Instituto Nacional de Estadística

Innovation in Companies Survey 2009

Identification

Modifications in identification particulars (Complete only those sections subject to variation)

Name or corporate name of the company

NIF

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

Postal code

Municipality

Province

Province 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 OF THE COMPANY

Mr./Ms.: _____

Post held in the company: _____

Telephone: _____Fax:_____

E-mail: _____

Company website _____

Nature, characteristics and purpose

The Survey is included in the General plan for statistics on science and technology promoted by the Statistical Office of the European Communities (Eurostat). The objective of the survey is to quantify the **innovative activities** of companies, among which, of particular note is t**he performance of R&D** , and to evaluate the results (innovations) and effects of such activities.

Legislation

Compulsory statistics

Statistical Secrecy

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

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

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

Note: This questionnaire is available in the different co-official languages of the Autonomous Communities.

General instructions

Information unit: the information that is requested in this questionnaire refers to the **company.** A company is considered to be any legal entity that constitutes an organisational unit that produces goods and services, and that enjoys a certain autonomy in decision-making, mainly at the time of using the available current resources. From a practical point of view, and in its more general definition, the concept of company is defined as a legal or juridical unit, that is, all individuals or legal entities (companies, cooperatives, etc) whose activity is recognised by Law, and which are identified by their corresponding Fiscal Identification Number (NIF).
Reference period: the data must refer to the year **2009**, except in the question that requests information regarding a different period.
Structure of the questionnaire: the questionnaire is comprised of ten sections:
A. General company information.
B. Internal R&D activities in 2009.
C. Purchase of R&D services in 2009.
D. Activities for technological innovation performed by the company in 2009.
E. Innovation of products and processes during the 2007-2009 period.
F. Factors that hinder the innovation activities.
G. Intellectual and industrial property rights.
H. Income from and payments for eliminated technology in 2009.
I . Organisational innovations during the 2007-2009 period.
J. Commercialisation innovations during the 2007-2009 period.
K. Tax deductions for R&D and innovation.
Form of recording the data: write down data clearly. Do not write in the shaded areas. The financial data is requested in **euros, without including VAT**.
Consignment term: this questionnaire, duly completed with the required information, must be returned within a period **not exceeding 15 days.**
In this questionnaire, the term ***product*** is used to designate both ***goods*** and ***services.***

A. General company information

A.1 Main economic activity

Main activity: that which generates the greatest added value, or failing this, the greatest turnover.

Description: _____ **CNAE-2009** | | | | |

Indicate, in order of importance, the main products resulting from this activity:

1. _____

2. _____

A.2 Incidents during the 2007-2009 period

During the 2007-2009 period, have any of the following changes taken place in the company?

	YES	NO
1. The company was newly created	☐	☐
2. Turnover increased by at least 10%, due to a merger with another company	☐	☐
3. Turnover decreased by at least 10%, due to the sale or closing of the company	☐	☐

A.3 Type of company (Mark the corresponding box with an "X")

1. Public ☐
2. Private without foreign participation ☐
3. Private with a participation of <10% of foreign capital ☐
4. Private with a participation of ≥10% and <50% of foreign capital ☐
5. Private with a participation of ≥50% of foreign capital ☐
6. Research association and other research institutions ☐

A.4 Is the company a part of a group of companies?

YES ☐ ⇓ NO ☐ ⇒ Go to question **A.5**

- What is the complete name of the group, or failing this, of the parent company?

_____

- What is the central headquarters of the group? (Write down the name of the country)

_____ | | | | |

- What is the relationship of the company with the group?

1. Parent company ☐ 2. Affiliate ☐ 3. Joint company ☐ 4. Associate company ☐

A.5 Year of creation of the company

1. Please indicate the year of creation of the company ☐☐☐☐

A.6 Is the company located in a Scientific or Technological Estate?

YES ☐ NO ☐ ⇒ Go to question **A.7**

⇓

- What is the complete name of the Scientific or Technological Estate?

A.7 Economic results

The total commercial sales of goods and services, including exports and taxes, **except** the Value Added Tax (VAT). In the case of credit institutions, the interest to be charged and similar income. For insurance companies, the gross insurance policies signed.

	Year 2009 (€ without decimals)	Year 2007 (€ without decimals)
1. Turnover		
1.1 Of turnover, indicate the total sales to European Union (Spain excluded), EFTA or EU candidate countries*		
1.2 Of turnover, indicate the total exports (excluding 1.1)		
2. Gross investment in material goods		

A.8 Average number of employees

	Year 2009	Year 2007
1. Paid staff		
1.1. Of the previous figure, indicate how many of them have higher education		
2. Unpaid staff		
TOTAL (1+2)		
3. Of the total staff, indicate the % of women	☐☐☐ %	☐☐☐ %

4. Would you consider it necessary to increase the staff of the company?

NO ☐ YES ☐ ⇒ Indicate by how many persons

A.9 In what geographic market did the company sell goods or services during the 2007-2009 period? (Mark all of the markets in which the company operates)

	YES	NO
1. Local / Autonomous	☐	☐
2. National market	☐	☐
3. Other countries of the European Union (EU), EFTA countries or EU candidate countries*	☐	☐
4. All remaining countries	☐	☐

* This includes the following countries: Germany, Austria, Belgium, Bulgaria, Croatia, Cyprus, Denmark, Slovakia, Slovenia, Estonia, Finland, France, Greece, Hungary, Ireland, Iceland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Macedonia, Malta, Norway, Netherlands, Poland, Portugal, United Kingdom, Czech Republic, Romania, Sweden, Switzerland and Turkey.

A.10 Activities based on biological sciences and technologies in 2009

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

1. Does the company perform any activity based on sciences and technologies applied to living organisms or to compounds obtained from these, in order to acquire knowledge or products of value? (This includes bio-computing and nano/micro-manufacturing) YES ☐ NO ☐ ⇒ Go to section **A.11**

⇓

If the answer has been YES, complete the biotechnology module.

2. 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 (see 1.3 of the Annex).

	Staff		Staff on FTE (1 decimal)		Total expenses (€ without decimals)
Resources used:	Total	Women	Total	Women	
			.	.	

A.11 Activities based on science and technological developments in 2009

1. Does the company carry out any activity (production, distribution or sale of goods or Services, R&D) related to energy, environment, nanotechnology, IT and communications or aeronautics? YES ☐ NO ☐ → GO TO SECTION **A.12**

⇓

	Total		Staff on FTE (1 decimal)		Total expenditure (€ without decimals)
	Staff	Women	Total	Women	
1. Energy			.	.	
2. Environment			.	.	
3. Nanotechnology			.	.	
4. IT and communications			.	.	
5. Aeronautics			.	.	

A.12 Companies in R&D (Only for companies whose main activity is the performance of R&D activities, research associations and technological centres)

Indicate the main activity of the company/companies that benefit from their R&D activities

Description: _____ **CNAE-2009** | | | | |

B. Internal R&D activities in 2009

Internal R&D activities are creative work performed **within the company,** undertaken systematically for the purpose of increasing the volume of knowledge in order to conceive new applications, such as new or significantly improved products (goods/services) and processes. (See annex at the end of the questionnaire).

B.1 Did the company carry out internal R&D activities in 2009?

YES ☐ NO ☐ ⇒ Go to section **C**

⇓

Continuously ☐ Occasionally ☐ **Mark only one option**

B.1.1 Brief description of the main R&D project

_____

B.2 Organisation of internal R&D in the company

Indicate the units of the company that carried out internal R&D activities in 2009.

1. Specific R&D department or laboratory ☐
2. Design department ☐
3. Production department ☐
4. Technical department ☐
5. Quality control department ☐
6. Marketing department ☐
7. IT department ☐
8. Other departments (specify) ☐

_____

B.3 Staff dedicated to internal R&D activities in 2009, by occupation

In the staff dedicated to internal R&D activities by occupation, include if it is the case, the external consultants working on site, not included in A.8.
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).

A.Occupation	Persons		FTE (1 decimal)	
	Total	Women	Total	Women
1. Researchers (including the staff that directs, plans and/or coordinates task, as well as interns, in research)				
2. Technicians			.	.
3. Assistants			.	.
TOTAL (1+2+3)			.	.
Of the researchers from point 1, indicate the scholarship holders			.	.

B. Contracting of external consultancy for carrying out internal R&D activities in 2009

Does the company have external consultants working on site in order to carry out internal R&D activities? ☐ YES ☐ NO

1. Of the TOTAL NUMBER of PERSONS above, please indicate the external consultants working on site **(not accounted for in A.8)** _____

2. Of the TOTAL NUMBER OF FTE above, please indicate the external consultants working on site _____ .

B.4 Staff dedicated to internal R&D activities in 2009, by qualification, on FTE

Qualification	Staff in R&D on FTE (1 decimal)		Researchers on FTE (1 decimal)	
	Total	Women	Total	Women
1. University doctorates	.	.	.	.
2. University graduates, architects, engineers and the like	.	.	.	.
3. University diplomas, technical architects and engineers and the like	.	.	.	.
4. Advanced training cycles (Specific professional training)	.	.	.	.
5. Intermediate training cycles, baccalaureate qualifications and the like	.	.	.	.
6. Other studies	.	.	.	.
TOTAL (1+2+3+4+5+6). This should coincide with B.3	.	.	.	.

B.5 Distribution of the staff in R&D by the Autonomous Communities in which the company carries out internal R&D activities

Autonomous Community	Staff in R&D		Staff in R&D on FTE (1 decimal)		Researchers		Researchers on FTE (1 decimal)	
	Total	Women	Total	Women	Total	Women	Total	Women
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 (this should coincide with **B.3**)			.	.			.	.

B.6 Expenses on internal R&D activities in 2009

Expenses on remunerations are those corresponding to the business costs of the researchers on FTE and the technicians and assistants on FTE specified in B.3. For the rest of the items in this section, we shall assign the part of expenditure that corresponds to R&D.

		Value (€ without decimals)
1. Remuneration of researchers on FTE (this includes the remuneration of the interns)		
2. Remunerations of technicians and assistants on FTE		
3. Other current expenses (without VAT or amortisations)		
3.1 Of the figure above, please indicate the total expenditure incurred by contra cting external consultancy for carrying out internal R&D activities		
A. Total current expenses on R&D (1+2+3)	**A**	
4. Equipment and instruments (without VAT)		
5. Land and buildings (without VAT)		
6. Acquisition of specific software for R&D (including licences)		
B. Total capital expenses on R&D (4+5+6)	**B**	
C. TOTAL (A+B)	**C**	

B.7 Research grants

Estimate the total value of the grants received during the year 2009 by the research interns listed in section B.3, irregardless of the type of grant and of the organisation that granted it. This figure should be included in the remuneration of researchers from question B.6.

	Value (€ without decimals)
1. Research grants	

B.8 Distribution of current expenditure on internal R&D activities in 2009, by type of research

Breakdown, as a percentage, of the CURRENT internal expenses on R&D from **B.6.A**, according to the following classification. (Do not write decimals, and check that the sum of the column is 100%). (See annex at the end of the questionnaire).

1. Fundamental or basic research	%
2. Applied research	%
3. Technological development	%
TOTAL	**100 %**

B.9 Financing of the expenses on internal R&D in 2009

Breakdown of the total internal expenses on R&D from question B.6.C, according to the original source of the funds received for R&D. In the case of public funds for carrying out R&D, we must distinguish between subsidies (including non-refundable loans) and contracts (and purchases) with the Administration. Refundable loans for carrying out R&D obtained from both the Administration and other sources, shall be included as their own funds. In the case of research associations and companies in R&D at the service of other company/companies, the institutional quotas received, by which they are financed (and that are not specific R&D orders) must be included in their own funds.

Source of the funds		Value (€ without decimals)
A. Financing by the company itself		
- Their own funds (including loans and quotas of an institutional nature)	1	
B. Financing from other Spanish companies		
- From companies in their same group	2	
- From other public companies	3	
- From other private companies and research associations	4	
C. Public financing		
- Subsidies from the State Central Administration	5	
- Contracts with the State Central Administration	6	
- Subsidies from the Autonomous and Local Administrations	7	
- Contracts with the Autonomous and Local Administrations	8	
D. Other national sources		
- From universities	9	
- From private, non-profit institutions	10	
E. Foreign funds		
- From foreign companies in their same group	11	
- From other companies	12	
- From European Union	13	
- From foreign Public Administrations	14	
- From foreign universities	15	
- From foreign, private, non-profit institutions	16	
- From other international organisations	17	
TOTAL (this must coincide with B.6.C)		

B.10 Distribution of expenditure on internal R&D activities in 2009, by socio-economic objective

Breakdown, as a percentage, of the internal expenses on R&D from B.6.C that the company carried out in 2009, according to the socio-economic objective or purpose of the research. (Do not write decimals, and check that the sum of the column is 100%).

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

B.11 Internal R&D activities foreseen for 2010

	Staff for R&D, on FTE (1 decimal)	Internal expenses on R&D (€ without decimals)
Resources foreseen for 2010	.	

C. Purchase of R&D services in 2009

These are those motivated by the acquisition of R&D services outside the company by means of contract, agreement, etc. This excludes institutional quotas for financing other companies, research associations, etc that do not imply a direct purchase of R&D.

		Value (€ without decimals)
A. Purchase of R&D services in Spain (without VAT)		
- From companies in the same group	1	
- From other companies	2	
- From research associations or technological	3	
- From Public Administration bodies	4	
- From universities	5	
- From private, non-profit institutions	6	
B. Purchase of R&D services abroad (without taxes)		
- From foreign companies in the same group	7	
- From other foreign companies	8	
- From foreign Public Administration bodies	9	
- From foreign universities	10	
- From foreign, private, non-profit institutions	11	
- From other international organisations	12	
C. Total purchase of R&D services, (external R&D) (sum from 1 to 12)		

D. Activities for technological innovation performed by the company in 2009

A **technological innovation**, as defined in this survey, is a new or significantly improved product (good or service) introduced on the market, or a new or significantly improved process introduced in the company. Innovation is based on the results of new technological developments, new combinations of existing technologies, or the use of other knowledge acquired by the company. (See annex at the end of the questionnaire).
Changes of an aesthetic nature, the mere sale of innovations produced completely by other companies, and simple changes in organisation or management, must not be included. They shall be specified in section I or in section J.
The innovation (product or process) is always new for the company. It is not necessary for it to be new in the market in which the company operates.
This section requests information regarding those activities conducive to obtaining technological innovations.

D.1 In 2009, did the company perform any of the following activities, for the purpose of achieving new or significantly improved products (goods or services) or processes, based on science, technology and other areas of knowledge? (In the case of a positive answer, indicate the amount of expenditure)

Activities for technological innovation	NO	YES		Value (€ without decimal)
A. Internal R&D (This must coincide with question B.6.C) Creative work carried out within the company in order to increase the volume of knowledge and its use for conceiving new or improved products and processes (including software development).	☐	☐	→ A.	
B. Acquisition of R&D (external R&D) (*This must coincide with the total from section* ***C)*** The same activities as those indicated above, but carried out by other organisations (including those from the same group) or public or private research bodies, and purchased by the company.	☐	☐	→ B.	
C. Acquisition of machinery, equipment and advanced hardware or software **aimed at the production of new or significantly improved products or processes** (not included in R&D question **B.6.B)**.	☐	☐	→ C.	
D. Acquisition of other external knowledge for innovation **(not included in R&D)** Purchase or use, under licence, of patents or of non-patented inventions and technical or other knowledge, from other companies or organisations, to use in the innovations of the company.	☐	☐	→ D.	
E. Training for innovation activities Internal or external training of staff, specifically aimed at the development or introduction of new or significantly improved products or processes.	☐	☐	→ E.	
F. Introduction of innovations in the market Activities for introducing, in the market, its new or significantly improved goods or services, including the prospecting of the market and the launch advertising.	☐	☐	→ F.	
G. Design, other preparations for production and/or distribution **(not included in R&D)** Technical procedures and preparations for carrying out new or significantly improved products or processes, not included in other sections (for example, viability tests and studies, development of routine software, design and launch of production centres aimed at the development or introduction of product or process innovations).	☐	☐	→ G.	
H. (A+B+C+D+E+F+G) ***TOTAL***			→ H.	

If you have answered NO to all of the questions, go to section **D.3.**

D.2 Expenses on internal R&D and other technological innovation activities, by Autonomous Community, in 2009

Distribute expenditure on R&D activities and on technological innovation activities, indicating in questions D.1.A and D.1.H, among the Autonomous Communities where the company performs said activities. Check that the expenses on R&D are less than or equal to the expenses on technological innovation in each Autonomous Community.

	Value (€ without decimals)			Value (€ without decimals)	
	Expenses on Internal R&D	Expenses on Innovation		Expenses on Internal R&D	Expenses on Innovation
1. Andalucía			10. Comunitat Valenciana		
2. Aragón			11. Extremadura		
3. Asturias, Principado de			12. Galicia		
4. Balears, Illes			13. Madrid, Comunidad de		
5. Canarias			14. Murcia, Región de		
6. Cantabria			15. Navarra, Com. Foral de		
7. Castilla y León			16. País Vasco		
8. Castilla-La Mancha			17. Rioja, La		
9. Cataluña			18. Ceuta		
			19. Melilla		
TOTAL (coincide with B.6.C and D.1.H, respectively)					

D.3 During the 2007-2009 period, did the company receive public financial support (loans, subsidies, etc.) for innovation activities, from the following administrations?

Include the financing through tax credits or deductions, subsidies, subsidised loans and loan guarantees. This excludes the research and other innovation activities that are carried out completely by **contract** for the public sector.

	YES	NO	Value of the subsidies received in 2009 (€ without decimals)	Value of the credits received in 2009 (€ without decimals)
Local or Autonomous administrations	☐	☐		
State Administration (including central public bodies and ministries	☐	☐		
The European Union (EU)	☐	☐		
In case of a positive answer, did the company participate in the Seventh framework programme (2007-2013) for technological research and development of the European Union	☐	☐		

E. Innovation of products and processes during the 2007-2009 period

E.1 Innovation of products (goods or services)

The innovation of products consists of the introduction, in the market, of **new** or **significantly** improved goods or services, referring to basic characteristics, technical specifications, incorporated software or other intangible components, desired purposes or provisions. (See examples in the annex). Changes of a merely aesthetic nature should not be considered, as well as the sale of innovations that are completed produced and developed by other companies. Innovation (novelty or improvement) must be such for the company, but not necessarily for the sector or market. It does not matter whether the innovation was initially developed by the company or by other companies.

E.1.1 During the 2007-2009 period, did the company introduce…

	YES	NO
… new or significantly improved *goods*? (This excludes the mere resale of new goods purchased from other companies, and the modifications solely for aesthetic purposes)	☐	☐
… new or significantly improved services?	☐	☐

If the answer was NO to both questions, go to **section E.2.**

E.1.2 Who developed these product innovations? (Select the most adequate option)

- Mainly the company or group of companies ☐
- Mainly the company, together with other companies or institutions (including consultants) ☐
- Mainly other companies or institutions (including consultants) ☐

E.1.3 Brief description of the most important product innovation

E.1.4 Regarding the product innovations introduced during the 2007-2009 period, were they...

		YES	NO
… an innovation only for the company?	The company introduced a new or significantly improved good or service of which the competitors already had one in the market	☐	☐
… an innovation in the market?	The company introduced a new or significantly improved good or service in the market before the competitors (it may already have been offered in other markets	☐	☐

E.1.5 Economic impact of the innovations on turnover in 2009

Breakdown, as a percentage, **of total turnover for 2009** (listed in section A.7), according to the following classification. Write the figure with one decimal and check that the sum of the column is 100.0%.

1. % due to innovations on goods and services introduced during the 2007-2009 period, that were only an innovation for the company	☐☐☐.☐ %
2. % due to innovations on goods and services introduced during the 2007-2009 period, that represented an innovation for the market in which the company rates	☐☐☐.☐ %
3. % due to goods and services that remained unchanged or experienced only small changes in the 2007-2009 period (including the resale of goods and services acquired from other companies)	☐☐☐.☐ %
Total turnover in 2009 (1+2+3)	**100.0** %

E.2 Innovation of processes

Process innovation consists of the implementation of production processes, distribution methods or support activities for the goods and services that are **new** or provide a **significant** improvement. Innovation (novelty or improvement) must be such for the company, but not necessarily for the sector or market. It does not matter whether the innovation was initially developed by the company or by other companies. This excludes merely organisational innovations.

E.2.1 During the 2007-2009 period, did the company introduce...

	YES	NO
... new or significantly improved methods for the manufacture or production of goods or services?	☐	☐
... new or significantly improved logistics systems or delivery or distribution methods for its supplies, goods or services?	☐	☐
... support activities for its processes, such as systems of maintenance or IT operations, of purchases or of accounting being new or significantly improved?	☐	☐

If the answer has been NO to all of the options, go to section **E.3**.

E.2.2 Who developed these process innovations? (Select only the most adequate option)

- Mainly the company or group of companies ☐
- Mainly the company, together with other companies or institutions (including consultants) ☐
- Mainly other companies or institutions (including consultants) ☐

E.2.3 Brief description of the most important process innovation

E.3 Innovation activities in progress or abandoned during the 2007-2009 period

Remember that, among the innovation activities, we include the acquisition of machinery, equipment, *software* and licences, engineering and development tasks, industrial design, training, commercialisation and research and development when it is carried out *specifically* for the purpose of developing or applying a product or process innovation. It also includes the basic R&D as an innovative activity, even when it is not related to a product and/or process innovation.

	YES	NO
1. Does the company have an innovation activity for developing product innovations or process innovations, still in progress at the end of 2009?	☐	☐
1.1 Of the activities still in progress at the end of 2009, did any suffer an important delay?	☐	☐
2. During the 2007-2009 period, were any of the innovation activities or projects abandoned during the conception stage?	☐	☐
3. During the 2007-2009 period, were any of the innovation activities or projects abandoned once the activity or project had begun?	☐	☐

If the answer has been NO to all of questions **E.1.1, E.2.1 and E.3**, go to section **F.**

E.4. Sources of information for innovation activities during the 2007-2009 period

During the 2007-2009 period, **what importance did each of the following information sources have for the innovation activities of the company?.**
(Indicate the sources from which information was taken for new innovation projects or that contributed to completing innovation projects in progress).

	Source of information	Degree of importance			
		High	Medium	Low	It was not used
Internal	Within the company or group of companies (departments, employees, etc.)	☐	☐	☐	☐
Sources from The market	Suppliers of equipment, material, components or *software*	☐	☐	☐	☐
	Clients	☐	☐	☐	☐
	Competitors or other companies from the same branch of activity	☐	☐	☐	☐
	Consultants, commercial laboratories or private R&D institutes	☐	☐	☐	☐
Institutional sources	Universities or other centres of higher education	☐	☐	☐	☐
	Public research bodies	☐	☐	☐	☐
	Technological centres	☐	☐	☐	☐
Other sources	Conferences, trade fairs, exhibitions, etc	☐	☐	☐	☐
	Scientific magazines and commercial/technical publications	☐	☐	☐	☐
	Professional and sectoral associations	☐	☐	☐	☐

E.5 Cooperation for innovation activities during the 2007-2009 period

During the 2007-2009 period, **did the company cooperate in any of its innovation activities with other companies or bodies?**
Cooperation for innovation consists of the active participation, with other companies or non-commercial bodies, in innovation activities. It is not necessary for the two parties to reap a trade benefit. This excludes the mere subcontracting of work without active cooperation.

YES ☐ NO ☐ → Go to question **E.6**

↓

E.5.1 Indicate the type of partner with which they cooperated, and the country in which it is located (mark the applicable answers)

Type of partner with which they cooperated	Their country	Another European* country	United States	China and India	Other countries
A. Other companies from the same group	☐	☐	☐	☐	☐
B. Suppliers of equipment, material, components or *software*	☐	☐	☐	☐	☐
C. Clients	☐	☐	☐	☐	☐
D. Competitors or other companies from the sector	☐	☐	☐	☐	☐
E. Consultants, commercial laboratories or private R&D institutes	☐	☐	☐	☐	☐
F Universities or other centres of higher education	☐	☐	☐	☐	☐
G. Public research bodies	☐	☐	☐	☐	☐
H. Technological centres	☐	☐	☐	☐	☐

* This includes the following countries from the European Union, EFTA countries or EU candidate countries: Germany, Austria, Belgium, Bulgaria, Croatia, Cyprus, Denmark, Slovakia, Slovenia, Estonia, Finland, France, Greece, Hungary, Ireland, Iceland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Macedonia, Malta, Norway, Netherlands, Poland, Portugal, United Kingdom, Czech Republic, Romania, Sweden, Switzerland and Turkey.

E.5.2 What type of cooperation partner would you consider the most valuable for the innovation activities of the company?

Indicate the letter that corresponds to section E.5.1 ☐

Indicate the name of the most valuable cooperation partner

E.6 Objectives of innovation during the 2007-2009 period

The innovative activity carried out in the company may have been oriented towards different objectives. Indicate the degree of importance of the following objectives:

		Degree of importance			
		High	Medium	Low	Not applicable
Objectives for the products	Broader range of goods or services	☐	☐	☐	☐
	Substitution of old products or processes	☐	☐	☐	☐
	Penetration in new markets	☐	☐	☐	☐
	Greater market quota	☐	☐	☐	☐
	Better quality of the goods or services	☐	☐	☐	☐
Objectives for the processes	Greater flexibility in the production or provision of services	☐	☐	☐	☐
	Greater capacity for the production or provision of services	☐	☐	☐	☐
	Lower labour costs per unit produced	☐	☐	☐	☐
	Fewer materials per unit produced	☐	☐	☐	☐
	Less energy per unit produced	☐	☐	☐	☐
Objectives for employment	Increase in total employment	☐	☐	☐	☐
	Increase in qualified employment	☐	☐	☐	☐
	Maintenance of employment	☐	☐	☐	☐
Other objectives	Less environmental impact	☐	☐	☐	☐
	Improvement in health and safety	☐	☐	☐	☐
	Compliance with the environmental, health or safety legal requirements	☐	☐	☐	☐

QUESTIONS THAT MUST BE ANSWERED BY ALL COMPANIES

F. Factors that hinder the innovation activities during the 2007-2009 period

During the 2007-2009 period, what importance did the following factors have on hindering the innovation activities or projects or influencing the decision not to innovate?

		Degree of importance			
		High	Medium	Low	Not applicable
Factors regarding cost	Lack of funds in the company or group of companies	☐	☐	☐	☐
	Lack of financing from foreign sources to the company	☐	☐	☐	☐
	Innovation has too high a cost	☐	☐	☐	☐
Factors regarding knowledge	Lack of qualified staff	☐	☐	☐	☐
	Lack of information regarding technology	☐	☐	☐	☐
	Lack of information regarding the markets	☐	☐	☐	☐
	Difficulty in finding cooperation partners for the innovation	☐	☐	☐	☐
Factors regarding the market	Market dominated by established companies	☐	☐	☐	☐
	Uncertainty with regard to the demand for goods and services that are innovative	☐	☐	☐	☐
Reasons not to innovate	It is not necessary, due to previous **innovations**	☐	☐	☐	☐
	It is not necessary because there is no demand for innovations	☐	☐	☐	☐

G. Intellectual and industrial property rights

G.1. Application and use of patents and other protection methods during the 2007-2009 period

During the 2007-2009 period, did the company apply for any patents to protect its inventions or innovations?

YES ☐ NO ☐ ⇨ Go to section **G.2**

⇩ Indicate the number of patents requested in 2007-2009 (the same patent presented in different offices shall only be counted once) _____

- Indicate the number of patents requested in 2007-2009, according to the type of patent

SPTO patent _____ EPO patent _____ USPTO patent _____ PCT patent _____

SPTO: Spanish Patent and Trademark Office. EPO: European Patent Office. USPTO: U.S. Patent and Trademark Office. PCT: Patent Cooperation Treaty

G.2 Other intellectual and industrial property rights during the 2007-2009 period

During the 2007-2009 period, did the company...

... register any industrial drawing or model? _____ YES ☐ NO ☐

... register any trademark? _____ YES ☐ NO ☐

... claim royalties? _____ YES ☐ NO ☐

H. Income from and payments for disembodied technology in 2009

Disembodied technology includes those technical services with technological content, patents, trademarks, models and inventions and R&D activities. **This excludes machinery and products**, be they with high, medium or low technology. Exchanges with foreign countries must meet these characteristics: a) the operation must have an explicitly technological content; b) it must place a Spanish company in contact with foreign countries; c) the property or right to use the technology must be transmitted under commercial conditions.

H.1 Has the company carried out any exchange (income or payment) of disembodied technology, with companies from other countries?

YES ☐ NO ☐ ⇨ Go to section **I**

H.2 Value of the income and/or payments of disembodied technology with other countries, according to the nature of the transaction

Nature of the transaction	Income (€ without decimals)	Payments (€ without decimals)
Technical services with technological content		
1. Hardware services (set-up, maintenance, etc.)		
2. Technical architecture and engineering services (excluding construction and civil labour)		
3. Technical services provided to industrial, agricultural, livestock breeding or mining companies		
Patents, trademarks, models and inventions		
4. Transfer of patents, trademarks, models and inventions		
5. Purchase/sale of patents, trademarks, models and inventions		
R&D activities		
6. Basic and applied research; technological development		
TOTAL (1+2+3+4+5+6)		

I. Organisational innovations during the 2007-2009 period

An organisational innovation consists of the implementation of new organisational methods in the internal functioning of the company (including knowledge management methods/systems), in the organisation of the workplace or in the external relations that have not previously been used by the company. It must be the result of strategic decisions made by the management of the company. **It excludes** mergers or acquisitions, although they may imply an organisational innovation for the company.

I.1 During the 2007-2009 period, did the company introduce...

	YES	NO
... new business practices in the organisation of the work or of the company procedures? (For example, the management of the supply chain, knowledge management systems, re-engineering or business, efficient production, quality management, education and training systems, etc.)	☐	☐
... new organisation methods for the workplaces in the company, for the purpose of a better distribution of responsibilities and decision-making? (For example, use for the first time of a new system for distributing responsibilities among employees, managing working teams, decentralisation, restructuring departments, education/training systems, etc.)	☐	☐
... new management models for external relations with other companies or public institutions? (For example, creation for the first time of alliances, associations, externalisation or subcontracting)	☐	☐

If the answer has been NO to all questions in section I.1, go to section **J**

I.2 Who developed these organisational innovations? (Select only the most adequate option)

Mainly the company or group of companies	☐
Mainly the company, together with other companies or institutions (including consultants)	☐
Mainly other companies or institutions (including consultants)	☐

I.3 Indicate the degree of importance of the objectives of the organisational innovations introduced by the company during the 2007-2009 period

Degree of importance	High	Medium	Low	Not applicable
Reduction of the response period as per the needs of a client of supplier	☐	☐	☐	☐
Improvement in the ability to develop new products or processes	☐	☐	☐	☐
Better quality of the goods or services	☐	☐	☐	☐
Lower costs per unit produced	☐	☐	☐	☐
Improvement in the exchange of information or in the communication within the company or with other companies or institutions	☐	☐	☐	☐

J. Commercialisation innovations during the 2007-2009 period

A commercialisation innovation is the implementation of new trade strategies or concepts that differ significantly from those prior, or that have not previously been used. This must imply a significant change in the design or packaging of the product, in the positioning of the same, an well as in its promotion and/or price. **It excludes** seasonal, regular and other similar changes in the commercialisation methods. These innovations imply a search for new markets, but not changes in the use of the product.

J.1 During the 2007-2009 period, did the company introduce...

	YES	NO
... significant modifications in the design of the product or in the packaging of the goods or services? (This excludes the changes that affect the functionality of the product or the characteristics of the user. Said changes in the functionality of the product would be product innovation)	☐	☐
... new techniques or channels for the promotion of the product? (For example, use for the first time of a new advertising channel, fundamentally new trademarks with the objective of introducing them in new markets, introduction of loyalty cards, etc.)	☐	☐
... new methods for the positioning of the product in the market or sales channels? (For example, use for the first time of franchises or distribution licences, direct sale, exclusive retail, new concepts for the presentation of the product, etc.)	☐	☐
... new methods for establishing the prices of the goods or services? (For example, use for the first time of a system of prices that vary by demand, discount systems, etc.)	☐	☐

If the answer has been NO to all questions from section **J.1** →Go to section **K**.

J.2 Who developed these commercialisation innovations? (Select only the most adequate option)

Mainly the company or group of companies ☐

Mainly the company, together with other companies or institutions (including consultants) ☐

Mainly other companies or institutions (including consultants) ☐

J.3 Indicate the degree of importance of the objectives of the commercialisation innovations introduced by the company during the 2007-2009 period

Degree of importance	High	Medium	Low	Not applicable
Increase or improvement in the market quota	☐	☐	☐	☐
Introduction of products in new groups of clients	☐	☐	☐	☐
Introduction of products in new markets	☐	☐	☐	☐

K. Tax deductions for R&D and innovation

K.1 Is the company aware of the regulations on deductions for R&D and innovation activities?

YES ☐ NO ☐

K.2 Use of information services regarding tax incentives for R&D and innovation

	YES	NO
1. Has the company requested information or clarifications of the Treasury, regarding the tax incentives for R&D and innovation?	☐	☐
2. Has the company every conducted a linked consultation with the Treasury, prior assessment agreements, or obtained motivated reports?	☐	☐
3. Has the company attended information sessions regarding tax incentives, organised by business associations?	☐	☐
4. Has the company attended information sessions regarding tax incentives, organised by a public institution?	☐	☐
5. Has the company used external and private legal and/or tax consultancy services regarding this matter?	☐	☐

K.3 When the company plans its investment in R&D, does it consider the possible tax deduction that would arise?

YES ☐ NO ☐

K.4 Has the company applied tax deductions for R&D or innovation in the year…

	NO	YES		Value (€ without decimals)
... 2008?	☐	☐	→	
... 2007?	☐	☐	→	
... 2006?	☐	☐	→	
... 2005?	☐	☐	→	
... 2004 or previous years?	☐	☐	→	

If the answer has been NO to all of the questions in section **K.4** → Go to question **K.6**.

K.5 The deduction received allows for:

	YES	NO
1. Maintaining or increasing the budget dedicated to R&D and innovation	☐	☐
2. Undertaking new R&D and innovation projects, or riskier projects	☐	☐
3. Beginning the R&D activities at the most opportune time	☐	☐
4. Having greater freedom in planning	☐	☐
5. Including new lines of business in the business strategy	☐	☐
6. Other (specify)	☐	☐

K.6 If the company has not applied tax deductions for R&D or innovation, indicate the importance that each one of the following reasons has had for the company

Degree of importance	High	Medium	Low	Not applicable
The company has very little R&D expenditure	☐	☐	☐	☐
The taxable base of the company is usually small or null	☐	☐	☐	☐
The regulations have ambiguities that cause the fear that an application of them will provoke an inspection	☐	☐	☐	☐
The application procedure requires too much time and is not worth it	☐	☐	☐	☐
The concept of R&D expenditure considered in the regulations does not adjust to the Innovation activities performed in the company	☐	☐	☐	☐
Difficulty in identifying and accounting for the R&D and innovation activities in the company	☐	☐	☐	☐
Difficulty in providing justification documentation to the Treasury for the projects and expenses made	☐	☐	☐	☐
Other reason	☐	☐	☐	☐

Observations:

Thank you for your collaboration

INSTITUTO NACIONAL DE ESTADISTICA

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 satisfied 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, nor 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, for example, executives, administrators and office staff.

Researchers are professionals working in the conception or creation of new knowledge, products, processes, methods and systems, and in the management of the respective projects. (This includes graduate students who develop R&D activities).

Technicians and similar staff 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.

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

The following is an indicative (not comprehensive) list of professionals from each of the categories of the staff employed in R&D.

- **RESEARCHERS**

Physics, mathematics and engineering professionals
Physicists, chemists and related professionals
Mathematicians, statisticians and related professionals
IT professionals
Architects, engineers and related professionals

Life and health sciences professionals
Life sciences professionals
Health sciences professionals

Teaching professionals
Professional teachers in Universities and Higher Education Institutions

Other professionals
Business professionals
Legal sciences professionals
Archivists, librarians, documentation and information professionals
Social sciences and related professionals
Research and development department managers

- **TECHNICIANS AND EQUIVALENT STAFF**

Professionals related to physics and engineering
Physics and engineering technicians
IT-related professionals
Operators of optical and electronic equipment
Naval and air technicians and controllers
Security and quality control inspectors

Security and quality of life professionals and associated health professionals

Life sciences technicians and associated related professionals

New associated health professionals (except nursing)

Other

Professionals in statistics and mathematics and other related associated professionals

- **OTHER SUPPORT STAFF**

Office staff
Workers skilled in agriculture and fishing
Plant and machinery operators and assemblers
Associated administrative professionals
Legislators, civil servants and management executives n.e.c.

1.3 Staff in R&D on FTE

The staff on a full-time equivalent (FTE) is the sum of the staff that works full-time, and the fractions of time of the staff that works part-time, in 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 R&D in software development

In order to classify a software development project as R&D, it is necessary for its undertaking to produce scientific and/or technical progress, and for its objective to be that of systematically solving a scientific and/or technological uncertainty.

Classified in R&D must be the software that forms a part of an R&D project, as well as the research and development activities associated with a software, if it constitutes a finished product.

The following examples illustrate R&D activities in software:

a) The production of new theorems or algorithms in the theoretical field of Computational Sciences
b) The development of Information Technologies at a level of operating systems, programming languages, data processing, communication software and software development tools
c) The development of Internet technology
d) The research on methods for the design, development, effective use and maintenance of the software
e) The development of software that produces advances in general approximations of the collection, transmission, storage, recovery, manipulation or visualisation of information

f) The experimental development aimed at bridging gaps in knowledge technology, necessary for developing software systems or programmes
g) The R&D on tools or technologies in specific computation areas (image processing, geographical representation of data, character recognition, artificial intelligence and other areas).

Not constituting R&D are those activities of a routine nature that do not imply scientific or technological advances. For example, not considered to be R&D are:

a) The development of software or business information systems applications, using known methods or pre-existing software tools
b) The support for existing systems
c) The conversion and/or translation of IT languages
d) The adaptation of programs to specific users
e) The filtering of systems errors
f) The adaptation of existing software
g) The preparation of user documentation

1.5 R&D in construction

a) Research in new concepts based on the sustainability and the quality of life in:
    a. Planning and design
    b. Undertaking the job
    c. Use patterns
    d. Maintenance and repair
b) Research in materials: properties and applications
c) Development of new constructive techniques
d) Development of calculation and design tools
e) Development of validation standards and procedures
f) Development of applications based on information and communication technologies
g) Development of equipment, advanced machinery and auxiliary elements of support for the constructive process

1.6 R&D in services activities

The following criteria must be considered at the time of identifying R&D projects:

a) Links with public research laboratories
b) Employment of staff with a doctorate
c) Publication of results in scientific magazines or conferences
d) Construction of a prototype or pilot factory

A) Examples of R&D in banking and insurance:

a) Mathematical research related to financial risk analysis
b) Development of risk models for credit policies
c) Experimental development of new software for *home banking*
d) Development of techniques for researching consumer behaviour, for the purpose of creating new types of accounts or banking services
e) Research to identify new risks or other characteristics of risks that must be considered in insurance contracts
f) Research in social phenomena that have an impact on new types of insurance (health, retirement, etc.), such as insurance that covers *non-smokers*
g) R&D related to electronic banking and insurance, Internet services and electronic commerce applications
h) R&D related to new or significantly improved services from the financial sector (new concepts of accounts, loans, insurance or savings instruments)

B) Examples of R&D in other services activities:

a) Analysis of the effects of economic and social changes on free time consumption and activities
b) Development of new methods for measuring the expectations and preferences of consumers
c) Development of new methods and instruments for surveys
d) Development of procedures for the drawing and follow-up of trajectories (logistics)
e) Research on new concepts of travel and holidays

2 Innovation Activities

2.1 Basic definitions

Activities for technological innovation are comprised of all those scientific, technological, organisational, financial and commercial stages, including the investment in new knowledge, **aimed at the introduction of new or significantly improved** products **(goods or services) or processes**.

R&D constitutes only one of these activities, and may be carried out in different stages of the innovation process, not only as an original source of creative ideas, but also as a means of solving problems that might arise at any stage until its completion.

The following activities should be considered for technological innovation:

1. Internal R&D activities
2. Acquisition of R&D (external R&D)
3. Acquisition of machinery and equipment (not included in previous sections)
4. Acquisition of other external knowledge (not included in previous sections)
5. Training
6. Introduction of innovations in the market
7. Design, other preparations for production or distribution

2.2 Innovations

Innovation, as defined in this survey, may be identified from the following points of view:

2.2.1 INNOVATION IN PRODUCTS (GOODS OR SERVICES**)**

– New technology allows for a better performance of the good or service

– A broadening is achieved of the level of products or services

Examples: substitution of existing materials by materials with improved characteristics (breathable materials, light but resistant compounds, ecological plastics), incorporation of software that improves accessibility or commodities, as well as the broadening of new functions in already existing products (mobile phones with cameras, two-size printing in photocopiers, etc.) introduction of ecological products, use of cards with microchips, customer card systems, DIAL-IN services, electronic banking and insurance, services related to the Net and electronic commerce (except the creation of a website of information without online services).

2.2.2 INNOVATION OF PROCESSES

2.2.2.1 Processes with the following characteristics:

– greater automation or integration
– greater flexibility
– improvement in quality
– improvement in security or the environment

Examples: automatic selection of orders, automatic follow-up of shipments, communication of data, connection of transport systems, barcode systems, optical data process, expert systems, software for system integration, use or development of software tools, implementation of CAD/CAE systems. The ISO certification is innovative only if it is directly related to the introduction of new or improved processes.

2.2.2.2 Logistics and control of the following characteristics:

– greater efficiency and better planning, due to new technologies
– greater flexibility in distribution
– improvement in stock control

Examples: management information systems, total quality management, orders systems, stock minimisation systems, product exchange systems, transport logistics, computer-assisted logistics.

2.2.3 ORGANISATIONAL INNOVATIONS

An organisational innovation consists of the implementation of new organisational methods, in the internal functioning of the company (including knowledge management methods/systems), in the organisation of the workplace, or in the external relations that have not previously been used by the company. It must be the result of strategic decisions made by the management of the company. **It excludes** mergers or acquisitions, although they may imply an organisational innovation for the company.

2.2.4 COMMERCIALISATION INNOVATIONS

A commercialisation innovation is the implementation of new trade strategies or concepts that differ significantly from those prior, or that have not previously been used. This must imply a significant change in the design or packaging of the product, in the positioning of the same, an well as in its promotion and price. **It excludes** seasonal, regular and other similar changes in the commercialisation methods. These innovations imply a search for new markets, but not changes in the use of the product.

2.3 Examples of specific innovations by sector

2.3.1 MANUFACTURING INDUSTRY

Product-oriented innovations:

a) inclusion of ecological products

b) lifetime guarantee of new or used products

c) inclusion of services:
– combined solutions, for example, the sale of the product including maintenance
– tests, exams and certification of services
– provision of financial services for the clients (for example, loans, insurance)

c) change of materials in the production of goods (such as, for example, *breathable* water-resistance mountaineering equipment)
e) modules for the life sciences area, produced by bioengineering
f) introduction of cards with microchips
g) use of telematics in motor vehicles
h) motor vehicles with pollutant reduction (for example, buses that run on natural gas)
i) electronic stabilisation programmes in motor vehicles
j) new types of paper for specific printers
k) new types of propellant for boats
l) high voltage lines that are isolated with gas
m) remote maintenance
n) microwave ceramics and surface wave filters for mobile communication

A change in the name or packaging of existing goods as a means of penetrating another market is not considered innovation

Process-oriented innovations:

a) digitalisation of printing processes
b) new type of blade for the production of wood products
c) new type of unit for water removal
d) application in series of polishes or varnishes in powder for varnishing metal
e) new processes in the production of acids
f) electronic hiring systems
g) new CAD systems
h) information distribution systems
i) interconnected data processing systems, computational networks
j) introduction of simulation programmes by finite elements, for component optimisation
k) use of electronic commerce in manufacturing
l) direct product-client feedback
m) Internet-based route follow-up systems in real time

2.3.2 CONSTRUCTION

Product-oriented innovations

Design and assessment techniques, materials, construction techniques, specialised services and applications of information and communication technologies that enable:

a) the inclusion of ecological products
b) energy savings and efficiency
c) the increase in the life cycle of the product
d) the improvement in the use and comfort conditions (heating/air-conditioning, insulation, soundproofing, etc.)
e) the interaction with persons and environmental conditions (domotics, environmental intelligence, etc.)
f) the follow-up and/or control of the conditions of use, maintenance and conservation
g) the remote control and or assistance
h) the increase in the security conditions of use and/or maintenance

Process-oriented innovations

Design and assessment techniques, materials, construction materials, constructive elements and processes, acquisition of advanced machinery, applications of information, communication and automation technologies and systems for inspection, assessment and repair that enable:

a) recycling and valuation of waste
b) savings in materials and their reuse
c) the reduction of the effects on the environment (noise, visual contamination, occupation of space, etc.)
d) the significant improvement of the structural and functional properties of the materials
e) the automation and mechanisation of processes
f) the design, fabrication and testing of new systems and auxiliary elements to improve the constructive processes
g) systems for the most efficient management and planning (control of jobs and deadlines, management of suppliers, etc.)
h) the increase in on-the-job security conditions
i) construction in unique conditions

2.3.3 WHOLESALE TRADE

Product-oriented innovations:

a) inclusion of ecological products in the product catalogue
b) lifetime guarantee of new or used products
c) new types of certification services

d) inclusion of additional services:
– combined solutions of technical services and consultancy
– services for checking, examination and certification

a) adoption of financial services:
– payment by teletex
– electronic banking
– use of cards with microchips or SMART CARDS that allow for payment without money

f) adoption of tasks from the manufacturing sector
g) consultancy and orders from the point of sale
h) remote maintenance
i) electronic commerce
j) electronic hiring systems
k) direct sale to the final consumer

Process-oriented innovations:

a) check-out counters with scanners
b) 24-hour services, extension of opening hours and admission
c) development and introduction of digital distribution channels
d) laptop computers for salespersons as support for direct purchases
e) electronic hiring systems
f) digital product labelling, for example, barcodes
g) reconstruction or reorganisation of sales rooms, if this enables consumer purchases
h) receipt of orders by computer, with information regarding invoicing
i) electronic catalogues, for example, on CD-ROM
j) solutions based on call-centres
k) service workshop or own garage
l) training of qualified human resources to offer consultancy services to consumers
m) new CAD systems
n) information distribution systems

o) interconnected data processing systems, computational network software
p) establishment of direct feedback channels between the consumer and the producer
q) customer service centre to coordinate consumer requests

2.3.4 FINANCIAL SERVICES

Product-oriented innovations:

a) new or significantly improved financial services:
– online banking
– telephone banking

b) new or significantly improved insurance services:
– introduction of concepts of life insurance by modules
– new professional disability insurance

c) adoption of insurance services by banking companies and vice-versa

d) adoption of real estate intermediation services:
– real estate merchanting services
– real estate valuation services
– real estate property management

e) introduction of direct payment card systems in hospitals

Process-oriented innovations:

a) online banking
b) control tools by telephone
c) new or improved software or computer networks
d) application of new risk diversification methods
e) document archive by optical-electronic means
f) management of an office without paper
g) improved payment systems with payment
h) introduction of point of sale trade policy
i) introduction of new ranking methods (rating or scoring)

2.3.5 OTHER SERVICES

Product-oriented innovations:

a) automation of transactions with credit cards or debit cards
b) adoption of tasks from the manufacturing sector
c) remote maintenance of software, long-distance consultancy
d) new statistical analysis methods
e) development of flexible software to order
f) hiring of environmental or energy services
g) provision of new multimedia applications
h) new logistics services
i) voice response systems
j) dial-in services

Process-oriented innovations:

a) electronic data exchange
b) undertaking of CAD/CAM projects
c) electronic banking
d) CASE tools for the creation of software to order
e) automatic document creation
f) improvement of the computer networks
g) network management systems
h) call management systems
i) application of thermographic methods to evaluate technical systems
j) Internet-based route follow-up systems in real time
k) satellite navigation systems
l) new software systems for the management of the chain of supply
m) introduction of buses run on natural gas
n) introduction of buses with a lowered floor

2.3.6 ORGANISATIONAL INNOVATIONS

– new organisational methods of routines and processes in work development.
– introduction of new practices in order to improve learning and knowledge. One example of this might be the creation of a Manual of Good Practices accessible to the entire company. Another example is the implementation of systems to improve the development and loyalty of workers in the company via continuous training courses.
– introduction of integrated engineering and development, or production and sales, systems
– introduction of a High Performance Work System (HPWS), characterised by an integral organisation, and worth noting flat hierarchical structures, task rotation, teams with their own responsibility, multitasks, a greater participation of employees at lower levels in decision-making and the substitution of vertical communication channels by other horizontal channels.
– establishment of new paths of relations with other companies or public institutions, such as, for example, partnership agreements with research institutes, as well as new types of relations with clients and suppliers, or subcontracting some activities of the company: production, distribution and support services.
– implementation of strategies through the use of a new software, aimed at encouraging knowledge, with different company departments participating.
– creation of a new department as a result of the union or separation of other existing departments

2.3.7 COMMERCIALISATION INNOVATIONS

– actions aimed at a better response to client needs, at the opening of new markets or at a new positioning of its products in the market, all with the final objective of increasing sales. These must be new actions, that is, not used previously in the company.
– significant changes in product design as a part of a new concept of commercialisation.
– introduction of new sales channels: franchising systems, direct sales or the concession of distribution licences.
– use for the first time of new means for the promotion or advertising of its products: inclusion of advertising within TV programmes, use of celebrities as the image of the company, etc.
– significant changes in the logos of the company, aimed at achieving a new corporate image
– issue of "client cards", with advantages to award the loyalty of company clients.
– introduction of different final presentations of a product, according to the target market (different covers and font types for children or adults, for the same book)
– introduction of price strategies, in accordance with the demand for the products, for example, strategies for lowering the prices of the least-demanded items in order to thus boost their sales. Those price strategies whose only objective is to differentiate prices according to client brackets, for example, the application of different fees, depending on the amount of the product requested by the client, **is not** considered a commercialisation innovation.

Differentiations necessary between organisational innovations and process innovations.

The changes implied by organisational innovations affect the organisation of the work and the distribution of human resources of a company, whereas process innovations imply the implementation of new, specific equipment, machinery and software.

Differentiations necessary between commercialisation innovations and product innovations.

Commercialisation innovations imply changes in the image or the final finish of a product, whereas product innovations imply substantial changes the composition of the product itself. Example: a mere change in the flavour of a yoghurt would be a commercialisation innovation, but if we add some vitamin compound to the yoghurt, enriching its composition, this would be a clear product innovation, by changing its use. If the objective is only to seek the broadening of the market, it is a commercialisation innovation.