How to integrate South-East European research in the European and international research environment

A subjective perspective

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Outline

- Who are we
- Why cooperate (or not)
- How to cooperate
- Who to cooperate with
- How to support the cooperation

Presenter's background

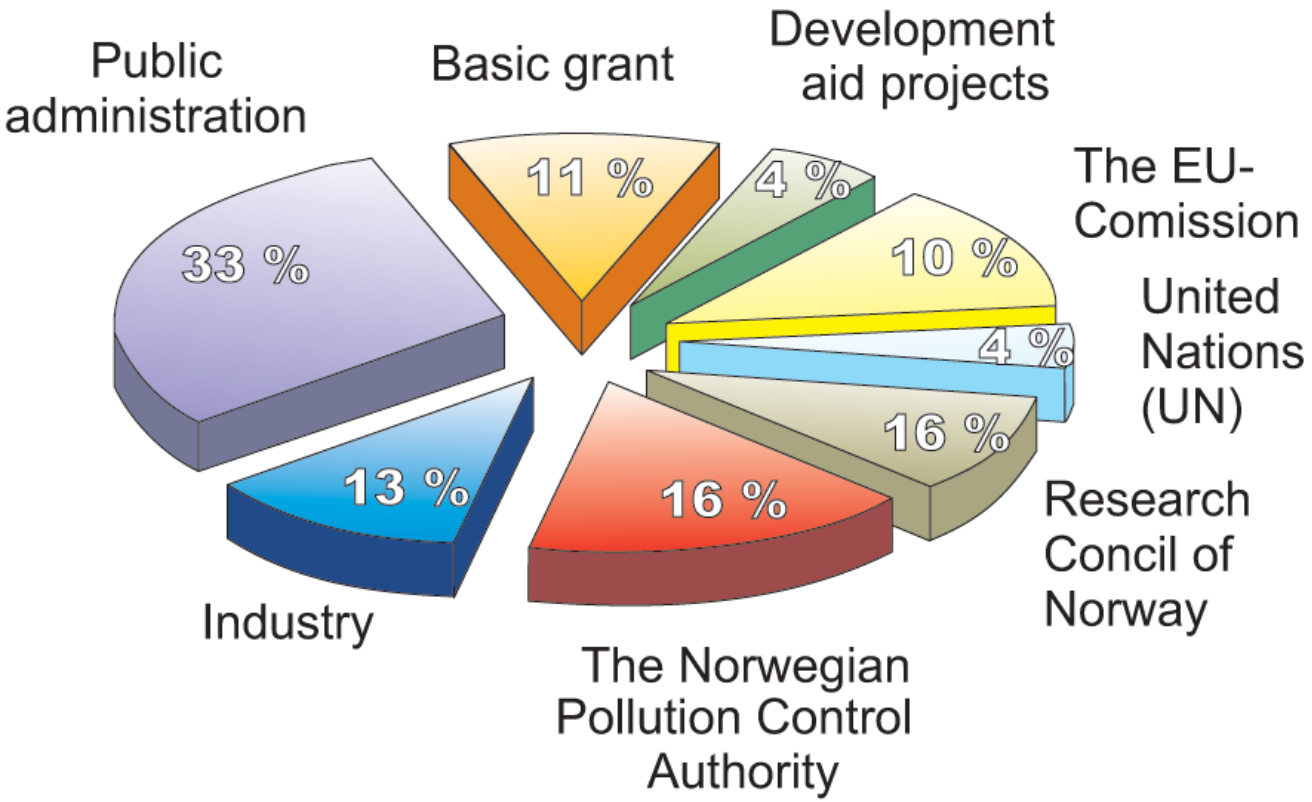
- MJ+AB: together 50+ years of research experience
- Last 5 years, active collaboration on proposals and in projects
- NILU: Large portfolio of international R&D projects and and research based services
- VINCA: Major national institute
- EU FP6 projects:
  - together in one IP,
  - separately in addition, coordination of one small network (CA) and two STREPs, participation in one CA, two IPs.

NILU's key numbers

- **Founded in 1969**
- **Independent foundation from 1989**
- **Annual turnover 17 mill. Euros**

175 employees

- 90 scientists
- 50 scientists with a doctoral degree



NILUs areas of expertise: atmospheric pollution

- Science: selected topics within
  - Atmospheric processes and composition, on global level (climate change) as well as regional (eg acidification or persistent pollutants and heavy metals), and local (urban air quality and local polution problems), modeling on all scales
  - chemical analytical methods development, environmental & human toxicology,
  - Effects on the natural and built environment and humans, integrated assessment
- Science based services:
  - Air quality management including co-benefits linking climate change and improvements of air quality
  - Support to authorities in all areas of own research
  - Extensive monitoring networks , reference labs and databases
  - Information to the public, national and international authoritie

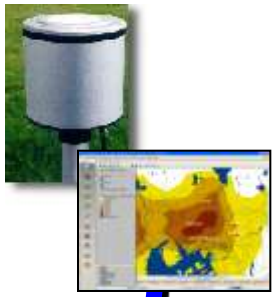
NILU's business philosophy

International knowledge institution

Publication

Competence

Products



Science based - services

The research

Money

Competence

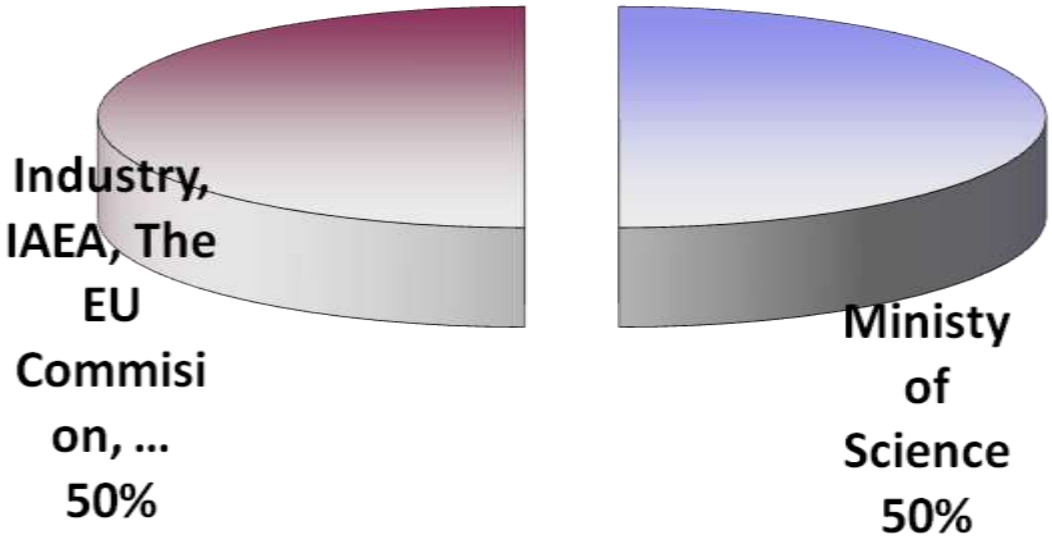
Research needs

VINČA's key numbers

- **Founded in 1948**
- **Goverment founded research institute**
- **Annual turnover 18.5 mill. Euros**

780 employees

- 408 scientists
- 167 scientists with a doctoral degree



- **48 projects of basic research**
- **24 projects of technological development**
- **4 special projects**

VINČA INSTITUTE OF NUCLEAR SCIENCES

The Vinca Institute of Nuclear Sciences is the largest scientific institute in the Republic of Serbia. It is located 15 km from the center of Belgrade, 2 km from the river Danube and close to the archaeological site of Vinca (a Neolithic site dating back to 5 000 B. C.).

The Institute incorporates two nuclear reactors, one accelerator installation, one industrial scale irradiation unit, research laboratories, research centers, a library, administration, and all the necessary technical services.

INSTITUTE VINČA: MULTIDISCIPLINAR TODAY

In the past:

- **Established in 1948.**

  Research activities dealt with the peaceful uses of nuclear energy, gradually been complemented by research concerning classical aspects of physics, chemistry, biology, power engineering, environmental protection, electronics, etc.

- **In the late sixties**

  The Government closed down the national nuclear programme.

  Research activities had to be replaced by research and development programmes associated with the country's industrial development.

- **During the two subsequent decades**

  The research profile has been changing in favour of non-nuclear problems

The last decade:

Has been devoted to preservation of the Institute's research potentials and maintaining existing connections with the world of science

LABORATORIES, CENTERS AND UNITS OF THE INSTITUTE VINČA :

LABORATORY OF :

- PHYSICS
- NUCLEAR PHYSICS
- THEORETICAL PHYSICS AND PHYSICS OF CONDENSED MATTER
- RADIATION CHEMISTRY AND PHYSICS
- ATOMIC PHYSICS
- PHYSICAL CHEMISTRY
- CHEMICAL DYNAMICS AND PERMANENT EDUCATION
- RADIOISOTOPES
- RADIOBIOLOGY AND MOLECULAR GENETICS
- MOLECULAR BIOLOGY AND ENDOCRINOLOGY
- RADIATION AND ENVIRONMENTAL PROTECTION
- THERAMAL ENGINEERING AND ENERGY
- MATERIAL SCIENCE
- MEDICAL PROTECTION

CENTERS FOR :

- NUCLEAR TECHNOLOGIES & RESEARCH NTI
- MOTOR VEHICLES
- MULTIDISCIPLINARY RESEARCH AND ENGINEERING
- FOREIGN TRADE
- COMPUTER SYSTEMS & SOFTWARE DESIGN
- EXPLOSION PROTECTION
- CERTIFICATION BUREAU

VINČA's (business) philosophy

National research and knowledge institution

Publication

Competence

Education:

- University mentor
- Special training courses

Technologies

Products

Services

Application competence (expertise)

research

Money

Why cooperate

Overarching aims and benefits:

- Pursue scientific excellence
- Provide integrated services
- With the above aims, easier access to support for our research

Individual-dependent

- Similar, or complementary research interests
- Complementary competencies towards achieving the objectives (own scientific or those of a granting agency)
- Good personal chemistry

Why not to cooperate

- There is really no reason not to cooperate: the scientific community is a global one, and a ballance between competition and collaboration ensures scientific development, and excellence.
- Some pragmatic issues can make the need for collaboration less obvious:
  - Basic funding level is already achieved, from private or public funds (in comparison – Noway and Serbia are on different ends of this scale, but in Europe this is somewhat leveling out)
  - On case by case basis, reasons may exist for choosing competition rather than collaboration
  - Politics impacts bilateral and multilateral collaboration

Meeting the Costs of Collaboration

- While there are clear (and overwhelming) rewards, there are also costs to collaboration both on personal level, and on institutional level. These costs need to be addressed.
  - Collaboration is demanding on personnel
    - Networking, additional meetings, increased communication,
    - Requirements on interpersonal skills, management skills
    - Reduction of own scientific output for the coordinator
  - Demanding for institutions
    - Need to give resources to networking/coordination
    - Need to train people for collaboration
    - Need to have a transparent administrative and organisational structure, and transparent financial system.

Reducing barriers to collaboration (I) Platforms and institutional incentives

- On national/international level: Creating opportunities, and benefits, for institutions to collaborate –
  - Grant opportunities
  - Basic grants to institutions to reflect also the collaboration performance
  - Institute ranking system or (to be used in grant approvals)
  - Access to infrastructures
- The EU R&D system is increasingly geared towards promoting scientific excellence through collaboration by creating collaborative platforms instead of promoting individual research (European Research Area, Science Infrastructures, promoting regional collaboration and more). Five green papers (Communications) in 2007/2008 on different aspects of ERA.

Reducing barriers to collaboration (II)
Efficient systems and positive incentives

- Individual (R&D, Universities) institutions:
  - Create benefits for individuals/groups to collaborate
  - Reduce (internal) adminitrative and financial barriers
  - Avoid financial redistribution schemes in internal accounting
- On individual level: develop positive incentives for individuals to collaborate
  - What is the coordinator's reward? at the moment, collaboration is not a criterion in evaluation of individual scientists
  - Bonuses, access to (additional) resources?

What makes a good (research) collaboration

• Excellent science/expertise	➡ State of the art or beyond
• Focus	➡ Clear objectives
• Relevance	➡ To ourselves and to the granting agency
• Potential impact	➡ Durable integration ; knowledge;
• Integration of activities	➡ Internal coherence of the work
• Solid management	➡ Understanding each other's cultural baggage and administrative environment
• Collaborative events	➡ Communication

Main Aim of Collaboration: Seeking Scientific Excellence

- Criteria for scientific excellence vary in details but are based on several measures:
  - Scientific output (publication history, ranking of publications – by journal impact, by publication impact)
  - Activities in the research management system, such as scientific committees
  - Parcitipation in international societies
  - Educational activities (MsC/PhD students)
- How does your project contribute to your ranking as a scientist?
  - Focus, relevance, potential impact and integration of activites are the scientific means to achieve ”excellence”
  - Dissemination: Not a necessary evil but A GREAT OPPORTUNITY
  - Management is the technical means to achieve the same.

Solid management

- Four elements:
  - Common understanding of roles in the project
  - Formal requirements
  - Day-to-day management
  - Communication
- EU Framework programs: provide clear guidance on management issues, but may seem complicated to the newcommer
- Bilateral projects: often simpler (lesser variety of situations), but can have specific provisions

Management: Roles in the project

- Responsibilities: ONE person responsible for a given issue/task
- Roles in a project: contractual and informal
  - Project leader
  - Institution's Principal Investigator
  - Administrator
  - Financial officer
  - WP leader
  - Task leader
  - Collaborator

all participants have an interest in a successful carrying out of the project, not only the project leader

- Expectations: must have the same understanding on all levels
- Discuss. Give feedback. Common understanding on all levels is crucial towards meeting expectations of the project participants.

Management: formal requirements

- Understand the rules of the granting agency:
  - Requirements for the proposal
  - Solid workplan is essential: not always required, never detailed enough, seldom plans for contingencies
  - Financial plan: scale tasks to available resources, plan for contingencies
  - Reporting requirements: inside the project and to granting agency
  - Disbursement rules: important for cash flow
  - Intelectual property rights and ownership of the results
  - Dissemination: plan and update regularly
- Each team member should have some understanding of all requirements, also of issues outside their direct responsibility.

Management: day-to-day

- Adhere to ”good practice” in project management
- But: do we have a common understanding of what this ”good practice” is?

In Norway, schoolchildren already in primary school are taught how to collaborate and how to take upon themselves different roles in a team.

In Norway, project management is a very important part of in-house training for many enterprises.

In Norway, scientists enjoy an efficient and lean bureaucratic system, with flat hierarchies and short way to the top.

Outside Norway, the situation can be very different!

Management: communication

Challenge: How to make the whole project team involved and engaged over a long time and with varying intensity of activities.

- Face-to-face communications: Project meetings and workshops (expensive but usually efficient)
- Electronic communications (inexpensive but not allways very efficient),
- Status updates and news (newsletters in large projects)
- Allways: Check common understanding.

Management: communications

Many projects use successfully both active and passive means of communication:

- teleconferencing, videoconferences, skype,
  (+) Checking status, troubleshooting and making concrete plans
  (-) Complex issues, brainstorming
  (-) Require good communication skills.
- web sites, collaborative work spaces (may need training)

Collaborative events

- Face-to face events
  - Workshops and conferences
  - Project meetings
  - Working parties
  - Training sessions
  - Need to respect time constraints and other comitments – plan well ahead
  - Important in the first phase of the project (and in planning)
  - Should include a social event
- Electronic and other events: common activities – need a moderator, training prior to the event and a post-evaluation.
  Ex: electronic workshops, electronic meetings.

How to find partners

- My own network / my professor's network / my institution's network
- Partnering web sites (CORDIS): write your profile, write the profile of your desired partner
- Conferences, other events
- EU project evaluations (multi-functional).

How to support collaboration: a case study

Our case:

- NFR funded a research stipend for Milena to spend at NILU in 2003 and a year later
- In 2004 (?) we filed a proposal for collaboration on air quality management to NORAD via Serbian authorities(turned down)
- In 2005 (?) we filed a second proposal as above
- In 2005, we became members of FP6 IP ”Intarese”
- In 2006, we received the NFR West Balkan program grant.

How to support collaboration: some thoughts

- It is not enough to know people and have compatible interests

- Long-term collaboration is only possible in projects – past performance important (scientific excellence as well as ability to work in a project)
- Knowledge of funding sources/agencies important
- Local knowledge essential (know your own system)
- Seed money often essential (for both sides)
- Common arenas help
- Good portion of patience a must

Some thoughts to end

- **Support to scientific excellence**:
  - Creating platforms for collaboration, including infrastructures
  - Education programs, research stipends
  - Research projects
- **Support to collaboration**
  - EU: National Contact Points
    - Norwegian system of EU contacts receives very good reviews
    - in Serbia EU contact has been established last year
  - Professionalization of project management and dissemination (in broad sense)
- **Support to communication**
  - Create common arenas
- **Support to networking**
  - ERA-NET system starts now to work, ERA WESTERNBALKAN+ Intensifying the European Research Area in Western Balkan Countries
  - Regional collaboration
  - Bilateral collaboration
  - Mobility stipends
  - Dissemination

ERA WESTERNBALKAN+ PROJECT

-Main objective:
To accelerate the opening up of the ERA to WBCs during the FP7
Main measures:
Networking activities and specific FP7 trainings trans-regional networking events for research centres in WBCs with their counterparts in Austria, Slovenia and Greece
A network of NCPs from WBCs and their links to NCPs in MS and CC are substantially strengthened

Enhancing the participation of the WBCs RTD community in FP7 will be achieved by providing targeted information and training for NCPs and specific RTD client groups:
FP7 training workshop for NCPs from WBCs, Belgrade in May 2007 on the structure, contents and rules of FP7, practical issues on project proposal preparation!
Several national FP7 workshops followed in 2007 and 2008 in the WBCs for researchers at universities and R&D institutions!

Thank you!