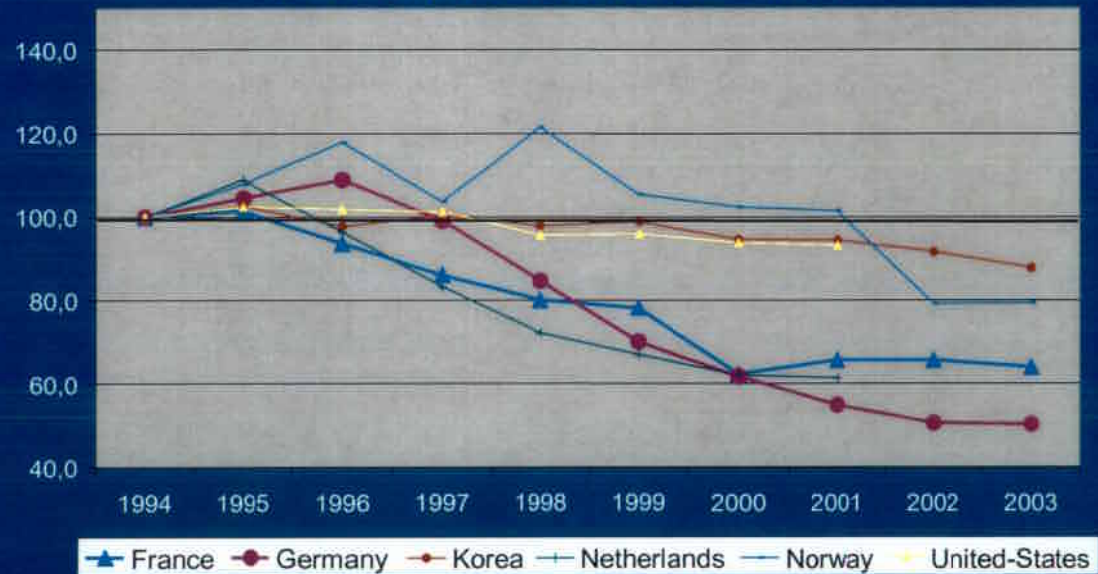
- Cold War is over. There are winners and losers, new opportunities and challenges.
- Ongoing revolution in computation, communications, travel, transportation
- Expertise/resources/issues/data are globally distributed. Emerging nations investing in S&T.
- European integration is moving forward.
How to reconcile global versus intra-regional cooperation and coordination?

Lessons learned: Externalities, cont.

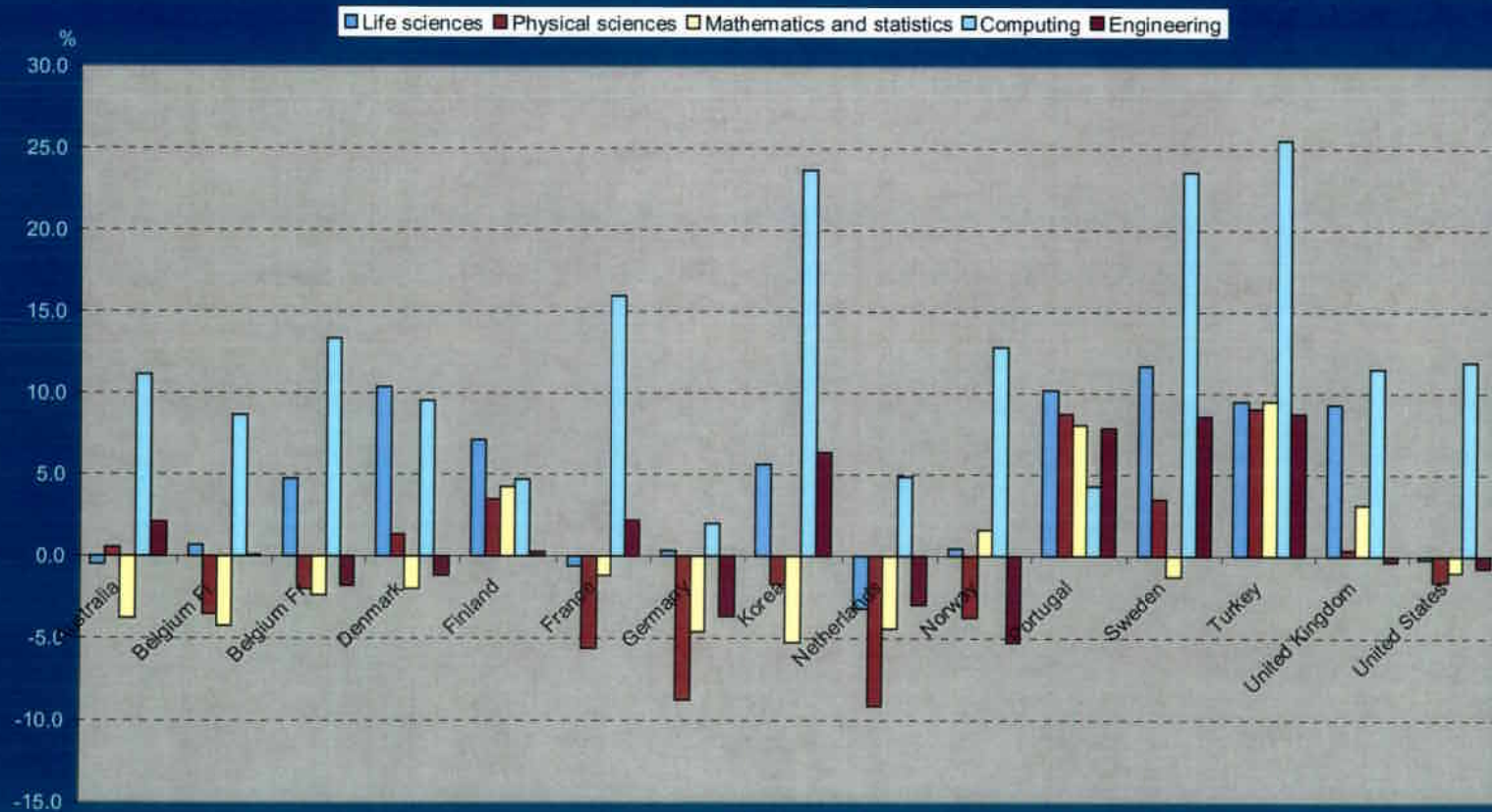
Greater Social Relevance Expected

- Economic competitiveness (public, private) can interfere with scientific cooperation
- Global-scale issues count (health, environment, energy,...)
- National security issues can take precedence
- Public attitudes to science are evolving (e.g., young people losing interest, mistakes are more visible)
- Lack of reliable indicators and analytical models for assessing societal impact of S&T investments

University graduates in physical sciences in selected countries index 100: 1994



Average annual growth of S&T graduates: 1995-2003



Lessons learned: Externalities, cont.

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Lessons learned: Changes in science itself

Larger Scale of Infrastructures Imposed by Science

- Some fields are entering the global-scale megascience era for the first time
- The culture of science is changing
- Large costs suppress duplication, competition
- Smaller number of large facilities aggravates laboratory politics
- Supply/demand issues are rarely addressed

Lessons learned: Changes in science itself, cont.

Stronger Links Between Scientific Fields

- A challenge for traditional academic institutions, funding agencies, scientific organisations.
- A challenge for planning, prioritisation, funding, oversight mechanisms as well.

Increasing Role of Large User Facilities

- National/regional/global balance issues
- Access policies become more visible
- Need for investments, R&D for instrumentation

Lessons learned: About international cooperation itself

Long-range Planning and Prioritising

- National/regional cycles are not synchronised, not sufficiently international
- The spirit of collaboration and sharing is underdeveloped
- Need venues where scientists/officials can interact (e.g., OECD GSF)
- Allowing for serendipity when planning
- The international scientific community does not have the inclination or mechanisms for long-range planning, prioritisation

Lessons learned: About international cooperation itself

Siting Considerations

- Try to keep the politics out; works best when science is the driver, or when choice is obvious
- Recognise/acknowledge political dimension
- The “fair distribution” approach will probably never work
- Take advantage of existing infrastructures
- Be sensitive to local concerns
- Anticipate decommissioning costs

Lessons learned: About international cooperation itself

Organising Large Collaborations

- Understanding the options for legal/organisational/managerial structures
- Speaking the same language about budgets, project stages, approvals, etc.
- Being clear about access policies
- Many collaboration issues – big and small - will be decided by negotiating agencies
- The intergovernmental negotiations take lots of time

Lessons learned: Pitfalls

- Resolve scientific disputes elsewhere first.
- Try to direct action recommendations to the right authority. Avoid “Someone should do something”
- Don’t tackle an issue that is too easy, too hard or politically intractable.
- Try to arrange some kind of follow-up. Formulate Ministerial recommendation of possible.