

Overview	2
ERA-CHEMISTRY PARTNER: CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE, CNRS	7
Funding figures	7
Position, aims, strategies, priorities	7
Decision making bodies	10
Funding instruments.....	10
Decision-making and follow up	17
Legal and administrative considerations	18
Obstacles and best practices for transnational research programmes	20
OTHER MAJOR FUNDING BODIES IN FRANCE	23
CEA – Commissariat à l'énergie atomique.....	23
INSERM – National Health and Medical Research Institute	23
Institut Pasteur – Disease Control, Vaccines	23
Institut Curie - Curie Radiation Studies and Therapy	24
INRA – National Agronomic Research Institute	25
Universities funded by the French Ministry of Research	25

CHEMISTRY RESEARCH FUNDING SCENE IN FRANCE

AS OF DECEMBER 2004

Important note: Under the supervision of the Ministry of Research, an overall reform of the French research system is being elaborated (to be implemented after the vote of the “Loi d’orientation et de programmation pour la recherche”, which should come to the Parliament at the autumn 2005). Hence the below descriptions might be subject to changes within the duration of the ERA-Chemistry project and reflect the state of the art as of December 2004.

In particular, the reshuffling of the CNRS should come into effect in 2005 and the **National Research Agency public interest group (ANR GIP)** was formed on 7 February 2005. Its missions include supporting the development of basic and applied research, innovation, partnership between the public and private sectors, and contributing to transfer of technology produced by publicly-funded research to the commercial world. Its preferred method of support is to fund selected research projects, based on criteria relating to scientific and technical excellence. The ANR GIP public interest group is a temporary structure (budget of 350M euros for 2005). The statutes and mission of the National Research Agency (ANR), which will succeed it, will be defined in the Loi d’orientation et de programmation pour la recherche”.

OVERVIEW

Steering and Coordination of the Science Policy

The **Ministry for Research** prepares and implements the major guidelines of national policy. After receiving its overall yearly allocation from the Ministry of Economy and Finances, the Ministry of Research establishes a financing plan for research for the coming year which defines the overall government subsidies for R&D as well as **national thematic priorities, incentive actions, public employment guidelines (all positions of permanent and temporary scientific and administrative staff etc.), innovation plan.**

Among research priorities in France:

- Establishing partnerships between the public and private sectors to stimulate innovation and technology transfer;
- Stimulating the research in life sciences;
- Stimulating the space research policy;
- Succeeding in establishing the information society;
- Bridging science and environment;

Two large funds from the Ministry of Research are designed to stimulate priorities in R&D through research organisations, universities and industry: the National Science Fund and the Technological Research Fund. They fund the centralised incentive calls for proposals on governmental priority thematic programmes. However, in the midterm, the National Research Agency (ANR) will take over the responsibility for these calls for proposals and other project-funding. This National Agency will be entitled to delegate some of the thematic programmes to the research organisations that also have a funding function.

Structures carrying out R&D activities:

1. **Public research organisations.**

The major organisations leading chemistry research activities are:

CNRS - National Centre for Scientific Research

CEA – Commissariat à l’Energie Atomique

INRA - National Agronomic Research Institute

INSERM - National Health and Medical Research Institute

Institut Curie (Curie Radiation Studies and Therapy)
 Institut Pasteur (Disease Control, Vaccines)

The CNRS, jointly with universities, are the main public organization for scientific and technological research in France, and constitute the largest public research body in Europe. They act under the administrative supervision of the French Ministry for Research. Around 90% of basic chemistry research is led by the CNRS and Universities, most generally in joint units.

Most of the **interdisciplinary programmes** of the CNRS Department for Chemical Sciences are managed in cooperation with the Ministry of Research as well as other research councils (CEA, INSERM, INRA, INRIA, IRD...). They are based on calls for tender widely opened to the scientific community beyond the CNRS. (cf. more info in the questionnaire).

2. **Higher education institutions: mainly Universities** but also “*Grandes Ecoles*” (Ecoles Normales Supérieures and Engineering Schools)

Even if they are financially autonomous, the universities are both funded and under the supervision of the Ministry of Research.

3. **Industries:**

Most generally, industrial contracts result from individual laboratories, either from the Director of the Laboratory or from one of his/her group leaders. These industrial contracts (essentially bottom-up) represent one of the major funding sources of CNRS chemistry research units. They may overpass 50 % of the overall financial resources of the laboratory.

Several structures exist to promote partnerships between Private and Public sectors and allow technology transfers. Among them:

- **ANVAR**, the French Agency for Innovation (*Agence Nationale de Valorisation de la Recherche*) operating under the aegis of both the Ministry of Industry and the Ministry of Research, which are its most important institutional founders.

- **FIST** (“*France Innovation Scientifique et Transfert*”), is an affiliate of CNRS (70%) and ANVAR (30%), with a status of private company. Its concerns are the commercialization of patented technologies, but also the coordination of FP6 projects, e.g. receiving and dispatching funds among Consortium partners of NoEs.

4. **Regions**

The Regions already play an important role in the funding process; regions funds individually public bodies such as “*Grandes Ecoles*” and Universities, on the other side they also fund private bodies, mainly SMEs. Furthermore, the Regions fund both private and public sectors. They take part in creating and stimulating incubators, nurseries, *technopoles* (high-technology centres) and other structures supporting innovative business.

The regional component should be emphasised in the reshuffling of the CNRS with the creation of 8 supra-regional bodies which will receive part of the decision-making in the scientific and funding strategies.

A few key aspects of the French public research system:

- The weight of the CNRS, the biggest public research body in Europe that covers all the scientific areas.
- Major areas are closely linked by the governmental definitions of national scientific priorities (e.g. energy independence policy)
- For the time being, funding of research units represent the largest funding, and calls for proposals remain a minor type of funding. According to OECD international standards, it is usually referred as “institutional funding”.

- Except very few calls for proposals from the Ministry of Research, especially one for young researchers, individual grants are generally not allocated to a researcher. The Ministry of Research allocates a certain number of researcher positions to each organisation. Hence presently salaries are not eligible costs in a French call for proposals.
- The “National Scientific Research Committee” plays the specific role as a Consultative body, essentially in charge of the evaluation of the activity of the research units and of the researchers (cf. questionnaire)

As important trends of the ongoing reform of the French research system and reshuffle of the CNRS, it should be noted the increasing role of the regions in the science policy and science funding, as well as the implementation of bottom-up projects funding.

Annex 1: some R&D indicators

R&D Funding in France (2001): about 2.2% of its GDP

Government	+	Industry	=	Total R&D expenditures
12,1 Billion €		20,1 Billion €		32,2 Billion €

R&D Human Resources:

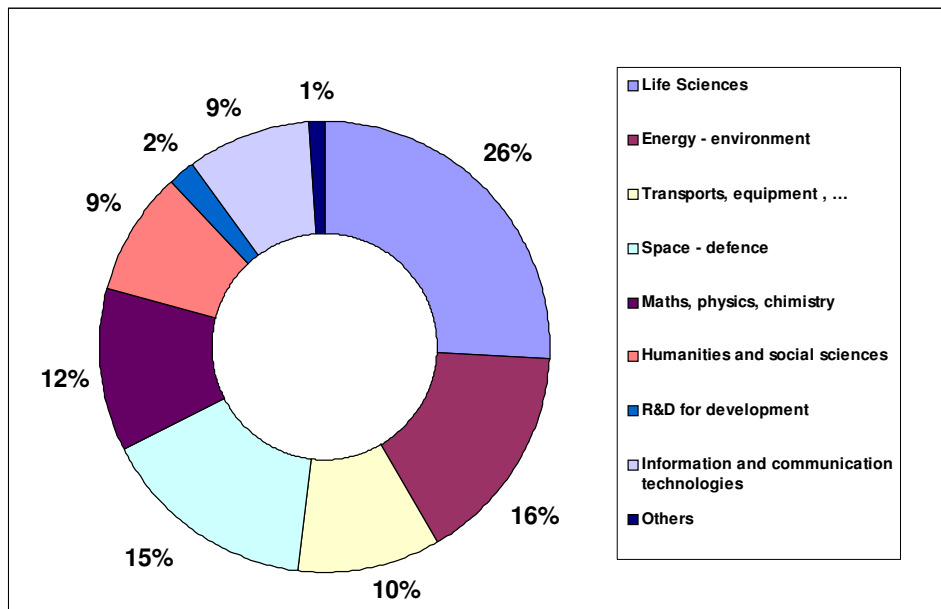
320 000 persons :

- 178 000 persons (including 81 000 researchers) conducting research in industry;
- 142 000 persons (including 88 000 researchers and research engineers) working in public research (from which 32 000 at the universities).

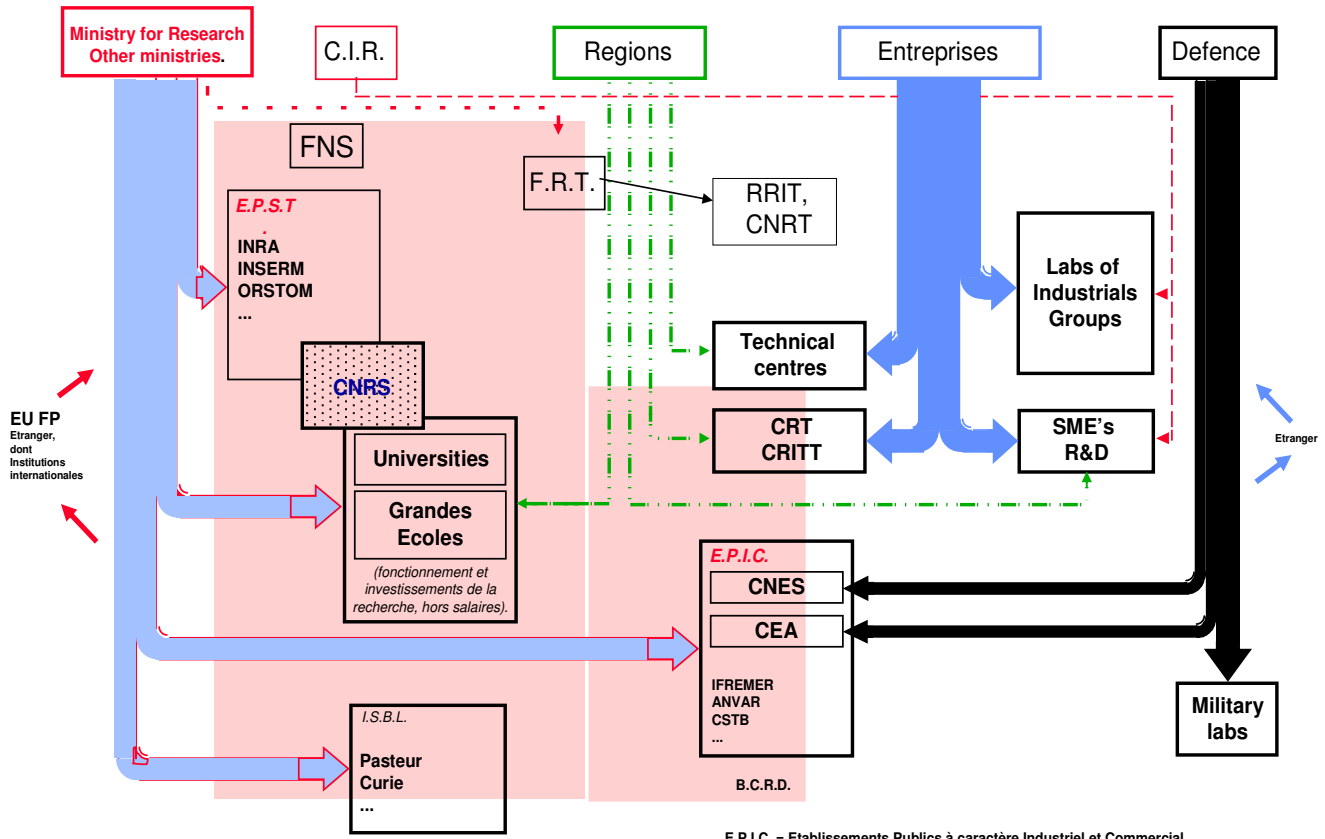
Contracts between the Research Ministry, the Universities, the research agencies, and the local governments:

- 4-year contract with all research agencies to define priorities;
- 4-year contract with all higher education institutions;
- 6-year agreement between the State and the local governments to stimulate the development of local specific research programmes (CPER).

Breakdown of this budget by main scientific fields



Annex 2: Funding flow of the French research system (simplified chart)



B.C.R.D. = Budget Civil de Recherche et Développement
 C.I.R. = Crédit-Impôt Recherche
 C.R.I.T.T. = Centre Régional d'Innovation et de Transfert Technologique
 C.R.T. = Centre de Ressources Technologiques

E.P.I.C. = Etablissements Publics à caractère Industriel et Commercial
 E.P.S.T. = Etablissements Publics Scientifique et Technique
 F.R.T. = Fonds de la Recherche et de la Technologie
 I.S.B.L. = Institutions Sans But Lucratif
 M.E.S.R. = Ministère de l'Enseignement Supérieur et de la Recherche

2 Septembre 1994
 Bureau des études et de la planification
 M.E.S.R.

ERA-CHEMISTRY PARTNER: CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE, CNRS

CNRS - Department for Chemical Sciences

3 rue Michel-Ange

F-75794 Paris Cedex 16

Phone: + 33 1 44 96 53 95

Fax: +33 1 44 96 53 70

Email: webcnrs@cnrs-dir.fr

www.cnrs.fr

The French National Center for Scientific Research (CNRS) is a public basic-research organization that defines its mission as producing knowledge and making it available to society. The CNRS has 26,000 employees (among which 11,600 researchers and 14,400 engineers and technical and administrative staff). The 1,260 CNRS service and research units are spread throughout the country and cover all fields of research. CNRS scientific departments and institutes encompass virtually all fields of knowledge.

Funding figures

The CNRS budget is 2 214 million euros for the year 2004, which represents one-fourth of total civil research spending in France. Budget of the CNRS chemistry department was 235 million euros in the year 2004. About 200 million euros of this is spent to wages of permanent staff.

Position, aims, strategies, priorities

The CNRS is the main public organization for scientific and technological research in France. It is under the administrative supervision of the Ministry for Research and has a financial autonomy. CNRS main tasks are the development of knowledge; transfer and application of knowledge in enterprises and all domains contributing to the progress of society; the dissemination of information on science and technology to the public and especially towards young people; the participation in early training and life-long training, training by research; and quality in the management of research.

The CNRS encompasses and funds all major scientific disciplines and fields of research (Chemical Sciences, Nuclear and Particle Physics, Physical Sciences and Mathematics, Communication and Information Science and Technology, Engineering Sciences, Sciences of the Universe, Life Sciences, Humanities and Social Sciences).

CNRS has own laboratories and joint laboratories located throughout France as well as international joint laboratories located in several countries. The large majority of CNRS research units are operating in conjunction or association with higher education organizations (mainly universities) and/or other French research organisations, or industry. CNRS allocates about 80% of its funds in chemistry to university laboratories associated with CNRS (UMR), the remaining part is spent for in-house CNRS institutes (UPR). Around 90% of basic chemistry research in France is performed by the CNRS and universities.

The CNRS has 26 000 employees (11 600 researchers, 14 400 engineers and technical and administrative staff). In chemistry, CNRS has 219 laboratories with 2000 researchers and 1500 engineers, technicians or administrative staff, and 2500 professors.

Most of the interdisciplinary programmes of the CNRS are managed in cooperation with the Ministry of Research as well as other research councils (CEA, INSERM, INRA, INRIA, IRD etc). The CNRS is one of the prime users of Large scale European research facilities that are planned, built, financed, and operated in partnerships with French or foreign organisations.

There is a specific structure in the French scientific research, the “*National Committee for Scientific Research*” whose missions are to advise and assess research; evaluate the activities of the laboratories and the researchers; supply an analysis of scientific situation. The Scientific Council of the National Committee seeks to ensure that the scientific policy of the CNRS is consistent and gives an opinion on how the human and financial resources should be distributed. The Committee is composed of nearly 1 000 national and international experts elected (two thirds are elected, all CNRS and universities laboratory staff can vote for their scientific section of the Committee) or appointed for four-year terms. Researchers can influence the general research policy of CNRS within this structure.

In addition, researchers are actively consulted for the determination of the strategies and the priorities of CNRS. Researchers also establish scientific recommendations and proposals, but they do not have any decision-making power. At the level of the laboratories, the Councils of the Laboratories composed of the Director of the Laboratory, group leaders and elected representatives advise the Director and define the scientific strategies and the funding guidelines of the entire unit.

Ministry of Research prepares and implements the major guidelines for national research policy. The CNRS is an autonomous research organisation but it determines its science policy in negotiation with the Ministry of Research (supervision authority). The Ministry of Research establishes annually a financing plan for research for the next year which has to be adopted then by the Parliament. This financing plan defines the overall government subsidies for Research and Development as well as national large thematic priorities, incentive actions, employment guidelines (all positions of permanent and temporary scientific and administrative staff etc.), and includes an innovation plan. Once this Finance Plan has been adopted by the Parliament, the Ministry of Research sends guidelines to the public research councils and universities. The research councils at the same time lead and fund research activities.

The budget and number of positions allocated to the CNRS as well as the national thematic priorities are defined in these guidelines. According to this document the CNRS then defines its own precise scientific priorities and establishes its own budget including the allocation for the 8 Scientific Departments. Each Scientific Department sets up its own strategy and priority fields, which leads to the repartition of the funding between all laboratories. Each Scientific Department is entitled to design and implement its own funding instruments and/or incentive actions (e.g. the bilateral and transnational calls for proposals).

The Scientific Director of the Department for Chemical Sciences decides with his staff the distribution of the budget between the 6 sections and within the sections between the laboratories. Their decision takes into account the activity reports of the labs as well as the evaluations and the funding priorities recommended by the National Committee for Scientific Research. The Directors of the laboratories decide which projects they will support.

The CNRS main strategy and policy guidelines are defined in a 4-year *Pluri-annual Action Agreement* (2002-2005) between the State (Ministry of Research) and CNRS. This agreement is supported by complementary actions defined within the “Mission for Strategy” of the CNRS. The scientific priorities and the Pluri-annual Action Agreement are set up together with the researchers, i.e. taking into consideration the recommendations of the CNRS Scientific Council and the National

Committee for Scientific Research, the participation of the laboratories to prospective colloquia, etc.

In addition, the CNRS and the National Committee for Scientific Research establish a 4-year *Strategic Plan* which includes the definition of thematic priorities for each of the 8 Scientific Departments. For example, the 2002-2005 strategic plan includes the following priorities for chemistry: a new age for chemical synthesis; the spectroscopies at the service of analysis; the catalysis tools for industrial chemistry; physics and chemistry of the soft matter; the chemistry of solids, the basic chemistry of materials; the chemistry at the interface with life sciences. These priorities are in fact those of the 6 different sections of the Department for chemical sciences: supra and macromolecular systems; molecular architectures; physical chemistry; coordination chemistry, interfaces and processes; chemistry of materials, nanomaterials and processes; life chemistry and chemistry for life.

The contracting process with external partners is an essential parameter in the definition of the CNRS strategy, funding priorities and instruments. Association contracts with universities define scientific priorities and human, financial and equipment resources (4 years). There are also contracts with the regions (3 to 7 years), European contracts and contracts with private partners, e.g. industries. Industrial contracts result from individual laboratories.

Top-down vs. bottom-up approach

The science policy of the CNRS is a constant mix of top-down and bottom-up processes. Decisions at the top are generally taken in consultation with the researchers, e.g. individual researcher might make proposals that have then to be agreed at the level of the research unit.

Within European level, the CNRS science policy might appear more top-down than bottom-up because major part of the funding is allocated to the laboratories (very exceptionally to individuals in the lab) and the Directors of labs decide which projects they will support. However, in every laboratory the Council involving the group leaders defines the scientific strategies and the funding guidelines of the entire unit.

The funding of the laboratory is based essentially on recurrent funding allocated to by CNRS, and for associated units, by the Ministry of Research. Laboratories self-funding coming from contracts with either public bodies or industrial partners balances the top-down recurrent funding of the CNRS and allows the necessary flexibility in this scientific strategy of the laboratories. Contractual funding with private partners is essentially bottom-up and may overpass 50 % of the overall financial resources of the laboratory.

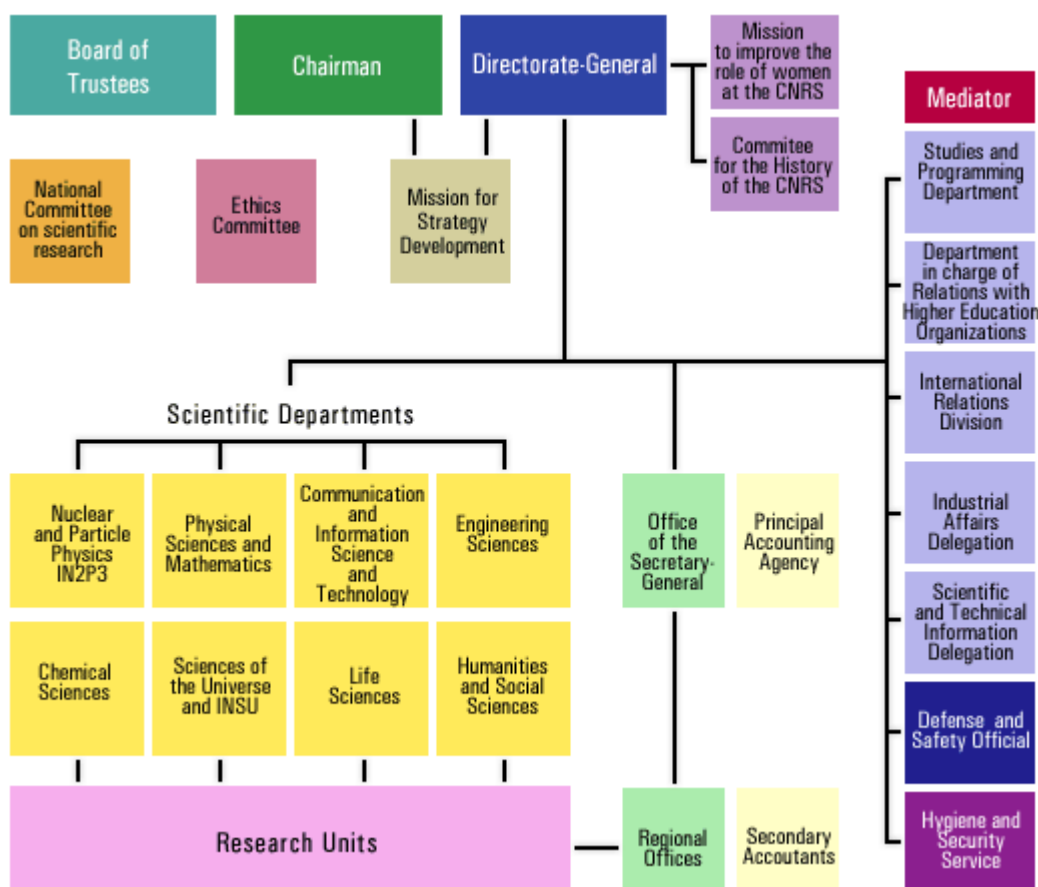
Both the Ministry of Research and the CNRS are undertaking a complete restructuration of the research system in France and its funding principles; the trend is to increase the part of bottom-up projects funding and to introduce new funding instruments for transnational co-operations.

Also the described funding and decision-making mechanisms might be change within the duration of the ERA-Chemistry project and reflect the state of the art as of June 2004. As far as the CNRS is concerned, the negotiation process has been initiated; the reform should come into effect by June 2005.

Decision making bodies

At the moment, CNRS undergoes a big reshuffle of its system. Instead of being organised around 8 scientific departments (including the Department for Chemical Sciences), the regional component shall be emphasised with the creation of upra-regional bodies to which part of the centralised decision-making will be transferred.

2004 CNRS Organization Chart:



Funding instruments

1. Laboratory-based funding:

CNRS Scientific Department allocates funding to the Director of a laboratory on the basis of a 4-year programme. The funding is not assigned to any specific scientific project and might be freely used by the laboratories to support any research activity they want to develop. The largest part of the international research activities are financed by laboratories themselves and consist mainly of missions by scientists.

2. Project-based funding

Besides the recurrent funding, researchers belonging to a CNRS laboratory can apply to the below calls for proposals. In the current system, the Director of the Laboratory must agree and sign the application in any case.

The Thematic Initiatives Encouragement Program (ATIP) aims at giving young researchers (under 40 years old) an opportunity to lead a research team they have assembled within CNRS or associated laboratory. Different types of ATIP are thematic (priority research area), open-ended (particularly innovative and groundbreaking), crossover (established with international partners), and interdisciplinary. Successful ATIP candidates are young researchers who have the capacity to generate fresh momentum in their host laboratory around a particular research theme, most often in a cutting-edge sub-field. The funding comes from CNRS only.

Interdisciplinary programmes. Most of the interdisciplinary programmes of the CNRS are managed in cooperation with the Ministry of Research as well as other research councils (CEA, INSERM, INRA, INRIA, IRD...). However each research council takes in charge of its own researchers. Each Council in charge of an interdisciplinary programme issues calls for proposals, usually once a year, that is widely opened to the scientific community. These programmes last 3 or 4 years. Aim of these programmes is to promote partnership with other public bodies and in some cases with companies, and to lead to the constitution of networks and inter-laboratory communities sharing knowledge and know-how.

The total budget for all interdisciplinary programmes of the CNRS amounts 20 M euros (wages excluded) per year, i.e. around 9% of total financing of laboratories by the CNRS. The CNRS Department for Chemical Sciences is involved in the following interdisciplinary programmes: Materials, Nanoscience – nanotechnology, Microfluidics and fluidic Microsystems, Dynamics and reactivity of biological assemblages, Proteomics and protein engineering, Downstream electronuclear cycle programme, Energy, Bioinformatics. The total funding of the above mentioned programmes is 10 million euros of which 2 million euros is for chemistry.

Ministry of Research's Incentive Concerted Actions (ACI, Actions Concertées Incitatives). Three ACI calls concern chemical sciences. These are Energy and sustainable conception; Nanoscience; and Young researchers. The Young Researchers action funds young researchers who have been teaching at university or carrying out research for less than 3 years. The aim is to encourage their ability to carry out independent research, scientific innovation and originality. The funding comes from CNRS, Ministry and other French research organisations.

International Joint Research Programmes (PAI) aim at organising researcher exchange programmes. Annual calls for proposals are financed, processed and overseen by both the Ministry of Foreign Affairs and the Research Ministry. PAI project is co-financed by the two countries involved. Funding can only be used to support scientific mobility (travel and sojourn expenses).

3. Person-based funding

CNRS programmes:

Associated researchers (exclusively salaries): foreign researcher can be employed between 3 months and 3 years in a CNRS chemistry laboratory. Such positions have to be applied to the Department for Chemical Sciences by the Director of the corresponding laboratory.

"Mises à disposition": a CNRS researcher can work in another private or public body, either in France or abroad (e.g. in a foreign research institute) up to 3 years while keeping its CNRS salary. This procedure might be eventually renewable.

Post-docs: one-year contracts, eventually renewable, can include research funding. 419 post-docs researchers in chemical sciences at the CNRS (from whole Europe)

Dr.-Ing. Bursaries: young engineers (under 27 years old) can receive PhD fellowships to write their thesis half-time in a CNRS laboratory, half in the industry. Such fellowships are mostly co-financed between the CNRS and an industry or a regional body.

Other person based grant programmes in France:

Researchers in CNRS units can apply grants from private foundations and some public bodies. Ministry of Research has PhD student grants, post-doc grants, and grants for international mobility. Also Ministry for Foreign Affairs has grants to encourage international mobility (e.g. EIFFEL and Lavoisier fellowships). CIFRE is convention with the industry that aims at academic-industrial mobility of PhD students. In addition there are e.g. grants from local or regional bodies, Marie Curie actions and EURYI awards.

4. Cooperative Scientific Agreements:

Tools developed by the CNRS Division of International Relations to structure the scientific cooperation:

CNRS bilateral agreements with research organisations (French or foreign) provide financing for scientific mobility within the context of research projects undertaken jointly (short visits in both directions, set-up of structured co-operations etc). Calls for joint projects are annually or biannually and limited to the CNRS and the partner research organisation.

International Programmes of Scientific Cooperation (PICS) validate a cooperative research effort already well under way. Duration is 3 years. Research has to be excellent, focused on a clearly defined goal, and in line with CNRS and the partners' priorities. Programme includes co-financing to support research stays, meetings and in some cases research operating costs or the purchase of small equipment.

European/international associated Laboratories (LEA/LIA) are "laboratories without walls" which associate research teams from two or more European countries. Objective is to pool human, technical and financial resources. The teams in a LEA keep their autonomy, directors and separate locations. There is a common leadership which may rotate among the partners. Duration is 4 years (possibly renewable). The Department for Chemical Sciences currently funds 5 LEA and 3 LIA.

European/international Research Groups (GDRE/GDRI) are networks of Centres of Excellence of academic organisations and/or industries on specific topics (up to 50 laboratories from several countries). Duration is 4 years. Co-funding arrangement covers the costs of group coordination, mobility, and the organization of seminars and workshops. 3 GDREs and 3 GDRI involving chemical sciences have been set up. In addition, "GDRE+" are introduced in the year 2004 in order to support some of the best FP6 proposals for NoE that have not been selected by the EU Commission.

International/European Joint Laboratories (UMI/UME) are real laboratories associating scientists from two countries in the same location. Both partners may assign staff. Administrative status is similar to that of CNRS Joint Laboratories (UMR). Laboratories are managed by a director, a co-director and a scientific board. Duration is 4 years and can be renewed for two more terms. Annual budget is decided upon by the two institutions. 3 out of the 14 International Joint Laboratories that have been provisionally established concern Chemical Sciences.

Funding shares

CNRS funds laboratories, projects and persons. The most important is laboratory-based funding, the others having only very minor role. 86- 88% of the funds distributed by the Department for Chemical Sciences to its laboratories consists of wages.

Funds allocated by the CNRS Department for Chemical Sciences in 2003 were following: wages 204 400 k€, recurrent laboratory funding 26 000 k€, large-scale facilities 1050 k€, Thematic Initiatives Encouragement Program 500 k€, Incentive Concerted Actions 250 k€. Besides the Direction for International Relations of the CNRS allocates around 724 k€/year for actions involving chemistry laboratories, such as the above-mentioned co-operation structures (PICS, LEA, GDRE etc.).

The other grants, programmes and funds allocated to CNRS chemistry laboratories come from other partners, mainly public bodies or industries.

When wages are excluded the financial resources of the CNRS chemistry laboratories can be divided into the following components: recurrent basic funding from the CNRS 21 %, recurrent basic funding from Ministry of Research 14 %, self-funding of the laboratories 65% (mainly contracts with the industrial partners and public bodies e.g. regions, research councils, EU). These shares are naturally average figures for chemistry research units and may significantly vary from one laboratory to another according to the scope and the fields of its research activities.

CNRS recurrent funding for laboratories

UMR (Unités mixtes de recherche) can be defined as joint research units under 4-years association contracts between the CNRS and a university. The association contract might be renewed after evaluation by the National Committee. UPR (Unités propres de recherché) are in-house CNRS research units also under 4-years programme and evaluation.

Funding principles

The amount of recurrent funding for the laboratory depends on the size, scope and type of research activities. The CNRS Department for Chemical Sciences allocates to UMR laboratories 1,5 - 4,5 k€ per person year (infrastructure expenses excluded), and to UPR laboratories 7 -11 k€ per person year (infrastructure expenses included).

The recurrent funding is valid for the duration of the association contract (4 years). The funding is allocated annually. After evaluation by the National Committee for Scientific Research, the contract of association might be renewed or rejected.

All public research laboratories in France can apply for an association contract with the CNRS. All the expenses of the laboratories can in principle be funded by the CNRS and universities funding. Concerning infrastructures the expenses funded depend on the nature of the laboratory. In the case of UMR, the university takes in charge the infrastructure expenses. In the case of UPR, these expenses are entirely covered by the CNRS.

The CNRS does not charge any overhead. Universities deduct the so-called BQR (Bonus Qualité Recherche) on the recurrent funding allocated by the Ministry of Research to the labs (max. 15% of the funding). Each university then redistributes this BQR to the laboratories in accordance with the scientific policy guidelines established by its Scientific Council.

CNRS allocates its recurrent funds without VAT whereas the recurrent funding from universities includes VAT. For both types of recurrent funding (CNRS and universities), the Director of the

Laboratory decides on the use of the funding, generally following the advice of the Council and the policy guidelines of the unit, with the exception of wages and grants.

The CNRS staff has a permanent state employee status (civil servants). CNRS employs the staff based on open competition. The nationality and origin has no role in the selection provided that the applicant has necessary diplomas or equivalent and the knowledge of French language. Foreigners are also eligible to specific programmes and all French granting programmes.

The funds are not allocated to a researcher individually but to the laboratory to which he/she belongs to, so that the funding allocated for the research activities should stay within the laboratory. However, the Director of the Department of Chemical Sciences might authorise a researcher to go to another public or private body, either in France or abroad, while keeping his/her CNRS salary for a limited period of time (up to 3 years, eventually renewable). These are the so-called “placements at the disposal of” positions.

Beyond this period of time, the researcher might stay up to 5 years in a private or public organisation either in France or abroad following a “detachment” procedure. In this case, the CNRS does not pay the researcher anymore but still offers him/her position in a CNRS research unit when he/she returns.

Foreign researcher working in foreign institute cannot get funding in the current system but this is evolving. For example, common-pot programmes are coming into effect, where CNRS funds might be used even for foreign scientists working in foreign institutes (e.g. EURYI Awards).

Evaluation and decision making

The laboratories receive their basic and major funding through annual budget on the basis of a 4-year programme. This recurrent funding is based on applications for association contracts or renewal of these association contracts. Association contracts can be applied only during contractual campaigns according to defined calendar.

A double evaluation process is permanently taking place at the CNRS; evaluation of research units (every four years, when applying new contract) and evaluation of researchers.

The applications for recurrent funding of UMR (“association contract”) are simultaneously considered by the CNRS and the Ministry of Research. The Ministry of Research takes the decision concerning the University funding whereas the CNRS Department for Chemical Sciences takes the decision on the CNRS funding. The decision of the Department is based on the scientific evaluation of the National Committee for Scientific Research.

Application for association contract should include an activity report and application file. Every research unit must submit an activity report which is prepared under the responsibility of the Director of the Laboratory. There is a specific format with strict rules for the activity report. It should include the composition of the Laboratory Council, structural and thematic organisation charts, scientific activity report, scientific projects, bibliographical data etc. The application file should include detailed descriptions of material, financial and human resources of the laboratory as well as a scientific file.

The activity report is the basis for the audit and evaluation of the laboratory. An expert panel comes to the labs for one or two days. The panel is nominated by the Scientific Department, and should

include at least one foreign scientist. The panel prepares an evaluation report (evaluation of the unit, of its teams, of the individual scientists) indicating the strengths and weaknesses at every level of the research unit. There are 5-8 members in the review panel depending on the size of the lab. One panel evaluates one laboratory. The panel members get the activity report and application file around 2 weeks before the meeting. The final report should be in French but each reviewer is free to report in an agreed language.

After reviewing the activity report and the external evaluation report, the National Committee for Scientific Research returns a scientifically motivated advice to CNRS; renewal, closing, or evolution of the unit. The Scientific Director for Chemical Sciences decides with his staff to agree or not with the recommendation of the National Committee and takes the decision on the funding.

Reports of researchers have to be submitted every year together with a complete publication list since the beginning of the scientific career. The National Committee for Scientific Research gives scientific advice, the department for Chemical Sciences investigates and validates this advice.

Within the Ministry of Research, the applications are received by the Research Directorate and reviewed by the experts of MSTP (Scientific, Technical and Educational Mission). The MSTP then returns the evaluations to the Research Directorate for decision. The Ministerial Cabinet can be directly involved to support a specific theme. The Cabinet then submits specific allocation demands to the Research Directorate who ask for the MSTP expertise.

Application and reporting documents are required in French language. Both electronic and paper submissions of document are possible and/or required.

The scientific Directorates nominate the reviewers (both at the CNRS and at the Ministry of Research). Applicant can propose reviewers, but in any case anonymous and independent reviewers are nominated by the organisation. Reviewers are usually professors, CNRS researchers or industrial scientists with at least a PhD degree. There are no strict requirements for the experience of the reviewers, it depends upon the broadness of the topic (transversal topics usually require more experience). 10 to 25% of the reviewers are international. Reviewers are never paid, neither for evaluation of units or researchers nor for specific calls for proposals.

Evaluators of the research units are given a booklet including reviewing instructions “*guide et recommandations pour les comités d’évaluation des unités de recherche* ».

Applicants receive a summary of the evaluation only (project report), unsigned and typed. No other person can receive the evaluation summary, except the Director of the Laboratory. Names of the reviewers are not told to the applicants or any other persons.

The recurrent funding of the laboratories is decided by the Scientific Directorates only, both at the CNRS and at the Ministry of Research. For chemistry CNRS laboratories, the Director of the Department for Chemical Sciences decides on the recurrent funding. Decision of the Scientific Directorate is based on the evaluation of the National Committee for Research (activity and audit reports). Evaluations of the labs and programmes are every 4 years, but decisions on the budget allocated are made annually. Labs do not ask a certain amount of money.

Non-recurrent funding from CNRS (e.g. PhD student and post-docs grants, special programmes, calls within special bi- or multilateral agreements)

This section concerns special programmes funded either by CNRS, Ministry of Research or Ministry of Foreign Affairs: ATIP (CNRS), interdisciplinary programmes (several financiers, also CNRS), ACI (Ministry of Research, research councils including CNRS), PAI (ministries). It also includes the calls in the framework of co-operative scientific agreements between CNRS and other bodies, and person-based grant programmes of the Ministry and CNRS.

The calls for proposals represent a minor part of the funding. The number of the calls depends on the programmes of the Ministries. There are around 12 calls per year in chemical sciences (which means around 2 calls per scientific section). A specific call is usually published 3 months before the deadline for application. It takes from 3 to 12 months from application to decision depending upon the nature of the call.

Usually the following documents are required within the application; scientific project, brief CV of the applicants (project leaders and researchers involved), administrative information. Applicants are given instructions to prepare the proposal.

Specific application forms are to be used for: Post-docs positions of CNRS and Ministry of Research (forms available in English); ATIP calls for proposals of the CNRS Department for Chemical Sciences (forms available until 2004 in French only); Incentive Concerted Actions calls for proposals of the Ministry of Research (forms available until 2004 in French only); Bilateral DFG-CNRS calls for proposals and CERC 3 Transnational Initiatives (forms in English).

Both electronic and paper submissions of proposals are possible and/or required, to the CNRS as well as to the Ministry of Research. In any case, even for special calls for young researchers, the Director of the laboratory in which the applicant is employed should sign the application. Applications to international calls for proposals can usually be submitted also in English (ATIP, bilateral DFG/CNRS, CERC3 transnational initiatives etc.).

The financial resources of the laboratories are administrated either by the CNRS or the universities. Generally, an overhead between 8 and 14% is deducted and used to cover the administrative expenses. The funds cannot be used for purposes different that the one originally stipulated in the contract.

Evaluation of the proposals

There is scientific peer review for all kinds of funding applications (CNRS and Ministry of Research).

For the specific calls for proposals, the Ministry of Research nominates up to 20 to 30 members to constitute a Scientific Committee. This Committee then chooses peer reviewers (anonymous), collects the evaluation reports of the reviewers, ranks the proposals and decides on the acceptance or rejection of a proposal.

There are no permanent Committees, their constitution depend on the thematic of the calls for proposals.

Most of the time, a two-step evaluation takes place. The Scientific Committee pre-selects the proposals, these pre-selected applications are then sent to individual reviewers. The final selection is made by the Scientific Committee.

For calls for proposals issued by the Ministry of Research applications are received by the Research Directorate and reviewed by the experts of MSTP (Scientific, Technical and Educational Mission). The MSTP returns the evaluations to the Research Directorate for decision. In addition, the Ministerial Cabinet can be directly involved to support a specific theme. The Cabinet submit specific allocation demands to the Research Directorate who ask for the MSTP expertise.

The Scientific Committees responsible for the call choose the reviewers. One application is evaluated at least by two individual reviewers who work independently and anonymously on the same application. The number of the applications that one evaluator reviews depends on his/her degree of specialisation and his/her availability. The reviewers are given 4 to 6 weeks for the evaluation.

Applicant can propose reviewers, but in any case anonymous and independent reviewers are nominated by the Committee. Reviewers are usually professors, CNRS researchers or industrial scientists with at least a PhD degree. No rule or strict requirement for the experience of the reviewers, it depends upon the broadness of the topic. 10 to 25% of the reviewers are international (depending upon the type of application)

Reviewers are never paid. In the case of transnational projects, if a reviewer should be paid, the fund could not be transferred through a public French organisation, it should be directly transferred from a foreign or European organisation.

Evaluation criteria are following: the scientific level and quality of the proposal; the positioning of the project in the state of the art; competence of the applicants; novelty, originality and innovative aspects; feasibility according to the duration and time schedule; potential impact for the research council; potential (e.g.: industrial) impact for the country. Additional criteria might be included according to the specific nature of certain proposals.

The CNRS does not have specific evaluation forms. The Ministry of Research has evaluation forms for its Incentive Concerted Actions (available in French only). In the case of the CERC3 transnational calls for projects, specific common evaluation forms have been used. In case of calls for Incentive Concerted Actions reviewers receive their instructions in a letter from the Research Directorate of the Ministry of Research (available in French only, but foreign reviewers are allowed to give their evaluation in English)

Applicants receive a summary of the evaluation only (project report), unsigned and typed. No other person can receive the evaluation summary, except the Director of the Laboratory. Names of the reviewers are not told to the applicants or any other persons.

If the Committee responsible for the call wishes more information before decision-making, the Committee may contact the applicant. Applicants are not given the possibility to comment the evaluation, the decision from the Committee is definitive.

Decision-making and follow up

For specific calls for proposals, the Scientific Committee in charge of the call decides on the funding. Decision is based on the reviews and the ranking of the Committee. The criteria for decision-making are specifically mentioned in each call issued. E.g. it might include the potential impacts for the research council and for the country.

Sometimes budgets are cut sometimes not. If the budget is cut there are no negotiations with the applicant. Usually between 5 and 25% of the applications are funded. The funded projects are the ones which received the best marks.

The follow up of the projects depends on the length of the funding, but in most cases, midterms or yearly reports are required. The funds are never fully distributed at the beginning of the project. If no satisfactory progress can be observed, the funding might be stopped.

No report forms exists, neither from the CNRS nor from the Ministry of Research. Only short reporting instructions are given to the applicants, such as the main points that should be reported. The public scientific results might be published. Patents resulting from the protection of intellectual property rights are diffused to the industries concerned.

It is difficult to estimate how the success of the project influence the further funding of the applicant since usually another Committee will review further application from the same person. If the applicant mentions his/her previous achievements in the following applications, this might influence the review of his/her application.

Legal and administrative considerations

The decision concerning participation to transnational research programmes and granting funding abroad would be taken by the Department for Chemical Sciences. However, all regulations and considerations regarding conflict of interest, publicity, intellectual property rights are in the hands of both the Direction for Legal Affairs and the Industrial Affairs Delegation of the CNRS.

Granting funding abroad.

There is no French legislation forbidding or restricting research funding to foreign institutes/foreign persons. The management of funding (either joint-funding or common-pot), the modalities and regulations are agreed between the partners in each case.

Besides many granting programmes opened to foreigners, the CNRS limits the employment of foreign persons either to the associated researcher positions (max 3 years), or to permanent staff positions. However, with their self-funding, the laboratories are free to employ as many foreign post-docs as they wish. A CNRS permanent researcher can go to a foreign institute while keeping his/her CNRS salary up to 12 months.

There are no regulations restricting common-pot funding in a transnational context. In the case of common-pot funding, the regulations of the funding and the modalities of the management of the funds should be stipulated in a Memorandum of Understanding or international convention that requires the signature of the Director General of the CNRS.

Conflict of interest.

The National Committee for Scientific Research is divided into thematic sections which (among others) are in charge of the evaluation of several research units and individuals. Its members are either elected or nominated, but they cannot be simultaneously members of the Scientific Council of a CNRS Scientific Department. Moreover, they cannot stay longer than 2 consecutive mandates. Conflicts of interests and bias with lab staff are prevented through these election and nomination procedures: any member of the National Committee for Scientific Research is obliged to reveal whether (s)he is biased.

Moreover, as far as public/private conflicts of interest are concerned, the penal code (articles 432-12 and 432-13) and one article of the Code of Commerce on the regulating convention (signatories can not be members of the Board of Trustees etc.) concern the conflict of interest. Since all CNRS researchers are public agents, they cannot have a private activity remunerated. Indeed, the obligation of exclusiveness prohibited to a public agent to cumulate a private activity remunerated with a public activity (article 25, subparagraph 1 of the law of July 13, 1983), but does not prohibit to him to take part in the capital of a company, provided this agent does not exert any administrative duty within this company, nor that of member of the board of directors of S.A.¹ company. If this company is in relation to the agent under his/her public activity at CNRS, the obligation of desinterestedness, prohibits to him to have an interest (a financial link) in such company. Article 432-12 of the penal code represses this situation, qualified of illegal catch of interests, when the agent has "the responsibility of ensure the monitoring, the administration, the liquidation or the payment" of this company.

At CNRS, there are two guidelines entitled "Instructions de procédure" :

1. *Instruction de procédure* 2002 : Co-operation of the titular personnel of CNRS with the companies within the framework of the law on the innovation and research
2. *Instruction de procédure* 2003 : Plurality with an additional private activity: consultancy, teaching and scientific contest

Publicity.

This information is still awaited from the Ministry of Research.

Within the missions of CNRS (Article 2 of the Decree n°82-993 of 24.11.82) appears the obligation to exploit and make publicity about the results obtained in CNRS research units: "- to contribute to the application and the utilization of the results of this research; - to develop scientific information, by supporting the use of the French language "

Intellectual property rights. All the CNRS legislation, regulations and administrative regulations concerning intellectual property right is assembled within the French national Code of Intellectual Property: legislation about patents, copyrights, trademarks, designs and models, etc. There is a centralised authority for registering industrial property rights, the National Institute for Industrial Property. Authors of the invention have in any case benefits of the IPR. Contracts specify in each case if the owners of IPR are jointly CNRS and industry or all CNRS or all industry.

The French Code of Intellectual Property does not define which inventions might receive the protection of a patent, but it sets out the characteristics. The invention must be capable of being applied to an industrial use. The following list, which is not exhaustive, would normally be excluded from inventions which might be patented: scientific and mathematical discoveries, esthetical creations, computer games and programmes, inventions which are held to be immoral or contrary to public order, parts of the human body and their products

Ethical issues. There is no French legislation concerning research ethics and good scientific practices, but the National Consultative Ethics Committee is enacted in a law. It is an independent body that investigates cases and publishes recommendations on ethical problems raised by progress in the fields of biology, medicine, and health.

In CNRS, there is a specific Ethics Committee that aims to develop in CNRS, in particular among its personnel, a shared ethics of scientific research. The committee is a think-thank group for issues

¹ "Société Anonyme" = public limited company

related to the consequences of the research undertaken to CNRS, as well in terms of potential risk as of acceptability for the society. It issues code of ethics, also addressing issues related to balance between intellectual freedom and duty with respect to the organization.

Gender equality and equality of minorities. There is no affirmative action policy concerning gender equality and the equality of minorities in France. Equality of genders and minorities as well as the equality of rights and obligations without any distinction of race or religion is stated in the French Constitution. The permanent researchers of the CNRS have a status of state employees but contrarily to other state recruitments that are only opened to EU nationals, the recruitment competitions of the CNRS are opened to all nationalities and with no gender distinction.

The Ministry of Research has created a unit "Women, Science and Technology" to monitor equal opportunity between men and women in research policies. It encourages the development of communication campaigns targeting girls, improves gender distribution in recruitment and advancement committees and so on.

Within the CNRS, a steering committee entitled "Disciplines, professions, careers and gender. The role of women in the CNRS" was created in March 2001, supported a few months later by the creation of the "Mission to improve the role of women at the CNRS". The latter is responsible for the coordination and implementation of recommended lines of action: gathering statistics, analyzing and identifying factors that affect women's careers, the image of women at the CNRS, the situation of women in the workplace, awareness of gender issues and promoting research on gender. This Mission works in coordination with the Ministry of Research's units "Steering committee for equal access of men and women to senior civil service positions" and the "Women, Science and Technology Unit".

General. There is no French national legislative text forbidding or restricting the participation of any research council in transnational research programmes. The participation has to be agreed between the partners, usually in a Memorandum of Understanding or international convention which should regulate the management of funding, especially the question of status of the organisation collecting the funds. Usually, the signature of the CNRS Director General is required. The CNRS researchers (or research groups) are strongly encouraged to cooperate with foreign teams and to participate to transnational research programmes. The opening of the CNRS programmes to Europe is an ongoing process. It has been suggested to encourage the teams of the CNRS participating to European transnational programmes with an extra allowance, but this financial incentive is not in force yet.

Obstacles and best practices for transnational research programmes

Experiences

The Department for Chemical Sciences of the CNRS has a large experience of projects shared with different national public bodies. About 80% of CNRS projects are shared with universities or other research organisations. In addition, at least 10% of CNRS projects are jointly funded with foreign partners. The CNRS jointly-funded transnational cooperation are led within the framework of contracts or agreements (bilateral agreements, PICS, LEA, GDRE, UMI).

CNRS has participated in CERC3 transnational initiatives. These collaborations were based on common calls but separate research funding. Weaknesses were: no increase of transnational mobility and researchers exchanges; no fixed amount on the funding announced by all partners

before the call; disagreements between the reviewers; no real common selection of the projects; the rules for the evaluation and the decision-making not clearly established and stated; risk of “last-minute” funding withdrawal by the involved research councils. In the case of the bilateral DFG-CNRS calls for proposals a real common selection of the projects by a Committee has taken place.

CNRS is participating in following common pot funding: Incentive Concerted Actions (common-pot between the French Ministry of Research and other French research organisations), European Large-scale research facilities, EURYL.

Obstacles

Jointly funded chemistry research programmes should in no way be the ultimate goal of ERA-Chemistry from the CNRS point of view. If ERA-Chemistry is restricted to jointly funded programmes, it will strictly stay within what is already existing. This will neither bring any innovation nor any further European integration. Instead, we should put in common part of the national resources: a common-pot for financial resources, in the first instance on priority thematic programmes commonly defined; an optimisation of the use of material resources and equipments of the laboratories in Europe; human resources should also ultimately be put in common.

The main obstacle for the common-pot transnational programmes is the lack of political will to put resources in common. In a period of diminishing public research budgets, research organisations tend to restrict themselves to their own research units. If political wills and determinations are clearly announced, all the below-mentioned obstacles on the modalities and procedures could be much more easily overcome. There are obstacles to intra-European mobility inherent to each system of the European partners. There is a risk that research councils withdraw their funds after selection of the projects to be supported, a risk of disagreement between the evaluators of the projects,

The main obstacles in CNRS concern the human resources, but the willingness of the Department for Chemical Sciences to encourage intra-European mobility is such, that they should easily be overcome. Autonomy of French researchers is limited compared to other European countries due the unit-based organisation of research which implies the agreement of the director of the laboratory for any individual initiative. In France, researchers have a civil servant permanent status that restricts the tools for hosting foreign researchers or for sending nationals to a foreign institute for a long period of time. This is however changing towards more flexibility especially in the perspective of launching new integrated European cooperation projects.

In addition there are many financial or accounting obstacles in CNRS. CNRS laboratories have yearly funding and 4-year programmes instead of for example 4-year funding on an individual project. There are discrepancies between the accounting rules and VAT rates in different countries. VAT rates were initially an obstacle for commonly funded research programmes between national funding organisations in France. Since the CNRS is a public organisation, an eventual common-pot for chemistry could not be managed by a private company. The CNRS is also obviously exposed to unexpected budgetary cuts from the Ministry of Research which could restrain the launching of long-term investments for new transnational co-operations.

Finally, some linguistic difficulties might appear in international collaborations due to legal obligation for French researchers (or any civil servant) to use at least partly French language in international cooperations (law “*Toubon*” on the “defence of the French language”, 1994).

Best practices

Ultimate goal should be the successful integration of the European research in chemistry: common definition of the scientific priorities, common applications, common evaluations, common decision and common funding.

All ERA-Chemistry partners should clearly express their political willingness and readiness to reach an integrated European Research Area based on common-pot funding of transnational research programmes. Once these engagements will be expressed, a Memorandum of Understanding or transnational convention should be prepared stipulating the rights and obligations of the partners. This document should contain a special mention on the consequences of a unilateral withdrawal of the funds; all the modalities and procedures from project application to decision-making; the structure and the regulations of the transnational body which would be in charge of collecting, managing and redistributing the funds. Great attention should be paid to the status and the accounting rules of this transnational organisation. To ensure that all research partners respect their engagements, this document should be signed before launching any call for proposal.

Following principles should be included in a Memorandum of Understanding: common application forms, common reviewing system (a common pool of experts including non-Europeans, reasonable remuneration), common decision-making (an ERA-Chemistry Scientific Council should be in charge of collecting the reviews, attributing scientific marks and ranking the projects), common pot funding, a follow-up by common structure.

ERA-Chemistry should provide a legal framework for transnational cooperation between research units, even in the case of small-scale center-to-center co-operations. The obstacles for researcher mobility between ERA-Chemistry partners should be clearly identified and a proposal to overcome them should be made. The status of the body or organisation that would collect and manage the common-pot funding should be clearly defined, as its regulations would then apply to all funds.

The topics of the calls should be determined according to both from flexible bottom-up and top-down procedures, allowing thus individual topical initiatives as well as the partners together to define common priority thematic programmes. Obviously, the first years of ERA-Chemistry will be devoted to the design of new instruments and their small-scale testing with some thematic calls for proposals.

The CNRS Department for Chemical Sciences is clearly willing to put a part of its budget aside and to assign it to transnational integrated projects. Concerning ERA-Chemistry, CNRS is determined to fund common-pot transnational projects irrespectively from their national origin. This operation might start in 2005, at least on the small-scale initiatives that should result from the first Workshop between researchers and administrators.

OTHER MAJOR FUNDING BODIES IN FRANCE

CEA – Commissariat à l'énergie atomique

CEA/Saclay
F-91191 Gif-sur-Yvette cedex
www.cea.fr

CEA intervenes in three main fields: energy, information and health technologies and Defence. Through the diversity of its programmes, it pursues two major objectives: to become the leading European technological research body, and to guarantee the continuation of the nuclear deterrent. Its advantages to achieve this: a crossed engineers/researchers culture, favouring synergies between fundamental research and technological innovation; exceptional installations (super-computer, research reactors, large physics instruments, power lasers, etc); finally, real involvement in the industrial and economic fabric. Established in 9 centres spread throughout France, the CEA benefits from strong regional presence and solid partnerships with other research bodies, local institutions and universities. In order to encourage the transfer of knowledge, it attaches particular importance to education and information to the public.

Key figures:

15024 employees
Budget 2.7 bn euros
1689 patents registered or in force
1300 contracts signed with industry
83 new companies created since 1984 in the high technologies sector
9 research centres

INSERM – National Health and Medical Research Institute

101 rue de Tolbiac
F-75654 Paris Cedex 13
www.inserm.fr

INSERM, the French National Institute for Health and Medical Research is a public scientific and technological organization overseen jointly by the French Ministries of Research and Health focusing on the different fields of research in fundamental biology, cognitive and applied medicine and public health.

Key figures:

445 millions euros budget in 2002
13,000 research professionals
6,000 scientific publications en 2001
310 industrial cooperation contracts
374 current license agreements

Institut Pasteur – Disease Control, Vaccines

28 rue du docteur Roux
F-75724 Paris Cedex 15
www.pasteur.fr

The Institute Pasteur is a non-profit private foundation dedicated to the prevention and treatment of diseases through biological research, education and public health activities. Its scientific strategy targets towards microbiology and infectious diseases, together with immunology, constantly striving for excellence. 130 biology research laboratories and units, belonging to 12 research Departments, prioritise the fight against infectious diseases (microbiology) on main fields of research such as microbiology, immunology, molecular biology, neurobiology, genomics and post-genomics. The Institute Pasteur cooperates on a national scale with its closest partners, among which public research organisms (CNRS - French National Scientific Research Centre, INSERM - French National Institute for Health and Medical Research, etc.), universities, hospitals (Necker, Cochin, etc.), the Institut Pasteur in Lille, the Fondation Mérieux, and also its industrial partners (Aventis Pasteur, Biorad, Procter & Gamble etc.). On an international scale the Institute Pasteur builds on its wide network of Pasteur and associate institutes.

Key figures:

Workforce: 2500, of 63 different nationalities

Annual Budget: 188 million euros

Research units: 126

Students and trainees: 1000

National Reference Centres: 22

WHO Collaborating Centres: 8

International Network: 29 Instituts Pasteur

Start-up in biotechnology: 9

Médical Centre (2002): 82 000 vaccinations, 28 670 consultations, 89 555 analysis

Institut Curie - Curie Radiation Studies and Therapy

26 rue d'Ulm

F-75248 Paris cedex 05

www.curie.fr

Founded by Marie Curie and Claudius Régaud, the Curie Institute, a private non-profit foundation, has been pursuing two connected goals in the fight against cancer: patient management and oncology research. Interdisciplinary cooperation between clinicians and scientists is at the heart of the Curie Institute's culture and know-how, aiming to make the very most recent progress in cancer research available to patients as quickly as possible. The research center is made up of number of laboratories associated with the CNRS or INSERM (France's national research institutions). Research at the Institute Curie involves biologists, chemists, physicists and clinicians. In Paris and Orsay, in laboratories collaborating with CNRS or INSERM, research work is designed to understand the functioning of normal and cancerous cells. Seven main fields of research have been defined with a view to improving prevention, diagnosis and treatment of cancer. As anticipation of progress in science is an essential ambition of all research institutions, the Curie Institute has entered the post-genome era and is actively preparing for the major research developments of the 21st century.

Key figures:

Over 150 M€ of annual budget

750 people working in the research section

1, 000 people working in the hospital

12 research units associated with the CNRS or Inserm

400 international publications in science and medicine each year

INRA – National Agronomic Research Institute

Inra – URGSE
Europôle méditerranéen de l'Arbois
BP 80
13545 Aix en Provence cedex 04
www.inra.fr

The National Institute for Agricultural research (INRA) is a national public scientific and technological establishment under the joint authority of the Ministries of research and Agriculture. Research at INRA focuses on scientific knowledge and innovation, particularly in the fields of agriculture, food and the environment.

Key figures:

14 research departments covering agriculture, nutrition and the environment.
21 regional centres with 200 sites throughout France.
260 research units (including 140 associated with other organisations).
80 experimental units.
130 support units.
4120 researchers and research assistants.
4470 technicians and research support personnel.
1000 doctoral students.
596 million Euros of budget in 2004.

Universities funded by the French Ministry of Research

Ministère délégué à la Recherche
1 rue Descartes
F-75231 Paris cedex 05
www.recherche.gouv.fr