

Overview	2
ERA-CHEMISTRY PARTNER: MINISTRY OF EDUCATION AND SCIENCE (MEC)	4
Funding figures	4
Position, aims, strategies	4
Decision making bodies	4
Funding instruments.....	5
Funding principles and application processing	5
Legal and administrative considerations	9
Obstacles and best practices for transnational research programmes	10

CHEMISTRY RESEARCH FUNDING SCENE IN SPAIN

OVERVIEW

The present Spanish Science and Technology scheme was established as a result of the Science Law of 1986. One of the main objectives of this law was to create a better coordination between the different scheme agents.

The State organizes the science and technology policies through the public sector. This is done according to the National Plan for Research, Development and Technical Innovation. At present, the National Plan 2004-2007 is in force.

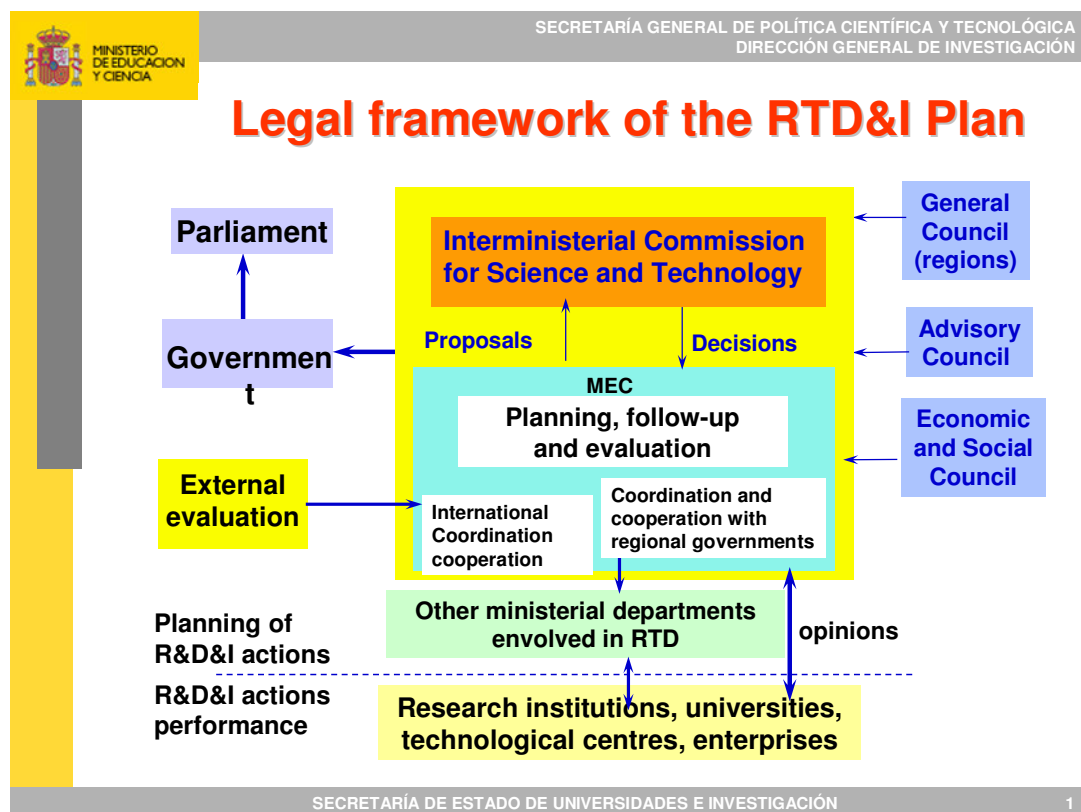
The Inter Ministerial Commission of Science and Technology (CICYT) is the main state organ for science and technology policy, is responsible for planning, evaluation, coordination and follow-up. The CICYT is chaired by the National Presidency and composed by the ministries involved in the execution of the science and technology policy: Ministry of Education and Science, Ministry of Industry, Tourism and Commerce, Ministry of Foreign Affairs and Cooperation, Ministry of Economy and Finance, Ministry of Defence, Ministry of Health and Consumption, Ministry of Environment, Ministry of Employment and Social Issues (see annex 1). The Spanish Science and Technology System scheme is relatively small in comparison to the economical position of Spain in the world, as well as in relation to its percentage of the GNP dedicated to R&D and to the number of scientists. The gradual increase of the public funds allocated to R&D however, is altering this situation. Today, Spain is one of the countries with the fastest increasing percentage of spending in R&D, after Finland and Ireland.

In 2004, the spending in R&D in Spain reached 1.1% of the GNP. The spending in the private sector (companies and non profit making institutions) counted for 54.8%, while the spending in the public sector (Administration and universities) was good for 42.2%. The personnel dedicated to R&D represented 6.9% of the total active population, while the number of researchers was 4.4%. These two indicators, used by the OECD for international comparisons, have been increasing during the last two decades.

Women are 33% of the total personnel dedicated full-time. Their participation in the different institutional sectors is however, very unequal, ranging from 44% in the sector of higher education to 20% in companies. Where research is concerned, the proportion of women in the sector of Public Administration is 43%. While the competence for research and development still belongs to the General Administration of Spain, the Autonomous Districts have launched various initiatives during the last years. The economical and institutional importance of the autonomous politics concerning R&D is very diverse.

Generally speaking, the Autonomies concentrate their industrial and technological development policy on benefits for companies and on the creation of technological zones and organizations for administrative support. Until now, there has not been any coordination, frame or reference between them. So the percentage dedicated to R+D in every Autonomy varies from 1,75 to 0,25% of GNP; this figures take also into account the funds expended by the State and Companies. The amounts dedicated by the Autonomous Governments are still lows and some of them are considering a substantial change in the objective of its investments.

Annex 1) Legal framework of the RTD & I Plan



ERA-CHEMISTRY PARTNER: MINISTRY OF EDUCATION AND SCIENCE (MEC)

Ministerio de Educación y Cultura (MEC)

Ministerium für Erziehung und Kultur

Calle Alcalá, 34

28071 Madrid

phone.: +34/(9)1/522 11 00

Fax : +34/(9)1/5213775

E-mail: informacion@mec.es

<http://www.mec.es>

Funding figures

The MEC is the most important financer of research in the field of chemistry in Spain. Its funding for chemistry research was 25 million euro in 2003 (55 million including scholarships and temporary staff). MEC funds both basic and applied research in chemistry. The total amount of research funding for MEC in 2003 was about 275 million euro (only costs for projects, no fellowships or personnel costs). MEC does not co-operate with other chemistry financiers in Spain. Regional communities have an independent budget. Other private foundations finance pre-doctoral fellowships and some projects for a total amount of money lower than 1% of de MEC budget

MEC funds all research fields including Biochemistry, Agriculture, Medicine and Pharmacy, Humanities, Civil Engineering, Clime, Antarctic, Natural Science.

Position, aims, strategies

The science policy guidelines of the MEC can be found in the National Plan of Scientific Research, Development and Technological Innovation (I+D+I) which was last approved in November 2003 for the period 2004-2007. The main aims of the MEC research policy are promoting the quality of research, internationalization, publication of results in high impact forums and contribution to the solving of the social, economic, and technological problems of the Spanish society. Additionally, the MEC is watching the size and consistence of research groups and takes care of a critical mass. The science policy guidelines of the MEC allow researchers quite some flexibility in their choice of projects. Almost every field of chemistry is thematically covered. Taken this fact into account, one can consider a bottom-up approach rather than top-down for the application procedure.

The MEC can decide on its funding strategies, priorities, principles and instruments. Relevant scientists are involved in the preparation of the strategies of MEC and the strategies and priorities are formed after an inquiry targeted to researchers and industry.

The amount of interdisciplinary projects that are chemistry-dominated is about 15% of the total chemistry research funding. The chemistry-dominated interdisciplinary projects can be found most often in the fields of medical and bio-organic chemistry, new materials, and environment.

Decision making bodies

The Dirección General de Investigación is the main public organisation for scientific and technological research in Spain, under the administrative supervision of the Spanish Ministry for Education and Science.

The Ministry elaborates the National research plan and it's approved by the Government of Spain. The National Plan is elaborated for all disciplines in basic research and thematic programmes for different areas and for applied research. There are no earmarked budgets dedicated to specific disciplines. The money is on demand of the different instruments (depending on the number of proposals, the amount of money researchers apply for).

Funding instruments

The main funding instruments for research are the following programmes:

- Projects according the National Plan for I+D+I (research + development + innovation, individual grants). These are the principal national action for financing the different research groups.
- Projects to support the infrastructure of research facilities (>60.000 euro each). By these actions the universities, the other research centres, and groups can finance their necessary instrumentation for their laboratories. Some instrumentation can be used principally by different groups (NMR, X-Ray Spectrometry, and large instruments)
- Fellowships for doctoral and post-doctoral students
- Research contracts with young scientists not working with universities for the incorporation of talented young researchers to universities and CSIC (also open for all European citizen)
- Programmes for foreigners coming to Spain for collaborations (Post docs and advanced researchers)
- Integrating actions (financing travelling and contacts to other groups within Europe, maximum of 3000 Euro for each application)
- Special actions for the principal organisation of congresses, meetings and conferences and the complementary budget of EC projects
- e.g. partially funding of European projects (up to 40%), supporting the formation of specific research networks (like research on liquid ionics),
- Action for bilateral projects to promote the collaboration between research groups from Spain, Germany, France, Italy, Portugal, Greece, and Austria for example.

Funding principles and application processing

All the funding of MEC is project based, no funding for persons or laboratories. The average size of funds is 137 700 euros for a funding period of 3 years. It is not possible to prolong the funding period or extend the funding.

Following expenses can be funded: salaries for non-staff persons, travel, equipment, facilities and overheads. It is not possible to fund permanent staff. The funding covers overheads. Typical overheads of the research institutes and universities in Spain are about 15%. VAT can be paid. The funds cannot be used for other purposes than originally planned.

Every PhD with a permanent position can be funded. It is possible to grant funding to a foreigner working in Spain but it is not possible to grant funding to a foreign institute or a foreign university.

Researchers cannot take their funding with them if they move to another university in Spain or to another country. Funding is project based and it belongs to the universities or institutes that applied for it.

Once a year in December there are calls for proposals. It takes about 6 months from the submission of the application to the decision.

Documents required in the application are documentation about the professional status of each applicant (e.g. copy of contract), a copy of the ID card or the passport, a detailed research proposal including the foreseen budget. In addition, every member of a research group has to provide a CV.

All application instructions are available on the web (www.mec.es), but only in Spanish. Applications are required in Spanish with an English summary. The applications can be submitted electronically via web or as hardcopy. Whereas all official documents which require a signature have to be sent in by mail.

Evaluation of the proposals

There are two separate peer review processes for each proposal carried out simultaneously followed by a final panel evaluation. The evaluators should be specialists in the same area as the applicants. The area coordinator chooses the reviewers for the evaluation that takes place in the National Agency of Evaluation and Prospective (ANEP) whereas the programme manager (gestor) is responsible for the selection of the experts for a further individual evaluation. Applicants cannot propose reviewers. The detailed procedures are determined in the according calls for proposals and are part of the National Plan of Scientific Research, Development and Technological Innovations. The National Plan of the MEC for the time span 2004 – 2007 and a scheme with details evolution process of the plan are attached (original document Spanish, translation English). A flow chart of the application processing is attached.

5 % of the evaluators are international and they need to know the Spanish language. Reviewers are paid for the evaluation 42 euro per proposal. The evaluation criteria are the quality of the proposals and a statement on the probability to achieve the objectives (feasibility analysis). The two specific evaluation forms are attached (file names “Impreso ANEP para ERA” and “Informe eval nuestro para ERA”, forms in Spanish with an English translation highlighted red).

The National Agency of Evaluation and Prospective (ANEP) is in charge of the scientific-technical evaluation of the applications. Applications are reviewed in accordance with the following criteria:

- a) Capacity of the research team to undertake the planned activities and recent contributions related to the area of the project.
- b) Scientific-technical contributions expected from the project. Innovativeness and relevance of the objectives.
- c) Feasibility of the proposal. Suitability of the methodology, design of the work plan in relation to the objectives of the project. In the case of coordinated projects, complementarity of the participating teams and necessity of the coordination.
- d) Distribution and publication plan of the results of the project.
- e) Adaptation of the budget to the proposed activities.

The ANEP review will also include an evaluation on the training capacity of the investigation team, in the case of projects that require personnel being trained. Likewise, the report will include an

evaluation of the convenience of incorporating techniques being trained for the group carrying out the project, in the case that these are requested.

In the further evaluation with 2 individual reviewers per proposal (to be selected by the programme manager (gestor) the following criteria are considered:

- a) Suitability of the project to the priorities of the National Plan. Timeliness of the proposal.
- b) Previous results obtained by the investigation team in the thematic area of the proposal. Interest of the activities and projects previously carried out.
- c) Participation of the investigation team in the I+D Framework Programme of the European Union, in other international programmes or in collaboration with international groups, in subjects related with the project, as well as participation in other I+D+I National Programmes.
- d) Suitability of the size, composition and dedication of the investigation team to the objectives proposed in the project. will be highly valued The full dedication to the project of each team member will be highly valued, especially in the case of the main investigators.
- e) Adaptation of the budget to the activities proposed.

Individual reviewers

Altogether each proposal is given 4 individual reviewers followed by the final panel evaluation. In the first stage of the evaluation one evaluator reviews 1-3 proposals and in the second evaluation stage 6-15 proposals. The reviewers that were chosen by the ANEP co-ordinators are given 20 days for their evaluation.

Review panel

The panel members (selection committee) read the proposals before the panel meeting. Two panel members usually read each proposal. There are about 240-250 proposals in basic chemistry research. There are 11-12 panel members in Organic Chemistry, 8-10 in Physical and Theoretic Chemistry, 4-6 in Inorganic and Organ metallic Chemistry, and 8-10 in Analytical Chemistry. In applied chemistry, there are about 20 members in the panel. They are usually university professors in Chemical Engineering and Applied Organic Chemistry. Others may have positions in the Chemical Industry and may be in charge of divisions for industrial research and development, accordingly.

Feedback to applicant

As a result of the evaluation process all applicants receive a summary of the expert opinions. The names of the reviewers are confidential and are not told to the applicants or any other person. Beyond the summary, the applicants can request further information of the evaluation results if they are in disagreement with the outcome (e.g. rejection) or are not confident with the suggested funding for the project. The applicants are not given a chance to improve their proposals before the decision-making on the basis of the evaluation.

Decision-making

Decision is made after the individual and the panel evaluations. The selection committee (members of the review panel) decides on funding. The final decision is taken by the authorities of the ministry.

Principal criteria for funding are the quality of the projects, the curricula of the principal researcher, qualification and size of the research teams, results of previous projects, collaboration and suitability of the project to the priorities of the National Plan.

There is a selection commission for each of the National Programmes, and for each of the areas or sub programmes that are established within each National Programme. The members are chosen by the general manager (gestor) and the general director of investigation (from MEC). The commission consists of representatives from the ANEP and experts in the different fields. They all come together for a panel meeting.

The selection commission elaborates a funding proposal that will be communicated to the applicant and if it is positive it will indicate the size of the budget, the personnel proposed, and the conditions and terms to carry out the project. Applicants should express their will to accept within a maximum period of fifteen days or explain the arguments deemed appropriate. If the argument is not presented within this period of time, it will be understood that their right to argue has declined. A special case exists for the proposed positions of temporary staff or post doctoral researchers. Their salaries are of a fixed amount and their contracts therefore no subject of the negotiation process.

About 60% of the applications are funded on average. Some projects receive all the funding they have applied for, others get only 30% of the applied sum. Budgets are cut if they are unrealistic. If the budget is cut, there occasionally are negotiations with the applicant.

Nevertheless, the proposals that have got best marks in the scientific evaluation may not be funded if the size of a team is insufficient in terms of handling the project with sufficient working power. Of course, the corresponding scientists may apply again with a modified proposal.

The final decision is taken by the authorities of the ministry (General Directorate) and communicated to the researchers. There upon the funds are transferred to the universities or research institutions (institutional based funding).

Follow-up of projects

The scientific progress and financial matters of the projects are followed-up by annual reports. When submitting a new application, the results of the previous project are evaluated.

There is a final report form (also in English). The principle investigators of the projects are asked to report on the obtained results (including education, publications, patents), collaborations and to give a financial resume.

Legal and administrative considerations

Granting funding abroad. It is not possible to grant funding to foreign institutes or universities. Researchers cannot take the funding with them if they move to another country. Since funding is institutionally based and the authorities of the universities or the institutes sign the contracts there are legal obstacles to prevent funding abroad. In principle foreigners can be funded within Spain. But they have to live in the country and they must be linked somehow to their research institutions.

Conflict of interest. (= incompetence due to the likelihood of bias) All reviewers have to sign a form to declare that there is no conflict of interest.

Publicity. Publicity of research plans, proposals, evaluations, application processing. The names of the reviewers are not told to the applicant or any other person. It is confidential information. The applicants get only a summary of the final report.

Legislation, regulations and practices concerning research ethics and good scientific practices (e.g. prevention of misconduct and fraud).

The projects should respect the fundamental rights established in the Helsinki Declaration (Worldwide Medical Meeting), in the Council of Europe Agreement related to the human rights and the Biomedicine, in the UNESCO Worldwide Declaration on human genome and the human rights. Also they should fulfil the requirements established in the Spanish legislation in the scope of biomedical investigation, the personal data protection and the bioethics.

The projects which involve investigation in humans or samples of human origin should be accompanied with the pertinent authorization issued by the Ethical Committee of the centre in which the study is going to be made. The projects which involve animal testing should abide to what is disposed in the legal regulation and specially in the Royal Decree 223/1988 on Protection of the Animals Used for Experimentation and other Scientific Ends. The projects which involve the utilization of genetically modified organisms should abide to what is disposed in Law 9/2003, of 25 April. The projects which involve the utilization of biological agents, should adjust to what is established in Law 31/1995, of 8 November, on Labour Risk Prevention, and in the Royal Decrees.

Gender equality and equality of minorities.

** All the legislation concerning granting funding abroad, conflict of interest, publicity and research ethics is included in the Call of proposals (Attach OrdenConvocatoria2004.pdf)

Intellectual property rights.

European legislation concerning intellectual property rights concerns also Spain and the MEC. The maximum outcome of a patent per years and per researcher involved must not exceed the yearly salary of the researcher.

Obstacles and best practices for transnational research programmes

Spain has bilateral actions with different countries (Germany, France, UK, Italy, Portugal, Netherlands, Belgium, USA, Hungary etc).

Main obstacles for jointly funded chemistry research programmes within European countries would be the extra work and the bureaucracy due to the different evaluation systems and administrative procedures

Main obstacles in Spain would be the costs for the organisation since more personnel would be needed and the opposition of the researcher for writing the proposal in a foreign language.

To overcome these obstacles there should be a simple call for all European countries and financial support to build up this process. The new procedures to be implemented should as close as possible to the actual national procedures.

Common calls for proposals are appreciated. The decision making should be based on a peer reviewing system (international review panels). To achieve a further harmonisation the implementation of a joint management office on European level would be desirable for the future.