Instituto Nacional de Estadística

Statistics on R&D Activities 2012

Institution identification

Amendments to the identification particulars (Complete only those sections subject to variation)

Institution name _____ NIF _____

Registered address (street, square, avenue, etc.) _____

Postal code _____ Municipality _____

Province _____ Provincial code _____ Telephone _____ Fax _____ E-mail _____

Details of the person to be contacted, if necessary, for queries, clarifications or modifications regarding this questionnaire.

SIGNATURE OR SEAL

Mr./Ms.: _____

Post held: _____

Telephone _____ Fax:_____

E-mail: _____

Website: _____

Nature, characteristics and purpose

These statistics are within the framework of the General plan for statistics on science and technology promoted by the Statistics Office of the European Union (Eurostat). They have the main objective of ascertaining the resources that Private Non-Profit Institutions spend on R&D, for the purpose of estimating the national effort in research.

They are conducted following recommendations of the OECD (Frascati Manual).

Statistical Legislation of compulsory compliance

Statistical Secrecy

The personal information obtained by the statistical services, both directly from the informants and from administrative sources, shall be subject to protection, and covered by **statistical secrecy** (article 13.1 of the Law on Public Statistical Services, of 9 May 1989, (LFEP)). All statistical staff will be obliged to maintain statistical secrecy (article 17.1 of the LFEP).

Obligation to provide data

Laws 4/1990 and 13/1996 establish the **obligation to provide the data** that is requested for the compilation of these Statistics.

The statistical services may request data from all individuals and companies, regardless of whether they are Spanish or foreign, resident in Spain (Article 10.1 of the LFEP).

All individuals and legal entities that provide data, regardless of whether their collaboration is compulsory or voluntary, **must respond in a true, exact and comprehensive manner within the stipulated deadline** to the questions outlined in due form by the statistical services (art. 10.2 of the LFEP).

In order to monitor compliance with these regulation, the LFEP (art. 48) grants the INE sanctioning capacity.

Failure to comply with the obligations envisaged in this Law, as related to statistics for state purposes, **shall be sanctioned** in accordance with the terms established in the regulations contained in this Heading (art. 48.1 of the LFEP).

Very serious infringements shall be sanctioned with fines ranging from **3,005.07 to 30,050.61 euros**. Serious infringements shall be sanctioned with fines ranging from **300.52 to 3,005.06 euros**. Minor infringements shall be sanctioned with fines ranging from **60.10 to 300.51 euros** (art. 51.1, 51.2 and 51.3 of the LFEP).

General considerations

For the purposes of these statistics, **the following are regarded as R&D activities***: the group of creative activities undertaken systematically, in order to increase the flow of scientific and technical knowledge and use them to introduce new applications. This activity comprises basic research, applied research and experimental development. The latter leads to new devices, products, materials, processes, services or systems.*

The following are not included as R&D activities: education, scientific and technical information, collection of data of a general nature, routine trials, everyday standardisation work or other technological activities relating to production or use of known products or processes. Mineral exploration is not included either, when it is aimed at discovering exploitable reserves and not essentially an increase in basic geological knowledge.

The criterion distinguishing R&D from other activities is the presence or lack of a notable degree of creativity or innovation.

General instructions

Information unit: The information that is requested in this questionnaire refers to the unit, organisation or centre whose identification data appears on the front cover. The data requested refers to all of the institution research centres in Spain.

Reference period: Data must refer to the target year of the statistics.
Structure of the questionnaire: the questionnaire consists of six sections:

1. General data for the university
2. Staff employed in internal R&D activities in 2012
3. Expenditure on R&D activities in 2012
4. Activities based on biological sciences and technologies in 2012
5. In 2012, did the organisation carry out any internal R&D activity using or containing free software?
6. How long did it take to complete this questionnaire?

Form of recording the data: Write down the data clearly. Please do not write in the shaded areas. The financial data is requested in **euros with no decimals**.

Consignment term: This questionnaire, duly completed with the required information, must be returned within a term not exceeding **15 days** from time of receipt.

Please carefully read the annex before completing this questionnaire.

1. General data for the institution

1.1 Dependency of the institution

For each question, please mark with an 'x' where appropriate

1. Does it impart higher education?

YES ☐ NO ☐

2. Does it sell the production at a significant economic price?

YES ☐ NO ☐

3. Who is the main financer of the institution?

☐ Companies ☐ Public Administration ☐ Higher Education ☐ PNPI* serving households

4. Who is the main controller of the institution?

☐ Companies ☐ Public Administration ☐ Higher Education ☐ PNPI* serving households

(*) PNPI: Private Non-Profit Institutions.

1.2 Institution activity

Briefly describe the purposes and activities of the institution

1.3 Trust or governing body of the institution

Without identifying any individual or company, please briefly describe the trust or managing body of the institution (for example, write public officers, individuals, members of companies, religious persons, non-governmental organisations, persons in academia, legal figures, etc.)

2. Staff employed in internal R&D activities in 2012

2.1 Staff employed in internal R&D, according to occupation

The full-time equivalent (FTE) is the sum of the staff that works full-time and the fractions of time that the part-time staff works on R&D activities. (See annex at the end of the questionnaire).

Occupation	Total	Women	Total on FTE (1 decimal)	Women on FTE* (1 decimal)
1. Researchers (including interns in research)			.	.
2. Technicians			.	.
3. Assistants			.	.
TOTAL STAFF (1+2+3)			.	.
Out of the researchers from point 1, please indicate the **interns** in research			.	.

Hiring of external consultants to carry out internal R&D activities in 2012

Out of the **TOTAL STAFF**, please indicate the number of external consultants working "in situ" (if any)

Out of the **TOTAL FTE STAFF**, please indicate the number of external consultants working "in situ" (if any)

2.2 Staff employed in internal R&D, according to qualification

Qualification	Staff in R&D			Researchers (including interns)		
	Total	Women	Total on FTE * (1 decimal)	Total	Women	Total on FTE * (1 decimal)
1. University doctorate-holders			.			.
2. University graduates, degree, architects, engineers and the like			.			.
3. Diploma students, technical architects and engineers and the like			.			.
4. Advanced training cycles. (Specific Vocational Training)			.			.
5. Intermediate training cycles, Post-Secondary qualification and the like.			.			.
6. Other studies			.			.
TOTAL (1+2+3+4+5+6)			.			.

2.3 Distribution of staff in internal R&D, by Autonomous City and Community in which the institution carries out R&D activities in 2012

Autonomous City and Community	Staff in R&D				Researchers (including interns)			
	Total	Women	Total on FTE * (1 decimal)	Women on FTE* (1 decimal)	Total	Women	Total on FTE * (1 decimal)	Women on FTE* (1 decimal)
1. Andalucía			.	.			.	.
2. Aragón			.	.			.	.
3. Asturias, Principado de			.	.			.	.
4. Balears, Illes			.	.			.	.
5. Canarias			.	.			.	.
6. Cantabria			.	.			.	.
7. Castilla y León			.	.			.	.
8. Castilla-La Mancha			.	.			.	.
9. Cataluña			.	.			.	.
10. Comunitat Valenciana			.	.			.	.
11. Extremadura			.	.			.	.
12. Galicia			.	.			.	.
13. Madrid, Comunidad de			.	.			.	.
14. Murcia, Región de			.	.			.	.
15.Navarra, Comunidad Foral de			.	.			.	.
16. País Vasco			.	.			.	.
17. Rioja, La			.	.			.	.
18. Ceuta			.	.			.	.
19. Melilla			.	.			.	.
TOTAL			.	.			.	.

(*) FTE: Full-time equivalent.

2.4 Researchers, by sex and age group (including interns in research)

	All ages	Under 25 years of age	25 to 34 years old	35 to 44 years old	45 to 54 years old	55 to 64 years old	65 years old or over
Total researchers							
Of them, women							

2.5 Researchers, by nationality and sex (including interns in research)

	Total researchers	Of them, women
Spain		
Rest of the EU[1]		
Other European countries		
North America		
Central America		
South America		
Asia		
Africa		
Oceania		
TOTAL		

Rest of the European Union: Germany, Austria, Belgium, Bulgaria, Cyprus, Denmark, Slovakia, Slovenia, Estonia, Finland, France, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, United Kingdom, Czech Republic, Romania and Sweden.

2.6 Staff dedicated to internal R&D activities, by scientific field or discipline

	Staff in R&D		Researchers (including interns)	
	Total	Women	Total	Women
1. Exact and natural sciences				
2. Engineering and technology				
3. Medical sciences				
4. Agrarian sciences				
5. Social sciences				
6. Humanities				
TOTAL				

3. Expenditure on R&D activities in 2012

3.1 Expenditure on internal R&D activities in 2012

Expenditure on remunerations shall be those corresponding to the total paid to the researchers on FTE and the total technicians and assistants on FTE specified in 2.1. For the rest of the parts of this section, expenditure shall be calculated as a percentage of the part that corresponds to R&D.

		Amount (euros without decimals)
1. Remunerations of researchers on FTE (including the remuneration of interns)	1	
2. Remunerations of technicians and assistants on FTE	2	
3. Other current expenses (without VAT or amortizations)	3	
3.1. Out of the previous figure, please indicate the total cost of the hiring of external consultants working "in situ" to carry out internal R&D activities		
A. Total current expenditure on R&D (1+2+3)	A	
4. Equipment and instruments (without VAT)	4	
5. Land and buildings (without VAT)	5	

6. Acquisition of specific software for R&D (including licences) (without VAT)	6	
B. Total capital expenses on R&D (4+5+6)	B	
C. Total internal expenditure on R&D (A+B)	C	

3.2 Financing of internal R&D expenditure in 2012

Breakdown of the total internal expenditure on R&D from question 3.1, according to the original source of the funds received for R&D. Public financing should differentiate between the origin of the funds according to the type of financing Administration. The refundable loans for carrying out R&D obtained from both the Administration and other sources, shall be included as their own funds. Those quotas, laws, donations and other items of an institutional nature, with which the institutions are financed (and which are not specific R&D orders), must be included as their own funds.

Source of the funds		Amount (euros without decimals)
A. Financed by the actual institution		
- Own funds (including refundable loans, donations and quotas of an institutional nature)	1	
B. Public financing		
- From the State Administration and its Autonomous Institutions (AI)	1	
- From the State Administration to which it belongs (where appropriate) and its AI	2	
- From other Autonomous administrations and their AI	3	
- From local administrations	4	
C. Other domestic sources to carry out R&D		
- From public companies	1	
- From private companies and research associations	2	
- From public universities	3	
- From private universities	4	
- From other Private Non-Profit Institutions	5	
D. Funds from abroad for carrying out R&D		
- From foreign companies	1	
- From European Union programmes	2	
- From foreign public administrations	3	
- From foreign universities	4	
- From foreign Private Non-Profit Institutions	5	
- From other international organisations	6	
Total internal expenditure on R&D (this must coincide with **3.1.C**)		

3.3 Expenditure on internal R&D by Autonomous Cities and Communities in 2012

Please distribute the total internal expenditure on R&D indicated in question 3.1, according to the Autonomous Community in which the R&D activities have been carried out.

Autonomous City and Community		Amount (euros without decimals)
1. Andalucía	1	
2. Aragón	2	
3. Asturias, Principado de	3	
4. Balears, Illes	4	
5. Canarias	5	
6. Cantabria	6	
7. Castilla y León	7	
8. Castilla-La Mancha	8	
9. Cataluña	9	
10. Comunitat Valenciana	1	
11. Extremadura	1	
12. Galicia	1	
13. Madri, Comunidad de	1	
14. Murcia, Región de	1	
15. Navarra, Comunidad Foral de	1	
16. País Vasco	1	

17. Rioja, La	1	
18. Ceuta	1	
19. Melilla	1	
Total internal expenditure on R&D (this must coincide with **3.1.C**)		

3.4 Socio-economic objective

Please break down, as a percentage, the expenditure on R&D that the institution has incurred in 2012, according to the purpose of socio-economic objective of the research (do not write decimals), and check that the sum of the percentages is 100%.

		%
1. Exploration and exploitation of the land media and of the atmosphere	1	%
2. Control and care of the environment	2	%
3. Exploration and exploitation of space	3	%
4.1 Transport and telecommunications systems	4.1	%
4.2 Other infrastructures	4.2	%
5. Production, distribution and rational use of energy	5	%
6. Industrial production and technology	6	%
7. Protection and improvement of human health	7	%
8. Development of agriculture, livestock breeding, forestry and fishing	8	%
9. Education	9	%
10. Culture, leisure, religion and communication	10	%
11. Political and social systems, structures and processes	11	%
12. Unguided research	12	%
13. Defence	13	%
TOTAL		**1 0 0** %

3.5 Research expenditure on the protection and improvement of human health

If in the previous question **(3.4 Socio-economic objective)** there is a percentage of expenditure on R&D in point **7. Protection and improvement of human health,** please indicate the expenditure, according to the Autonomous City and Community in which the health research is carried out.
(The percentage from point **7. Protection and improvement of human health**, multiplied by the total research expenditure of the centre, must be equal to the expenditure on research in the protection and improvement of human health)

Autonomous Community and Community	Amount (euros without decimals)
1. Andalucía	
2. Aragón	
3. Asturias, Principado de	
4. Balears, Illes	
5. Canarias	
6. Cantabria	
7. Castilla y León	
8. Castilla-La Mancha	
9. Cataluña	
10. Comunitat Valenciana	
11. Extremadura	
12. Galicia	
13. Madrid, Comunidad de	
14. Murcia, Región de	
15. Navarra, Comunidad Foral de	
16. País Vasco	
17. Rioja, La	
18. Ceuta	
19. Melilla	
Total expenditure on research in the protection and improvement of human health	

3.6 Research grants

Please estimate the total value of the grants received in the year 2012 by the research interns listed in section 2.1, irregardless of the type of grant and the organisation that has granted it to them. This figure must be included in the remuneration of researchers from question 3.1.

		Amount (euros without decimals)
1. Research grants	1	

3.7 Type of research

Please break down, as a percentage, the CURRENT internal expenditure on R&D that the institution has made in 2012, according to the following classification (do not write decimals, and check that the sum of the column is 100%).

1. Fundamental or basic research	1	%
2. Applied research	2	%
3. Experimental research	3	%
TOTAL	**1 0 0**	**%**

3.8 Internal R&D activities anticipated for 2013

	Staff on FTE* (1 decimal)	Internal expenditure on R&D (euros without decimals)
Resources anticipated for the year 2013	.	

(*) FTE: Full-time equivalent.

3.9 Purchase of external R&D services in 2012

This is caused by the acquisition of R&D services outside of the institution, via contract, agreement, etc. It does not include institutional quotas for financing other public or private organisations,... not implying a direct purchase of R&D.

		Amount (euros without decimals)
A. Purchase of R&D services in Spain (without VAT)		
- From companies	1	
- From Public Administration bodies	2	
- From universities	3	
- From Private Non-Profit Institutions	4	
B. Purchase of R&D services abroad (without taxes)		
- From foreign companies	1	
- From foreign public administrations	2	
- From foreign universities	3	
- From foreign Private Non-Profit Institutions	4	
- From other international organisations	5	
C. Total purchase of R&D services (A+B)		

4. Activities based on biological sciences and technologies in 2012

Biotechnology is the application of science and technology to living organisms, as well as to their parts, products and models, in order to alter living or inert material, for the purpose of producing knowledge, goods and/or services.

1. Does the centre carry out any activity based on science and technology applied to living organisms or compounds obtained from them, for the purpose of obtaining knowledge or products of value (including biocomputing and nanobiotechnology)?

YES ☐ NO ☐ Go to section **5**

↓

If the answer is YES, please complete the Biotechnology Use Module

2. Please indicate the resources dedicated to activities based on biological sciences and technologies

The full-time equivalent (FTE) is the sum of the staff that works full-time and the fractions of time that the part-time staff works on activities based on biological sciences and technologies.

	Staff		Staff on FTE (1 decimal)		Total expenditure (euros without decimals)
	Total	Women	Total	Women	
Resources used:			.	.	

5. In 2012, did the institution carry out any internal R&D activity using or containing free software?

Free software refers to that software that respects the freedom of users over the acquired product, and therefore, once obtained, it can be freely used, copied, studied, exchanged and redistributed.

YES ☐ NO ☐

6. How long did it take to complete this questionnaire?

Including the time required to collect the information necessary to do so

☐☐☐ Hours

Observations

The National Statistics Institute would like to thank you for your cooperation

Annex

1 Scientific Research and Experimental Development Activities (R&D)

1.1 Basic definitions

Scientific research and experimental development (R&D) is comprised of the creative work carried out systematically in order to increase the volume of knowledge, including the knowledge of man, culture and society, and the use of this knowledge to create new applications.

The criterion *referring to creative work carried out systematically* is met by **projects with specific objectives and a budget**.

The term R&D comprises three activities: basic research, applied research and experimental development:

- **Basic research** consists of experimental or theoretical work that is mainly undertaken to obtain new knowledge on the essentials of observable phenomena and facts, without considering giving them any particular application or use whatsoever.
- **Applied research** also consists of the original work carried out to acquire new knowledge; however, it is mainly directed towards a specific practical objective.
- **Experimental development** consists of systematic work based on existing knowledge, obtained from the research and/or practical experience, aimed at the production of new materials, products or devices; at the establishment of new processes, systems and services, or at the substantial improvement of those already existing.

A **criterion** that allows R&D to be distinguished from other related activities is the existence, within the core of R&D, of an appreciable element of innovation and the resolution of a scientific and/or technological uncertainty; in other words, R&D appears when the solution to a problem is not evident to someone who is perfectly aware of the set of knowledge and basic techniques customarily used in the sector at hand.

Not constituting R&D are those activities that do not contain an appreciable element of innovation, as well as those routine activities that do not imply the resolution of a scientific or technological uncertainty.

1.2 Staff in R&D

All staff directly employed in R&D must be accounted for. as well as those persons who provide services directly related to R&D activities, such as directors, administrators and office staff.

Researchers are professionals who work on the conception or creation of new knowledge, products, processes, methods and systems, and on the management of their respective projects (it includes postgraduate students and interns who carry out R&D activities).

Technicians and/or similar personnel are persons whose main tasks require technical knowledge and experience in one or various fields of engineering, physical and life sciences, or social sciences and humanities. They participate in R&D, carrying out scientific and technical tasks that require the application of operational methods and principles, generally under the supervision of researchers.

Assistants (remaining staff) include workers, both qualified and unqualified, and secretaries and office staff, who participate in the execution of the R&D projects, or who are directly related to the execution of said projects.

1.3 Staff in R&D on FTE

The staff on full-time equivalent (FTE) is the sum of the staff that works full-time and the fractions of time that the part-time staff works on R&D activities. Therefore, a person dedicated full-time to R&D shall be counted as 1, and a person who dedicates 20% of their time to R&D shall be counted as 0.2. If someone works for three months full-time during the year, s/he will be counted as 0.25, as this is a quarter of the year. If a person works for part of the year full-time, and part of the year part-time, an estimation of the annual dedication to R&D will be calculated with a weighting (if s/he is, for example, 3 months full-time and 9 months 20% dedicated to R&D, then we calculate: 0.25*1 + 0.75*0.2 = 0.4).

1.4 Examples of R&D in exact and natural sciences and engineering

- The study of chemical reactions. The attempt to optimise one of these reactions. The experimental development for a "greater scale" repetition of the process optimised in the laboratory.
- Determining the sequences of amino acids of a molecule. The research undertaken in order to distinguish between the antibodies of different illnesses. The experimental development for seeking a method to synthesise the antibody of a given illness.
- The activities of the scientific and technical information services and of the libraries integrated in the research laboratories when they are mainly intended for the researchers of those laboratories.
- The development of Information technologies at the operative systems level, data processing programming languages, communications software and software development or Internet technology development tools
- The researching of methods for the design, development, effective use and maintenance of the software. The development of software that produces advances in general approximations of the collection, transmission, storage, recovery, manipulation or visualisation of information.

1.5 Health research

This refers not only to biomedical research, but also to a broader field that includes R&D as regards health in the social sciences, above all, research in health services, intended to protect and promote human health

The medical sciences include the following scientific fields:

- **Basic medicine** (anatomy, cytology, physiology, genetics, pharmacy, pharmacology, toxicology, immunology and immuno-haematology, clinical chemistry, clinical microbiology, pathology)
- **Clinical medicine** (anaesthesia, paediatrics, obstetrics and gynaecology, internal medicine, surgery, odontology, neurology, psychiatry, radiology, therapy, otorhinolaryngology, ophthalmology)
- **Health sciences** (public health, social medicine, hygiene, nursing, pathology)

Examples of R&D in health

- Research carried out in the fields of **medical sciences** (basic medicine, clinical medicine and health sciences). For example, research in cardiology, respiratory diseases, mental illness, etc.
- There is health research into **biological sciences**, particularly into genetics, the objective of which is human health. For example, cancer research, research into degenerative illnesses, etc.
-Research into **social and humanitarian sciences**, the objective of which is to protect and improve human health. For example, research into prevention of drug addition.
- Clinical trials:

Prior to releasing new medications, vaccinations or treatments on the market, they must be subjected to systematic trials on human volunteers, in order to ensure that they are safe and effective. These clinical trials are divided into four standardised phases, three of which are carried out before permission to manufacture is granted. In order to be able to draw international comparisons, it has been agreed that phases 1, 2 and 3 may be included in R&D. Phase 4 of the clinical trials, in which the medicine or treatment undergoes continued trials following approval and manufacture, must only be included as R&D if it gives rise to scientific or technological advances. Moreover, not all activities carried out before obtaining permission to manufacture are considered R&D, especially when a significant lag in time occurs after finishing phase 3 of the trials, during which marketing and development activities may begin.

1.6 Examples of R&D in agricultural sciences

The research in agrarian sciences encompasses the promotion of agriculture, forests, fishing and food production.

- The research on chemical fertilisers, the biological control of infestations and the mechanisation of agriculture.
- The research on the impact of agricultural and forestry activities on the environment.
- The research in the development of food productivity and technology

1.7 Examples of R&D in social sciences and humanities

- The study of the variables that influence the school results of children belonging to different social and ethnic groups. The study of the reading process in adults and children, in order to develop a new method for teaching adults and children to read

- The study of the structure and socio-occupational mobility of a society. Development of a model that uses the data obtained, for the purpose of preventing the future consequences of the recent trends in social mobility.

- The analysis of regional variations or other types existing in the use of a language, for the purpose of determining the influence of geographical or social variables in its development.

- The study of specific aspects of a particular language, such as syntax, semantics, phonetics, phonology, social or regional variations, etc.

- The study of sources of all types (manuscripts, monuments, art works, buildings, etc.) for the purpose of better understanding the historical phenomena.