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# EU-EECA S&T COOPERATION: Current State and Perspectives

*Vladimir MAYER*

*Centre National de la Recherche  
Scientifique (France),  
Moscow Office for EECA*

# What is CNRS ?

Research performing organization *and* Research support agency under the administrative authority of the French Ministry of Research

- **Overall budget: 2.8 billion € (80 % Gov. Subsidies)**
- **Permanent staff: 25 000 (11 500 researchers)**
- **Pivotal role** in the French scientific community
- **Research units: 1200 (90 % joint labor. with universities)**
- **Overall personnel: 77000 (57000 permanent, Univ. + CNRS)**
- **Largest fundamental research organization in E.U.**
- **Worldwide reach:** supports collaboration and networking throughout the world

# What is CNRS ?

## Missions:

- Coordinating, performing and evaluating the fundamental research in France
- Advancement of knowledge having cultural, social and economic impact
- Contribution to the promotion and application of research results
- Training of young generation for and through research
- Scientific prospective
  - to develop national policy for basic research
  - to promote the European research space

**CNRS regional offices:** Bruxelles, Moscow, Tokyo, Beijing, Hanoi, Johannesburg, Washington D.C., Santiago de Chile

# Guiding principles for the EU – EECA S&T cooperation:

- Support competitiveness through strategic partnerships with EECA countries in selected fields of R&D
- Address global challenges
- Address specific problems facing EECA countries on the basis of mutual interest and mutual benefit
- Use S&T cooperation to reinforce EU external relations and other relevant policies towards EECA
- Coordinating European Union and EU member states S&T cooperation with EECA



# S&T in EECA countries – common denominators

- Heritage of the centralized organization of the soviet science
- Split between the research and higher education systems

**Academies of Sciences** – learned societies and research performing organizations

**Higher Education organization** – limited research activities

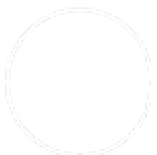
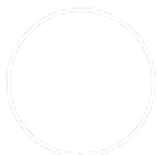
- Russian language largely used in scientific communication in most countries
- Limited access to international journals and data bases
- Negative consequences of the political and economic crisis after dislocation of USSR

**difficult transition towards market economy:**

low attractiveness of science for young generation,  
ageing of scientists

# S&T in EECA countries – diversification

- Differences in economic and scientific level
- Organization of S&T adapted to size, and culture of a country
- Appearing diversification in organization of S&T between individual EECA countries reflect differences of political systems
- New ways of supporting science: appearance of **funding agencies** and **science foundations**
- Redefining the role of **Academies of sciences**
- Evolving EU view of EECA: Russia (BRIC), two blocks of ENP countries, CA countries



# Evolution in EU – EECA S&T collaborations: from assistance towards partnership (1)

## « Difficult nineties » - political and economic turmoil

limiting the brain drain – keep researchers at home

- European Union (fundamental research **INTAS** 1993-2006)

92 calls (open, thematic, regional, joint, young scientists)

**273 M€** for 3300 projects, 18800 teams (EU, EECA)  
for 1390 young scientists fellowships

**Plus** - simple, flexible, lean management, responsive

**Minus** - lack of: common policy, link with other EC programmes,  
sustainability

programme in liquidation 2007-2009



## Evolution in EU – EECA S&T collaborations: from assistance towards partnership (2)

### « Avoiding proliferation » - conversion of MDW scientists

intergovern. org. of ind. countries (EU, USA, Japan...)  
in collaboration with EECA countries

### International Science and Technology Centre (ISTC)

- based in Moscow, covering: Ru, Blr, Arm, Geo, Kaz, Kir, Tad
- funding 35 – 40 M€/year
- overall funds engaged since 1994: **550 M€** for 2650 projects  
including 175 M€ from EU for 970 projects

### Science and Technology Center in Ukraine (STCU)

- based in Kyiv, covering: Ukr, Mol, Azer, Geo, Uzb
- funding 11 - 15 M€/year

### Evolution since 2006 – decreasing funding

- from *regular* towards *partner* projects
- involvement of private business and governmental agencies
- ISTC and STCU evolving towards applied research agencies

## Evolution in EU – EECA S&T collaborations: from assistance towards partnership (3)

### « Promising after 2000 » - period of economic growth

Developping collaborations as partnership, Russia in particular

Importance of frame agreements with appropriate bodies in EECA countries: foundations, state committees, ministries

#### Collaborative schemes:

- «bottom up» versus «top down» approach
- «excellence driven» versus «interest driven» collaborations
- funds engaged and their use
- selecting appropriate tools

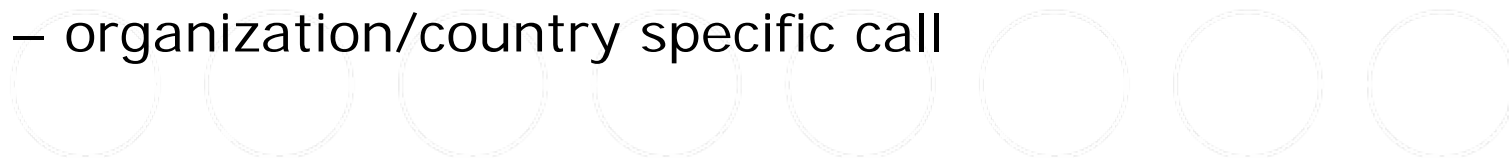
however, the effect of the crisis to S&T in EECA is difficult to predict

# Tools for bilateral collaboration with EECA; *a CNRS approach*

- **Exchange mobility agreement**  
(2 years mini projects, up to 8 k€/year)  
organisation/country specific coordinated call
- **Intern. research projects** (2-3 years , up to 20 k€/year)  
general or country/organisation specific coordinated call

*Structures - established without a call:*

- **Int. laboratories** «without walls »  
(4–8 years, 30-40 k€/year)
- **Int. research networks** (4–8 years, 30–40 k€ /year)
- **Int. joint laboratories** outside France (4-12 years, over 50 k€)
- **Seminars** – organization/country specific call



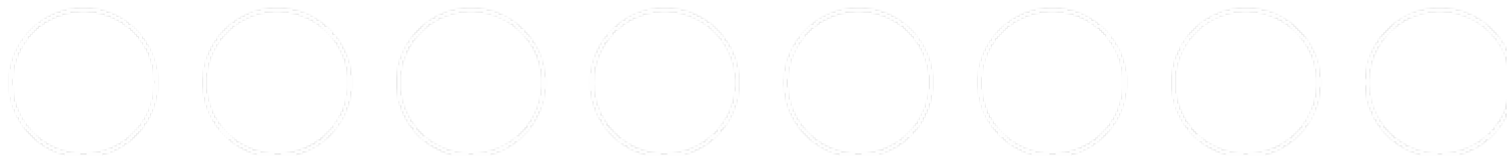
# European tools (FP7) (1)

## « Cooperation »

- general calls (participation)
- coordinated calls
  - FASI/Russia: biotechn., energy, health, nano
  - two 3-year projects per domaine: ~1.3 M€ per year
- Specific International Cooperation Action SICA

## « People » – Marie Curie mobility action

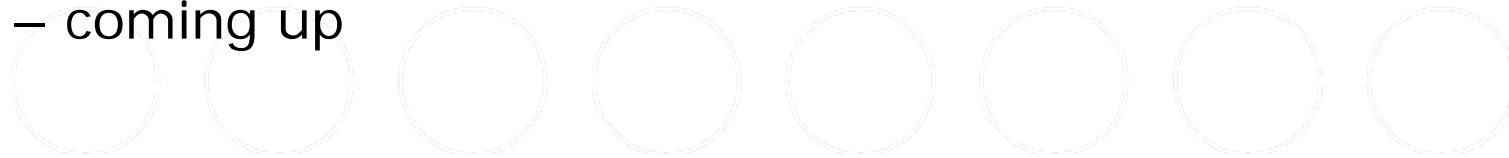
- incoming mobility (2007: EECA 22 stipends out of 131)
- outcoming mobility (2007: 1 going to EECA out of 100)
- Int. research staff exchange scheme (IRSES) – new tool



## European tools (FP7) (2)

« **Capacities** » - science policy & management projects determining «enabling» conditions for effective collaboration with third countries

- Scope East (FP6, 2007-2008)
- InContact (2008, 2 years)
- IncoNet EECA (2008, 4 years), IncoNet CA/SC (2009, 4 years)
- Bilat–Rus (2008, 3 years), Bilat–Ukr (2008, 3 years)
- ERA.Net.Rus (2009, 4 years), BS.ERA.Net (2009, 4 years)
- Access4EU.Rus (2009)
- ERA-WIDE – coming up



## Russia – the most successful third country during FP6 (2002-2006) and FP7 (2007-2008)

- **FP6 280** projects with 469 Russian teams, mainly RAS, worth of 2,8 € bln (success rate 20%)

Total funding for Russian participants ~ **51 M€**  
(1,8 % of the overall funding)

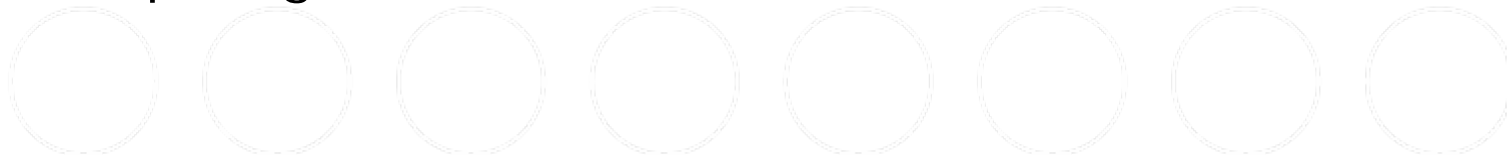
- **FP7 82** projects with Russian participation selected (07/2008)

Total funding for Russian participants ~ **16 M€**

Funding of Russian teams per project approximately constant in FP6 and FP7 ~ **0.19 M€**

## Ukraine – the 11th third country in FP6

107 participating teams



# Organization and management of S&T in EU and EECA countries

## *What is different ??*

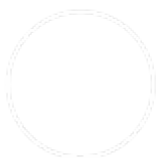
- double role of the Academies of sciences – learned society and research performing organization
- pyramidal structure of decision making, long terms of staying in power
- salaries are generally low, partly covered by projects, discrepancies
- difficulty to attract young people, high average age of researchers
- considerable portion of research personnel without a scientific degree
- relatively low mobility – valid for Russia (inside country, outside country)
- percentage of university personnel engaged in research is low
- publishing policy (national versus international journals)
- system of research evaluation (use of bibliometric indicators)

## Differences between selected EU and EECA countries in funding organizations performing basic research

<b>Organization</b> <i>Characteristics</i>	<b>NASU</b> Ukr	<b>RAS</b> Rus	<b>CAS</b> Czech	<b>CNRS</b> France	<b>Max Planck. S</b> Germany
<i>Number of researchers</i>	<b>19 820</b>	<b>49 683</b>	<b>2600</b>	<b>11 500</b>	<b>4 417</b>
<i>Budgetary financing (M€)</i>	181	948	200	2 300	1 176
<i>Off-budgetary financing (M€)</i>	132	597	140	510	258
<i>Total financing (B€)</i>	<b>313</b>	<b>1 545</b>	<b>340</b>	<b>2 810</b>	<b>1 434</b>
<i>Financing per researcher (T€)</i>	<b>15.8</b>	<b>31.1</b>	<b>131</b>	<b>244</b>	<b>325</b>

## Reported weaknesses in EU-EECA S&T cooperation; Areas of future attention (1)

- Language barriers, differences in “working cultures”
- Mobility of researchers (visa issue) and of materials & equipment (customs issue) – particularly in Russia
- Banking issues – international transfer of funds into & out
- IPR issues – e.g. full & direct enforcement of IPRs in joint (transnational) S&T projects
- Compatibility of standards & methodologies for performance assessment, transparent and independent project selection and evaluation



## Reported weaknesses in EU-EECA S&T cooperation; areas of future attention (2)

- Identification of priority areas for joint activities
- Development of mechanisms & instruments for joint / coordinated actions
- Access to and use of S&T infrastructures & facilities (particularly in Russia)
- Participation of European researchers in EECA S&T programmes

