



French National Centre for Scientific Research (CNRS) and its Tools for International Cooperation

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Katsiveli Lieu et date de l'intervention

Research system in France

Total R&D permanent staff: ~ 388 000 persons (~ 800 000 in Russia)

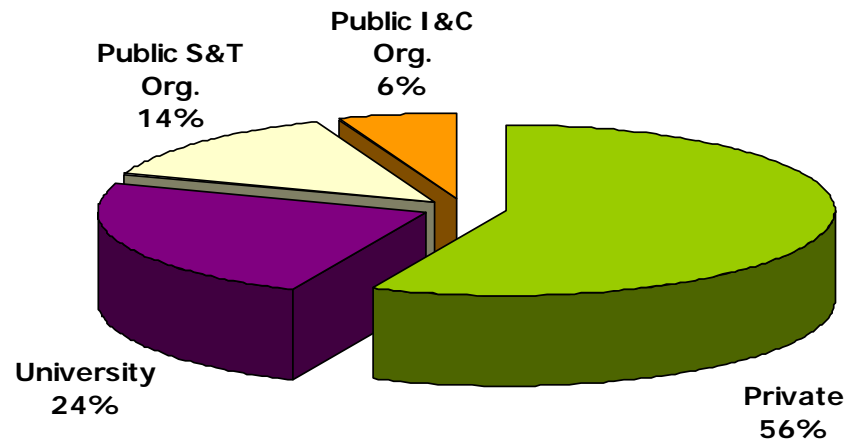
- - ~ 166 000 persons working for public research (including 99 000 scientists)
 - 54 000 faculties in universities
 - 45 000 scientists in public research institutes
- - ~ 222 000 persons working for research in private labs (including 130 000 scientists)

Specificities of the French public research :

- dual approach: research performing organizations
universities
- limited number of research institutes
- mainly « mixed » laboratories in university campuses

Repartition of researchers in France

The 229 000 French Researchers



Public S&T Organizations (9)

CNRS – general

INRA – agriculture

INSERM - health

INRIA – informatics

IRD – development

Public I&C Organizations (15)

CEA - nuclear

CNES - space

BRGM - mining/geol.

Nonprofit institutions

Pasteur Inst. - health

Main types of higher education institutions

83 universities – housing most public research laboratories

~ **250** «grandes écoles» - highly selective - research effort limited



What is the French National Centre for scientific research (CNRS) ?

Governmental organization under the administrative authority of the France's Ministry of Research

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** for and through research
- **International and European cooperation**
 - to foster bilateral scientific collaboration
 - to promote the European research space



CNRS potential

Main player in French research with **1150** affiliated research units (**90 %** in partnership with higher education and other research institutions)

- Total personnel in all CNRS affiliated research units **90,810**
 - **14,670** permanent researchers
 - **25,810** permanent teachers-researchers (university)
 - **23,440** support staff (engineers, technicians, administr.)
 - **26,890** PhD students, post-docs, visitors
- Of which on the direct CNRS payroll is **28,030**
 - **10,730** permanents researchers
 - **11,360** support staff permanent
 - **3,000** support staff nonpermanent
 - **2,940** PhD students, post-docs

CNRS budget 2009: **3,1** billion € (**2,5** b€ state funding), salary 65 %

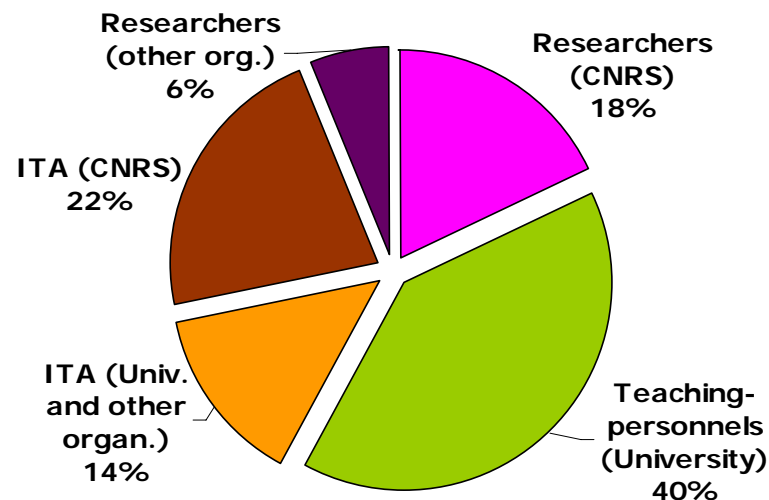


Composition of personnels in laboratories associated with CNRS (without PhD and postdocs)

Partnership of CNRS with 120 university type institutions and other research organizations

<i>Personnel</i>	<i>Number</i>
Teaching pers (University)	25 810
Researchers (CNRS)	10 730
Researchers (other org.)	3 940
ITA (CNRS)	14 360
ITA (Univ+ other)	9 080
Total	63 920

Laboratories associated with CNRS, permanent and semi perm. personnels



CNRS Disciplinary Organization

CNRS consisting of Institutes

- Institute is a *research operator* and a *funding agency*
- Institutes supervise research units (laboratories)

Institutes (some being *national coordinators*)

- *Mathematics and their Interactions*
- *Computer Sciences and their Interactions*
- *Physics*
- *Nuclear and Particle Physics (IN2P3)*
- *Chemistry*
- *Biological Sciences*
- *Ecology and Environment*
- *Earth and Planetary Sciences (INSU)*
- *Engineering and Systems Sciences*
- *Humanities and Social Sciences*

Scientific impact of CNRS laboratories:

- **13** Nobel Prizes in the last 50 years
(6 physics, 4 biology, 2 chemistry, 1 economy)
- **11** Fields Medals (mathematics)
- **25 500** articles/yr in international scientific journals
(not including social sciences and humanities)
 - = 55% of all publications in France
 - = 6.5% of all publications in European research space
 - = 2.5 % of all publications in the world

CNRS collaborative activities abroad

- Out of a total of **25.500** CNRS publications in 2008 **53%** are co-authored with collaborators from abroad (**33 %** from the European research area)
- **5000** foreign visitors in CNRS laboratories per year
- **1400** permanent researchers hold foreign nationality
- **25 %** of annual recruitment is from abroad

International activities are an integral part of the work of CNRS researchers

Two geographic areas with different modes of action:

- **European Union:**

building the European Research Area (Commission actions + bilateral)

- **International:**

partnerships in areas of local excellence or particular resources (bi-multi-lateral)



Guiding principles in setting up and selecting bilateral collaborations at CNRS (fundamental science)

- Collaborations at the initiative of CNRS researchers and their colleagues abroad (“bottom up approach”)
- Selection by scientific Institutes, based on excellence mainly, no explicit disciplinary, thematic or geographic priorities
- Support accorded to a collaboration is an added value (not a basic research funding), mainly mobility supported
- Approximative parity in funding is requested (CNRS versus Foreign Partner), no direct support from CNRS to research of a Foreign Partner
- Importance of Frame agreements with Foreign Partner organizations as a leverage for generating co-funding (valid in the post soviet space)

CNRS collaborative tools

- **Exchange mobility agreements** (travel)
one to two-years projects with over **70** organizations abroad
- **International Scientific Cooperation Projects (PICS)**
three-years projects - non renewable
- **International Research Networks (GDRI)**
four-years coordination activities - once renewable
- **International Associated Laboratories (LIA)**
four-years structures – once renewable
- **International Joint Units (UMI)**

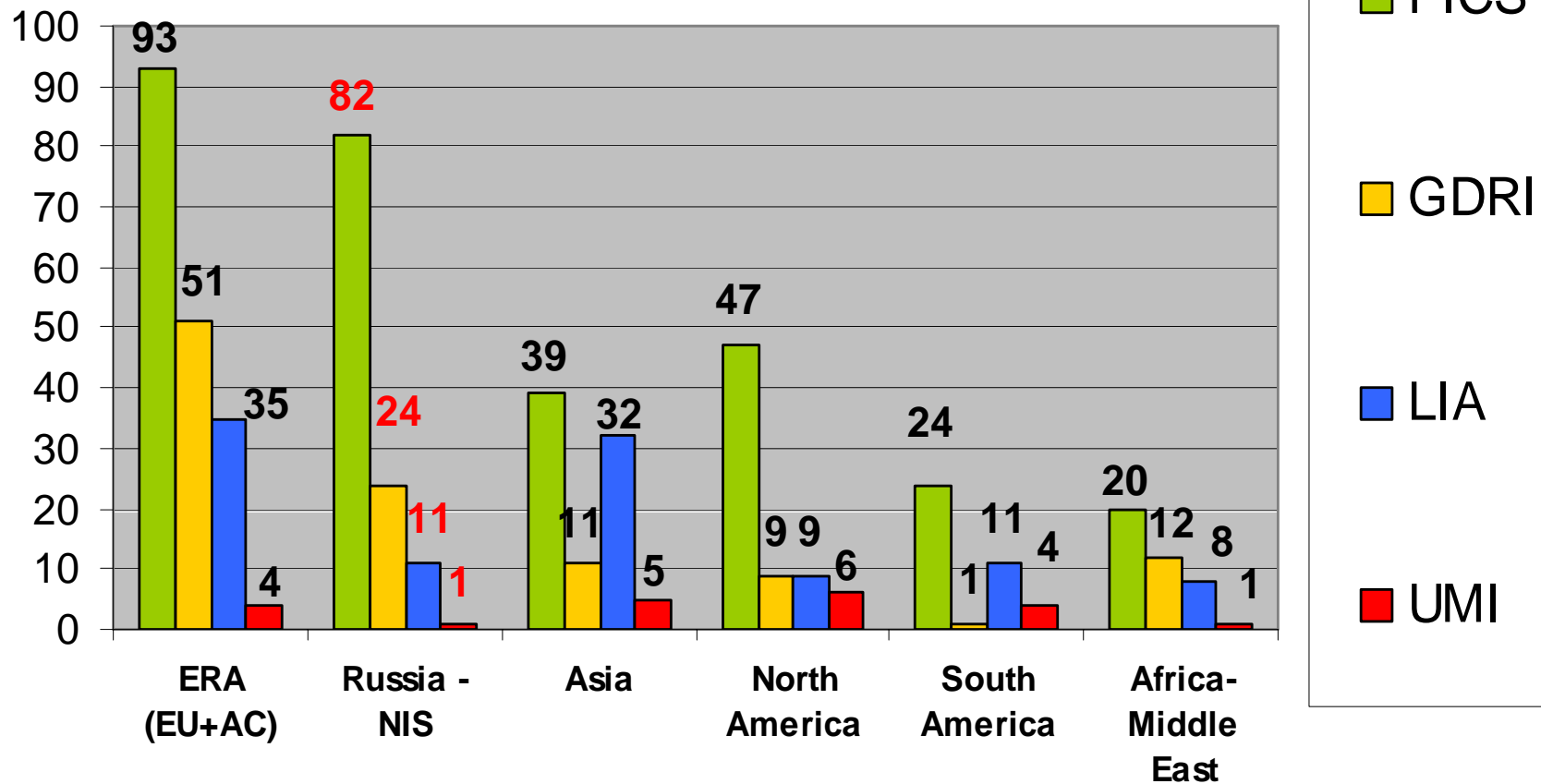
Recently were established also:

- **joint calls for seminars (Ru-Fr, Ru-Fr-Ger)**
- **research units abroad in human and social sciences run jointly by the French Ministry of Foreign Affairs and CNRS**

CNRS collaborative activities abroad in 2009

Total: 305 PICS, 108 GDRI, 106 LIA, 21 UMI

Russia: 69 PICS, 23 GDRI, 10 LIA, 1 UMI



International Project of Scientific Cooperation (PICS)

- Duration: 3 years (non renewable)
- Indicative CNRS funding: 7 k€/year for short research stays, meetings, minor research operating costs
- a cooperative research effort already well underway, structured around a well-defined research theme
- Reviewed for excellence, considering the CNRS and the partner's priorities
- One call par year, selection at CNRS is not country - specific

- *Joint Call for proposals* with the *Foundations for Basic Research*
- *PICS with Russia running in 2011: 54*

International Research Network GDRI

- A **Network of research laboratories** (public and private) from several countries on a specific topic - gather 10 laboratories at average
- Duration **4 years (renewable once)**, indicative CNRS funding: **10 - 20 k€/year**
- **Call permanently opened** for submission of proposals, decision on support made by scientific Institute of CNRS and foreign partner(s)
- **Specific agreement** is signed regarding juridic and legal matters with scientific and financial annexes
- Funding primarily cover:
 - Mobility, organisation of seminars, workshops
 - Coordination

GDRI incl. Russia (2011): 21

out of which: 6 incl. NIS, 5 incl. ERA countries, 4 incl. Japan and / or China

International Associated Laboratories LIA

- Virtual laboratory « without walls » associating scientific teams from two to three countries, for performing a common specific research program
- Teams keep their autonomy, their status, their directors and own locations
- Duration 4 years (renewable once), indicative CNRS funding: 15 - 20 k€/year
- Call permanently opened for submission of proposals, decision on support made by scientific Institute of CNRS and foreign partner(s)
- Specific agreement is signed regarding juridic and legal matters (such as IPR issues) with scientific and financial annexes
- Funding primarily covers:
 - Mobility, partly operational costs
 - Small equipment

LIA with Russia (2011): 16

out of which: 1 incl. NIS, 1 incl. an ERA country

International Joint Laboratory UMI

- Joint undertaking between 2 countries/2 institutions
- Duration **4 years** (renewable for 2 more terms)
- Creation of a **fully functioning research laboratory** jointly established in a partner country or in France
- Both **institutions assign staff and budget**: the director is jointly nominated by the 2 partners
- Evaluation by both partners with possible foreign reviewers

UMI with Russia (2011): 1

Dynamics of CNRS tools application in Russia

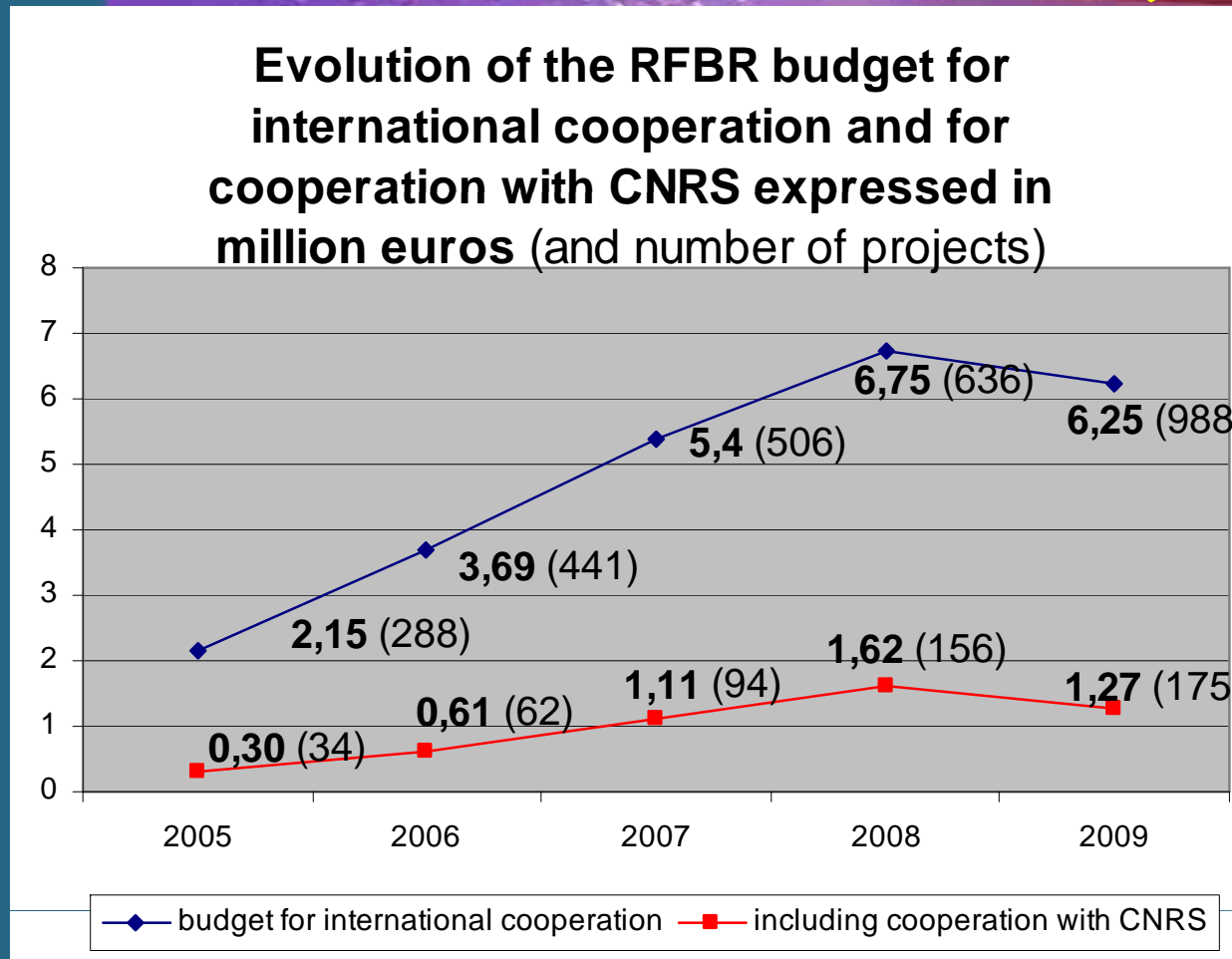
	2004	2006	2008	2009	2010	2011
Int joint labs	-	1	1	1	1	1
Int. assoc. labs	1	6	8	9	13	16
Research nets	6	13	19	23	23	21
PICS	20	40	62	69	63	54
Exchange agreement	67	60	43	43	39	39

Funding: CNRS 1,2M€ (2010) for Russia
 Additional support from the French Embassy in Moscow
 (mobility, PhD stipends)



Cofunding of CNRS collaborations by Russian Foundation for Basic Research (RFBR)

Total budget
of RFBR:
~150 M€/year

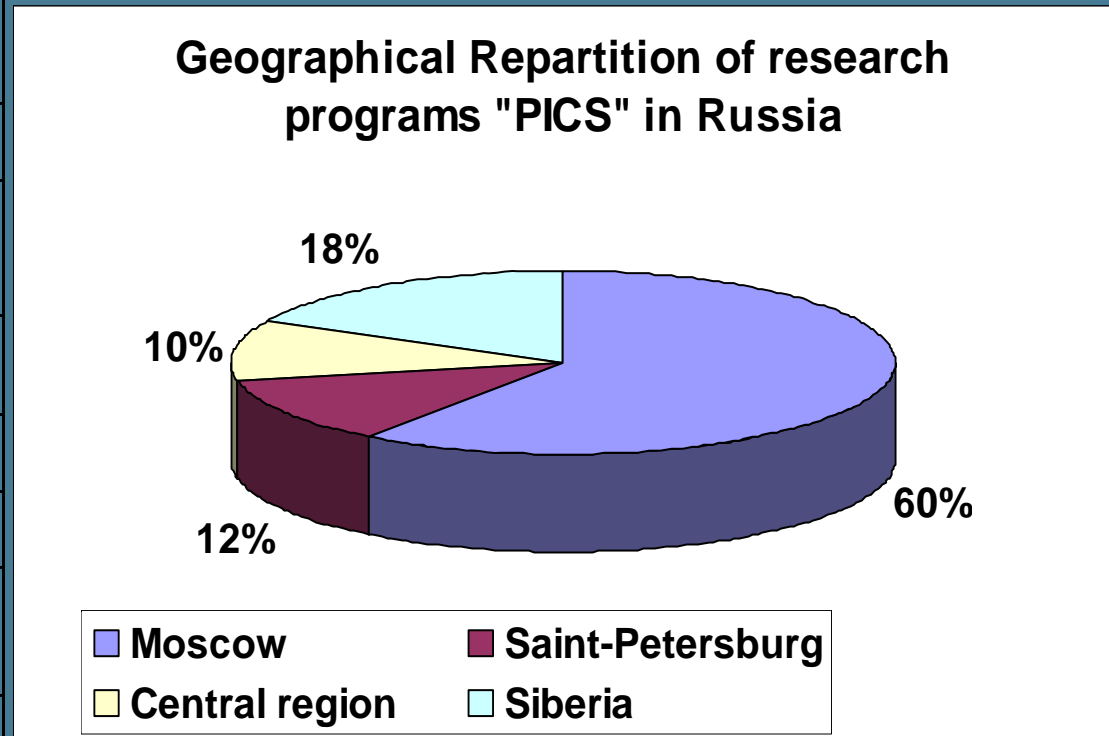


Three calls of the RFBR specifically regarding CNRS:

1. 3 year projects «PICS» (about 20 starting every year)
2. Projects linked to CNRS – Russian «UMI», «GDRI», «LIA»
3. Seminars (10-12 per year since 2007)

Three years projects (PICS) with Russia *started between 2004 - 2010*

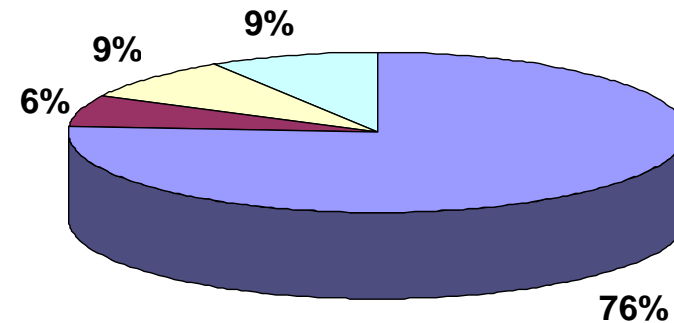
	Number of projects
Moscow	65
Saint-Petersburg	14
Central region	13
Siberia	17
Total West of Ural	103
Total East of Ural	22
TOTAL	125



Three years projects (PICS) with Russia *started between 2004 - 2010*

	Number of projects
RAS	95
Other organizations	8
Moscow State University	11
Other universities	11
Total organizations	103
Total universities	22
TOTAL	125

Repartition of Russian teams by organizations in research programs PICS



RAS = Russian Academy of Science



Regional Bureau of CNRS in Moscow

link between CNRS and research communities in
Eastern Europe and Central Asia (Russia & NIS)

Main missions:

- Developing and strengthening relations between institutions
- Structuring collaborations between research groups
- Facilitating exchange of information about the research and development
- Stimulating mobility of researchers, helping obtaining visa

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Thank you for your attention