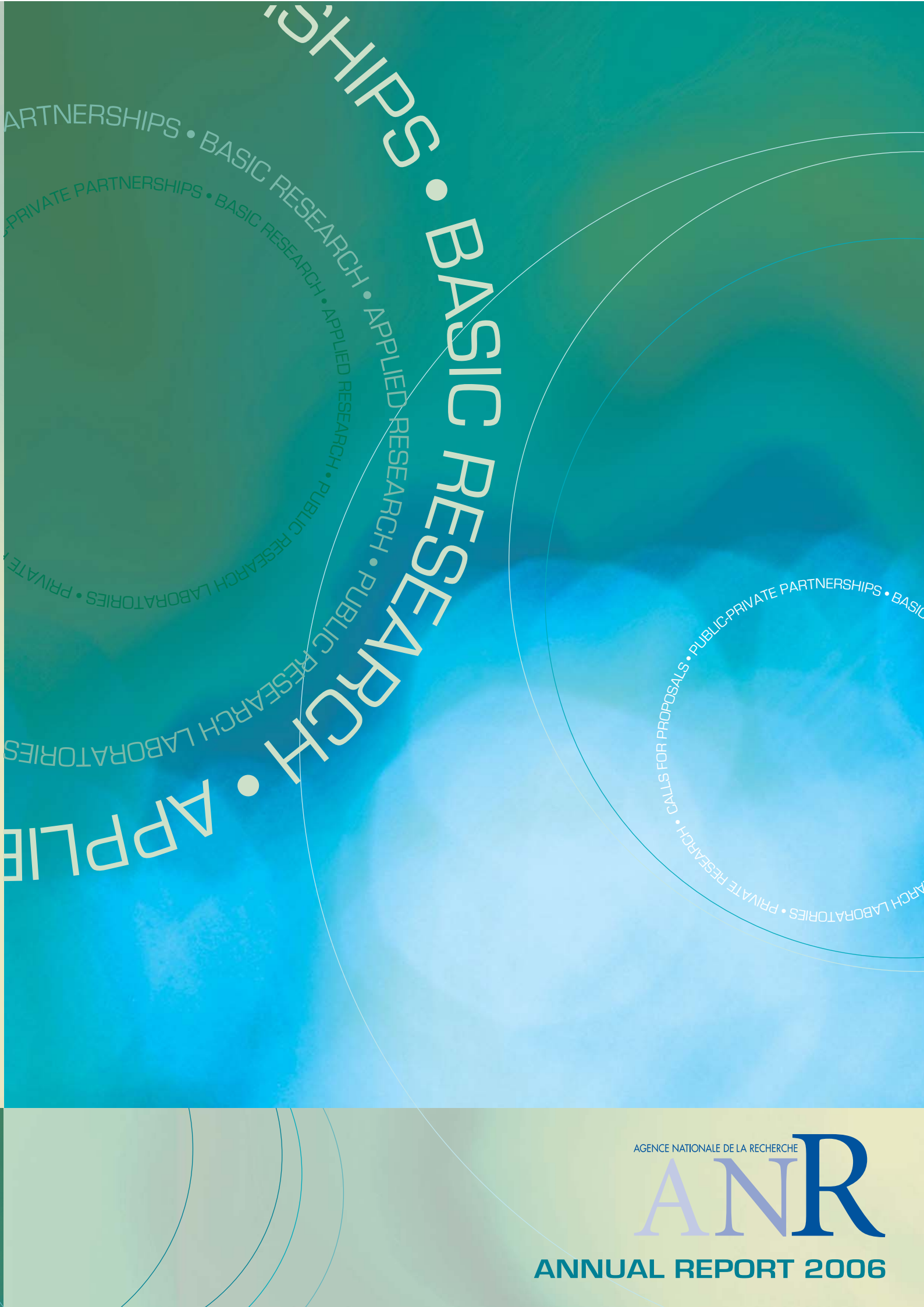




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AGENCE NATIONALE DE LA RECHERCHE
ANR

ANNUAL REPORT 2006



P R E F A C E

In 2006, the *Agence Nationale de la Recherche* (ANR - the French national research agency) focused its activities on its three main objectives:

- promoting production of knowledge, of original ideas and of innovative concepts, to keep pace with society's developing needs;
- developing partnerships between industrial and academic research;
- raising the profile of French research within the European Research community and, more broadly, internationally.

These are areas of work that coincide with the major concerns of our modern world such as energy, health, ecosystems and sustainable development, and information and communication technologies, to name but a few.

ANR's efforts were rewarded in 2006 by a positive response from the different sectors of research, resulting in a 13 per cent increase in the numbers of projects submitted for funding in answer to the Agency's calls for proposals.

Projects were chosen under a selection process made possible thanks to the remarkable commitment of more than 10 000 French and international experts. Their expertise and commitment ensured that the different committees evaluating projects were able to work with the utmost efficiency.

2006 saw the first issue of thematic calls for proposals in the field of human and social sciences. The Agency received 338 very high quality projects submitted in response to the three calls issued.

This was also the year of ANR's entry into the international arena, with four trans-national calls for proposals launched within the ERA-NETs framework (in the areas of biology and health and nanotechnologies). To further step up its presence in Europe, ANR became a member of the Eurohorcs association, the forum that brings together European agencies funding research.

ANR now has a 'Partnerships and Competitiveness' department, responsible for promoting partnerships between industrial and academic research, supporting SMEs in developing ANR projects, and for supporting the dynamics of France's 'competitiveness clusters'. The department also participated in selection of the 20 'Carnot Institutes' (see page 29) that received accreditation in 2006.

Thematic meetings were organised nationwide in 2006, allowing ANR to begin the process of retrospective monitoring of the 2005 calls for proposals. The meetings organised midway through the 'Young Researchers' programme indicated a very high scientific quality of projects submitted by this community.

In parallel with the implementation of its programmes in 2006, the Agency drafted project evaluation and selection guidelines to further guarantee the rigour and transparency of its project selection process. An initial 'procedures manual', available on-line on the Agency's website, was the outcome of this work. Others will follow in 2007.

Another significant event was the adoption by Parliament of the Research Planning Act, conferring on ANR its final status as an *Établissement Public Administratif* (EPA - public administrative establishment) as of 1st January 2007.

Ever mindful of the needs of researchers and ready to respond, ANR wishes to warmly thank all those who, through their contributions, enabled the Agency to fulfil its mission and, in 2006 as in 2005, to continue putting in place its own organisation while simultaneously implementing its programmes. In 2007 we will take full advantage of initial feedback on our 2005/2006 activities, and will strive to optimise our strategies and working methods in order to better meet the needs and expectations of both society and researchers, whether in the public or private sectors.

Jacqueline Lecourtier
Chief executive



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B A C K G R O U N D

ANR was created in 2005 to enhance channelling of funds to project-based research. The agency reaches out to both public and private research bodies within the framework of a mission that has two primary objectives:

- to strengthen development of knowledge through high-level projects in all areas of research;
- to encourage transfer of knowledge and foster interaction between public and private laboratories through the development of public-private partnerships.

ANR has continued to build on the work undertaken in 2005 in support of France's scientific community, focusing its activities on the funding of high-level projects. In 2006, the agency chose over 1 600 projects for funding via its competition-based Calls for Proposals procedure. This selection method was chosen by the agency specifically to encourage production of knowledge and the transfer of results of publicly funded research to industry. ANR committed €620.6 million to project funding in 2006, representing 77.5 per cent of its programmed spending in support of research.

In parallel with the launch, organisation and financing of its calls for proposals, ANR continued to support more closely targeted initiatives aimed, primarily, at developing public-private partnerships and reinforcing regional strategies. There were also some notable additions to the 2005 programme: funding of the 'Carnot' initiative, in particular (see page 29).

I - CALLS FOR PROPOSALS AND FUNDING

ANR invites proposals in five thematic areas: Biology and Health, Human and Social Sciences, Sustainable Energy and Environment, Materials and Information, Ecosystems and Sustainable Development. Submissions are also invited for Non-thematic actions under four calls for proposals: *Blanc* (blue-sky) Research, Young Researchers, Excellence Chairs and Global Security.

The structure of ANR's programmes is underpinned by two categories of calls for proposals:

- **'open' calls:** intentionally non-specific with regard to goals to be achieved; these calls apply to proposals aimed at the production of knowledge;
- **'partnership' calls:** aimed at more targeted topics from all or part of a thematic area; partnership calls are open only to consortia of research organisations and companies.

In 2006, ANR issued 49 calls for proposals, of which four were ERA-NETs, i.e. trans-national European calls. Of the remaining 45 national calls, 11 covered areas not addressed in 2005, including three thematic calls for proposals in the human and social sciences and six partnership calls.

In accordance with a decision made in 2005, applicants were given more time to prepare their proposals: in 2006, the average preparation time was 60 days, against only 48 days in 2005. This brings ANR into line with best international practice and establishes timelines that will need to be maintained in the future.

After putting its selection system in place in 2005, ANR was able to further open the process to foreign experts in 2006. Involving personalities from abroad has the dual advantage of limiting conflicts of interest and of being an effective means of guaranteeing the impartiality and neutrality of the selection process. The process attracted a large number of French experts from industry.

ANR evaluated 6 419 proposals submitted in 2006 (a 13.6 per cent increase over 2005). These were examined by:

- more than 10 000 external experts (5 700 in 2005), including more than 2 200 from abroad (1 036 in 2005) and nearly 650 from industry (413 in 2005);
- Evaluation Committees with over 1 200 members (950 in 2005), including 179 from abroad (92 in 2005) and 200 from industry (171 in 2005).

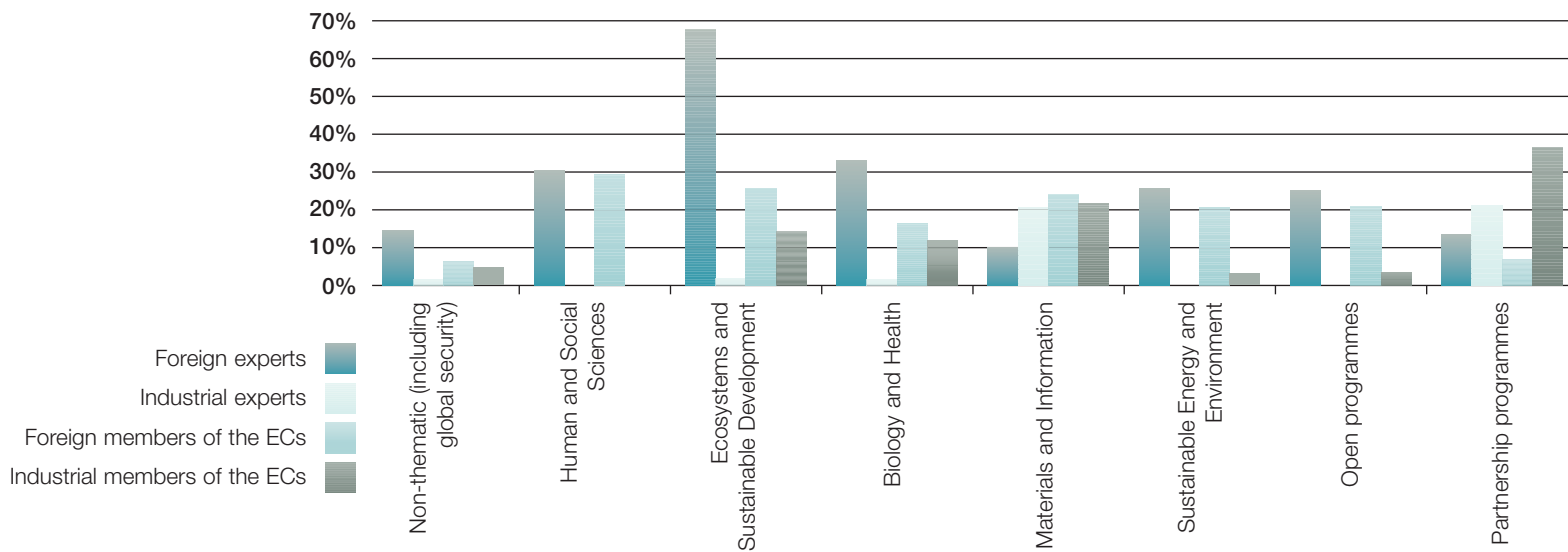
For partnership programmes, 39 per cent of Evaluation Committee members were industry representatives.

Proportion of external evaluations by foreign experts	22.5%
Proportion of external evaluations by experts from industry	6.3%
Proportion of foreign experts on Evaluation Committees	15.2%
Proportion of experts from industry on Evaluation Committees	17%

Participation by foreign and industry experts in 2006 varied according to the type of call for proposals, a tendency already observed in 2005. A greater proportion of foreign scientists were involved in the selection procedure for proposals responding to ‘open’ calls; scientists from the private sector were more likely to be present for the partnership programmes.

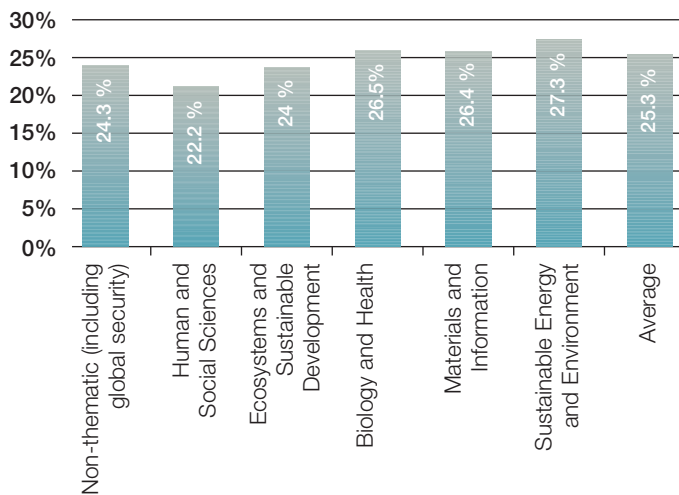
This pattern is reflected in the breakdown of participation for the different areas of research. More foreign scientists and less industry experts were involved in evaluation for the Human and Social Sciences, Ecosystems and Sustainable Development, Biology and Health and Non-thematic Areas—where the majority of programmes are of the ‘open’ type—than for Materials and Information or Sustainable Energy and Environment.

Results per theme and according to the category of calls for proposals



1 622 projects were selected in 2006, representing an average success rate of 25.3 per cent across the different thematic areas (stable on the whole, as it stood at 25.7 per cent in 2005). The success rates for each thematic area fall into a bracket of 22.2-27.3 per cent (narrower than the 19.9-29.8 per cent range observed in 2005).

Selection rate per thematic area



Public research establishments and higher education institutions continued to be well-represented among the beneficiaries in 2006, receiving nearly 78 per cent of all ANR funding. The share of the five leading research organisations represented on the Board (CNRS, INRA, INSERM, INRIA, CEA) fell from 41.7 per cent in 2005 to 37.1 per cent in 2006. This was due to a stronger thrust on the part of universities whose share of financed proposals rose to 23.9 per cent in 2006 from 22.1 per cent in 2005, and on the part of other higher education institutions which received 9.6 per cent of the 2006 funding, up from 7.8 per cent in 2005.

	Non- thematic (including global security)	Human and Social Sciences	Ecosystems and Sustainable Development	Biology and Health	Materials and Information	Sustainable Energy and Environment	Average	Open programmes	Partnership programmes
Average funding per project (€)	275 706	176 186	424 678	312 390	605 738	715 973	382 642	277 734	649 263
Number of partners per project	2.3	2	4.6	2.4	4.7	5.1	3.1	2.5	4.6
Average length of project (months)	39.9	37.7	36.6	31.2	34.3	35.4	35.4	36.2	33.3

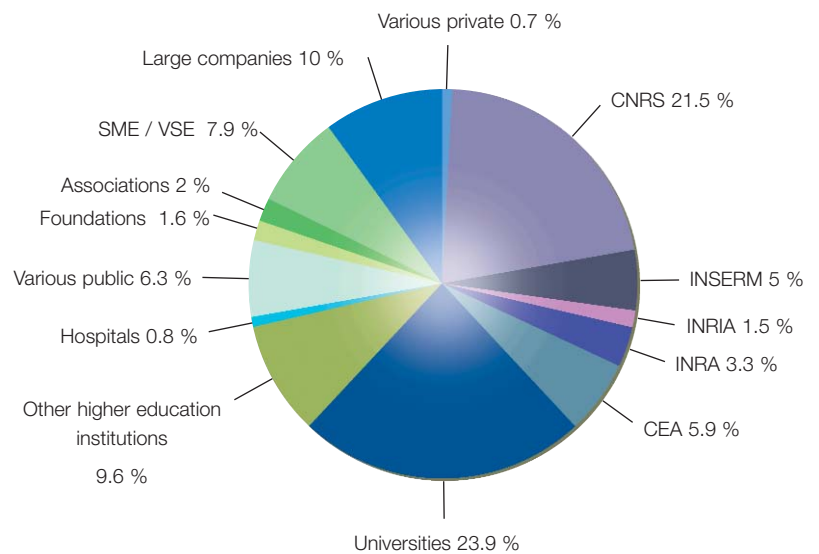
The number of projects involving at least one company rose from 383 in 2005 to 417 in 2006, meaning that companies benefited from €111.8 million, an increase of €18.7 million in relation to 2005 and representing around 18 per cent of the €620.6 million available for project funding. However, the proportion of available funding received by SMEs fell from 9.7 per cent in 2005 to 7.9 per cent in 2006.

A typical project financed by ANR in 2006 lasted for 35.5 months, 3.5 months longer than a typical 2005 project. Projects involved 3.1 partners on average, and received average funding of €382 603. The average grant per beneficiary rose by 6.5 per cent in comparison to 2005, amounting to €123 794 in 2006. This increase is a tangible result of ANR's desire to concentrate its financing on a limited number of projects and partners.

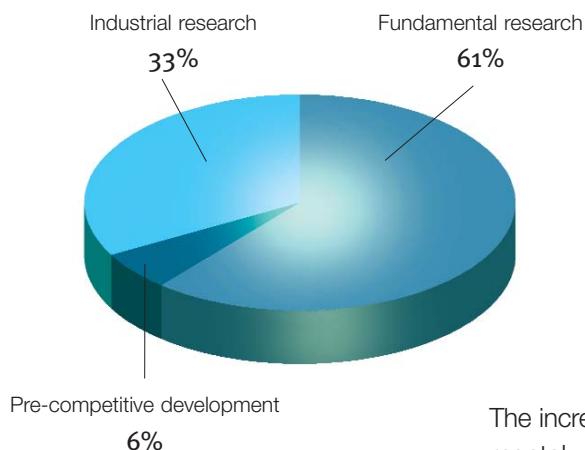
There was, however, a notable difference between open and partnership projects, with partnership projects involving larger numbers of partners and receiving higher levels of funding.

The average level of funding for company projects in 2006 was 41 per cent of full project cost, a slight increase on the 2005 level of 40.4 per cent. In keeping with its policy of supporting SMEs—and in line with European Community rules on State aid for research and development—ANR's average level of funding for project costs for SMEs was 46.8 per cent, almost 10 per cent more than the 37.5 per cent average awarded to companies employing more than 250 people.

Nearly 300 SMEs received support in 2005 and in 2006, with a high renewal rate indicated by the fact that 250 of the SMEs funded by ANR in 2006 had received no



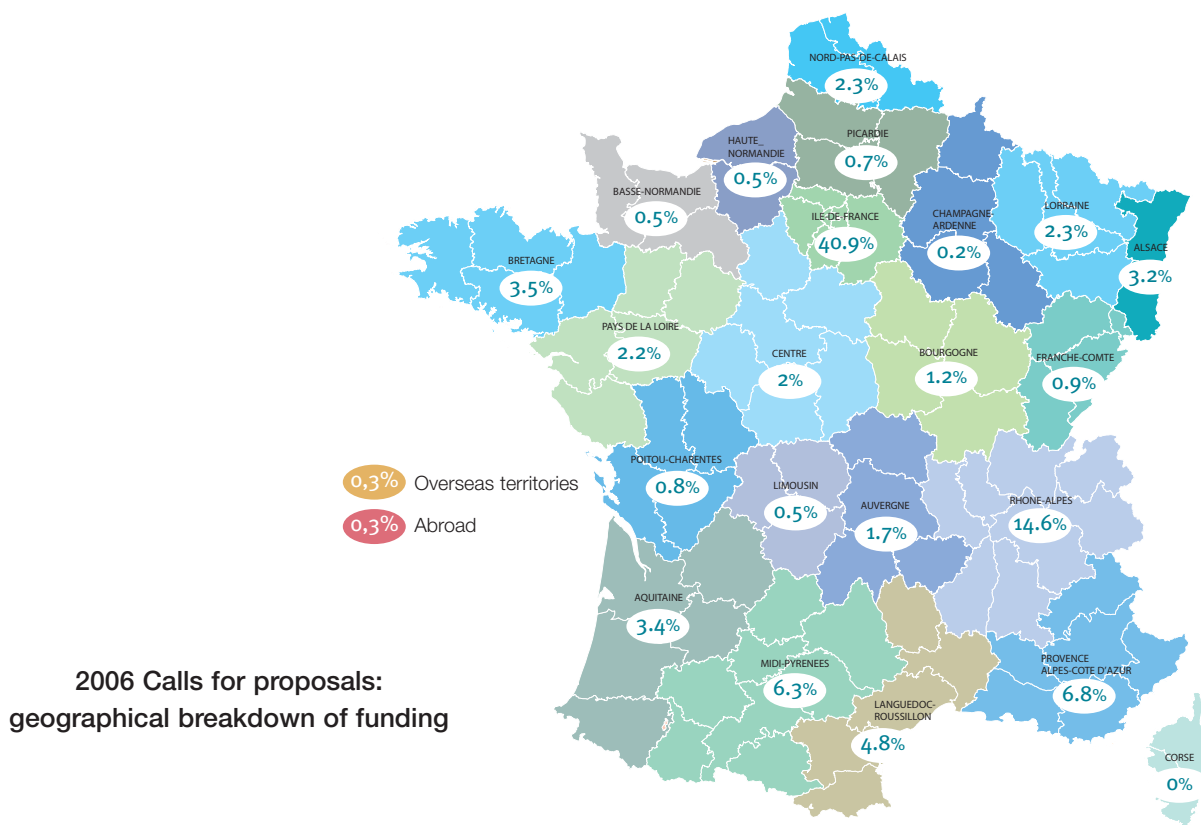
**Calls for proposals:
breakdown of funding per beneficiary**



funding in 2005. Around 10 per cent of these SMEs were participants in several projects and, accordingly, received more than one level of funding. Eighteen per cent of them were former winners of the nationwide competition for the creation of innovative technology companies, which has been partly funded by ANR since 2005.

The increased support for private research was not to the detriment of fundamental research. The pattern of funding awarded to the different research categories as defined by the European Commission (fundamental, industrial and pre-competitive development) shows an increase for fundamental research from 54 per cent in 2005 to 61 per cent in 2006—an extra €63 million in monetary terms. The share of funding for work further down the innovation chain was stable for industrial research and lower for pre-competitive development.

Consolidation of the funding allocated to public laboratories and companies shows a breakdown similar to that observed in 2005 for the main areas of spending. Staff costs continue to be the principal use for ANR funding, accounting for 51.5 per cent in 2006 against 50 per cent in 2005. This is partially explained by expenditure for salaries for people under contract in public research establishments (excluding EPIC). With 5 107 man-years financed from ANR grants, the ratio of one 3-year fixed term contract per project remains constant. Equipment-related spending accounts for 31 per cent of the total expenditure.



2006 Calls for proposals:
geographical breakdown of funding

The geographical breakdown of funding accorded to projects shows a pattern similar to that observed in 2005: the Ile de France region, receiving 40.9 per cent of funding, is in first place, ahead of the Rhône-Alpes region which obtained 14.6 per cent and the Provence-Alpes-Côte d’Azur region, which received 6.8 per cent. The overall proportion of funding going to these regions is 62.3 per cent, slightly lower than in 2005, when it reached 64.6 per cent. Virtually all of the other regions, with the exception of Brittany, saw their share stabilise or grow. This trend is the result of greater mobilisation by the scientific community outside of major research centres.

II – FUNDING FOR OTHER ACTIVITIES

As part of its 2006 programme of work, ANR devoted €154.8 million to activities other than funding of the projects described above. Some of these were carried out jointly with the ministry in charge of research, including a nationwide competition for the creation of innovative technology companies, the EUREKA programme, a shared technology transfer system, and research projects under *contrats de plan Etat-Région* (contracts for development plans between central government and the regions).

ANR also continued to award top-up funding for projects accredited by the management of competitiveness clusters² and to fund research activities linked to France's National Cancer Plan (via the National Cancer Institute and the Gustave Roussy Institute), as well as funding a network of micro-nanotechnology centres.

2006 was also the first year of the Carnot scheme, and was marked by the first-time funding of foresight studies to identify strategic areas for research, and working groups aiming at fostering exchanges between public and private research.

² Known as ‘Pôles de compétitivité’ in France, these ‘clusters’ form part of the French government’s industrial and economic policy integrating the key factor of competitiveness. A cluster is defined as: ‘an association of companies, research centres and educational institutions in a given area, working in partnership to generate synergies in the execution of innovative projects in the interests of one or more markets’. (<http://www.competitivite.gouv.fr>). (See also p 31).



HUMAN AND SOCIAL SCIENCES

Aware of the importance of the human and social sciences community, its significance for the academic world and the wide range of disciplines it covers, ANR introduced initiatives in 2006 to stimulate greater mobilisation of this community than in 2005, and to foster cooperation in different areas of research. This dual objective was achieved by the launch of thematic calls for proposals based on this multidisciplinary approach. These calls were warmly welcomed by the research community and 338 proposals were submitted, a figure close to that for human and social sciences projects submitted to the non-thematic programmes (360).

In all, funding awarded in response to thematic calls for proposals in the human and social sciences accounted for €13.2 million. When the response to non-thematic calls for proposals is included, a share of 4.7 per cent of available funds was allocated to these disciplines, against 2.5 per cent in 2005.

In 2006, the human and social sciences department issued three calls for proposals:

- Conflicts, wars, violence
- Learning, knowledge and society
- Corpus and research tools for human and social sciences

2006 priorities

The Conflicts, Wars, Violence programme aims to develop understanding of the dynamics of conflicts—whatever their intensity, scale, dimension or form—and of the individuals or groups involved. The projects selected in 2006 look at contemporary situations in a variety of geographical locations (including Latin America Lebanon, Middle-East and Nepal) as well as conflicts from former times (Roman conquest, Late crusades) or those that have developed over time (Islam/Christianity). Day to day violence is also considered and analysed (characterisation of urban violence, status of women in the Maghreb countries, etc.).

The Learning, Knowledge and Society call for proposals addressed the ways in which knowledge is produced, the contexts into which it is integrated and how it is put to use and capitalised upon. The programme proved to be of particular interest to researchers in the fields of psychology, linguistics and educational science. The projects selected focused on methods for production of knowledge, language acquisition, learning at school, the variability of skills development with context, and the role of education in social cohesion.

The Corpus and Research Tools for Human and Social Sciences programme was designed to support research projects requiring the implementation, utilisation, enhancement and distribution of a corpus, as well as improvements of tools and analysis procedures. Research involving the creation and utilisation of social and demographic data figured strongly among the projects selected. In the field of linguistics, priority was given to research concerning the constitution of oral corpuses (Afro-Asiatic languages, threatened languages of Latin American and African minorities). The use of new IT technologies is also opening up novel avenues of historical research (corpus of letters from the Avignon Popes, Roman legislative corpus).

Generally speaking, universities responded in number, with a wide range of establishments submitting proposals: 72 universities presented at least one project. The majority of these came from provincial research teams whose success rate was practically equivalent to that for Paris universities, confirming the nationwide spread of research in the human and social sciences.

There is an obvious need to correct or balance the breakdown among the various disciplines. Overall, the 'traditional disciplines' such as the humanities, literature and philosophy remain less well represented, with only history associated with archaeology growing in this sector: these two fields cover more than 20 per cent of the projects funded. Conversely, the share of cognitive sciences, economics and geography, sociology and political sciences—as well as that of disciplines that are less well represented in university level teaching but which enjoy a higher profile at the CNRS, such as ethnology or anthropology—is considerable and is indicative of the research potential in these areas.

ECOSYSTEMS AND SUSTAINABLE DEVELOPMENT

In 2006, the Ecosystems and Sustainable Development department carried over six of its calls for proposals from 2005, focusing on methods for exploitation of plant and animal resources, and on genomics. It also opened up to international partnerships by participating in the Plant Genomics ERA-NET. ANR committed €50.5 million to projects in these areas in 2006, representing 8.1 per cent of the agency's project spending for the year.

The seven 2006 calls for proposals for the Ecosystems and Sustainable Development department were in the areas of:

- Agriculture and sustainable development
- Biodiversity
- Food science and human nutrition
- Plant genomics
- Plant Genomics ERA-NET
- Animal genomics
- GMO

2006 priorities

The priority themes for research in 2006 were the same as in 2005: exploitation of natural resources and sustainable management of ecosystems, and genomic research designed to enhance knowledge and develop applications.

In 2006, the second and final edition of the two-year Agriculture and Sustainable Development³ umbrella programme emphasised an interdisciplinary approach, with calls for proposals oriented towards two major themes: the potential contribution of agriculture to sustainable development, and research into sustainable development itself, as well as its application to agriculture.

Based on the National Biodiversity Research Strategy, the Biodiversity programme focused on research into the management and dynamics of natural and anthropised ecosystems.

In the area of Food Science and Human Nutrition, the second edition of the National Food and Human Nutrition Research programme centred on themes that did not feature strongly in 2005 and that could promote greater involvement of the human and social sciences, primarily in biotechnology projects. Public-private partnership projects were eligible under this programme.

³ Co-financed by INRA, CIRAD, ADEME and CEMAGREF

Three programmes were devoted to the theme of genomics in 2006—one on animal genomics and two on plant genomics—in the form of two national calls for proposals (plant and animal genomics) and one trans-national call (plant genomics). All three programmes were open to public-private partnerships.

The second edition of the GMO programme, which in 2005 was limited to plants, promoted animal research in 2006. More explicit opening up to private partnerships was also encouraged.

The Ecosystems and Sustainable Development department frequently interacts with other departments, as some of the themes it addresses are highly transverse in nature (especially environment and health).

As in 2005, most of the projects financed by the department in 2006 concern fundamental research. However, major efforts were made on targeted research, in particular for programmes open to public-private partnerships. The total number of private partners was up on the previous year.

The department's overall selection success rate rose from 20 per cent in 2005 to 24 per cent in 2006, principally because, for some programmes, projects that had been submitted to the Research and Technology Fund in 2004 were included in the projects counted in 2005. The differences in selection rates for the department's programmes were also narrower in 2006.

SUSTAINABLE ENERGY AND ENVIRONMENT

2006 was marked by the scientific and media debate surrounding climate change and its potential consequences, and on the increasing scarcity of fossil fuels that will lead, eventually, to fundamental changes in the way our societies produce and consume energy. The aim of research in these areas is to invent and develop new industrial production methods and new forms of urban organisation that will allow us to change our energy sources and significantly reduce polluting emissions, especially of greenhouse gases. The Sustainable Energy and Environment department's calls for proposals address these issues and are part of France's policy of European and international commitments in the field of energy and sustainable development. ANR committed nearly €111.7 million to research via this department, almost 18 per cent of its 2006 budget for projects.

The Sustainable Energy and Environment department issued 11 calls for proposals in 2006:

- Hydrogen and fuel cells (PAN-H national action plan)
- Bioenergies
- Photovoltaic solar energy
- Ground transportation and innovation - clean and thrifty vehicles
- Ground transportation and innovation - intelligent transport
- Building technology and energetics
- Civil and urban engineering
- CO₂ capture and storage
- Ecotechnologies and sustainable development
- Vulnerability, climate and media
- Telluric disasters and tsunamis

2006 priorities

From the earliest days of its existence ANR opened up very wide ranging research in the fields of new energy technologies and environment. The programmes managed by the Sustainable Energy and Environment department are based on three priorities:


- development of alternatives to fossil fuels
- low-energy equipment, transport systems and regional development
- reductions in polluting emissions and assessment of environmental vulnerability

As in 2005, funding of research and development for energy sources that are alternatives to fossil fuels focused on hydrogen, bioenergies and photovoltaic systems:

- The PAN-H (national hydrogen) programme was designed with the goal of developing a French hydrogen sector, primarily for automotive applications. The projects selected focused on improving fuel cell performance and on innovations in hydrogen production technologies. Slightly fewer proposals were received in 2006 than in 2005 for this major programme, to which nearly €29 million were allocated.
- The National Bioenergies Research Programme, supporting France's national biofuels plan, is based on the physical-chemical or biological treatment of second generation biofuels. In 2006, the programme was expanded to take in energy extraction from biowaste. There was a considerable increase in the number of scientific proposals received for this programme and in the total amount of grants applied for (+ 40 per cent).
- The Photovoltaic Solar Energy programme is underpinning restructuring of the French photovoltaic sector. The 2006 edition of this programme focused on reducing the production cost of cells and on improving their integration into buildings. Greater importance was attached to breakthrough projects and to systems than in 2005.

The second priority, low-energy equipment, transport systems and regional development, was strengthened in 2006 by a new call for proposals under the Clean and Thrifty Vehicle part of France's PREDIT (ground transportation research and innovation) programme, in addition to the building technology and energetics (PREBAT) and civil and urban engineering programmes:

- The Clean and Thrifty Vehicle call targeted innovations in internal-combustion and hybrid engines. Fifteen projects were funded, 70 per cent of the funding going to companies. Ninety per cent of the projects selected came from competitiveness clusters.
- The second part of PREDIT funded by ANR concerned the development of information and communication technologies in the transport sector. A number of projects on safety in different modes of transport, including rail, were funded as a result of the Intelligent Transport call for proposals.
- The 2006 call for proposals for the PREBAT (building technology and energetics) programme, co-funded with the ADEME, focused on the basic technological elements of buildings (envelope, structure, equipment,



insulation). Numerous proposals were submitted on energy production systems to be integrated in buildings. The projects funded directly by ANR focus on the envelope or structure of buildings, as well as on simulation tools.

- The Civil and Urban Engineering programme call for proposals focused on engineering technologies and sustainable development approaches in civil engineering. Awarding of funds was highly selective in this area, with 10 projects funded (including nine that were accredited by competitiveness clusters) out of the 49 submitted.

The third priority, reductions in polluting emissions and assessment of environmental vulnerability, involved continuation of three programmes initiated in 2005 on Eco-technologies, CO₂, and Telluric Disasters, plus a call for proposals on Vulnerability, Climate and Media:

- Considerable work was done under the CO₂ Capture and Storage programme, to mobilise the national research community, following the results of the 2005 call for proposals. The 2006 call enjoyed very real success with a 60 per cent rise in applications for funding, particularly for CO₂ capture technologies. The projects selected focused primarily on capture technologies; three projects concerned underground storage.
- Ecotechnologies were the subject of numerous proposals, with a clear trend towards the development of clean industrial processes and reduction of emissions at source, as opposed to more conventional 'end-of-pipe' approaches to the technological treatment of pollutants (air, water and soil).
- The Vulnerability, Climate and Media programme targets assessment of the vulnerability of natural or anthropised systems to global changes, in particular the impacts of climate change. Although the programme covers both climatic and anthropogenic pressures, nearly half of the projects addressed the vulnerability of systems to climate change.
- The Telluric Disasters and Tsunamis programme develops fundamental research into the phenomena causing major telluric disasters: earth-quakes, volcanoes, tsunamis, gravitational instabilities. The projects funded primarily target the world's main seismic zones (Mediterranean region, Antilles Arc, Pakistan and India). Response to the call for proposals showed a heavy bias towards earthquakes in the topics submitted.

A total of 572 applications were received, from which 156 projects were selected and funded, representing an average success rate of 27.3 per cent.

There was a clear and significant mobilisation of research teams in the sustainable energy and environment sector in comparison with 2005, with an overall rise of 26 per cent in funding requested and an increase in the number of projects submitted (+17 per cent). This was particularly true for bioenergies (+38 per cent) and CO₂ capture and storage technologies (+71 per cent).

The Sustainable Energy and Environment department also clearly moved towards public-private partnership research, with nearly 90 per cent of grants going to this type of programme. Nearly 800 research teams received grants, including 239 companies. The overall share of funding going to companies stood at 31 per cent in 2006. Around 41 per cent of the projects funded through the department's calls for proposals were accredited by competitiveness clusters, particularly the programmes dedicated to transport, civil engineering and energy.

BIOLOGY AND HEALTH

The Biology and Health department underwent major changes between 2005 and 2006, leading to calls for proposals that opened up in four directions, towards:

- addressing a wider range of chronic illnesses and also emerging diseases;
- multi-disciplinary research, through the Physics and Chemistry of Living Organisms programme, at the interface between physics, chemistry, biology and medicine, and through the Systems Biology programme at the interface between the experimental biological and medical sciences and the theoretical disciplines of mathematical statistics, physics and bioinformatics;
- improving the Quality approach in research infrastructures, through the Collections of Biological Resources for Health research programmes;
- international outreach, with participation in the Eurotransbio and Pathogenomics ERA-NETs.

These developments resulted in a significant rise in the number of projects submitted (1 504 in 2006 against 1 251 in 2005) and were accompanied by a 20 per cent increase in the department's budget reaching €124.5 million in 2006.

In 2006, the Biology and Health department issued 13 calls for proposals:

- Physiopathology of human diseases
- National rare diseases research programme
- Neurosciences, neurological and mental diseases
- Microbiology, immunology and emerging diseases
- Pathogenomics ERA-NET
- Health and environment, health and work
- Systems biology
- Physics and chemistry of living organisms
- Collection of biological resources for health
- Emergence and development of biotechnology projects with high application potential
- Research and innovation in biotechnology
- Eurotransbio ERA-NET
- Technologies for health

2006 priorities

These 13 calls for proposals fell broadly into two categories:

- nine were fundamental research calls, either pure biology or medicine or at the interface with other fields;
- the main thrust of the other four calls was towards technological innovation, either providing assistance to emerging biotechnology projects with high development potential for public laboratories, or through incentives for transfer of skills and knowledge between public laboratories and private sector teams, through technological development and new applications in the fields of biotechnologies and technologies for health.

For the first category, transformation of the 2005 Heart, Diabetes, Obesity programme into the Physiopathology of Human Diseases call for proposals in 2006 resulted in an increase in the number of themes covered, mirrored by an increase in the number of proposals received. As in 2005, the majority of projects funded concentrated on cardiology, obesity and diabetes, but proposals were also received in the fields of gastroenterology, rheumatology, pulmonary and renal pathologies.

Similarly, expansion of the 2005 Microbiology and Immunology programme to include emerging diseases provided very wide coverage of the field; a quarter of the projects selected concerned emerging diseases such as avian flu and chikungunya. Further support was lent to the programme by ANR's participation in the Pathogenomics ERA-NET. This call—targeting a genome-scale

study of human pathogens (bacterial and fungal)—brought together eight countries. It was decidedly successful for the French microbiology community, with each of the 12 projects chosen involving one or more French teams.

The Rare Diseases; Neurosciences, Neurological and Mental Diseases; and Health and Environment, Health and Work calls for proposals were a continuation of the 2005 programme. The aim of the first—implemented in partnership with the French Association against Muscular Dystrophy and the Directorate General for Health—was to fund projects on the creation of research networks and ‘innovative postgene projects’. Projects selected under the Neurosciences, Neurological and Mental Diseases call cover all areas of this vast field of research. The Health and Environment, Health and Work call constituted the second edition of an interdisciplinary programme combining chemistry, biology, environmental science, health, and human and social sciences. The projects selected cover emerging and re-emerging diseases, the role of environmental determining factors (metals, nano-particles, etc.), environmental impacts on health (allergies, heart problems, cancer, etc.), the epidemiology of occupational exposure and the socio-economic aspects of silicosis, as well as the strenuousness of work for the elderly.

2006 also saw the launch of two new multidisciplinary, fundamental research programmes:

- The Systems Biology programme, designed to ascertain the situation of the French community involved in modelling and simulating biological phenomena. The small number of projects submitted and lack of maturity of some of them suggest that the community liable to be interested in this emerging field is not yet fully developed, and that considerable mobilisation will be necessary, especially amongst theoretical mathematicians, physicists and IT specialists.
- The Physics and Chemistry of Living Organisms programme supports projects at the interface of the exploration of living organisms, where the investigations of physicists, chemists, biologists and medical practitioners meet. The programme received 184 proposals submitted, making it, in its first year, one of the most important thematic programmes in terms of numbers of submissions.

The Collection of Biological Resources for Health programme is at the edge of the Agency's thematic calls for proposals, as it is designed to fund development of a quality approach amongst biological resource centres, to help them to take their rightful place in academic and industrial research projects at both national and European levels. The programme includes the development and implementation of a framework AFNOR or ISO standard.

The Emergence and Development of Biotechnology Projects call, oriented primarily towards technological innovation, was carried over from 2005. This is a purely academic programme intended to fund proof of concept in the original laboratory and demonstration of the industrial applicability of a discovery, to optimise its actual application. The projects selected were mostly in the areas of therapeutic and diagnostic applications for human health, as well as instrumentation and technologies for research.

Renewal of the 2005 Research and Innovation in Biotechnology call for proposals was accompanied by the launch of a transnational call for proposals, the EuroTransBio ERA-NET. These two public/private partnership programmes concern biotechnologies in the health, agronomy and environment fields. Despite a fall in the number of submissions in relation to 2005, the national programme still includes high-level public/private partnership projects. The first edition of the trans-national EuroTransBio programme was a major success with the six partner countries of the ERA-NET, and with France in particular, as 46 projects submitted included at least one French partner and resulted in 22 French partner companies being funded.

The Technologies for Health call for proposals was the 2006 edition of the previous year's call issued by the national health technologies network. Its aim was to promote the development of innovative technologies with high potential for application and for significant impacts in terms of health and the treatment of handicaps.

The Biology and Health department's consolidated results showed a strong response from the scientific community for all calls for proposals, with 1 534 projects submitted. The increase of the overall number of projects submitted over 2005 was mainly due to the new programmes opened in 2006. Interestingly, the number of projects submitted under programmes already in existence in 2005 was, overall, stable, demonstrating that there is still a thriving scientific community responding to each theme even after two years of calls for proposals.

The average success rate for project selection was 25.8 per cent. The Physics and Chemistry of Living Organisms programme had an exceptionally low rate, explained by the unexpectedly high number of projects submitted (184) in this programme's first year. Finally, only 14.7 per cent of the grants were allocated to private sector partners (mainly SMEs), primarily in the Research and Innovation in Biotechnologies and Technologies for Health. 'partnership' programmes. This low percentage, compared with 18 per cent for ANR programmes as a whole, is explained by a reduction in the number of projects submitted to the Research and Innovation in Biotechnologies

programme and an increase in the number of calls for proposals tending to target fundamental research.

In addition to funding research in response to its calls, ANR contributed €40 million to the National Cancer Institute's research programmes, and provided exceptional support of €5 million for work undertaken at the Gustave Roussy Institute.

MATERIALS AND INFORMATION

ANR supports research in information and communication technologies, and materials and nanotechnologies, sectors where research has very high added value and will impact tomorrow's innovations directly. These are also sectors that share the common property of disseminating widely into many areas of activity. Future issues include the competitiveness of French and European industry, but also more intangible aspects such as health, sustainable development or access to culture, making the field a priority for ANR. In 2006, €146.5 million were budgeted for research in these areas, 23.6 per cent of the Agency's 2006 calls for proposals budget.

The Materials and Information department issued 11 calls for proposals and actions in support of infrastructure:

- Audiovisual and multimedia
- Software technologies
- Telecommunications
- Data masses and ambient knowledge
- High-performance computing and simulation
- Future hardware architecture
- Interactive systems and robotics
- National nanosciences and nanotechnologies programme
- Nanosci-ERA ERA-NET
- Materials and processes
- Basic technological research (support for the large nanotechnology centres)

2006 priorities

The Materials and Information department's programmes fall into two categories: information and communication technologies, and materials and nanotechnologies.

Three calls for proposals were issued in the first category, aimed primarily at promoting partnership research in the major audiovisual and multimedia, telecommunications and software technologies sectors. Research projects were invited to submit, but also 'platforms', i.e. consortia that pool academic and industrial resources and objectives to address a particular technology bottleneck. The content of the calls is defined jointly with existing research and innovation networks (RIAM, RNRT, RNTL). 223 projects were submitted in response to this set of calls for proposals, involving around 1 200 partners, including new applicants from the insurance, supermarket, automotive, energy and decision-making sectors. 51.7 per cent of the funds allocated went to the private sector.

Two other calls for proposals targeted more academic projects, with 90 per cent of the funding going to the public sector. The first related to the problem of handling large amounts of data (mining, display, processing). The second aimed to develop the use of high-performance computing at the national level. Numerous proposals addressed the main applicational challenges as well as methods and applications for numerical simulation, in line with efforts made in 2005 to reconstitute national expertise in these key areas. Projects were submitted, for instance, in the areas of turbulence, materials and biology. Several of the proposals received use the Japanese Earth Simulator or IBM's Blue Gene, in addition to the national Grid'5000.

Two new calls for proposals were issued to bolster research and development in the design of tomorrow's integrated circuits and in robotics, sectors that simultaneously pose challenges for researchers while offering a high potential for industrial development. Forty-three projects were received in response to the Interactive Systems and Robotics call, with strong participation by SMEs. The projects covered a broad range of issues, ranging from conceptual subjects (aquatic robot simulating an eel) to industrial projects designed to give a ten-fold gain in the working rate of 'pick and place' machines. The private sector share for this call amounted to 25 per cent.

Partnership research plays a major role in the information and communication technologies sector and more than 42 per cent of the funds were accordingly allocated to the private sector, of which 17 per cent went to SMEs.

The Materials and Information department's second main area of interest is materials and nanotechnologies.

In this area, the Materials and Processes programme—devoted to partnership research projects developing new materials—enjoyed considerable success in 2006, with an almost 20 per cent increase in the number of projects submitted in relation to 2005. Almost 33 per cent of the funding granted benefited industry.

The PNANO (national nanosciences and nanotechnologies programme) call for proposals, issued jointly with the R3N research and innovation network, aimed to support research and development in the field of nanosciences and nanotechnologies. This had a dual purpose: first, to promote fundamental research targeting promising subjects benefiting from the 'cross-pollination' between disciplines that arises from the 'nano' approach; second, to encourage closer ties between the academic and industrial research communities by combining open and partnership research in a single call for proposals. Participation by industry was modest, with only 15 per cent of the funding being allocated there. The PNANO call for proposals is supplemented by other ANR calls such as the upstream Blanc programme, and the Health and Environment, Health and Work programme, dealing with toxicology, and various calls for finalised research able to implement nanotechnologies (materials, energy, health). Nanoscience is very much an international field and ANR is heavily involved in the Nanosciera ERA-NET, a fundamental Europe-wide call for proposals.

Lastly, the Basic Technological Research programme aims to provide investment resources to a group of seven large nanotechnology centres, creating what can be considered to be a large virtual instrument. This support, representing € 18 million in 2006, is more than ever necessary, as the changes resulting from the 'saturation' predicted by Moore's law will lead to a situation in which the competitiveness of academic and industrial teams will more than ever depend on their ability to innovate on a series of efficient research infrastructures.

NON-THEMATIC

In line with its efforts in 2005, ANR reserved a key place for Non-thematic research projects in its 2006 schedule. Non-thematic projects outweighed all other areas in terms of funding allocated by ANR, with €173.97 million allocated (including for the two Security programmes), representing 28.03 per cent of the 2006 project funding budget.

In addition to highlighting the cross-disciplinary approach to security, ANR also focused on its Excellence Chairs and Blanc calls for proposals to recognise excellence and encourage innovative or interdisciplinary approaches. At the same time, the Young Researchers programme, focusing on encouraging young people to assume responsibilities, saw a drop in the number of submissions.

In 2006, the Non-thematic department renewed its three calls for proposals:

- *Blanc* programme
- Young Researchers programme
- Excellence Chairs programme

2006 priorities

These three calls for proposals are directly in line with a strategy to support fundamental research. 2006 was marked by a 36 per cent rise in the number of projects submitted for the Blanc programme. This programme gives significant impetus to ambitious projects which do well against international competition, for all disciplines. Projects are selected solely on the basis of excellence.

The number of projects submitted for the Young Researchers programme fell by 16 per cent in 2006. In 2005, ANR absorbed some of the unsatisfied applications from previous years not dealt with at the time by the ministry responsible for research, due to a budget four times smaller. The programme supports young researchers or lecturers under 39 years of age, encouraging them to assume responsibilities and enabling them to develop their own research themes independently.

A single Evaluation Committee, subdivided into nine specific discipline committees comprising scientists of international renown, conducts evaluations

for these two programmes. One-third of the projects were highly inter-disciplinary and thus were evaluated by two committees.

ANR also continued its Excellence Chairs programme, which aims to make France more attractive to high-level scientists—whether from other countries or expatriates who have been working abroad for a number of years—by offering significant funding for specific research projects for three years. Funding rose from €250 000 in 2005 to €400 000 for Junior Chairs and from €500 000 to €800 000 for Senior Chairs. These very significant (60 per cent) rises are intended to cover all of the costs involved in setting up a team.

The <i>Blanc</i> Programme				
Breakdown of projects by scientific and discipline committee	Number of projects submitted	Number of projects accepted	Funding awarded (in millions of euros)	Average % success
Information and communication sciences and technologies	129	29	8.75	22.5%
Engineering sciences	136	37	15.08	22.7%
Chemistry	231	55	19.27	23.8%
Physics	182	50	17.07	27.4%
Mathematics and interactions	73	22	4.29	30.1%
Universe and geo-environment sciences	155	40	14.32	25.8%
Agronomic and ecological sciences	122	30	9.20	24.6%
Biology and health	372	94	29.62	25.3%
Human and social sciences	247	65	12.19	26.3%
Total	1 674	422	129.79	25.2%

The considerable increase in the number of projects submitted (1 249 in 2005, 1 674 in 2006) is particularly notable in the areas of chemistry and for the sciences investigating the universe and the geo-environment, as well as in the human and social sciences. The number of applications declined in the area of biology and health, a result of the existence of several thematic fundamental research programmes within the Agency covering this field. The selection success rate for the *Blanc* programme was about 25 per cent (with a bracket between 22.5 per cent for the information and communication sciences and technologies and 30 per cent for mathematics).

Thirty per cent of the 422 *Blanc* projects selected in 2006 were inter-disciplinary, and 290 of them (or 69 per cent) have partners working in at least two establishments or in two different organisations.

The number of projects selected was significantly higher than in 2005 for some themes for each basic discipline:

- Information and communication sciences and techniques: discrete mathematics and information technology and nanophotonics
- Engineering sciences: bio-engineering
- Chemistry: targets and drugs
- Physics: lasers and optics and nuclear physics
- Universe sciences: modelling and numerical simulation
- Ecology: agronomy, ecology, plant molecular biology, evolution
- Biology and Health: the genome, neurosciences and cancer
- Human and Social Sciences: economics, anthropology and archaeology

Young Researchers programme				
Breakdown of projects by scientific and discipline committee	Number of projects submitted	Number of projects accepted	Funding awarded (in millions of euros)	Average % success
Information and communication sciences and technologies	74	15	1.87	20.3%
Engineering sciences	54	11	1.43	20.4%
Chemistry	132	22	3.19	16.7%
Physics	73	13	1.56	17.8%
Mathematics et interactions	35	10	0.72	28.6%
Universe and geo-environnement sciences	73	15	1.68	20.6%
Agronomic and ecological sciences	64	12	1.56	18.8%
Biology and health	173	33	4.32	19.1%
Human and social sciences	114	32	2.89	28.1%
Total	792	163	19.46	20.6%

The overall selection rate of 20.6 per cent varied according to discipline and to the originality of the projects submitted: from 17 per cent for chemistry to 28 per cent for mathematics and human and social sciences. Funding was limited to €150 000 over three years, the aim being to allocate sums compatible with those that the laboratories receive for other ANR projects.

The Excellence Chairs call for proposals had a success rate of 32 per cent, enabling 14 Chairs to be assigned to French and foreign scientists working in public research establishments. Projects are hosted by establishments offering the scientists temporary or permanent employment, meaning that

the researcher's salary must thus be guaranteed independently of the resources allocated by ANR. This may be an obstacle that ANR will need to examine when setting the future orientation of this programme.

As illustrated by the Main Indicators table, below, most of the projects submitted were in areas of fundamental research. A small number of them involved partner companies under the *Blanc* programme.

Main indicators				
Programmes	<i>Blanc</i>	"Young Researchers"	"Excellence Chairs"	Total
Number of projects presented	1 674	792	43	2 509
Number of projects funded	422	163	14	599
% financed / presented	25.2%	20.6%	32.6%	23.9%
Amount of funding granted (euros)	129 791 400 €	19 462 884 €	7 177 199 €	156 431 483 €
- for fundamental research	129 791 400 €	19 462 884 €	7 177 199 €	156 431 483 €
% granted to public research	98.7%	99.7%	100%	98.9%
% granted to companies / total	1.3%	0.3%	0%	1.1%
Number of partners financed	1 077	211	14	1 302
Average number of partners per project	2.55	1.29	1	202

A total of 599 projects were funded, representing more than one-third of the projects supported by the ANR and involving 1 302 teams.


GLOBAL SECURITY

This line of research—by its very nature cross-disciplinary—responds to the growing concerns surrounding the security of property and people. The work will also help to prepare French researchers for the Security part of the European Commission's 7th R&D Framework Programme. €17.5 million were allocated for projects in this area, 2.8 per cent of the 2006 project funding budget.

Two calls for proposals were issued in the area of Security in 2006:

- Concepts, Systems and Tools for Overall Global Security
- Security and Information Technology

The Concepts, Systems and Tools for Overall Global Security programme focused on research to protect citizens and critical infrastructure and networks,



as well as on crisis management, regardless of the type of threat (natural or man-made disaster). The projects selected were characterised by their global and systemic approach to the problems of security and by the quality of public-private partnerships within the consortia. A high level of involvement of SME/SMLs and a large number of projects accredited by competitiveness clusters (50% of the projects selected) were also observed. The procurement agency of the ministry of Defence (*Délégation générale à l'armement* – DGA) helped to co-finance this call for proposals.

The aim of the Security and Information Technology programme was to stimulate upstream research into the security and safety of information systems. This type of research is necessary to keep pace with the growth in information and communication technologies where national independence and national and civil security are at stake. Eighteen projects were chosen, 14 of which were on the themes of information system security (systems, software, protocols, hardware) and the security of critical and complex computerised systems. Three projects addressed the theme of trust and one the social aspects of IT reliability.

PARTNERSHIPS AND COMPETITIVENESS

The Partnerships and Competitiveness department is responsible for ANR's support for corporate research and the transfer of knowledge between the worlds of academia and industry.

Its main activities are:

- setting up and monitoring Carnot Institutes
- coordinating ANR's relations with competitiveness clusters
- ensuring that companies' research needs are addressed in ANR's calls for proposals, helping SMEs to develop partnerships with research stakeholders, and participating in ANR's calls for proposals
- coordinating actions that associate academic and industrial research communities around given research themes
- supervising and managing of ANR's participation in the Eureka initiative
- implementing measures to support innovation steered by the Ministry responsible for research

	ANR Financing 2006 (millions of euros)
• Carnot Institutes	35.9
• Competitiveness clusters (additional funding for projects and support for coordination and governance structures)	6.7
• Coordination (except competitiveness clusters)	2.1
• Eureka projects	4.4
• Nationwide competition for assistance with creation of innovative technology companies	15.5
• Shared technology transfer and development of innovative projects	4
• Regional actions (including R&T part of State-Region Plan Contracts)	25.2
TOTAL :	93.8

- Carnot Institutes

The Carnot scheme promotes the ability of research structures working in the general interest to collaborate effectively with socioeconomic partners, mainly enterprises. Given ANR's role in the transfer of knowledge and in support of public-private partnerships, the Agency was asked to set up and finance the scheme.

In practice, the scheme raises the profile of selected research bodies and grants them extra financial resources beyond their budget allocation, to help them ensure the long-term viability of their scientific and technological capacities, deepen their involvement in partnership research and augment their professionalism.

The Carnot 'label' is granted to successfully applying research bodies by the Minister Delegate for Higher Education and Research for a renewable four-year period, after their applications have been reviewed by a selection panel, and after they have been selected by ANR.

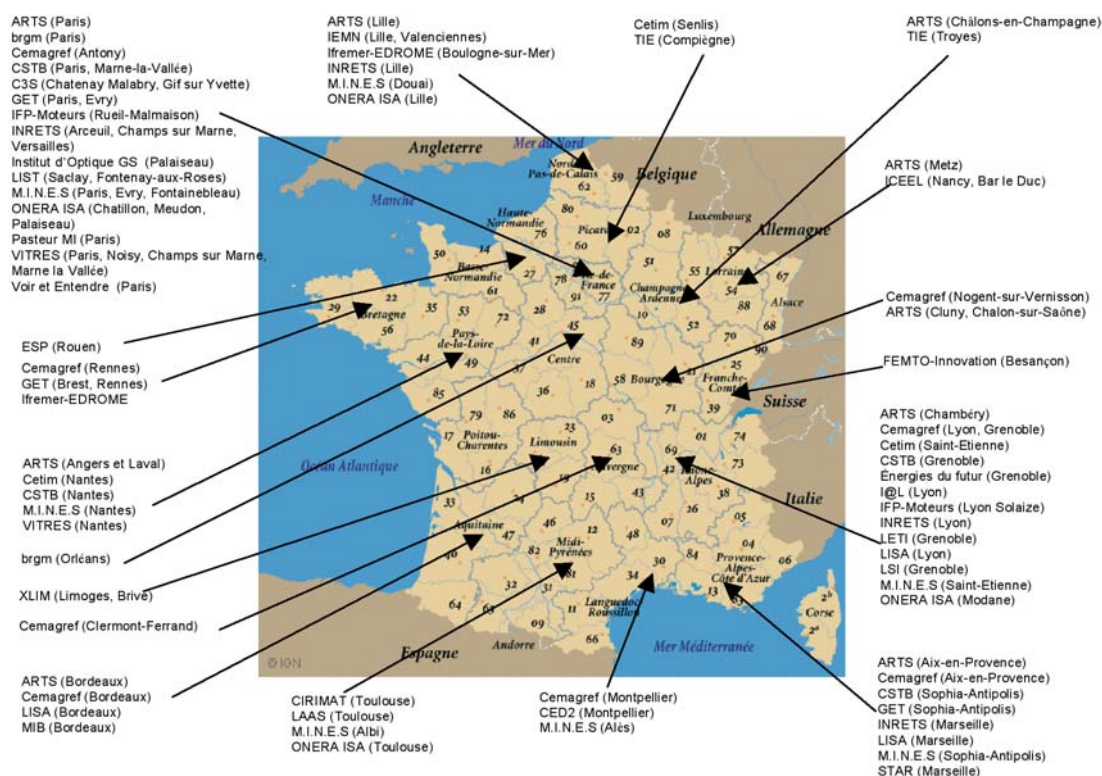
Bodies granted the Carnot label are known as Carnot Institutes, and receive additional funding that is proportional to their volume of partnership research contracts and to the increase in such contracts that they conclude.

After evaluation of the first call for applications, the Minister Delegate for Higher Education and Research announced the names of the first 20 Carnot Institutes chosen by a Selection Committee chaired by the President of the Academy of Technologies and made up of institutional representatives (Ministry for Research, General Directorate of Enterprises, National

Association for Technological Research, OSEO-Innovation, German Fraunhofer Institutes) and representative of the research community and business (major industrial groups and SMEs).

ANR then organised a second call for applications for the Carnot label, between 31 October and 20 December 2006. As a result of this (announced in March 2007) the label was granted to a further 13 candidates, raising the total number of Carnot Institutes to 33.

Working with the Carnot Institutes, ANR has defined the Carnot concept more closely and has clarified it in practical terms: introduction of a contract specifying the objectives of the accredited institutes; introduction of a method to calculate and use the additional funding; implementation of the Carnot Charter. ANR also provided support in coordinating Carnot Institutes until the Association of Carnot Institutes (AICarnot) was set up (early 2007).



Locations of Carnot Institutes accredited as of 31st March 2007
 (a CI can be spread over a number of geographical locations)

The Carnot scheme is an ambitious initiative inspired by the successful experience of a number of European countries. It will help raise the profile of French technological research by giving the Carnot Institutes a common image of competence, efficiency and professionalism.

- Competitiveness clusters

ANR supports competitiveness clusters in developing cooperation between research organisations (EPST, EPIC, universities, etc.) and companies, in particular SMEs.

In 2006, The Agency intensified its dialogue with cluster management structures—through closer consultation with cluster Chairs—in order to identify their research needs and prepare ANR's 2007 calls for proposals.

Four types of action that are (or could be) undertaken by competitiveness clusters are perfectly in line with ANR's mission:

- developing partnership research projects;
- increasing SME participation in partnership projects;
- encouraging breakthrough or long-term research projects based on industrial needs;
- identifying the research needs of cluster member companies.

Commitment of over €175 million in support of 242 projects in 2006 made ANR one of the competitiveness clusters' leading sources of funding. ANR provides one-third of national funding of clusters' R&D projects, breaking down as follows:

- funding of projects selected under the calls for proposals procedure: 242 projects accredited by 51 clusters received €169.2 million (15 per cent of the 1 622 projects supported by ANR in 2006 and 27 per cent of the Agency's annual budget of almost €621 million for project funding). These 242 projects accounted for more than half of the funds allocated to companies: 44 per cent of the €49 million awarded to SMEs (as defined by the EU) and 60 per cent of the €63 million going to companies other than SMEs;
- €5.7 million of specific top-up financing allocated to clusters' projects;
- €1 million to support the management structures of clusters that either already have worldwide operations or are aiming for world status. The funding was divided between the clusters pro-rata of the amounts allocated to their projects by ANR in 2005.

Of the 51 competitiveness clusters that received ANR support, six account for about 40 per cent of ANR funding: System@tic (worldwide), Tenerrdis, Images and Networks (aiming for worldwide), Minalogic (worldwide), Cities and Sustainable Mobility, Capenergie. In all, 20 clusters, including the above six, account for about 80 per cent of ANR funding.

Of the 36 ANR calls for proposals that supported at least one cluster project, five attracted about 40 per cent of ANR's support for clusters: PAN-H, Software Technologies, Telecommunications, Materials and Processes and PREDIT: Clean and Thrifty Vehicles. More broadly, 15 calls, including the above five, accounted for about 80 per cent of ANR's support for cluster projects.

- Foresight studies

Experience gained in managing the 2005 calls for proposals indicated the relevance of foresight studies for some programmes, with the following aims:

- prior to the calls for proposals: conducting studies, analyses and discussions with a view to proposing themes for ANR programmes, and with wide dissemination to the relevant scientific and industrial communities;
- in parallel with the calls for proposals: to inform all types of potential partners able to develop research projects about ANR's programmes, and to help establish contact between them;
- downstream of the calls for proposals: to contribute to a collective retrospective evaluation of projects funded by ANR (by organising meetings, etc.) and to disseminate the results of research projects supported by ANR to the relevant scientific and industrial communities (with the approval of the project partners).

In 2006, ANR primarily supported actions proposed within this context by the Chairs of the *RRIT*⁵ in the fields of information and communication technologies and nanotechnologies.

A study has also been launched into key technologies in the areas of health and personal independence, to the 2020 horizon. This study is co-financed by the *Caisse Nationale de Solidarité pour l'Autonomie*⁶. Finally, ANR created the Foresight Studies Workshops concept: two workshops were started in the field of Ecotechnologies, one being co-financed by the ADEME.

- EUREKA

The European EUREKA initiative aims to award a label to trans-national R&D projects run jointly by at least two partners from different EUREKA member countries. Projects must be the responsibility of industrial firms and must aim to bring major technological progress to the development of new products, processes or services. ANR participates in the permanent inter-ministerial committees which evaluate the projects submitted and—subject to a favourable evaluation—may support public or private research teams for projects that fall within ANR's remit.

In 2006, ANR supported 11 research projects involving 18 partners, allocating funding of €4.4 million to these projects.

⁵ Réseau de recherche et d'innovation technologique (RRIT technological research and innovation networks)

⁶ National authority for personal independence

- Nationwide competition for the creation of innovative technology companies

This competition rewards the best company-creation projects based on innovative technologies. It is a way of detecting, nurturing and developing projects, whether they result directly from public research or are the fruit of private initiatives.

The 2006 edition of the competition awarded a total of over €24 million in funding, provided by ANR (€15.9 million), OSEO Innovation (€5 million) and the European Social Fund (€4 million). Of the 1 149 projects submitted, 325 were nominated by regional juries and 166 winners were chosen by the national jury from these regional selections.

- Collective organisation in universities for technology transfer and development of innovative projects

The aim of this action is to encourage the pooling of departments performing all or part of the following functions within higher education establishments and research organisations:

- detection of projects with industrial development potential that should be exploited and utilised; organisation of technology transfer optimising use of all of the resources to capitalise on research results, in particular those linked to intellectual property;
- development of experiments, downstream of fundamental research, to prove the benefits of an invention (demonstrator, proof of concept, feasibility tests, etc.) in order to clarify the potential for technology transfer (e.g. creation of a new company or transfer to an existing one).

Twenty-seven applications were received in response to a call for proposals in 2005. Fourteen of these were selected; they received €4 million of funding in 2006.

- Regional actions

In 2006, ANR's regional actions included funding of 232 projects, of which 142 were new operations—involving 259 beneficiary partners. A total of €25.17 million was made available for funding. The majority of these actions (75 per cent) were covered by *Contrats plan états-région* (State/Region action plan - CPER).

In addition to actions covered by CPER, the Agency awarded funding of €4 million to the Nantes Cyclotron and €2.2 million to nine other operations including one for the Territory of the French Southern and Antarctic Lands, three projects in French Polynesia, two projects in New Caledonia and three in the Nord Pas de Calais region.

By opening up French research to European and international cooperation ANR provided an opportunity for comparison with high-level work from abroad and for French researchers to further their collaboration with teams engaged in such work, while adopting best practices. It has also allowed work undertaken in France to be set in a wider context and, through emulation and competition, has stimulated competition and thus the vitality and quality of research. In this context, the space that ANR allows for European and international contributions in its activities and operations will be a decisive factor in strengthening the country's scientific potential, enhancing local expertise and promoting France's integration into international research networks.

This second year of ANR's existence was marked by the effective start-up of European cooperation. In 2006, priority was given to participation in ERA-NETs, whether already in place or being set-up, which enabled the Agency to become operational rapidly. As part of its coordination work, the European Union funds ERA-NETs designed to coordinate the programmes of member countries. The research projects arising from the ERA-NETs' trans-national calls for proposals are funded through national agencies. ANR became a partner in the following seven ERA-NETs:

• Biodiversa:	Biodiversity
• ERAPG:	Plant genomics
• ERASYSBIO:	System Biology
• Eurotransbio:	Biotechnologies
• Nanosci ERA:	Nanosciences
• Pathogenomics:	Genomics of pathogenic microorganisms
• SUSPRISE:	Ecotechnology

Four of these ERA-NETs issued trans-national calls for proposals in the first half of 2006. For each one, agreement had to be reached on a common priority theme, a common schedule, a common evaluation procedure and on an international scientific committee, as well as on methods for funding and for settling problems of industrial ownership. These trans-national calls for proposals target consortia that must comprise teams from different countries. They encourage French teams to set up research projects in collaboration with foreign teams

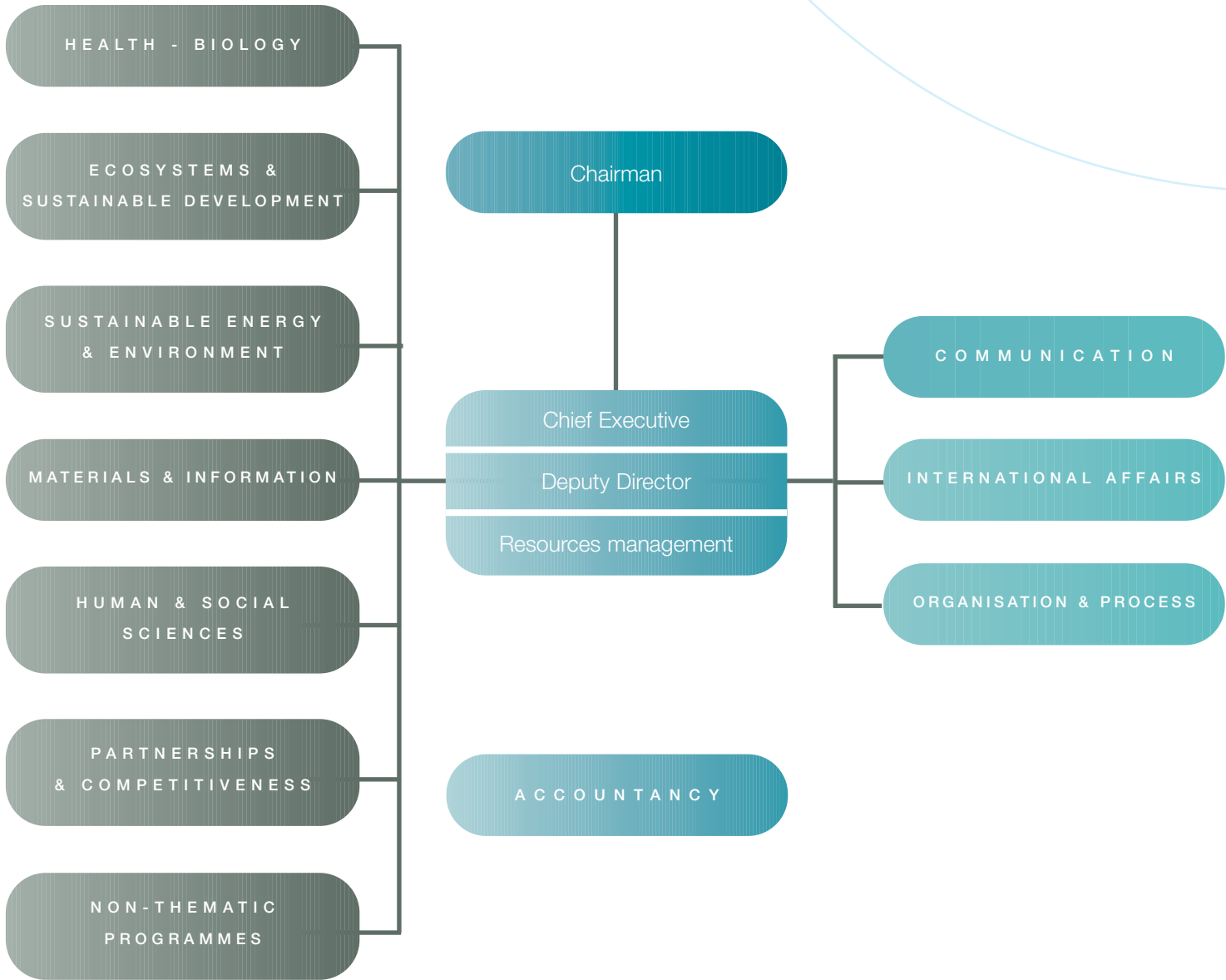
	2006 ANR financing (millions of euros)	Total number of countries	Total project financing with other European agencies (millions of euros)	Total number of projects financed	Number of projects financed with French partners	Number of French coordinators
Nanoscience: Nanosci ERA	1.6	12	8.6	12	7	4
Plant genomics: ERA PG	3.3	3	19.3	14	14	0
Microbial genomics: Pathogenomics	2.3	8	15.2	12	12	5
Biotechnologies : Eurotransbio	4.4	5	8	23	19	11
TOTAL	11.6	28	51.1	61	52	20

In 2006, ANR funded 52 trans-national projects via the ERA-NETs, with total funding of around €12 million and a total trans-national amount of €51 million. Generally speaking, French teams were strongly represented, with proposals of excellent quality. Most of the trans-national projects were able to start up less than nine months after issue of the call for proposals, a remarkable performance for trans-national projects.

ANR also intends to make an active contribution to building European research, by participating in several European bodies. In 2006, it became a member of the Eurohorcs (European heads of research councils) association, which brings together the heads of the European research funding agencies and research organisations. The association is often consulted by the European Commission. It takes part in the European young investigators awards pilot programme, designed to help young high-level researchers devote themselves to innovative research work in Europe and to set up teams. This is a direct counterpart to ANR's Young Researcher programme, except that the resources made available to the young winner are greater, run for a longer period, and competition is international. In 2006, ANR participated in the fourth EURYIs call for proposals of which the results will be made known in 2007.

ANR represents France in the 7th European R&D Framework Programme, on the Ideas Committee of the European Research council (ERC), the funding agency for European level non-thematic research projects. In this respect, it takes part in discussions on the ERC's working methods.

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