INSTITUTO NACIONAL DE ESTADISTICA

Demographic Census Project 2011

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1 Introduction

The Demographic Censuses are the largest statistical project that the statistics office of any country must undertake periodically.

The designation *Demographic Censuses* actually comprises three different censuses: the Population Census, the Housing Census and the Building Census. Of the three, the Population Census is, without a doubt, the census with the greatest effect and the most longstanding.

The first modern population census, considering the person as the unit for analysis, was conducted in Spain in 1768 by the Count of Aranda, under the rule of Charles III. Also worth noting are the Census conducted in 1787 by Floridablanca, and the Census carried out ten years later by Godoy in times of Charles IV.

However, the series of official statistical organisation censuses commenced in 1857, with the first operation performed by the Kingdom's General Statistics Commission, which was followed unusually shortly afterwards by the 1860 census. Then came those of 1877, 1887 and 1897. As of the year 1900, Population Censuses have been conducted every ten years without exception.

In short, the Population Census that will be conducted in 2011 will be the seventeenth official Census conducted in Spain.

Their preparation is framed within the 2010 World Programme that encompasses the 2005-2014 period, promoted by the United Nations, and within whose framework, at the time of the writing of this project, the censuses of 121 countries have been completed. The year 2011 will be the year in which the greatest number of countries, among them most European countries, will conduct the census.

Continuing with the international actions that promote the conduction of the censuses, we must highlight that, for the first time, a community regulation has been developed.

Regulation 763/2008 of the European Parliament and Council (together with others that develop it[1]), in addition to implanting the compulsory nature of conducting the Census during the year 2011, shall ensure the comparability of the results on a level of the European Union as regards the methodology, definitions, associated statistical data and metadata and quality of the operation.

[1]A) Commission Regulation regarding technical specifications of the variables and breakdowns thereof, passed on 30 November 2009 (published on 15 December 2009)).
B) Commission Regulation regarding statistical data and metadata which must be transmitted, passed on 16 June 2010 (published on 17 June 2010).
C) Commission Regulation regarding the quality of the data and the format of their transmission, passed on 8 December 2010 (published on 9 December 2010).

The general methodological framework in which the census project for Spain is developed, is established by the recommendations of the European Statistician Conference for the census count of 2010, and with a greater level of specification by the aforementioned regulation and the three regulations of the Commission that were developed in the prior (regarding definitions of variables and classifications, on data hypercubes and on operation quality).

Naturally, beyond these international norms and recommendations, added to the project are the specific needs of Spain form information that are not yet included in the mentioned regulation. For their determination, we have begun with an analysis of the variables studied on previous occasions, and of the new proposals arising as a result of the social evolution in those years.

Considering all the above, in the month of April 2010, the 2011 Demographic Census Draft Project was disseminated among the Statistics Offices of the Autonomous Communities, the statistical units of the ministries, other relevant organisations in the operation, such as the Spanish Federation of Municipalities and Provinces, expert users and researchers and the public in general.

In June 2010, the census project was presented to the High Council on Statistics, which issued a favourable ruling thereof. Recommendations were added regarding ensuring the quality of the information derived from administrative registers, the existence of facilities for providing the information by those households with difficulties in filling them out online or by post, contrasting with the responsible parties of municipalities the possibilities of the territorial breakdown of the data, a recommendation that, for the census of 2021, it be possible to conduct it solely with information from administrative registers, and other specific considerations regarding variables to be studied in the census operation.

The period for reflection on the census content, which began then, and the contribution of all the aforementioned agents, has allowed for finally completing the set of variables that will be studied in the census operation.

It has not always been possible to give a satisfactory answer to the requests received, depending on criteria that should always govern an operation such as this:

- Monitoring the work load of households, including in the census only variables in which the territorial breakdown is truly valuable. Otherwise, the natural location of these variables is in other, more specific statistical operations.
- The formulation of the question should not be complex, and this is a necessary aspect in avoiding measurement errors when dealing with an operation in which most of the data is provided by self-numbering.
- Its general interest must be fully justified, in order to avoid the sensation of interference that certain matters might bring up among citizens.

During the period between the decision of which strategy to follow in order to conduct the censuses, and the moment at which this project is written, we have advanced in specifying essential aspects that were already described in the Draft Project, but for which it is now possible to describe in more detail, with much greater precision and wealth of details of the information presented therein.

This document initially will present the initial considerations that have led to the election of the census strategy. The following describes the process that will be followed with the administrative and statistical information which will be used for the operation. Later, the aspects related to the sample design and the data collection will be explained. Next, we will present the matters related to technological infrastructure and to the census dissemination. The last section is dedicated to present the main aspects of the future Ongoing Population Survey, which will provide continuity for the population figures as of 2012.

2 The global strategy of the 2011 Population and Housing Censuses

The Regulations developed by the European Union consider a broad range of possible options for collecting the information on the census variables. This range varies from the classic censuses based on a comprehensive collection of the data, to a census based on information taken solely from administrative registers.

Between both extremes, we find a number of intermediate situations generated by the greater or lesser weight of the collection of data as part of fieldwork and from administrative registers. Among these, we expressly find the model of a census based on administrative registers completed with a sampling survey. This is the census model that Spain will follow in 2011.

Spain, with the Municipal Register as the consolidated population register, stands doubtless among the countries with the best conditions to conduct a census of these characteristics.

The introduction of elements such as the geo-referencing of buildings, the use of the abundant administrative information and the collection of multi-channel data (the Internet, among them) are some of the axes on which we are building the first *census based on registers and sampling survey* in Spain.

A collection will be carried out of information from different statistical and administrative sources that allow for developing this strategy, forming an initial territorial directory and accumulating data regarding persons that will be used in the manner described below.

It is expected to carry out a itinerary of the territory, in order to complete and contrast the available territorial information, listing the dwellings and

collecting the variables on buildings. At the end of this itinerary, we will have a complete directory of the operation.

The population data not obtained from the file processing mentioned above shall be obtained from a large sampling survey aimed at approximately 12.3% of persons, and which may be filled out online, by post or through the visit of a census agent.

This development strategy for the 2011 Census is based on the application of the European Statistics Code of Good Practice. In fact, as regards the principles linked to statistical processes, the goal is to apply a solid methodology, with procedures that will be used as well in other countries of our environment, as we will comment on further on.

Those countries use a methodology based on the use of a population register, which is complemented, as necessary, thanks to the information from other sources (other registers and/or a sampling survey).

The procedure posed implies an intensive use of the most advanced information technologies, for the purposes of guaranteeing the greatest quality and efficiency of the entire operation.

Both the fact that, on the one hand, the 2011 Census uses information from numerous administrative registers, and the fact that the percentage of responses obtained through channels other than that of the traditional interview (the Internet, post), will have as a direct result, that the amount of fieldwork to be done will decrease. This will enable working with a smaller organisation, and therefore, improving their training and control, thus contributing to reducing measurement and coverage errors as compared with other operations.

2.1 KEY ELEMENTS OF THE CENSUS OPERATION

The 2011 Population and Housing Census is proposed as an operation based on the combination of the following elements:

- A "**pre-census file**" created from the maximum use of the available administrative registers, taking the Register as the basic element of its structure.
- Fieldwork that includes two large operations:
    - A comprehensive **Building Census** that enables the geo-referencing of all buildings and ascertaining of their characteristics.
    - A **large sampling survey**, aimed at a relatively high percentage of the population, to ascertain the rest of the characteristics of the persons and the dwellings.

The following are some of the substantial aspects in the strategy of the 2011 Census:

- The combination of the pre-census file with the information obtained from the survey will provide all of the census information. In particular, the population figure shall be obtained through the count of those registers contained in the pre-census file, weighted - when necessary-, with some *count factors* obtained from the survey.

- As there is no comprehensive field operation, it is not expected for the Census to be used to introduce rectifications in the register entries. The Census will therefore have solely statistical purposes.

However, it will be based on the Register, as mentioned previously, and its results may be used to contrast the register data.

- The global sampling fraction will be approximately 12.3% of the population (11.9% of dwellings), as explained in the section of this document dedicated to the sampling design. The territorial distribution will not be uniform, as we plan to provide a set of tables and indicators for the smallest municipalities, and at the same time, to drop to the municipality level in the dissemination of the data in order for the municipalities to exceed a given size.

- We propose a complete census of buildings, highlighting the listing of all of the estates of the buildings intended for housing. Similarly to that proposed for the population, a "pre-census file" phase of the territory will be carried out, consisting of a previous crossing fundamentally between the data from the 2001 Census, Register and Land Register, completed with data from other sources, such as that from the Statistics Offices of the Autonomous Communities. This phase will continue with an itinerary to complete the previous crossing.

- The sampling data will be elevated to the weighted Pre-census File, calibrated in such a way that they reproduce the marginal distributions there of on a municipality level.

- New technologies will play a relevant role in the census operation. Portable devices (tablets) will be used for the Building Census and for the interviews of the population. Moreover, different channels will be offered for citizens to complete the information: print questionnaires to be returned by post and the Internet.

The fundamental objective of the pre-census file will be to have enough information available to carry out the population count and the analysis of its structure (not only using the most basic variables, but also all those census variables that might be included in this file). To this end, starting with the Register, and with the statistical information and information from administrative sources (vital statistics, Social Security, Tax Agency) the registers will be classified as sure (they will be assigned a count factor equal to 1) and as registers that will not be counted (count factor equal to 0).

Nevertheless, in the registers for which it is not possible to establish this count factor clearly from the available information, we will use the information from the sample in the manner indicated below.

In turn, the objective of the survey will be double. Firstly, there will be the objective of providing the census characteristics of the population for those variables for which not enough information is available in the pre-census file. Secondly, its data will enable completing the population count.

For this latter objective, the registers that have brought about doubts at the time of classifying them from the statistical information and administrative registers, shall be grouped in clusters that will be assigned a count factor, depending on the results that, for each one of those clusters, are derived from the survey. Those factors may be less than or greater than one, depending on whether in the pre-census file they are over- or under-represented with regard to the situation found in the field.

Lastly, the Building Census also has several objectives. The first of these objectives is to ensure the comprehensive nature of the listing of buildings derived from the pre-census file, and the complete listing of the dwellings. To this end, a complete itinerary is expected wherever necessary. In said itinerary, the variables will be collected from the buildings when previous information is not available on them, all the dwellings will be listed, and the geo-referencing of the buildings will be completed.

2.2 USE OF THE ADMINISTRATIVE INFORMATION

With the idea of advancing in the intensive use of registers for statistical purposes, and with the goal of reducing the workload of informants, the INE has spent several years dedicating resources to integrating both administrative and statistical files. These efforts have been aimed at both taking advantage of data that allow for reducing the number of questions to ask, improving the processes of data processing and enabling the development of subsequent analyses of the information collected,

This type of work, where we are within the census environment, has its most immediate predecessor in the integration of registers that took place for the 2001 Censuses, for both persons and the territory. These were crossings aimed at having the best previous information available, and although the ease in its availability and use was not great, it implied an important basis for those censuses.

At this time, the information with which we now work, goes through the use of the Register as an administrative register of persons and a basic reference element for crossing it with other administrative or statistical information. Indeed, after the revision of the legislation in 1996 that granted the INE a coordinating role in the movements reflected in the Municipal Registers and the creations of the national database, we have developed nearly 15 years of work in the improvement and filtering of that database, which enables

taking it as a basic element for the population count, rather than starting to count the population from scratch, obviating all this work carried out by the INE and the Municipal Councils.

The files supplied by the Home Office to work with identifiers of persons, Spaniards and foreign nationals, Social Security and the Tax Agency, and other sources (Register of qualifications of the Ministry of Education, MUFACE, etc.) will constitute the information on which to make the above decisions.

Also forming part of this previous information is that which comes from statistical sources such as that derived from the 2001 Population and Housing Census itself, and from the Vital Statistics.

Lastly, in the territorial aspect, the INE has databases created as a result of its responsibilities in the coordination of Municipal Registers and in the creation and management of the Electoral Census. As a main external source with that of contrasting and completing said information, it can count on the collaboration of the Directorate General of the Land Registry, with whose registers the crossing of information has already been carried out.

Moreover, the INE is collaborating with different Statistics Offices of the Autonomous Communities, in order to improve said territorial directories before their contrast in the fieldwork.

2.3 PLANNING OF THE CENSUS OPERATION IN OTHER COUNTRIES

The following table shows the type of Census that, according to a survey conducted by the United Nations in June 2009, it was planned to conduct in 2011 by the 50 Member States of the UNECE, and an additional 4 countries (Australia, Japan, Mexico and Kosovo):

Type of census	Number of countries
Traditional censuses	35
Combination between register-based censuses and traditional censuses	3 (Czech Republic, Latvia, Lithuania)
Combination between register-based censuses and sampling surveys	6 (Spain, Germany, The Netherlands, Poland, Switzerland, Israel)
Register-based censuses	9 (Austria, Belgium, Denmark, Finland, Iceland, Norway, Slovenia, Sweden, Turkey)
Appropriate surveys with rotating samples (continuous censuses)	1 (France)

Therefore, at least 13 countries of the European Union intend to use, in one way or another, information from administrative registers.

Another aspect worth noting in the survey conducted by the United Nations is that, while in the census route of 2001 there were only 5 countries (Spain among them) that enabled an online response, in terms of the 2011 Censuses, this list will expand to a total of 16 countries.

The following analyses, in greater detail, the situation in three countries, which due to the characteristics of the type of Census they plan to conduct, represent different alternatives to the traditional itinerary, in some cases with approaches that are very similar to that which is explained in this document for the Spain census.

Case 1: Germany

Germany, in terms of the 2011 Census, will introduce a new method that differs considerably from the traditional population census. This census will use previously existing administrative registers, especially population registers and the registers of the Federal Employment Agency, which will be completed with a large survey.

There are no registers with relevant information regarding the characteristics of the buildings and dwellings for which said information will be obtained through questionnaires mailed to the owners of buildings and dwellings, who will have to return them by post.

Questions, such as education or employment, will only be presented to a sufficiently representative sample of inhabitants through sampling surveys. Citizens may provide their answers directly to an interviewer, online or by sending their answers by post.

The statistics offices of the Federation and the Länder have satisfactorily tested this new census model from the year 2001 to the year 2003. The 2011 census will reduce the "obligations" of citizens of providing information, and the costs will be much less, as only part of the population will be interviewed.

The following provides a greater detail of some of the tasks that will make of the 2011 Census:

Population registers

There is no central population register as such in Germany. However, the municipalities do have information on the persons resident therein. In the census instance, they will send, to the statistical offices, extractions of their population registers with the required data.

There, said information will be processed to attain the coherent integration of all of it.

Census of Buildings and Dwellings

Questionnaires will be sent by post to 17.5 million owners of the buildings and dwellings, who will receive the forms approximately two weeks before the census instance, and who will be asked to respond to the questions, bearing in mind the conditions in the census instance. It is estimated that this will take some 14 months (from the beginning of the collection to the time of having all its results available).

Sampling survey

Several thousand interviewers will use questionnaires to conduct a sampling survey of between 7 and 9 percent of the population. The results of this large operation will be completed with that information existing in the population registers.

Data processing

Once the information has been obtained from the municipalities, from the Censuses of buildings and dwellings and from the survey, they will add that from the Federal Employment Agency, and at that time, tasks will be undertaken, such as the generation of the relationships among members of the household or the value of the occupation for each person. It is estimated that this phase will take approximately 10 months.

This means that the first results will be available about 24 months after the census instance. As of that time, the results (after considering aspects such as the confidentiality of the data) will be able to be published.

Case 2: Switzerland

The 2010 Swiss Census will also represent, in this case, a methodological innovation with regard to the previous censuses. The approach is based on an integrated statistical system composed of:

- Information from administrative registers
- A large annual structural survey (some 200,000 persons, representing almost 3% of the population of the country)
- A specific annual survey regarding five subjects that vary each year (of a size ranging from 10,000 to 40,000 persons) and
- A small annual survey called "omnibus" (of a size of approximately 3,000 persons)

The new system will offer a broad variety of benefits. The information will be available with a much greater frequency, the number of variables on which information will be available will also be greater and all this in a much shorter period of time. The new system will also be constantly updated and will offer a favourable cost/benefit ratio.

The following briefly explains each one of the four "pillars" of the 2010 Swiss Census:

The **administrative registers** of municipal councils and cantons will obtain data of a personal nature, as well as information on buildings and dwellings.

The **annual structural survey** will allow for including certain variables that are not present in the registers. This survey targets persons aged 15 years old and over who reside in family dwellings. The interviewees will provide information on themselves and their households. With a sample of 200,000 persons, it is possible to carry out statistical analyses for all cantons and for groups of 15,000 persons, with the sufficient precision. With the passing of time, after 5 years, it will be possible to obtain results for groups of 3,000 persons, combining the results of five consecutive annual structural surveys.

The **specific annual survey** will deal with the following five subjects, which vary each year: “mobility”, “education”, “health”, “families” and "language, religion and culture". Due to the size of the sample (between 10,000 and 40,000 persons), this survey will only allow for obtaining results for all of Switzerland and the seven main regions. The cantons may increase (so long as they themselves finance this operation) the sampling size.

The **so-called omnibus survey** is a flexible new tool that allows for obtaining quick responses to current aspects. This survey of some 3,000 persons offers interested groups the opportunity of coming together asking specific questions. It will provide results for all of Switzerland, which may be processed and published very quickly.

Case 3: United States

The traditional organisation of the censuses in the United States was carried out based on a short questionnaire targeting the entire population and another large questionnaire aimed at only a sample.

For the census that has been conducted in 2010, the short questionnaire has remained. The information included therein is very reduced: identification of the residents in the dwelling and the variables of sex, age/date of birth (basically our register variables) and tenency regime of the dwellings and race.

The long questionnaire has been replaced by a completely different approach. After the completion of the data collection of the 2000 census, the American Community Survey began, a survey targeting three million households, approximately 1% of the total population. This survey includes the information traditionally contained in the long questionnaire, but extended, taking advantage of the advantages of data collection in a much smaller sample.

One of the objectives of the ACS is to provide data regarding the population that previously provided the census, for all those relevant territorial units, for the purpose of the election of political representatives. Depending on the size of these population groups, the information will be provided annually, three-yearly or five-yearly. For groups of 65,000 persons, the information is annual, and for groups of 20,000 persons, it is updated every three years.

On the other hand, the ACS has become a basic infrastructure of American demographic statistics, regularly providing data that enable maintaining it updated during a period of strong social changes.

3 Objectives of the 2011 Censuses

The main objectives of the census operation are as follows:

A BASIC STRUCTURE OF THE POPULATION

To determine, with precision, the basic structure of the population (the stock and its distribution by sex, age and country of birth/nationality), and its territorial breakdown for Autonomous Communities, provinces and municipalities.

To this end, the starting point will be the data contained in the national database of the Register. This database will have been functioning for 15 years at the census moment, and therefore, its quality makes it particularly adequate for this objective.

Nevertheless, its administrative register nature entails that the process of its management is subject to norms and guarantees that do not always allow for its complete and immediate adaptation to reality. Therefore, the use of the Register will be complemented, for the purposes of this objective, with information from other administrative registers, and from a sampling itinerary in the field as is explained in this document.

Special attention will be paid to the count and collection of information of those persons resident in collective dwellings (residences, hospitals, prisons, etc.) as well as to homeless persons.

B CHARACTERISTICS OF THE POPULATION, DWELLINGS AND BUILDINGS

To provide information on those social and demographic variables that sufficiently broken down by territory.

The listing of these variables that is also presented in this document, corresponds to those established in the community regulations, together with those that allow for maintaining the main national series. This has also added others resulting from new demands for information arising in recent years.

C INFORMATION AVAILABLE FOR SMALL MUNICIPALITIES

To provide a sufficient set of information for all municipalities, irregardless of their population size.

In an operation such as that which is being proposed, in which one of its basic pillars is a survey, it could appear that information will not be obtained for very small geographical areas. However, the project presented contemplates the need for providing data for small municipalities. This objective will be attained by maintaining a large size in the sampling operation, obtaining the distribution of the sample by attending to the population of municipalities and integrating the information from administrative registers and statistical sources that is available in the pre-census file.

Specifically, as the sampling design is conceived, the census will be comprehensive for municipalities with fewer than 200 inhabitants, and almost comprehensive (sampling fraction of 70%) in those with fewer than 500 inhabitants.

D INFORMATION BROKEN DOWN BY TERRITORY FOR MEDIUM OR LARGE-SIZED MUNICIPALITIES

To provide sufficient information for groups of persons, dwellings or buildings that constitute sub-populations of medium or large-sized municipalities.

In a similar was as the previous objective, when the size of the municipality is sufficiently large, it is necessary to provide details of the information for groups of said municipality, so long as they reach a minimum size. Once again, the size of the sample and its distribution will guarantee this objective.

E GEO-REFERENCING THE INFORMATION

To provide the geographical coordinates of the buildings.

The crossing of the territorial information with the land registries and other sources will allow for the starting file of the Building Census to have a percentage of geo-referenced elements. The field operation of this census will be carried out with the aid of computers (portable devices such as tablets), which will enable completing this information.

F DRIVING THE USE OF INFORMATION FROM ADMINISTRATIVE REGISTERS

Encourage the use of this type of information in order to improve the quality of the census operation and established the bases for its use as a source of statistical data.

We have already noted the use expected to be made of the Register. Registers such as those corresponding to Social Security and the Tax Agency, will be basic at the time of performing the population count. Other registers will provide additional variables that will allow either not to have to ask questions of citizens or to contrast the information collected to be able to improve the data processing processes.

G TERRITORIAL DIRECTORY

To have available a comprehensive territorial directory that extends those that are already available in the INE to the dwelling level.

As a result of the previous work in the pre-census file and the information from the Building Census, a directory will be obtained of all of the elements of the territory up to its most basic unit: the dwelling. This information will be geo-referenced and related to the Register.

H TO FACILITATE THE PROVISION OF INFORMATION BY HOUSEHOLDS.

To open several channels so that households may decide which of the available methods they wish to use to provide the data.

Households forming part of the sample will be offered the possibility of responding to the questionnaires online, by post or by personal interview.

I TO REDUCE THE DIMENTION OF THE ORGANISATION OF THE FIELDWORK

To establish an organisation of the data collection that is sufficient to face the expected work and sustainable in terms of the control of the quality of the work.

The reduction in the size of this organisation of field work that implies moving from a comprehensive traditional census to the planning for the future census, will allow for caring even more for aspects such as the training of the interviewer personnel, and the control of the work, with the objective of improving the quality of the data collected.

J TO PROMOTE CENSUS DISSEMINATION

To add new tools for the analysis of the census information.

The 2001 Censuses took a large step forward in the strategy of providing users with tools that allowed them to compile their own analysis of the census information with the development of the data warehouse system.

Worth noting is the potential that geo-referencing offers in terms of the use of the information. As explained below in the section dedicated to dissemination, if for each household in the sample, we have its approximate GPS coordinates, it is possible to conceive a dissemination strategy based not on administrative divisions, but on the territory as a continuum (and this is how it is going to be developed). This means that, if a given territorial lot is selected, whether it is an administrative division or not, and within it a sufficient number of observations are made (households included in the sample), it will be possible to offer statistical information on it. This opens up a capacity for analysis that greatly surpasses that which may be based on administrative divisions.

4 Basic aspects of the Population and Housing Censuses

The **Population Census** is defined as a the set of operations consisting of the compilation, summarizing, assessment, analysis and publishing of demographic, cultural, economic and social data on the inhabitants of the country and its political-administrative divisions, referring to a given moment in time. This operation is aimed at all persons residing in dwellings (either family dwellings or accommodations) or in collective establishments (such as hotels, residences, asylums, etc.)

The **Housing Census** is the set of operations consisting of the compilation, summarizing, assessment, analysis and publishing of data related to all the

places used for human habitation that have been conceived as such (family and collective dwellings), and listing those that were not conceived for this use, yet are used for it (accommodations).

Regulation (EC) No. 763/2008 of the European Parliament and Council (passed 9 July 2008) regarding the Population and Housing Censuses, based on the international census recommendations (edited by the United Nations [1] during the year 2006) provides a set of compulsory variables that each country must include in the population and housing censuses.

4.1 CENSUS DEFINITIONS

Resident: Individual whose regular residence is located in Spain when the census is conducted.

Family: Group of persons (two or more) who, residing in the same dwelling, are linked through blood ties or an in-law relationship, independently of the degree.

Family nucleus: Intermediate hierarchical unit between the inhabitant and the family. There are four types: couple without children, couple with one child or more, father with one child or more, and mother with one child or more. In order to be considered part of the family nucleus, children must not have a partner or have children.

Household[2]: Group of persons resident in the same dwelling.

The differences between household and family are:

- The household may be uni-personal, while the family must consist of at least two members.
- The members of a multi-personal household do not necessarily have to be related, whereas family members do have to be related.

Dwelling: Structurally separate and independent venue that, given how it was constructed, reconstructed, transformed or adapted, is conceived to be inhabited by persons or, even if this is not the case, is used as the regular residence of a person at the time of the census. As an exception, dwellings do not include those buildings that, despite being initially conceived for human habitation, at the time of the census are completely dedicated to other purposes (for example, those which are being used solely as commercial locales).

[1] Conference of European Statisticians Recommendations for the 2010 Censuses of Population and Housing. United Nations Economic Commission for Europe. New York and Geneve, 2006

[2] For the "Household structure" variable, the Regulation states that collective dwellings are also counted as households, even if they do not count as such in the "Type of household" or "Size of the household" variables.

Family dwelling: Dwelling designed to be inhabited by one or several persons, who are not necessarily members of the same family, and do not comprise a group.

Conventional family dwelling: A conventional family dwelling is a family dwelling that fulfils all the requirements to be inhabited, and on the date of the census is not used totally for other purposes. The conventional dwelling may be the main dwelling when it is the regular residence of its components. If it is indented to be occupied only occasionally (for example, during the holidays), it is known as a secondary dwelling. When it remains unoccupied, it is called empty.

Accommodation: A family dwelling that presents the particular feature of being mobile, semi-permanent or improvised, or a space that was not designed for residential purposes, although it is used as the residence of one or more persons at the time of the census.

Collective (group) dwelling: Dwelling designed to be inhabited by a group, that is, by a group of persons subjected to a common authority or scheme that is not based on family ties or specific cohabitation schemes. The group dwelling may only partially occupy a building, or more frequently, the entirety of the building.

Types of dwelling: The following shows a small scheme of the different types of dwelling we may come across.

- Family dwellings
  - Conventional dwellings
    - Main dwellings
    - Secondary dwellings
    - Empty dwellings
    - Dwellings of another type (for example, dwellings intended for subsequent short-term rental)
  - Accommodation
- Group dwellings

Locale: Premises that are structurally separate and independent (in the same sense used to define dwellings) that are not used solely as family dwellings, and in which the economic activities of a company or institution may be carried out. The premises must be located in a building, occupying it totally or partially.

Estate: Operative unit used in the itinerary of the census agent, corresponding, depending on the use, to a dwelling or to commercial premises. Each estate corresponds to a different combination of the values of floor and door

Building: Permanent construction, separate and independent, that has been designed to be used as a dwelling or for agricultural purposes, for industrial

purposes, to render services or, in general, to carry out any kind of activity (administrative, commercial, industrial, cultural, etc.).

Postal approximation (APP): Each different combination of values of the block-entrance-staircase fields.

The three block-entrance-staircase fields have in common that they are accesses subsequent to a previous access, which would be that associated with the road and the number, and as application, with the qualifier. Normally, this previous (or first) access leads to the public road, whereas the "sub-accesses" (block-entrance-staircase) lead to a private space.

Block: When the sub-access corresponds to an independent building, that is, which does not share any party wall with another sub-access of the same initial access. This is normally in the open air.

Entrance: when there are exterior independent sub-accesses (in the open air) to the same building.

Staircase: when there are independent sub-accesses within the building (covered by a roof), there is normally a common hall for all the staircases.

Floor: this indicates the height within the building. This may be below ground level (basements) or above ground level.

Door: Within each floor, this is the final access to each estate.

4.2 SCOPE OF THE CENSUSES

Population scope of the Censuses

The Population Census includes persons, regardless of their nationality, whose regular residence is located in the national territory.

In order to compare the Spanish population figures with those from other countries, and in line with international recommendations, the following are also included:

- Diplomatic personnel and other Spanish civil servants and their families, who are officially posted abroad.
- Spanish personnel in the merchant navy, in fishing boats and air navigation, who are outside of Spanish territory on the date of the census.
- Spanish residents who are temporarily working abroad.
- Resident foreign nationals, even if they are temporarily abroad.

Homeless persons will also be studied. The information regarding homeless persons will be obtained from the collective (group) dwellings in which the persons are registered, or from the social services that work with them. The

INE will carry out the necessary work to contact social services, in order to facilitate the localisation and contact with this population.

As regards the Housing Census, the population scope considers dwellings and group establishments. Dwellings are considered to be all buildings intended for human habitation, which are family dwellings, and those others that, although they are not designed for that purpose, are actually inhabited on the date of the Census; these are known as accommodations.

This Census does not include dwelling under construction, unless they are inhabited at the time of the Census. It does include those whose termination depends on small details, and therefore may already be occupied.

It does not include those dwellings that are being demolished or are empty because they have been declared in a state of ruin either.

Lastly, the population scope of the Housing Census is comprised of all those buildings in the national territory (irregardless of their main use) that are finished and contain some dwelling, with a listing of the estates located in them.

Buildings that have been demolished totally or partially, but are being reconstructed, and on the census date do not have roofs, will not be included in the census.

Likewise, it also excludes:

- Those buildings that are being demolished, and those that are in a state of ruin when they are uninhabited.
- Those constructions located in squares, pavements or leisure areas, that are intended for the sale of beverages, tobacco, newspapers, etc.
- Those buildings dedicated exclusively to agricultural production, which are therefore not used simultaneously as family dwellings, group dwellings or for any activity other than agricultural production.

Geographical scope of the Censuses

The research covers the whole Spanish territory.

Time scope of the Censuses

The count of inhabitants and dwellings should be carried out with reference to the census date, and their characteristics refer to either this date or a perfectly defined time period for each one of them: The census reference periods are the following:

- Reference date and time of the census. The reference date is 1 November 2011.
- The reference week of those characteristics relating to economic activity is the week immediately prior to the census date.

- Other reference periods. For those characteristics relating to migrations, related population, etc., the data will be collected with reference to given periods of time that are specified in the corresponding variables.

5 Census variables

The listing of variables that will be studied in the 2011 Census has been compiled, taking as a starting point Regulation 763/2008 of the European Parliament and Council of the European Commission, and with a greater degree of detail, the definition of variables and their classifications of European Commission Regulation 1201/2009.

Moreover, other variables have been added that correspond to needs for national information, and which are derived from the convenience of continuing the historical series that continue to be relevant or the new needs for information expressed by users.

These national needs for information have been established from the dissemination made of the Census Draft Project in April 2010, and on which proposals, commentaries and observations were received from:

- Statistics Departments of the Ministries
- Statistics Offices of the Autonomous Communities
- Other organisations of the AGE and the Autonomous Communities
- Researchers and users

Moreover, the census operation was presented to the High Council on Statistics, which issued a favourable report thereof, and which added some specific requests regarding additional variables.

5.1 LISTING OF THE VARIABLES THAT WILL BE PART OF THE 2011 CENSUS

The following shows, grouped by categories, the variables that are expected to be included in the coming 2011 Census.

For the purpose of simplifying this document, it has not included all of the derived variables (for example, there would be many derived variables regarding the composition of households and family nuclei), but rather, only those that are either obligatory, according to Community Regulations, or those that are worth noting due to their importance.

Lastly, the classifications presented herein are the most broken down classifications, and this breakdown is expected to be lesser for smaller geographical scopes or for crossings with other variables.

The comprehensive and broken-down list of variables is the following:

Group 1- Characteristics of the persons (51 variable: 15 compulsory)

1.A- Basic demographic variables (11 variables: 7 compulsory)

Name of the variable	Eurostat Compulsory	Derived
1. Sex	YES	NO
2. Date of birth	NO	NO
3. Age	YES	YES
4. Marital status	YES	NO
5. Place of birth	YES	NO
6. Place of birth of the father	NO	NO
7. Place of birth of the mother	NO	NO
8. Country of nationality	YES	NO
9. Place of residence	YES	NO
10. Existing population, depending on the size of the nuclei	YES	YES
11. Number of children (live births)	NO	NO

1.B- Variables related to migrations (10 variables: 2 compulsory)

Name of the variable	Eurostat Compulsory	Derived
1. Year of arrival in Spain	YES	NO
2. Year of arrival in the Autonomous Community	NO	NO
3. Year of arrival at the municipality	NO	NO
4. Year of arrival at the dwelling	NO	NO
5. Place of residence one year ago	NO	NO
6. Listing of current residence and residence from one year ago	YES	YES
7. Place of residence 10 years ago	NO	NO
8. Listing of current residence and residence from 10 years ago	NO	YES
9. Previous place of residence	NO	NO
10. Listing of previous residence and current residence	NO	YES

1.C- Variables related to education (4 variables: 1 compulsory)

Name of the variable	Eurostat Compulsory	Derived
1. Educational level attained	YES	NO
2. Type of studies finished	NO	NO
3. Current studies	NO	NO
4. Education for minors	NO	NO

1.D- Characteristics related to economic activity (4 variables; 4 compulsory)

Name of the variable	Eurostat Compulsory	Derived
1. Current relationship with economic activity	YES	NO
2. Occupation	YES	NO
3. Establishment activity	YES	NO
4. Professional status	YES	NO

1.E- Variables relating to mobility (4 variables: 1 compulsory)

Name of the variable	Eurostat Compulsory	Derived
1. Place of work or study	YES (only workplace)	NO
2. Most frequent means of transport to the place of work or study	NO	NO
3. Average time for each commute to the place of work or study	NO	NO
4. Number of daily journeys to and from the place of work or study	NO	NO

1.F- Variables relating to related pouplation (5 variables)

Name of the variable	Eurostat Compulsory	Derived
1. Related population	NO	YES
2. Stay in another municipality	NO	NO
3. Identification of the municipality or country of the longest stay	NO	NO
4. Number of nights in the stay in that municipality	NO	NO
5.- Second dwelling in that municipality	NO	NO

1.G- Variables relating to unpaid tasks (4 variables)

Name of the variable	Eurostat Compulsory	Derived
1. Care for a minor under 15 years old	NO	NO
2. Care for a person with important health problems	NO	NO
3. Other charity or social volunteer work	NO	NO
4. In charge of most of the household chores	NO	NO

Group 2- Variables related to family nuclei and the structure of the household

2.A- Individual kinship variables (4 variables)

Name of the variable	Eurostat Compulsory	Derived
1. Cohabitating with the father	NO	NO
2. Cohabitating with the mother	NO	NO
3. Cohabitating with the spouse or partner	NO	NO
4. Cohabitating with other relatives (children, siblings, etc.)	NO	NO

2.B.- Characteristics of the couples (1 variable)

Name of the variable	Eurostat Compulsory	Derived
1. Cohabitating as a couple	NO	YES

2.C- Characteristics of households (6 variables: 6 compulsory)

Name of the variable	Eurostat Compulsory	Derived
1. Condition of the person within the family nucleus	YES	YES
2. Structure of the family nucleus	YES	YES
3. Size of the family nucleus	YES	YES
4. Condition of the person within the household	YES	YES
5. Structure of the household (private)	YES	YES
6. Size of the household (private)	YES	YES

Group 4- Characteristics of the dwellings (13 variables: 12 compulsory)

Name of the variable	Eurostat Compulsory	Derived
1. Type of dwelling where they reside	YES	NO
2. Conventional type of family dwelling	YES	NO
3. Useful area	YES	NO
4. Average area per resident	YES	YES
5. Number of bedrooms	YES	NO
6. Average number of bedrooms per resident	YES	YES
7. Type of heating	YES	NO
8. Availability of a bathroom	YES	NO
9. Availability of a bathtub or shower	YES	NO
10. Internet access availability	NO	NO
11. Water supply	YES	NO
12. Ownership of the dwelling	YES	NO
13. Persons, according to the type of main dwelling where they reside	YES	YES

Group 5- Building characteristics (16 variables: 3 compulsory)

5.1 Data on the building (7 variables: 2 compulsory)

Name of the variable	Eurostat Compulsory	Derived
1. Dwellings according to type of building	YES	NO
2. Period of construction of the building	YES	NO
3. Number of floors in the building (above the ground)	NO	NO
4. Number of floors underground	NO	NO
5. Number of estates in the building	NO	NO
6. State of the building	NO	NO
7. Coordinates of the building	NO	NO

5.2 Building installations (8 variables)

Name of the variable	Eurostat Compulsory	Derived
1. Accessibility of the building	NO	NO
2. Lift	NO	NO
3. Availability of a garage	NO	NO
4. Number of parking spaces in the garage	NO	NO
5. Gas	NO	NO
6. Telephone connection	NO	NO
7. Central hot water	NO	NO
8. Type of waste water disposal system	NO	NO

Lastly, in the Autonomous Communities with a co-official language other than Castilian, questions are added regarding the knowledge and use of said language.

5.2 SOURCE OF INFORMATION ON THE VARIABLES

The main source of information of the basic demographic variables (sex, date of birth, age, place of birth and country of nationality) will be that contained in the pre-census file, whilst for the rest of the variables, the main source of information will be that contained in the sample of the population census or that contained in the Building Census.

In the Pre-census File, there will be abundant information regarding variables related to migrations, family nuclei, data on dwellings and buildings, marital status.

5.3 DETAILED INFORMATION ON THE VARIABLES THAT WILL BE PART OF THE 2011 CENSUS

Group 1- Characteristics of the persons

A- Basic demographic variables

1.A.1-**Sex**

Compulsory variable according to Eurostat regulations	YES
Derived variable	NO
Population scope of the variable	Set of Persons

Sex is understood to be the organic condition, whether masculine or feminine, of persons.

Sex is, together with age, the census variable crossed the most in classifications with other population characteristics. Likewise, it is the source of any gender study. It is a basic variable of the structure of a population.

Categories of this variable:

Sex
Male
Female

1.A.2- **Date of birth**

Compulsory variable according to Eurostat regulations	NO
Derived variable	NO
Population scope of the variable	Set of Persons

Basic variable for determining the structure of the population and the generational studies on fertility, mortality or future evolution of the population.

1.A.3-**Age**

Compulsory variable according to Eurostat regulations	YES
Derived variable	YES
Population scope of the variable	Set of Persons

Age refers to the number of complete years that a person has lived.

This variable, together with the previous variable from which it is derived, allows for analysing the population, both by year of birth and by age in complete years.

Categories of this variable:

Age
Age, year-to-year (only persons aged 100 years old and over are grouped)
Age in five-year groups (ages in five-year groups, and only grouped for persons aged 90 years old and over)
Age in large groups (0 to 15, 16 to 64 and 65 years old and over)

1.A.4-**Marital status**

Compulsory variable according to Eurostat regulations	YES
Derived variable	NO
Population scope of the variable	Set of Persons

Marital status (by law) is defined as the marriage status (legal) of each individual with regard to marriage laws.

This variable is traditionally used to analyse processes of the formation of families and those related to fertility. Moreover, it is necessary for determining and assessing social policies.

Categories of this variable:

Marital status (by law)
Single
Married
The union is with a person of the opposite sex
The union is with a person of the same sex
Separated
Divorced
Widowed

1.A.5-**Place of birth**

Compulsory variable according to Eurostat regulations	YES
Derived variable	NO
Population scope of the variable	Set of Persons

For those persons born in Spain, this variable refers to the regular place of residence of the mother at the time of birth, or if this is unknown, that in which the birth took place.

For those persons born outside of Spain, this variable will contain the value of the regular country of residence of the mother at the time of birth, or if this is not available, that in which the birth took place, following international boundaries on the reference date of the census.

This is a relevant variable for the purposes of determining groups of migrants and their origin. This is, in fact, the variable that determines this group of immigrants, and it is therefore essential, together with nationality, for being able to study their characteristics, living conditions and degree of integration.

Categories of this variable:

Place of birth
Municipality in Spain (for those persons born in Spain) Country (for those persons born outside of Spain)

1.A.6-**Place of birth of the father**

Compulsory variable according to Eurostat regulations	NO
Derived variable	NO
Population scope of the variable	Set of Persons

The time elapsed from the beginning, in Spain , of the immigration phenomenon, advises to begin having data available regarding second generations and their integration, as has been done in those countries with a longer history in this type of flow. In addition, it will also enable the analysis of the second generations from migratory movements of Spaniards within the national territory.

Logically, this variable will only be asked explicitly when the person does not cohabitate with her/his father

Categories of this variable:

Place of birth of the father
List of countries

1.A.7-**Place of birth of the mother**

Compulsory variable according to Eurostat regulations	NO
Derived variable	NO
Population scope of the variable	Set of Persons

The justification of the inclusion of this variable is that same as in the previous case.

Categories of this variable:

Place of birth of the mother
List of countries

1.A.8-**Country of nationality**

Compulsory variable according to Eurostat regulations	YES
Derived variable	NO
Population scope of the variable	Set of Persons

Nationality is defined as the legal link between an individual and her/his State, acquired by birth, or by nationalisation if it is by statement or acquired by choice, marriage or other terms, according to the national legislation.

This allows for completing the information regarding migrants that provides the place of birth, since between the two, situations are detected of foreign nationals born in Spain, or current Spaniards born abroad. Therefore, as with the former, this is a very relevant variable for the purposes of determining groups with a migratory past.

Categories of this variable:

Country of nationality
List of countries

1.A.9-**Place of residence**

Compulsory variable according to Eurostat regulations	YES
Derived variable	NO
Population scope of the variable	Set of Persons

The place of residence of an individual is understood to be the place where s/he resides most of the year.

It is a basic variable of any population count operation, to ascertain the geographical distribution of the population.

Categories of this variable:

Place of residence
List of municipalities in Spain

1.A.10-**Resident population, depending on the size of the nuclei**

Compulsory variable according to Eurostat regulations	YES
Derived variable	YES
Population scope of the variable	Set of Persons

A nucleus is a ensemble of at least ten constructions that form streets, squares and other urban roads, as well as isolated constructions that are less than 200 metres away from said ensemble.

For the purposes of this variable, it is considered that those municipalities with a total population of fewer than 2,000 inhabitants constitute a single nucleus.

Categories of this variable:

Existing population, depending on the size of the nuclei
1,000,000 or more inhabitants
500,000 – 999,999 inhabitants
200,000 – 499,999 inhabitants
100,000 – 199,999 inhabitants
50,000 – 99,999 inhabitants
20,000 – 49,999 inhabitants
10,000 – 19,999 inhabitants
5,000 – 9,999 inhabitants
2,000 – 4,999 inhabitants
1,000 – 1,999 inhabitants
500 – 999 inhabitants
200 – 499 inhabitants
fewer than 200 inhabitants

1.A.11-**Number of children (live births)**

Compulsory variable according to Eurostat regulations	NO
Derived variable	NO
Population scope of the variable	Set of Persons

This variable summarises the fertile behaviour of each women throughout her life, enabling carrying out studies by generation.

It will contain information for all women aged 16 years old and over and will reflect the number of children born (excluding foetal deaths and including all those children who were born but died shortly after childbirth), during the life of a woman up until the date the Census is conducted.

As the goal is to measure fertility, these accounts exclude adopted children.

Categories of this variable:

Number of children (live births)
0 children
1 child
2 children
3 or more children

B- Variables related to migrations

1.B.1- **Year of arrival in Spain**

Compulsory variable according to Eurostat regulations	YES
Derived variable	NO
Population scope of the variable	Set of Persons

This variable enables determining flows of persons (Spaniards or foreign nationals) who have regularly resided abroad at some point in time, and who have arrived in Spain in the past, irregardless of the country of birth or nationality, and irregardless of other changes of regular residence that may have occurred within the country.

Therefore, it provides information on the last immigration from abroad.

Categories of this variable:

Year of arrival in Spain
Never resided abroad
Resided abroad at some point in time, and arrived in Spain before 1960
Resided abroad at some point in time, and arrived in Spain between 1960 and 1969
Resided abroad at some point in time, and arrived in Spain between 1970 and 1979
Resided abroad at some point in time, and arrived in Spain between 1980 and 1989
Resided abroad at some point in time, and arrived in Spain between 1990 and 1999
Resided abroad at some point in time, and arrived in Spain after 1999 (this information will be broken down year-to-year)

1.B.2- **Year of arrival at the Autonomous Community**

Compulsory variable according to Eurostat regulations	NO
Derived variable	NO
Population scope of the variable	Set of Persons

This is a variable with a definition and objectives similar to the previous variable, but for a more broken-down territorial level, which also allows for ascertaining the latest domestic "inter-Autonomous-Community" migratory movements.

Categories of this variable:

Year of arrival in the Autonomous Community
Resided in another Autonomous Community at some point in time, and arrived in this Autonomous Community before 1960
Resided in another Autonomous Community at some point in time, and arrived in this Autonomous Community between 1960 and 1969
Resided in another Autonomous Community at some point in time, and arrived in this Autonomous Community between 1970 and 1979
Resided in another Autonomous Community at some point in time, and arrived in this Autonomous Community between 1980 and 1989
Resided in another Autonomous Community at some point in time, and arrived in this Autonomous Community between 1990 and 1999
Arrived in this Autonomous Community after 1999 (this information will be broken down year-to-year)

1.B.3- **Year of arrival in the municipality**

Compulsory variable according to Eurostat regulations	NO
Derived variable	NO
Population scope of the variable	Set of Persons

The definition and justification is the same as in the previous variables. Complete the details of the latest domestic migrations.

Categories of this variable:

Year of arrival in the municipality
Resided in another municipality at some point in time, and arrived in this municipality before 1960
Resided in another municipality at some point in time, and arrived in this municipality between 1960 and 1969
Resided in another municipality at some point in time, and arrived in this municipality between 1970 and 1979
Resided in another municipality at some point in time, and arrived in this municipality between 1980 and 1989
Resided in another municipality at some point in time, and arrived in this municipality between 1990 and 1999
Arrived in this municipality after 1999 (this information will be broken down year-to-year)

1.B.4- **Year of arrival in the dwelling**

Compulsory variable according to Eurostat regulations	NO
Derived variable	NO
Population scope of the variable	Set of Persons

The definition and justification is similar to that of previous variables.

Categories of this variable:

Year of arrival in the dwelling
Resided in another dwelling at some point in time, and arrived in this dwelling before 1960
Resided in another dwelling at some point in time, and arrived in this dwelling between 1960 and 1969
Resided in another dwelling at some point in time, and arrived in this dwelling between 1970 and 1979
Resided in another dwelling at some point in time, and arrived in this dwelling between 1980 and 1989
Resided in another dwelling at some point in time, and arrived in this dwelling between 1990 and 1999
Arrived in this dwelling after 1999 (this information will be broken down year-to-year)

1.B.5-**Place of residence 1 year ago**

Compulsory variable according to Eurostat regulations	NO
Derived variable	NO
Population scope of the variable	Set of Persons

Variable necessary for resetting recent migratory movements towards the current place of residence.

Categories of this variable:

Place of residence one year ago
List of countries (including the Not applicable category)
List of Autonomous Communities (including the Abroad and Not applicable categories)
List of provinces (including the Abroad and Not applicable categories)
List of municipalities (including the Abroad and Not applicable categories)

1.B.6-**Listing of current residence and residence from one year ago**

Compulsory variable according to Eurostat regulations	YES
Derived variable	YES
Population scope of the variable	Set of Persons

Derived from the above, this variable provides geographical information and time patterns regarding the migratory movements towards the current place of residence.

Categories of this variable:

Listing of current residence and residence from one year ago
The person had not been born one year ago The person currently resides in the same dwelling as one year ago The person currently resides in a dwelling other than that from one year ago, but is in the same municipality The person currently resides in a municipality other than that from one year ago, but both are in the same province The person currently resides in a province other than that from one year ago, but both are in the same Autonomous Community The person currently resides in an Autonomous Community other than that from one year ago The person lived outside of Spain one year ago

1.B.7-**Place of residence ten years ago**

Compulsory variable according to Eurostat regulations	NO
Derived variable	NO
Population scope of the variable	Set of Persons

Variable necessary for resetting recent migratory movements towards the current place of residence. The time reference of 10 years is set to establish the evolution of the migratory flows during the period elapsed since the last census.

Categories of this variable:

Place of residence 10 years ago
List of countries (including the Not applicable category) List of Autonomous Communities (including the Abroad and Not applicable categories) List of provinces (including the Abroad and Not applicable categories) List of municipalities (including the Abroad and Not applicable categories)

1.B.8- **Listing of current residence and residence from 10 years ago**

Compulsory variable according to Eurostat regulations	NO
Derived variable	YES
Population scope of the variable	Set of Persons

Derived from the above, this variable provides geographical information regarding the migratory movements towards the current place of residence, with the time reference referring to the inter-census period.

Categories of this variable:

Listing of current residence and residence from 10 years ago
The person had not been born 10 years ago The person currently resides in the same dwelling as 10 years ago The person currently resides in a dwelling other than that from ten years ago, but is in the same municipality The person currently resides in a municipality other than that from 10 years ago, but both are in the same province The person currently resides in a province other than that from 10 years ago The person currently resides in an Autonomous Community other than that from 10 years ago 10 years ago, the person resided outside of Spain

1.B.9-**Previous place of residence**

Compulsory variable according to Eurostat regulations	NO
Derived variable	NO
Population scope of the variable	Set of Persons

Variable necessary for calculating the latest migratory movements. Complete the information regarding migratory movements that provide the latest exposed variables.

Categories of this variable:

Previous place of residence
List of countries List of Autonomous Communities (including the Abroad category) List of provinces (including the Abroad category) List of municipalities (including the Abroad category)

1.B.10- **Listing of previous residence and current residence**

Compulsory variable according to Eurostat regulations	NO
Derived variable	YES
Population scope of the variable	Set of Persons

Derived from the above, this variable provides geographical information regarding the latest migratory movements towards the current place of residence.

Categories of this variable:

Listing of previous residence and current residence
The person has never changed residence
The person currently resides in a different dwelling than before, but both are located in the same municipality
The person currently resides in a different municipality than before, but both are in the same province
The person currently resides in a different province than where s/he resided previously
The person currently resides in a different Autonomous Community than where s/he resided previously
The person currently resides in a different country than where s/hr resided previously

C- Variables related to education

1.C.1-**Educational level**

Compulsory variable according to Eurostat regulations	YES
Derived variable	NO
Population scope of the variable	Set of Persons

The educational level refers to the highest level satisfactorily completed in the educational system of the country in which the person has received said education. It is considered that a person has reached a given level of education when s/he ahs completed and passed all the academic years of that level, and is therefore eligible to obtain the corresponding degree or diploma (qualification).

Categories of this variable:

Educational level
Cannot read or write
Can read and write, but went to school for less than 5 years
Went to school for 5 years or longer, but did not reach the last academic year of OSE, GBE or Elementary Post-Secondary Education
Reached the last academic year of OSE, GBE or Elementary Post-Secondary Education, or has the Education Certificate or the Primary Studies Certificate
Post-Secondary Education (LOE/GLSES), Secondary Education, Post-Secondary Graduate, Post-Secondary Non-Higher Education, Pre-University Course
Intermediate VT,VT I, Industrial technical training or the equivalent, Intermediate-level Music and Dance Qualification, Certificates from Official Language Schools
Advanced VT, VT II, Industrial Master's Degree or the equivalent
University diploma, Technical Architecture, Technical Engineering or the equivalent
University Graduate or the equivalent
University Degree, Architecture, Engineering or the equivalent
Official University Master's Degree (beginning in 2006), Medical or similar Specialities
Doctorate

1.C.2-**Type of studies completed**

Compulsory variable according to Eurostat regulations	NO
Derived variable	NO
Population scope of the variable	Set of Persons

Variable necessary for completing the information provided by the educational level variable, for example, for the purpose of ascertaining the stock of persons with training in the different areas of knowledge, or a greater detail in the relationship between educational level and employment, by sector, bearing in mind the specialisation in the training and in the employment.

This variable will only contain information for those persons who, in the Educational Level variable, had one of the following values: Intermediate Training Cycle, Advanced Training Cycle, University Degree, Diploma or Doctorate.

Moreover, this will include the literal title for additional exploitations proposed.

Categories of this variable:

Type of studies completed
Education (Teaching, Preschool Education, Pedagogy, etc.)
Arts and Humanities (History, Languages, Image and Sound, etc.)
Law and Social Sciences (Administration, Psychology, Economics, Journalism, etc.)
Sciences (Biology, Chemistry, Physics, Mathematics, etc.) e Information technology (including Information technology engineering)
Architecture, Construction, Technical Training and Industrial Training (Mechanical, Metal, Electronic, Design, Tailoring, Food , etc., included Engineering in these fields)
Agriculture, Livestock, Fishing and Veterinary medicine (including Agricultural Engineering or the like)
Health and Social Services (Medicine, Nursing, Pharmacy, Social Work, etc.)
Other services (Tourism, Accommodation, Hairdressing, Nautical Education, Military, etc.)

1.C.3-**Current studies**

Compulsory variable according to Eurostat regulations	NO
Derived variable	NO
Population scope of the variable	Set of Persons

Regarding regulated studies, this variable is necessary for analysing the stocks that are undertaking each educational level, calculating the rates of schooling (together with the following variable), characteristics of abandoning the educational system and previewing future population stocks with different educational levels.

It also collects information on other complementary studies related to employment and non-regulated studies.

Categories of this variable:

Current studies
OSE, Secondary education for adults
Initial Professional Qualification Programmes
Post-Secondary Education
Intermediate-Level VT, in Plastic Arts and Design, and in Sports Education or the equivalent
Official Language School Education
Professional Music and Dance Education
Advanced-Level VT, in Plastic Arts and Design, and in Sports Education or the equivalent
University diploma, Technical Architecture, Technical Engineering or the equivalent
University Degree Studies and Artistic and equivalent education
University Degree, Architecture, Engineering or the equivalent
Official University Master's, Medical Specialities or the like Doctorate
Other regulated education courses (Initial education for adults, etc.)
Training courses of the Public Employment Services
Other non-regulated training courses

1.C.4-**Education for minors**

Compulsory variable according to Eurostat regulations	NO
Derived variable	NO
Population scope of the variable	Set of Persons

In Spain, compulsory education corresponds to those ages from 6 to 16 years old [1]. This question allows for identifying, on the one hand, those minors under 6 years old who do receive some type of education, and on the other hand, those persons aged 6 to 15 years old (persons who answer this question and should be undertaking some type of study), and for some reasons, are not attending a centre of studies.

[1] In Spain, education for children aged 3 to 6 years old is voluntary.

Categories of this variable:

Education for minors
YES
NO

D- Characteristics related to economic activity

1.D.1-**Current relationship with economic activity**

Compulsory variable according to Eurostat regulations	YES
Derived variable	NO
Population scope of the variable	Set of Persons

This variable allows for classifying the population, with regard to economic activity, establishing the groups of active and inactive persons and their main groups. This is a basic classification variable in the census operation.

The time reference of the variable is the week prior to the census reference.

It will be asked for all those persons who are aged 16 years old or over.

Categories of this variable:

Current relationship with economic activity
Active
Employed
Full-time
Part-time
Unemployed
Unemployed person who has worked previously
Unemployed person looking for first job
Inactive
Person with permanent disability to work
Retired person, early retirement person, pensioner or independently wealthy person
Another situation

1.D.2-**Employment**

Compulsory variable according to Eurostat regulations	YES
Derived variable	NO
Population scope of the variable	Set of Persons

Occupation refers to the main tasks and obligations of the job, employment or trade carried out

Information will be collected regarding this variable for those persons who are aged over 15 years old, who:

- Are employed during the reference week

- Are unemployed during the reference week, but have had a job at least once in the past.

Categories of this variable:

The categories of this variable have been compiled to be a reduced formulation of NCO-2010 to three digits, to thus assist in the correct completion on behalf of citizens.

Depending on this information and other contents in the questionnaire, such as educational level, information will be able to be obtained on occupation, with a level of detail to 3 numerical digits, for the national level. For territorial aggregations (such as province or Autonomous Community, and even for some municipalities) with a large enough population, a classification on a 2-digit level will be obtained.

The smallest breakdown of this variable will correspond to the first level of NCO-2010.

1.D.3-**Establishment activity**

Compulsory variable according to Eurostat regulations	YES
Derived variable	NO
Population scope of the variable	Set of Persons

The activity of the establishment or branch of activity refers to the type of production or activity of the establishment in which the work of the economically active person was located (whether employed or unemployed and has worked previously).

In the case of workers assigned by a company to work temporarily in another, they should notify regarding the activity of the establishment in which they are working during the reference week.

The definitions of occupation, establishment activity and professional status must use the job itself as a reference. In case a person has several jobs, the information to be collected is that from the job in which said person works the most hours.

Information will be collected regarding this variable for those persons who are aged over 15 years old, who:

- Are employed during the reference week

- Are unemployed during the reference week, but have had a job at least once in the past.

Categories of this variable:

The categories of this variable have been compiled to be a reduced formulation of CNAE-2009 to three digits, to thus assist in the correct completion on behalf of citizens.

Depending on this information and other contents in the questionnaire, such as educational level, information will be able to be obtained on occupation, with a level of detail to 3 numerical digits, for the national level. For territorial aggregations (such as province or Autonomous Community, and even for some municipalities) with a large enough population, a classification on a 2-digit level will be obtained.

The smallest breakdown of this variable will correspond to the first level of CNAE-2009.

1.D.4-**Professional status**

Compulsory variable according to Eurostat regulations	YES
Derived variable	NO
Population scope of the variable	Set of Persons

Professional status refers to the type of labour contract (explicit or implicit) with other persons or organisations, that the person has in her/his job post. The basic criterion used for defining the classification groups is the type of economic responsibility and the type of authority that the person takes on regarding the establishments and their workers.

Information will be collected regarding this variable for those persons who are aged over 15 years old, who:

- Are employed during the reference week

- Are unemployed during the reference week, but have had a job at least once in the past.

Categories of this variable:

Professional status
Worker employed by others, permanently or indefinitely
Worker employed by others, temporarily
Businessperson or professional who employs personnel
Businessperson or professional who does not employ personnel
Family assistance
Members of cooperatives

E- Variables relating to mobility

1.E.1-**Place of work or place of studies**

Compulsory variable according to Eurostat regulations	YES
Derived variable	NO
Population scope of the variable	Set of Persons

The place of work or place of studies variable corresponds to the place in which an employed person carries out her/his work, or to the place in which a person is studying.

Depending on the other information of the person that appears in the questionnaire, it will be possible to distinguish which of the commutes are due to studies and which are due to work. Those persons who are working and studying must refer the commutes to the place of work.

This variable includes information for the measurement and analysis of the regular mobility necessary for planning for traffic and public transport

The census questionnaire has an added space for including the post code of the work address, in such a way that, in large cities, it is possible to carry out specific complementary studies regarding geographical areas smaller than a municipality.

Categories of this variable:

Place of work or study
List of countries: Spain, Andorra, France, Morocco, Portugal, the United Kingdom, other countries List of Autonomous Communities (including the Abroad category) List of provinces (including the Abroad category) List of municipalities (including the Abroad category)

1.E.2-**Most frequent means of transport to the place of work or studies**

Compulsory variable according to Eurostat regulations	NO
Derived variable	NO
Population scope of the variable	Set of Persons

This is the complement of the place of work or studies variable. Once again, this is a variable relating to the measurement of mobility, in the case regarding the means of transport used, and therefore relevant as per the planning of the capacity of the infrastructures and public transport.

Categories of this variable:

Most frequent means of transport to the place of work
Car or van, as the driver
Car or van, as a passenger
Bus, coach or minibus
Underground
Motorcycle
Walking
Train
Bicycle
Other means of transport

1.E.3-**Average time for each commute to the place of work or studies**

Compulsory variable according to Eurostat regulations	NO
Derived variable	NO
Population scope of the variable	Set of Persons

Regarding regular mobility, this variable complements the remaining variables, asking about the density of the movements.

Categories of this variable:

Average time for each commute to the place of work
Less than 10 minutes
10 to 19 minutes
20 to 29 minutes
30 to 44 minutes
45 to 59 minutes
Between 1 hour and one-and-a-half hours
More than one-and-a-half hours

1.E.4-**Number of daily journeys to and from the place of work**

Compulsory variable according to Eurostat regulations	NO
Derived variable	NO
Population scope of the variable	Set of Persons

This provides additional information regarding mobility, as related to the intensity and volume of commutes.

Categories of this variable:

Number of daily journeys to and from the place of work
None (because s/he has a second residence from which to commute to work or school) One daily (that is, one journey to and one journey from) Two or more daily

F- Variables regarding the related population

1.F.1-**Related population**

Compulsory variable according to Eurostat regulations	NO
Derived variable	YES
Population scope of the variable	Set of Persons

The **related population of a municipality** is the name granted to the group of persons who have some type of regular link with the municipality in question, either because they reside there regularly, because they commute to the municipality because they work or study there, or because, without being their regular residence, they usually spend certain periods of time there (summer holidays, long weekends, weekends, etc.).

This definition will become operative from the variables relating to mobility and variables 1.F.2 to 1.F.6.

Categories of this variable:

Related population
List of municipalities

1.F.2-**Stay in another municipality**

Compulsory variable according to Eurostat regulations	NO
Derived variable	NO
Population scope of the variable	Set of Persons

A person is considered to have had a stay (relevant for the calculation of the related population) in another municipality when, in the last twelve months, s/he has spent 15 nights or more (whether consecutive or not) in a municipality in Spain that is different from that in which s/he regularly resides.

Categories of this variable:

Stay in another municipality
YES
NO

1.F.3-**Identification of the municipality or country of the longest stay**

Compulsory variable according to Eurostat regulations	NO
Derived variable	NO
Population scope of the variable	Set of Persons

This variable is essential for identifying the municipalities that receive a population for brief periods of time (more than 15 days), for different reasons, and it is therefore necessary for the calculation of the related population.

Categories of this variable:

Municipality or country of the longest stay
List of countries
List of provinces
List of municipalities

1.F.4-**Number of nights of the stay in the municipality or country of the longest stay**

Compulsory variable according to Eurostat regulations	NO
Derived variable	NO
Population scope of the variable	Set of Persons

This variable is necessary so that, once the link between the citizen and this municipality is established, it is possible to calculate the "intensity" of this link throughout the year, and to calculate the related population, weighting the duration of the stays.

1.F.5. The person has a second residence in this municipality

Compulsory variable according to Eurostat regulations	NO
Derived variable	NO
Population scope of the variable	Set of Persons

This allows for ascertaining some additional information regarding the type of link established with the municipality.

Having a second residence includes any dwelling that is available to the citizen, either because it is her/his property, or because it is rented or granted for a period of time longer than 15 days, as established in the definition of the variable.

Categories of this variable:

The person has a dwelling in this municipality
YES
NO

G- Variables related to unpaid tasks

Unpaid tasks are increasingly important in modern-day society. For this reason, and in order to be able to carry out a more detailed analysis of this phenomenon, for example, from the gender perspective, the following four variables are offered:

1.G.1-**Care for a minor under 15 years old**

Compulsory variable according to Eurostat regulations	NO
Derived variable	NO
Population scope of the variable	Set of Persons

Caring for minors includes activities involving accompaniment, entertainment, assistance, games, conversation, reading, education, physical care and supervision.

Care for a minor under 15 years old
Yes
No

1.G.2-**Care for a person with important health problems**

Compulsory variable according to Eurostat regulations	NO
Derived variable	NO
Population scope of the variable	Set of Persons

Care for a person with important health problems
Yes
No

1.G.3-**Other charity or social volunteer work**

Compulsory variable according to Eurostat regulations	NO
Derived variable	NO
Population scope of the variable	Set of Persons

Other charity or social volunteer work
Yes
No

1.G.4-**Being in charge of most of the household chores**

Compulsory variable according to Eurostat regulations	NO
Derived variable	NO
Population scope of the variable	Set of Persons

Being in charge of most of the household chores
Yes
No

2- Variables related to family nuclei and the structure of the household

In order to reconstruct both the structure of family nuclei and the structure of the household, it is necessary to have individualised information available on the kinship relations between the residents in the dwelling.

To this end, this collects, for each of the persons resident in the dwelling, information to identify whether the father, mother, spouse/partner and other relatives reside in the same dwelling, and if they do, to identify to which household member the dwelling belongs.

It also uses this information to identify (together with the information on legal marital status) the different types of couple (legal or de facto).

The following four variables are used to construct the variables related to the family nucleus, structure of the household and type of couple.

2.A-**Relationship variables**

2.A.1-**Cohabitating with the father**

Compulsory variable according to Eurostat regulations	NO
Derived variable	NO
Population scope of the variable	Set of Persons

Cohabitating with the father
Yes
No

2.A.2-**Cohabitating with the mother**

Compulsory variable according to Eurostat regulations	NO
Derived variable	NO
Population scope of the variable	Set of Persons

Cohabitating with the mother
Yes
No

2.A.3-**Cohabitating with the spouse or partner**

Compulsory variable according to Eurostat regulations	NO
Derived variable	NO
Population scope of the variable	Set of Persons

Cohabitating with the spouse or partner
Yes
No

2.A.4-**Cohabitating with other relatives (children, siblings, etc.)**

Compulsory variable according to Eurostat regulations	NO
Derived variable	NO
Population scope of the variable	Set of Persons

Cohabitating with other relatives (children, siblings, etc.)
Yes
No

2.B.-**Cohabitating as a couple**

Compulsory variable according to Eurostat regulations	NO
Derived variable	YES
Population scope of the variable	Set of Couples

Those couples who live within the same household and mutually state that they are spouses/partners, and the marital status (legal) of at least one of the persons is not married, shall be accounted for as de facto couples.

As commented previously, marital status is used as a variable of the processes of forming family nuclei, related to fertility. However, this family formation processes are increasingly based on unions outside of marriage. Marital status, despite being very relevant, is not enough to explain the family formation processes, and it is therefore necessary to study this variable.

This variable also provides information on whether, irregardless of marital status, the person cohabitates as a couple or not.

Categories of this variable:

Cohabitating as a couple
Legal couples
Different sex
Same-sex
De facto couples
Different sex
Same-sex
Same-sex
Not cohabitating as a couple

2.C.- Characteristics of households

2.C.1.- **Condition of the person within the family nucleus**

Compulsory variable according to Eurostat regulations	YES
Derived variable	YES
Population scope of the variable	Set of persons forming a family nucleus

A family nucleus is defined, for the purposes of the census project and following community regulations, as two or more persons who live in the same household and who are related as husband and wife, as a de facto couple or as father or mother and child. Thus, a family is composed of a couple without children, or a couple with one or more children, or a single-parent family with one or more children, so long as the children do not cohabitate with their partners or with some child of their own, because in this case, they would not belong to the nucleus of their parents, but rather would form their own nucleus.

The condition of the person within the family nucleus variable counts those persons who are within the family nuclei, according to the role they play within the nucleus.

Categories of this variable:

Condition of the person within the family nucleus
Couples
Married persons (couples)
Different-sex married persons (couples)
Same-sex married persons (couples)
De facto persons (couples)
Different-sex de facto persons (couples)
Same-sex de facto persons (couples)
Single fathers or mothers
Children
Cohabitating with a partner
Cohabitating only with a father or mother

2.C.2-**Structure of the family nucleus**

Compulsory variable according to Eurostat regulations	YES
Derived variable	YES
Population scope of the variable	Set of family nuclei

This variable allows for ascertaining the composition of the family nuclei, by their composition according to the different roles of the persons comprising them.

Categories of this variable:

Structure of the family nucleus
Family nucleus of married persons
Family nucleus of married persons without children living with them in a household
Family nucleus of married persons of different sexes
Family nucleus of married persons of the same sex
Family nucleus of married persons whose youngest child, who is living with them, is aged under 25 years old
Family nucleus of married persons whose youngest child, who is living with them, is aged 25 years old or over
Family nucleus of de facto persons (couples)
Family nucleus of de facto persons (couples) without children living with them
Family nucleus of de facto persons (couples) of different sexes
Family nucleus of de facto persons (couples) of the same sex
Family nucleus of de facto persons (couples) whose youngest child, who is living with them, is aged under 25 years old
Family nucleus of de facto persons (couples) whose youngest child, who is living with them, is aged 25 years old or over
Family nucleus of single fathers
Family nucleus of single fathers whose youngest child, who is living with him, is aged under 25 years old
Family nucleus of single fathers whose youngest child, who is living with him, is aged 25 years old or over
Family nucleus of single mothers
Family nucleus of single mothers whose youngest child, who is living with her, is aged under 25 years old
Family nucleus of single mothers whose youngest child, who is living with her, is aged 25 years old or over

2.C.3-**Size of the family nucleus**

Compulsory variable according to Eurostat regulations	YES
Derived variable	YES
Population scope of the variable	Set of persons forming a family nucleus

The size of the family nucleus is the total number of residents who are members of the nucleus.

Categories of this variable:

Size of the family nucleus
2 persons
3 persons
4 persons
5 persons
6 persons
7 persons
8 persons
9 persons
10 persons
11 persons and over

2.-C-4.-**Condition of the person within the household**

Compulsory variable according to Eurostat regulations	YES
Derived variable	YES
Population scope of the variable	Set of Persons

The household is a broader concept than that of the family nucleus, as it includes them and those groups comprised by persons who live alone or who, living with other persons, do not form a family nucleus because they do not cohabitate with their partner or with any of their children.

As with the condition of the person within the family nucleus variable, the condition of the person within the household variable considers the persons in the household, according to their role therein.

It is important to highlight that, for this variable, the community Regulation establishes that collective dwellings must also be counted as households.

Categories of this variable:

Condition of the person within the household
Persons who live in conventional family dwellings or accommodations
Persons who do form a family nucleus
Married persons
Married persons of different sexes
Married persons of the same sex
De facto couples
Different-sex de facto couples
Same-sex de facto couples
Single fathers or mothers
Children
Not with a single father or mother
With a single father or mother
Persons who do not form a family nucleus
Persons who live alone
Persons who do not live alone
Persons who live in a household with other relatives (who are neither their partners nor their children)
Persons who live in a households and cohabitate with persons who are not their relatives
Persons who live in collective dwellings

2.C.5-**Structure of the household (private)**

Compulsory variable according to Eurostat regulations	YES
Derived variable	YES
Population scope of the variable	Set of households

This variable allows for ascertaining the composition of the family nuclei, by their composition according to the different roles of the persons comprising them. Groups are excluded here.

Categories of this variable:

Structure of the household (private)
Household that does not form a family nucleus
One-person household
Several-person household
A family nucleus within the household
Household made up of a married couple
Married persons (couples) without children living with them
Household made up of a different-sex married couple
Household made up of a same-sex married couple
Married persons with at least one child aged under 25 years old living with them
Married persons whose youngest child, who is living with them, is aged 25 years old or over
Households comprised of a de facto couple
Households comprised of a de facto couple without children living with them
Households comprised of a different-sex de facto couple
Households comprised of a same-sex de facto couple
Households comprised of a de facto couple with at least one child aged under 25 years old living with them
Households comprised of a de facto couple whose youngest child, who is living with them, is aged 25 years old or over
Single-parent (father) family nucleus
Fathers alone, who live with at least one child aged under 25 years old
Fathers alone, whose youngest child, who lives with him, is aged 25 years old or over
Single-parent (mother) family nucleus
Mothers alone, who live with at least one child aged under 25 years old
Mothers alone, whose youngest child, who lives with him, is aged 25 years old or over
Two or more family nuclei within the household

2.C.6-**Size of the household (private)**

Compulsory variable according to Eurostat regulations	YES
Derived variable	YES
Population scope of the variable	Set of households

The size of the household is the number of persons who belong to it.

Categories of this variable:

Size of the household (private)
1 person
2 persons
3 persons
4 persons
5 persons
6 persons
7 persons
8 persons
9 persons
10 persons
11 persons and over

Group 3- Characteristics of the dwellings

3.1-**Type of dwelling where they reside**

Compulsory variable according to Eurostat regulations	YES
Derived variable	NO
Population scope of the variable	Group of main dwellings, collective dwellings and accommodations

A dwelling is understood to all those types of "inhabitable spaces" that are or can be the regular residence of one or more persons. This variable will refer to occupied conventional dwellings, group dwellings and accommodation.

They allow for ascertaining the use and occupancy of the total dwellings.

Categories of this variable:

Type of dwelling where they reside
Conventional family dwellings
Accommodation
Group dwellings

A conventional family dwelling is understood to be that dwelling that was designed to be inhabited by one or more persons, and which, at the time of the census, is not used for non-residential purposes.

Accommodations refer to those structures that have not been designed to be occupied by human groups, but which, in fact, as so on the reference date of the census, and those others that were, in fact, designed to the residence of human groups, but which are mobile, semi-permanent or improvised.

Group dwellings are understood to be those dwellings that were designed to be the residence of large human groups, and that are the regular residence of some person at the time of the census. Included in this category are the following: hotels, campsites, institutions (hospitals, prisons, residences, etc.)

3.2-**Type of conventional dwelling**

Compulsory variable according to Eurostat regulations	YES
Derived variable	NO
Population scope of the variable	Set of main dwellings, secondary dwellings and empty dwellings

Ascertaining the distribution of the type of conventional family dwellings allows us to determine the occupancy rate of these dwellings.

Categories of this variable:

Type of conventional family dwelling
Main dwellings
Non-main dwellings
Dwellings reserved for seasonal or secondary use
Unoccupied or empty dwellings

Conventional dwellings are classified as main dwellings, secondary dwellings and empty dwellings.

A main dwelling is a conventional family dwelling that is the regular place of residence of one or more persons.

A non-main dwellings is a conventional family dwelling that is not the regular residence of any human group, and which either is occupied during short periods of time or remains empty.

3.3-**Useful area**

Compulsory variable according to Eurostat regulations	YES
Derived variable	NO
Population scope of the variable	Group of main dwellings and accommodations

Useful area may be defined as the surface area existing within the external walls of the dwelling, not including open balconies or gardens; this also excludes basements, lofts, storage areas, attics, etc. that are uninhabitable.

This is a basic descriptive variable of the dwelling.

Categories of this variable:

Useful area
Less than 30 square metres
30 – 45 square metres
46 – 60 square metres
61 – 75 square metres
76 – 90 square metres
91 – 105 square metres
106 – 120 square metres
121 – 150 square metres
151 – 180 square metres
Over 180 square metres

3.4-**Average area per resident**

Compulsory variable according to Eurostat regulations	YES
Derived variable	YES
Population scope of the variable	Group of main dwellings and accommodations

This corresponds to the sum of the areas, divided by the total residents in the dwelling.

This allows for providing a measurement of the density of residents in the dwelling.

Categories of this variable:

Average area per resident
Less than 10 square metres per resident
10 to less than 15 square metres per resident
15 to less than 20 square metres per resident
20 to less than 30 square metres per resident
30 to less than 40 square metres per resident
40 to less than 60 square metres per resident
60 to less than 80 square metres per resident
80 square metres and more per resident

3.5-**Number of bedrooms**

Compulsory variable according to Eurostat regulations	YES
Derived variable	NO
Population scope of the variable	Group of main dwellings and accommodations

A bedroom is defined as the space in a dwelling that is surrounded by walls that go from the floor to the ceiling or the roof of the dwelling, measuring at least 2 metres in height, and of a size that is sufficient to hold an adult bed (at least 4 square metres).

Thus, proper bedrooms, dining rooms, living rooms, attics, kitchens, closed balconies and other separate spaces shall be considered as bedrooms, according to the previous definition.

Bathrooms, entry halls, hallways and open balconies are not considered bedrooms, even if they fulfil the criteria established in the definition.

Ascertaining the number of bedrooms is necessary to complete the information provided by the useful area of the dwelling, or even to contrast it when the knowledge of this last variable is not necessary.

Categories of this variable:

Number of bedrooms
1 bedroom
2 bedrooms
3 bedrooms
4 bedrooms
5 bedrooms
6 bedrooms
7 bedrooms
8 bedrooms
9 bedrooms
10 bedrooms and more

3.6-**Average number of bedrooms per resident**

Compulsory variable according to Eurostat regulations	YES
Derived variable	YES
Population scope of the variable	Group of main dwellings and accommodations

This corresponds to the number of bedrooms, divided by the number of residents.

It is another measurement of density, complementing that of the average area per resident, providing the perspective of the distribution of the spaces among the residents, based on the function thereof.

Categories of this variable:

Average number of bedrooms per resident
Fewer than 0.5 bedrooms per resident
0.5 to less than 1.0 bedrooms per resident
1.0 to less than 1.25 bedrooms per resident
1.25 to less than 1.5 bedrooms per resident
1.5 to less than 2.0 bedrooms per resident
2.0 to less than 2.5 bedrooms per resident
2.5 to less than 3.0 bedrooms per resident
3.0 bedrooms and more per resident

3.7-**Type of heating**

Compulsory variable according to Eurostat regulations	YES
Derived variable	NO
Population scope of the variable	Group of main dwellings and accommodations

Once again, the goal is to measure another basic characteristic of the equipment of the dwellings.

This is part of a listing that is completed with the availability or lack of a bathroom, the availability or lack of a shower or bathtub within the household, granting continuity to the series of previous censuses. For the first time, this Census includes information regarding the availability of an Internet access service.

Categories of this variable:

Type of heating
With group or central heating
With individual heating
Without installation, but with appliances that enable heating some bedroom
Without any means of heating

3.8-**Availability of a bathroom** with a toilet

Compulsory variable according to Eurostat regulations	YES
Derived variable	NO
Population scope of the variable	Group of main dwellings and accommodations

Categories of this variable:

Availability of a bathroom
With availability of a bathroom within the household
Without availability of a bathroom within the household

3.9-**Availability of a bathtub or shower**

Compulsory variable according to Eurostat regulations	YES
Derived variable	NO
Population scope of the variable	Group of main dwellings and accommodations

Categories of this variable:

Availability of a bathtub or shower
Availability of a bathtub or shower in a defined place within the household
Without availability of a bathtub or shower in a defined place within the household

3.10-**Internet access availability**

Compulsory variable according to Eurostat regulations	YES
Derived variable	NO
Population scope of the variable	Group of main dwellings and accommodations

Categories of this variable:

Internet access availability
Yes
No

3.11-**Water supply system**

Compulsory variable according to Eurostat regulations	YES
Derived variable	NO
Population scope of the variable	Set of main dwellings

The water supply system refers to the infrastructure that provides the water supply to the dwelling, or as may be the case, if the dwelling does not have running water.

Categories of this variable:

Water supply system
By public supply
By its own supply (water pump, etc.)
There is no running water

A public supply system is that which is subject to an inspection and control by public authorities.

3.12-**Ownership of the dwelling**

Compulsory variable according to Eurostat regulations	YES
Derived variable	NO
Population scope of the variable	Set of main dwellings

The tenancy regime of the dwelling is understood to be the relationship that exists between the residents and the ownership of the dwelling.

This variable refers solely to the ownership regime of the dwellings, and not to the ownership of the land on which the dwelling is located.

Categories of this variable:

Tenancy regime of the dwelling
Dwellings that are owned, by purchase, and completely paid
Dwellings that are owned, with mortgages
Dwellings that are owned, by inheritance or donation
Dwellings that are rented
Dwellings that are granted free-of-charge or at a low price, by another household, the company, etc.
Dwellings with another type of tenancy regime

3.13- **Persons, according to the type of main dwelling where they reside**

Compulsory variable according to Eurostat regulations	YES
Derived variable	YES
Population scope of the variable	Set of persons living in main dwellings, group dwellings and accommodations

This variable refers to all those persons who are regular residents in the different types of "inhabitable spaces" or those persons who do not have a regular place of residence and remain temporarily in some "inhabitable space" during the census period.

Categories of this variable:

Persons, according to the type of main dwelling where they reside
Persons living in a conventional family dwelling, or in a group dwelling
Persons living in a conventional family dwelling
Persons living in a group dwelling
Persons living in accommodations

Group 4- Characteristics of the buildings

4. A- Data on the building

4.A.1-**Dwellings according to type of building**

Compulsory variable according to Eurostat regulations	YES
Derived variable	NO
Population scope of the variable	Group of conventional dwellings

This is a classification of the buildings, depending on the dwellings therein. It enables classifying the buildings and the zones in which they are grouped, according to the type of town planning (tall buildings, spread out, areas of single-family buildings, etc.) to which they belong.

Categories of this variable:

Dwellings according to type of building
Conventional dwelling in a building that is intended solely or mainly for dwellings
Conventional dwellings in a single-dwelling building (house)
Conventional dwellings in a building with two dwellings
Conventional dwellings in a building with three or more dwellings
Conventional dwelling in a building that is intended for other uses

4.A.2-**Construction period of the building**

Compulsory variable according to Eurostat regulations	YES
Derived variable	NO
Population scope of the variable	Group of buildings mainly intended for dwellings

The construction period of the dwelling refers to the date on which the building was finished. For those buildings that have suffered a substantial renovation after construction, the construction year is considered to be that in which this renovation was completed.

The objective is to be able to ascertain the age of the buildings, and the recent evolution of construction during recent years.

Categories of this variable:

Construction period of the building
Prior to 1920
1921 – 1940
1941 – 1950
1951 – 1960
1961 – 1970
1971 – 1980
1981 – 1990
1991 – 2000
Built after the year 2000 (this information will be broken down year-to-year)

4.A.3-**Number of floors in the building (above ground)**

Compulsory variable according to Eurostat regulations	NO
Derived variable	NO
Population scope of the variable	Group of buildings

A floor is considered to be above ground if all its lower surface is above the height of the pavement or the ground.

Categories of this variable:

Number of floors in the building (above ground)
1
2
3
4
5
6
7
8
9
10 or more

4.A.4-**Number of floors underground**

Compulsory variable according to Eurostat regulations	NO
Derived variable	NO
Population scope of the variable	Group of buildings

A floor is considered to be underground if it is below the height of the pavement or the ground.

These variables are part of the basic characteristics of the building.

Categories of this variable:

Number of floors underground
0
1
2
3 or more

4.A.5-**Number of estates in the building**

Compulsory variable according to Eurostat regulations	NO
Derived variable	NO
Population scope of the variable	Group of buildings

This variable is essential at the time of ensuring the comprehensiveness of the directory of dwellings.

Categories of this variable:

Number of estate**s in the building**
1 **estate**
2 **estates**
3 **estates**
4 **estates**
5 to 9 **estates**
10 to 19 **estates**
20 to 39 **estates**
40 or more **estates**

4.A.6-**State of the building**

Compulsory variable according to Eurostat regulations	NO
Derived variable	NO
Population scope of the variable	Group of buildings mainly intended for dwellings

This variable enables establishing the state of conservation of the building, complementing the information provided by the years of construction variable.

Thus, it will take the value:

- "In ruins", if the building presents any of the following circumstances: it is shored-up, an official declaration of ruin is being processed or an official declaration of ruin has been processed.
- "Poor", if the building presents one or more of the following circumstances: there are serious cracks or convex areas in any of the façades, collapses or lack of horizontality in roofs and floors or foundations that have given way noticeably (for example, if the steps in a staircase present a suspicious slope).
- "Deficient", if the building presents any of the following circumstances: the gutters or wastewater disposal system in a deficient state, damp areas in the lower part of the building or leaks in the roof or coverings.
- "Good", if the building does not present any of the circumstances indicated for the in ruins, poor and deficient states.

Categories of this variable:

State of the building
In ruins
Poor
Deficient
Good

4.A.7-**Coordinates of the building**

Compulsory variable according to Eurostat regulations	NO
Derived variable	NO
Population scope of the variable	Group of buildings

This variable represents one of the main innovations of the 2011 Census. Having the coordinates of the buildings will enable the development of spatial analyses of the data.

4. B- Installations of the building

The questions regarding installations in a building allow us to ascertain their equipment and to detect areas with significant gaps in terms of dwellings.

4.B.1-**Accessibility of the building**

Compulsory variable according to Eurostat regulations	NO
Derived variable	NO
Population scope of the variable	Group of buildings mainly intended for dwellings

A building is accessible when persons in wheelchairs can access each of their dwellings from the street without the assistance of another person

Categories of this variable:

Accessibility of the building
Accessible
Not accessible

4.B.2-**Lift**

Compulsory variable according to Eurostat regulations	NO
Derived variable	NO
Population scope of the variable	Group of buildings mainly intended for dwellings

In addition to providing information regarding the equipment of the buildings, it complements the previous variable.

Categories of this variable:

Lift
With a lift
Without a lift

4.B.3-**Availability of a garage**

Compulsory variable according to Eurostat regulations	NO
Derived variable	NO
Population scope of the variable	Group of buildings mainly intended for dwellings

Categories of this variable:

Availability of a garage
Yes, it has a garage
No, it does not have a garage

4.B.4-**Number of parking spaces in the garage**

Compulsory variable according to Eurostat regulations	NO
Derived variable	NO
Population scope of the variable	Group of buildings mainly intended for dwellings

Categories of this variable:

Number of parking spaces in the garage
1 parking space
2 parking spaces
3 to 5 parking spaces
6 to 10 parking spaces
11 to 20 parking spaces
21 to 50 parking spaces
Over 50 parking spaces
Not applicable

4.B.5-**Gas**

Compulsory variable according to Eurostat regulations	NO
Derived variable	NO
Population scope of the variable	Group of buildings mainly intended for dwellings

This variable has the objective of ascertaining the existence of a gas installation, distributed by pipes, in the buildings.

Categories of this variable:

Gas
Yes, it has gas
No, it does not have gas

4.B.6-**Telephone line**

Compulsory variable according to Eurostat regulations	NO
Derived variable	NO
Population scope of the variable	Group of buildings mainly intended for dwellings

The objective of this variable is to ascertain the existence of a telephone line in the buildings, irregardless of its use.

Categories of this variable:

Telephone line
Yes, it has a telephone line
No, it does not have a telephone line

4.B.7-**Central hot water**

Compulsory variable according to Eurostat regulations	NO
Derived variable	NO
Population scope of the variable	Group of buildings mainly intended for dwellings

A building is considered to have central hot water when there is a fixed and common installation that supplies hot water to all or part of the dwellings that it contains.

Categories of this variable:

Central hot water
Yes, it has central hot water
No, it does not have central hot water

4.B.8- **Type of wastewater disposal system**

Compulsory variable according to Eurostat regulations	NO
Derived variable	NO
Population scope of the variable	Group of buildings mainly intended for dwellings

This variable will take the following values:

- "Sewerage system", if the building is connected to a general disposal network
- "Another type", if the building has its own water disposal system, such as a septic tank or the like, or other direct disposal systems, of treated or untreated water, to a well, rivers, lakes, the sea, a drain, etc.

Categories of this variable:

Type of wastewater disposal system
Sewerage system
Another type
It does not have a wastewater disposal system

5.4 CHART SUMMARIZING THE VARIABLES THAT WILL BE PART OF THE 2011 CENSUS

The following chard presents different classifications of the variables proposed, depending on their scope and subject area.

SCOPE		**Total variables**	**Compulsory variables according to Regulations**
PERSONS	Basic demographics	11	7
	Migrations	10	2
	Education	4	1
	Economic activity	4	4
	Mobility	4	1
	Linked population	5	0
	Unpaid tasks	4	0
	TOTAL	42	15
FAMILY NUCLEI, HOUSEHOLDS AND KINSHIP RELATIONSHIPS	Kinship relationships	4	0
	Couples	1	0
	Households	6	6
	TOTAL	11	6
DWELLINGS	Dwellings	13	12
BUILDINGS	Data on the building	7	2
	Installations in the building	8	0
	TOTAL	15	2
TOTAL		**81**	**35**

6 The pre-census file (PCF)

As stated previously, the PCF is based on the maximum use of the available administrative registers, using the Register as the starting point of its structure, and to which information from other administrative registers and statistical operations will be associated.

This operation has multiple objectives:

a) To have information available in addition to the register information, in order to decide whether a specific register should

be included in the census recount, and not as was expressed previously in a general way, and offered in detail in the corresponding section of this project

b) To provide direct information on census variables

c) To serve as an initial framework for carrying out a first selection of the sample of persons and dwellings that will be part of the survey

d) To be the starting directory for the course of the Building Census

e) To provide additional information for the phases of data processing

In a broad sense, the PCF encompasses two aspects: territory and persons.

The **Territorial file** will try to reflect the status of the territory at the closest time possible to the census reference date, and it contains the territorial directories constructed, as shown below:

The registration information from the Register have been included in the territorial structure that was generated from the previous Population and Housing Census of 2001 (adjusted to the current INE map), without changing, in an case, the residence situation that appears in the Register itself. For those registrations in which this is not possible (addresses that did not exist in 2001), new addresses have been generated.

This yields a territorial structure that contains all of the main dwellings and accommodations (those locations where persons reside) and those existing in 2001 (including those that are empty, and perhaps some that have already disappeared). Therefore, those dwellings that were built after 2001, and that have not ever been a family dwelling since 2001, are missing.

This information has been crossed with the Land Registry, seeking:

- To have a geo-referenced directory available in a high (though not complete) percentage of cases
- To add information that may be used to derive census variables referring to buildings and dwellings (such as year of construction, status thereof, or coordinates)
- To complete the directory of dwellings and buildings described above

The result of the previous operation provides:

- INE routes associated with land registry routes
- In those routes where the following have been associated: INE postal approximations associated with Land Registry postal approximations
- In those INE postal approximations that have been associated with the Land Registry: INE estates associated with Land Registry estates

- INE routes, postal approximations and estates not associated with their corresponding Land Registry pairs
- Land Registry routes, postal approximations and estates not associated with their corresponding INE pairs

Work has been carried out with the Provincial Delegations of the INE, to improve the crossings on a route level, using cartographic information, taking advantage of their closer location and knowledge of the territory, and the cooperation provided by the municipal councils.

The following will affect the information compiled in this way in the crossings previously carried out with the Land Registry, and the crossing processes will be repeated on postal approximation and estate levels, in order to improve the results obtained at these levels.

With regard to the **Person file**, its content is fundamentally from the register database.

The main problem at the time of integrating information on persons from different registers is to have keywords that are precise enough for the links to be valid. For the operative success of the project, it is essential to be able to have the adequate keywords.

The personal keyword is the DNI (national ID) for Spaniards and the NIE (Foreign National Identification Number) for foreign nationals. In most of the registers, the identifier is not precise enough, because despite being one of the few countries in which each person has an identity number, this is neither unique nor universal (it is not unique in the case of foreign nationals, and it is not universal because it is not compulsory to have one from birth).

To this end, we have already developed and implemented (within the framework of the project for the Longitudinal Demographic Study) verification processes for identifiers, by both exact and probabilistic methods. These processes are executed for both Spaniards and foreign nationals, and consist of confirming the existing identifiers. If confirmation is not obtained, a search is performed of alternative identifiers, by both exact and probabilistic methods.

Once this phase has been carried out, crossings are performed with the register information, by identity of identifiers. For those registers which it has not been possible to cross this way, both probabilistic and deterministic procedures have been used, based on other identification fields, such as given names, surnames, date of birth, etc.

Through these techniques, the administrative registers that have already been associated with the Register are the files of DNIs and Residence Cards of the Home Office, as the aforementioned necessary previous phase, as well as those that are affiliates of MUFACE.

We have closed a first crossing of information with the Social Security of the affiliates registered as working and pensioners from the year 2009. This

process will be repeated with the information corresponding to 2010, which is expected to be received at the beginning of 2011.

A crossing has also been performed of information on deaths from the Vital Statistics corresponding to the 2002-2008 period. The file corresponding to the deaths in 2009 has been available since January 2011, and at the time of closure of this Project, its processing is underway.

Regarding births, the information corresponding to those occurring between 2002 and 2007 is in the identifier confirmation phase. Once the process for these years has been completed, it will be completed with those occurring in subsequent years.

With regard to the information from the Tax Agency, at the time of publishing this project, we already have the crossing of information, with the Register, of a significant number of registers, though there is still work to be done by both institutions, in order to be able to consider the process complete or closed.

Lastly, in terms of other files, we are beginning the work towards integrating the data from the Qualifications Register of the Ministry of Education, and the INE has submitted an application requesting that the Education Departments of the Autonomous Communities provide information regarding the schooling registers.

All these crossings will be updated with information referring to 1 November 2011, the census reference date.

7 Building Census

The Building Census shall be a statistical operation coinciding in time with the postal phase of the population survey. Said operation will be designed to collect comprehensive information on all buildings in the national territory in which there is some dwelling, listing all those estates located therein.

The objectives of the Building Census are the following:

- to list and geo-reference all buildings that have some estate therein that is a dwelling

- to determine the characteristics of the buildings via a building questionnaire

- to list all estates contained in each building

- to select the estates, within those registered that arise during the route, which will be part of the sample of the population and dwelling survey. For said estates, we will determine whether they are locals, main dwellings, secondary dwellings or empty dwellings, leaving an envelope with the

census documentation in the main dwellings. These are the estates from framework B in the sample design.

On comprehensively carrying this out, this will allow for obtaining a complete geo-referenced directory of buildings with some dwelling, and all their estates. The geo-referencing enables the identification of the building, faced with changes in the postal address, and consequently its unequivocal identification.

7.1 THE INFORMATION COLLECTION

The mechanics expected for conducting the Building Census are as follows:

The Building Census shall be carried out with a comprehensive fieldwork route that verifies and completes the information on estates derived from the PCF.

The collection of the Building Census shall be carried out with portable devices, so as to allow the geo-referencing, carrying both the cartography and the electronic route notebook pre-uploaded in said devices. The electronic route notebook contains the directory with the alpha-numeric identification data of territorial elements, up to the level of the estate within the building.

The cartographic layers allow for geographically locating the postal approximations, as well as showing the associated alpha-numeric information.

The route shall be carried out by following an alpha-numeric directory for those postal approximations (APPs) with a locatable address, to which the geographic coordinates will be assigned during the route. Conversely, for those APPS with an unlocatable address, the basis for carrying out the route will be the available cartographic information.

Due to the fact that that association achieved prior to the fieldwork, between the PCF and the land registry file (that provided by the cartographic location) is not perfect, the criterion for the ending of the route of the section combines the assignation of states to all elements of the route notebook, and to all elements of the cartography.

During the route, the census agent shall verify the information existing at different territorial levels within each census section (population unit, road, bracket, postal approximation, building and estate within the building), confirming or modifying that found within, and giving the registrations and delistings necessary for the information to correctly reflect the reality detected in the fieldwork.

For each building, the census agent shall fill out a building questionnaire, in which the characteristics associated thereto shall be collected. For the completion of this questionnaire, the agent may have prior information,

regarding the building, from the 2001 Census, and from the crossing with the Land Registry, which s/he will have to verify or modify.

8 The population survey phase

As mentioned above, the 2011 Population and Housing Census is based on three pillars: the pre-census file (PCF), a comprehensive Building Census and a sampling survey, to ascertain the characteristics of the persons and the dwellings, with a sample size that is sufficient to comply with the coverage regulations established by Eurostat, described below.

8.1 OBJECTIVES

-To estimate the total population corresponding to given groups, in such a way that it corrects the register figure corresponding to them. To this end, we will use some recounting factors obtained from the probabilities of belonging to the sample.

- To estimate the characteristics of the population and of the dwellings, at different geographical breakdown levels. For this purpose, we will obtain elevation factors derived from the sampling design, and which are calibrated to the municipal populations.

In accordance with the above, and considering that the population census is the only means available for obtaining information broken down to the census section level, the primary unit of sampling used in the household surveys, we will select a sample in all census sections.

8.2 AVAILABLE FRAMEWORK

The **framework** that will be used for the selection of the sample is the **PCF** obtained from the crossing of the files from the Register, Land Registry and other administrative-type files available prior to carrying out the fieldwork.

This file consists of a listing of those estates and persons existing in a municipality, together with a certain information available regarding said units, which will be used for carrying out an efficient design that enables achieving the proposed objectives.

After the different crossings performed, the dwellings appear classified in the PCF as **locatable or unlocatable**. The former are those that, through the postal address, it is possible to locate in the fieldwork. The latter are those that do not have a complete address, and which therefore cannot be located in the fieldwork.

During the performance of the fieldwork, registrations and delistings of the dwellings from the PCF will be carried out.

For the purposes of the selection of the sample, the total dwellings of the municipality are grouped into two frameworks: **Framework A** comprised of the set of locatable dwellings of the PCF, as defined previously, and **Framework B** made up of the set of estates that are registered during the comprehensive route carried out in the fieldwork.

8.3 COMPOSITION OF THE SAMPLE

In order to reach the objectives of the census, we will select a sample of estates that will differ, according to whether dealing with framework A or framework B.

The sample is selected in all census sections.

FRAMEWORK A: The sample from this framework is selected from among those estates whose use is that of a dwelling, prior to beginning the fieldwork. We will contact, by ordinary post, with those dwellings in this group that the PCF considers to be main dwellings, and they will be given the option of completing the census questionnaire either online or by returning the completed questionnaire by ordinary post.

After a period of time has elapsed, from the residual set of dwellings that have not responded, we will select a sub-sample from which the census questionnaire will be collected via computer-assisted personal interview (CAPI).

Non-main dwellings will be researched during the performance of the comprehensive route, and those that cannot be resolved therein will go on to be collected by CAPI.

Therefore, they are considered two different groups of dwellings, one containing the main dwelling and the other containing the non-main dwellings.

FRAMEWORK B: The sample from this framework will be selected during the comprehensive route in the fieldwork, for which, the random-selection Bernouilli procedure will be used.

During said route, this part of the sample will be given a print questionnaire, and the household will be able to participate in the same way indicated for those dwellings from framework A.

As a result of the previous process, the sample will be made up of three types of dwelling:

1. Main dwellings that have sent the questionnaire online or by post, and non-main dwellings, in both cases, from framework A.

2. Main dwellings from framework A, which have been selected in the sub-sample.

3. Selected dwellings in framework B.

8.4 SIZE OF THE SAMPLE

Bearing in mind the objectives of obtaining certain information on a municipal level and the available budget, the **size of the sample** will be, approximately **three million dwellings**, representing a fraction of the global sampling of 11.9 **percent**. As a percentage of the population, this represents a sampling fraction of 12.3%.

The distribution of this sample, which is considered adequate for reaching the objectives, will depend on the size of the municipality, establishing precision criteria for the estimates.

Thus, the sampling fractions will vary, from those applied to the smallest municipalities, which will be studied comprehensively, to those applied to the largest municipalities, to which the smallest sampling fractions will correspond.

In order to achieve a more efficient sampling design, the sampling fractions of the non-main dwellings from framework A will be 40% of those corresponding to the main dwellings, and for the dwellings from framework B, high-rise dwellings, they will be 60%, except in the comprehensive strata, in which the research of the non-main dwellings from framework A and those of framework B will also be comprehensive.

According to these criteria, an estimate of a variable that can affect 10% of the population of a municipality with 20,000 inhabitants will be estimated with a variation coefficient of approximately 7.7%.

The distribution of the sample of dwellings and persons is presented in the following tables, showing the average sampling fractions applied in the set of municipalities of the corresponding bracket. The calculation of the sampling fraction in the table corresponding to the population has been carried out under the hypothesis that 10% of the main dwellings from framework A are in the set of non-main dwellings from said framework:

DWELLINGS

			Sampling fraction (%)			
Population brackets	**Municipalities**	**Dwellings: Average per municipality**	**Framework A: Locatable main dwellings**	**Average**	**Average sample per municipality**	**Total sample**
under 50	399	66	**100**	**100.0**	66	26,334
50 to 99	642	107	**100**	**100.0**	107	68,694
100 to 199	1,197	161	**100**	**100.0**	161	192,717
200 to 499	1,562	306	**70**	**46.7**	143	223,272
500 to 999	1,062	563	**50**	**35.2**	198	210,170
1,000 to 1,999	926	984	**30**	**21.8**	214	198,571
2,000 to 4,999	1,011	1,905	**20**	**15.0**	287	289,672
5,000 to 9,999	564	3,873	**15**	**11.6**	450	253,631
10,000 to 19,999	354	7,931	**10**	**7.7**	613	216,924
20,000 to 49,999	252	16,216	**10**	**7.9**	1,276	321,481
50,000 to 99,999	83	36,706	**10**	**8.1**	2,968	246,332
100,000 to 199,999	33	71,985	**10**	**8.3**	6,009	198,303
200,000 to 499,999	23	129,220	**10**	**8.5**	10,966	252,211
500,000 to 999,999	4	334,616	**10**	**8.5**	28,589	114,355
1,000,000 and over	2	1,220,647	**10**	**8.7**	105,804	211,609
TOTAL	**8,114**			**11.9**		**3,024,276**

POPULATION

Population brackets	**Municipalities**	**Average population by municipality**	**Sampling fraction**	**Average sample per municipality**	**Total sample**
under 50	399	34	**100.0**	34	13,720
50 to 99	642	74	**100.0**	74	47,758
100 to 199	1197	145	**100.0**	145	173,148
200 to 499	1562	325	**63.9**	208	324,655
500 to 999	1062	711	**45.7**	325	345,653
1,000 to 1,999	926	1,414	**26.9**	380	352,074
2,000 to 4,999	1011	3,150	**17.9**	564	570,078
5,000 to 9,999	564	6,984	**13.5**	945	532,867
10,000 to 19,999	354	14,170	**9.1**	1,287	455,757
20,000 to 49,999	252	29,599	**9.2**	2,727	687,284
50,000 to 99,999	83	71,183	**9.3**	6,591	547,060
100,000 to 199,999	33	144,681	**9.3**	13,524	446,286
200,000 to 499,999	23	271,363	**9.3**	25,191	579,399
500,000 to 999,999	4	697,624	**9.4**	65,328	261,313
1,000,000 and over	2	2,452,185	**9.4**	230,186	460,373
TOTAL	**8,114**		**12.3**		**5,797,425**

8.5 SELECTION OF THE SAMPLE

The sample is selected in each municipality, within each group of dwellings, with equal probability.

The sample from framework A will be selected by random-start systematic sampling.

Likewise, the selection of the sub-sample of dwellings in the sample from framework A that does not respond by post or online, shall be carried out via random-start systematic sampling.

The sample from framework B will be selected from the set of estates that are registered in the comprehensive route, using the Bernouilli procedure that assigns equal probability to the sampling units.

8.6 EXPRESSION OF THE ESTIMATORS

The estimators of the characteristics of dwellings and persons, in a given municipality, are expansion estimators with a correction of non-response, to which calibration techniques are applied, according to the case, as is explained below.

The initial expansion factor is obtained as the inverse of the probability of selection.

8.7 PROBABILITY OF BELONGING TO THE SAMPLE

In accordance with the selection process of the sample, there are three types of dwelling, yielding three types of elevation factor within each municipality:

1. Dwellings from framework A without sub-sampling.

1.1. Main dwellings

The probability of a main dwelling in framework A belonging to the sample has the following expression:

$$Pr(v_i^{AP}) = f_r^{AP} = \frac{v_{AP}^t}{V_{FPC}^{AP}}$$

In which f_r^{AP} the sampling fraction applied in the group of main dwellings, V_{FPC}^{AP} to the total main dwellings from the PCF comprising framework A, and the numerator represents the total theoretical main dwellings selected in said framework.

1.2. Non-main dwellings

Yes f_r^{ANP} is the sampling fraction used in the case of non-main dwellings, the probability of belonging to the sample in this case is:

$$Pr(v_i^{ANP}) = f_r^{ANP} = \frac{v_{ANP}^t}{V_{FPC}^{ANP}}$$

The meaning of the terms that appear in the previous expression are similar to those that appear in section 1.1, but referring to non-main dwellings.

2. Main dwellings from framework A from the sub-sample.

Following a process that is similar to the above, if we call f_{rs}^{AP} the sampling fraction in the sub-sample carried out in the main dwellings from framework A that have not sent the questionnaire online or by post, the probability of dwelling i belonging to the sample is:

$$Pr(v_{is}^{AP}) = f_r^{AP} \cdot f_{rs}^{AP} = \frac{v_{AP}^t}{V_{FPC}^{AP}} \cdot \frac{v_{APs}^t}{v_{AP}^t - v_{AP}^e}$$

In which v_{APs}^t the total theoretical main dwellings selected in the sub-sample, and v_{AP}^e the set of dwellings from the sample that have responded by post or online.

3 Dwellings from framework B.

The estates are selected with equal probability in this framework.

If we call f_r^B the sampling fraction used in framework B, the probability of a dwelling belonging to the sample is:

$$Pr(v_i^B) = f_r^B$$

The total dwellings from framework B is obtained by estimation, from the estates found in the sample whose use is that of a dwelling, and therefore, once the Census is carried out, the value $\hat{V}_B$ is known.

The initial expansion factors, obtained as the inverse of the probability of belonging to the sample, will be adjusted for non-response, in accordance with the information available in each case.

8.8 ESTIMATION OF THE DIFFERENT TYPES OF DWELLING, ACCORDING TO THE SAMPLE

For the estimation of the total dwellings, according to the type in each municipality, ratio estimators are used, with the auxiliary variable being the total dwellings calculated from the PCF and from the information collected in the comprehensive route.

The types of dwelling that are going to be estimated are the following: main dwellings, secondary dwellings, empty dwellings and other types of dwelling.

The expression for the expansion estimator for a given type of dwelling t, V_t is:

$$\hat{V}_t = \sum_i f_i \cdot t_i$$

where t_i is a variable that takes on a value of 1 or 0, according to whether dwelling i is of type t or not, and f_i is the elevation factor of the dwelling.

The sum extends to all dwellings of the municipality.

The ratio estimator is expressed as follows:

$$\hat{\hat{V}}_t = \hat{V}_t \cdot \frac{V}{\hat{V}}$$

The value of V is a piece of data that is obtained as the sum of the dwellings from framework A that have not been delisted during the comprehensive route, plus the number of dwellings estimated from the sample of registrations.

The final adjusted elevation factor is: $w_i = f_i \cdot \frac{V}{\sum_i f_i}$

8.9 CALCULATION OF THE POPULATION

1. Introduction

The PCF has the Municipal Register of Inhabitants as a base, this being the register of the population resident in the company at a given moment in time.

As a result of the crossing of the Register with other administrative registers, (AEAT, SS, etc.), a large part of the persons who appear in this file have their data on residence in Spain confirmed through the crossing of their identification with said administrative registers.

However, in the PCF, there are persons whose real presence in the country is not confirmed, as they have not been located in the aforementioned registers.

Those persons in the first group have a recount factor assigned that is equal to one (FR=1), whereas the persons in the second group are assigned a recount factor from the information provided by the sample.

The calculation of the recount factor is presented below.

2. Expression of the recount factor (FR).

The calculation of this factor will enable use to integrate the information from the PCF with that of the sample.

For the estimate of the FR of the persons whose presence in the country is not confirmed, we will use population groups containing these persons, and which may be estimated through the sample, as they are defined based on derivable characteristics of the variables contained in the census questionnaire. In these groups, therefore, the crossing of the PCF with the other administrative registers, will have been deficient.

As a result of the above, population P_G of one of these mentioned groups, which we will call G, will include persons whose residence is confirmed, and who are counted from the register (S_G), and persons who will be estimated from the sample; for this group, will give the name $\hat{D}_G$ to the estimated population and D_G to those persons in the PCF.

For those groups that are estimated from the sample, it is verified that $P_G = S_G + D_G$ The estimation from the sample of dwellings in the population

of group G is obtained as follows:

$$\hat{P}_G = \sum_i w_i \cdot p_{iG}$$

where the summing extends to all dwellings i of the sample in the geographical scope considered, w_i is the factor of the dwelling and p_{iG} is the total persons of dwelling i of the sample that belong to group G.

As a result, it is possible to obtain the estimation of group D_G through the following expression $\hat{D}_G = \hat{P}_G - S_G$, and therefore, the recount factor corresponding to group G will be expressed as:

$$FR_G = \frac{\hat{D}_G}{D_G} = \frac{\hat{P}_G - S_G}{D_G} = \frac{\sum_i w_i \cdot p_{iG} - S_G}{D_G}$$

The denominator is the total registers from group G in the PCF without confirmed presence in the country.

At the end of this process, all persons will have a recount factor assigned in the PCF. In some cases, it will be 1, and in other cases, it will be that calculated by the previous procedure.

The population of a given geographical area is obtained as the sum of the recount factors of the population from the PCF in said area.

8.10 ESTIMATION OF THE CHARACTERISTICS OF DWELLINGS

The characteristics of dwellings that are going to be used in the census will refer only to the group of dwellings that are considered *main dwellings*.

From the estimation of the different types of dwelling, according to what is indicated in section 8.8, we have the following:

$$V = \hat{\hat{V}}_{pr} + \hat{\hat{V}}_{s} + \hat{\hat{V}}_{v} + \hat{\hat{V}}_{of}$$

where each sum indicates the total estimated *main dwellings*, *secondary dwellings, empty dwellings and dwellings for other purposes*, respectively

The expression for the *corrected estimator* of the total main dwellings is as follows:

$$\hat{\hat{V}}^{*}_{pr} = \frac{P}{\left(\hat{P} \Big/ \hat{\hat{V}}_{pr}\right)} = \hat{\hat{V}}_{pr}\frac{P}{\hat{P}}$$

where P the population of the PCF obtained after the calculation of the FR and $\hat{V}_{pr}$ y $\hat{P}$ the estimated values of the sample, and obtained according to that which is indicated in sections 8.8 and 8.9, respectively.

8.11 ESTIMATION OF THE CHARACTERISTICS OF PERSONS

The estimation of a characteristic of population Y is obtained by applying ratio estimators in which the auxiliary variable is the population of the municipality obtained from the recount in a calibration group T.

As with the case of the characteristics of dwellings, the ratio estimate is the following:

$$\hat{\hat{Y}}_M^T = \hat{Y}_M \cdot \frac{P_{M,T}}{\hat{P}_{M,T}} = \sum_{i \in s_M} w_i^f \frac{P_{M,T}}{\sum_{i \in s_M} w_i^f \cdot p_i^T} \cdot y_i$$

The summing extends to all dwellings from the sample of the municipality (s_M), w_i^f is the factor of the dwelling, p_i^T is the total persons from dwelling i who belong to group T, y_i represents the total persons from dwelling i, from group T, with characteristic Y, and where $P_{M,T}$ and $\hat{P}_{M,T}$ the population of the municipality and the estimated population, respectively, of calibration group T.

The calibration groups may be defined by different crossings of variables, depending on the size of the municipality.

8.12 SAMPLING ERRORS

The fact that the obtaining of census data is obtained through the use of a sample of dwellings, assumes that these are affected by a sampling error, which will depend not only on the size of the sample, but also on the characteristics to be estimated.

For the tables with provincial, Autonomous Community and national data, bearing in mind that the sampling fraction varies according to the size of the municipality, the Jacknife Method will be used for the calculation of the sampling errors.

This method allows for obtaining the estimation of the variance of the estimator of a characteristic Y, through the following expression:

$$\hat{V}\left(\hat{Y}\right) = \sum_{a \in A} \frac{n_a - 1}{n_a} \sum_{i \in a} (\hat{Y}_{(ia)} - \hat{Y})^2$$

where A represents the geographical area to which the estimation refers,

$a \in A, a = 1.....N_A$, represents the homogeneous groups of municipalities with the same sampling fraction within A, (ia) is set i of dwellings in group a, n_a is the number of sets ia in group a.

$\hat{Y}_{(ia)}$ is the estimation of characteristic Y, obtained by elimination group of dwellings ia from the sample, and $\hat{Y}$ is the estimation of characteristic Y with the complete sample.

To obtain the estimator, and for simplicity's sake, rather than recalculating the elevation factors, the factors of the group where set of dwellings i has been removed are multiplied by the factor: $\frac{v_a}{v_a - v(ia)}$.

In accordance with the above:

$$\hat{Y}_{(ia)} = \sum_{j \neq a} F_j y_j + \sum_{\substack{j \in A \\ j \neq ia}} F_j \frac{v_a}{v_a - v(ia)} y_j$$

where:

ia is a group of dwellings in area A
v_a is the total dwellings in group a
v(ia) is the number of dwellings from group ia.

In general, the estimations are published, accompanied by the relative sampling error as a percentage, variation coefficient, whose expression is:

$$C\hat{V}\left(\hat{Y}\right) = \frac{\sqrt{\hat{V}\left(\hat{Y}\right)}}{\hat{Y}} \cdot 100$$

The sampling error facilitates obtaining the confidence interval, within which, the real value of the estimated characteristic is found with a certain probability.

For the municipal tables, and bearing in mind the type of sampling applied in the sample selection, the INE will publish tables presenting the variation coefficients, relative sampling errors, which are obtained for different class totals and different sampling fractions.

8.13 THE COLLECTION OF THE INFORMATION

The information collection of the population survey will be carried out as explained below:

A) For the units selected from the Pre-Census file (framework A) that theoretically correspond to main dwellings, the collection will be carried out in two phases:

Phase 1 of sampling collection: in this phase, two channels will be opened that will offer households the possibility of completing the information without the need for an interviewer to travel to their place of residence. The channels that may be used will be the Internet and the postal service. To this end, in a first letter, the households will be provided with the keywords necessary to access the online application.

After a certain period of time has elapsed, whoever cannot or wishes not to do so by this procedure should do so by post, using the questionnaires that

the INE has sent them for this purpose. In turn, a free-of-change telephone assistance service will be provided for informants, allowing them to query doubts or information regarding the Census.

Those dwellings that do not submit the information by post or do not complete the questionnaires online, after a certain period of time has elapsed, will be sent a claim letter.

Phase 2 of sampling collection: a percentage of estates will be selected from the sample of the previous information file, which has not responded during phase 1, which the census agent will have to visit. Incidences will be assigned at the dwelling and group levels, and the census questionnaires will be collected when necessary, via personal interview through a CAPI application, implemented in the same portable device used for the information collection in the Building Census.

B) For the units selected from the Pre-Census File (framework A) that theoretically correspond to non-main dwellings, these will be studied in the fieldwork during the comprehensive route, proceeding, in the case that they truly are main dwellings, in the same way as that described below for registrations. In the case that they are not main dwellings, they will be assigned the corresponding state.

C) For the units selected from the registrations recorded during the rout of the Building Census (sample B), the collection of the census information shall be carried out as follows:

While carrying out the Building Census and registrations take place, the application installed in the portable devices shall have an algorithm for the probabilistic selection of the estates that become registered and that will become part of the sample. We will study whether the estate is a locale or a main dwelling, secondary dwelling or empty dwelling. In the main dwellings, the agent will leave a census envelope that will enable the household to carry out the completion of the questionnaire online or through a print questionnaire that it will submit by post.

The residual set of dwellings that have not responded by either of the two methods, will be collected via CAPI-application personal interview, thus being included in the phase 2 sampling collection described above.

8.14 ORGANISATION OF THE FIELDWORK

The organisation of the work will be based on the following administrative structure:

• The Central Services of the INE shall be the coordination centre of all of the census work.

• The Provincial Delegations shall be responsible for the coordination, monitoring and control of the work in the province.

• The region shall be the geographical demarkation to which specific personnel is assigned, in order to achieve the best development of the census work.

A region shall correspond to a set of census sections, and may be comprised of a set of municipalities, or in the case of larger municipalities, be a part of the municipality. Each region shall have an office for the development of the work of the regional manager and those group supervisors who depend on her/him, and in which the meetings with the census agents shall be held.

We expect the existence of the following levels of census personnel temporarily hired for the operation:

Census agent: shall be in charge of carrying out the comprehensive route, during the interview phase, of visiting the estates, assigning the incidences and interviewing the informants.

Group supervisor: shall be in charge of the control, monitoring and inspection of the work of the census agents. S/he may also carry out direct collection work.

Regional manager: shall depend on the regional inspectors, and cooperate with them in the tasks they are assigned.

It is estimated that this operation will require approximately 4,000 census agents, 800 group supervisors and 160 regional managers.

Moreover, there will be the following personnel, belonging to the structure of the INE:

Regional inspector: one or more regional managers will depend on each. S/he shall carry out work in selection, training, distribution of tasks, control, monitoring and inspection.

Provincial Delegate: shall carry out training tasks on the infrastructure, assignation of resources and of supervision, control and monitoring of the work.

8.15 PARTICIPATION OF THE MUNICIPAL COUNCILS

The execution of such an operation requires the collaboration of the different levels of the public administration, and very particularly, of the Municipal Councils, which the INE will ask for participation in different activities, mainly in:

- the lettering of entities, city roads and building numbering

- the appointment of local advisors to cooperate with the personnel of the INE in the identification of the different territorial elements, and mainly of the sections, entities and roads

- the granting of locales in the Municipal Councils, in which the regional managers and group supervisors may be located

- the addition of the website address for completing the census questionnaire in the Internet terminals available to the public in the municipal offices that the Municipal Councils consider convenient

9 Research on special population groups

9.1 RESEARCH ON THE GROUP ESTABLISHMENTS

Due to the specific characteristics of the group establishments, these are studied using an independent fieldwork operation. In order to avoid, as much as possible, counting this population twice, the group establishments are excluded from the sampling field research described above.

A previous directory of group establishments shall be compiled, which will be studied comprehensively, except, hotels, guesthouses and hostels, which shall be studied using a sample.

A threshold of persons to be studied within each group shall be established. In those cases in which the number of persons in the group exceeds this threshold, a sample will be chosen.

A questionnaire targeting each group shall research the following variables of the persons who reside therein: name, sex, age, place of birth, nationality, residence one year ago, marital status, educational level reached, number of children in the case of women, relationship with economic activity and professional status.

The fieldwork for this research shall take place between January and March 2012.

9.2 RESEARCH ON HOMELESS PERSONS

As cited in the objectives, a specific survey shall be dedicated to researching homeless persons, which will be the target of a separate project in the coming months. The research shall be carried out in the first months of 2012, and shall combine its Census module nature (therefore collecting the questions of Census 2011 that are appropriate for the reality of homeless persons) with the specific questions that enable granting continuity to the Survey on Homeless Persons that the INE conducted in 2005.

10 Technological infrastructure in the 2011 Census

The collection of the census information shall be carried out through different channels, which will need the corresponding technological infrastructure to support them. The data collection channels foreseen shall be the following:

- Collection of print questionnaires by **postal mailing**
- CAPI (*Computer Assisted Personal Interview* or *Entrevista Personal Asistida por Ordenador*)
- CAWI (Computer Assisted Web Interviewing or Entrevista mediante aplicación Web Asistida por Ordenador)

Those questionnaires received by the INE shall be subjected to a process consisting of scanning them and passing through an OCR (*Optical Character Recognition* or *Reconocimiento Óptica de Caracteres*) system, for the purpose of automatically obtaining the information written in such questionnaires. Moreover, following the OCR, a *videocorrection* operation shall be performed, consisting of comparing, through a computer application, the image obtained from the scanner, with the data obtained via OCR. Likewise, this operation may be followed, in those cases that so require, by a *cabinet validation*, that is, a review of those doubted cases that cannot be resolved by videocorrection.

In the CAPI channel, the data collection shall be carried out by census agents, who shall carry portable devices with a computer application installed that will implement the electronic questionnaires, and all the functionality necessary for collecting the data corresponding to the building census, and to the population census. The tablet-type laptop computer will have an integrated mobile communications card, in such a way that the census agents may transfer, via last generation mobile telephony, when the coverage and circumstances so allow, the data collected in the tablet to the server installed in the Central Services headquarters of the INE. In this way, the central database of the INE, in which all of the data from these censuses shall be collected and stored, shall be permanently updated with the census data as it is collected. Lastly, it is also expected that the tables will carry out, with a certain frequency, synchronisation operations, both in order to update the information contained in the central database, and in order to maintain the information in the tablets themselves updated, in such a way that, for example, the agents know which dwellings have completed the information online or by post.

During the collection process, it is also expected for the census agents to collect the geographical coordinates on a postal approximation level. This will be possible thanks to a GPS system (*Global Positioning System* or *Sistema de Posicionamiento Global*), which will be integrated in the tablet of

each agent. These coordinates will also be able to be collected, using the cartography integrated in the tablets.

It is also expected that the census agents and other integrants of the collection structure (Group Supervisor, Regional Manager, Regional Inspector, etc.) may carry mobile telephones, in order to enable communication among them, with the purpose of facilitating their coordination and resolving possible problems during the collection process.

In order to allow citizens to be able to provide the census data online, the CAWI channel will be provided. This shall consist of a computer system, with a web application that will implement the corresponding questionnaires so that citizens may complete them electronically (online). Access to the application may be made by digital certificate, by electronic ID (DNI-e) or by user and password.

Once the collection process is complete, the data obtained shall be subjected to a computer processing for filtering. When this process is finished, the data will move to a *data warehouse* (*almacén de datos*), to thus be able to enable the efficient analysis and dissemination of the census information collected.

As it is expected to externalise the different systems supporting the data collection, the INE shall be responsible for the supervision of the entire operation, and shall therefore previously define a set of specifications necessary for carrying out the complete process. These specifications shall contain information regarding the different computer applications implied, regarding the format and the specific data that the INE will submit to the allocated companies, and also to the format of the data collected that such companies will have to submit to the INE.

In turn, it shall also specify, to the different companies, the way of carrying out the monitoring and the control of the tasks that each company will perform, and how the information associated with these tasks will be centralised, so that the INE may supervise and control the collection process in its different phases.

The allocated companies shall provide the technological infrastructure necessary, both in physical equipment (hardware) and in logical equipment (software) for the entire collection process, which must fulfil all the conditions and requirements that the INE indicates. They will also have to carry out the pilot test established by the INE, and any other test necessary for the correct performance of the collection process of the Censuses.

Among the technological infrastructure necessary, worth mentioning is the existence of an application that enables the control and monitoring of the collection process. This application will allow the personnel that is designated and belonging to the INE to carry out the monitoring of the process itself, as well as to obtain the information relating to it (for example: images resulting from scanning questionnaires, CAWI use indices, etc.). On the other hand, it should also have an application that enables carrying

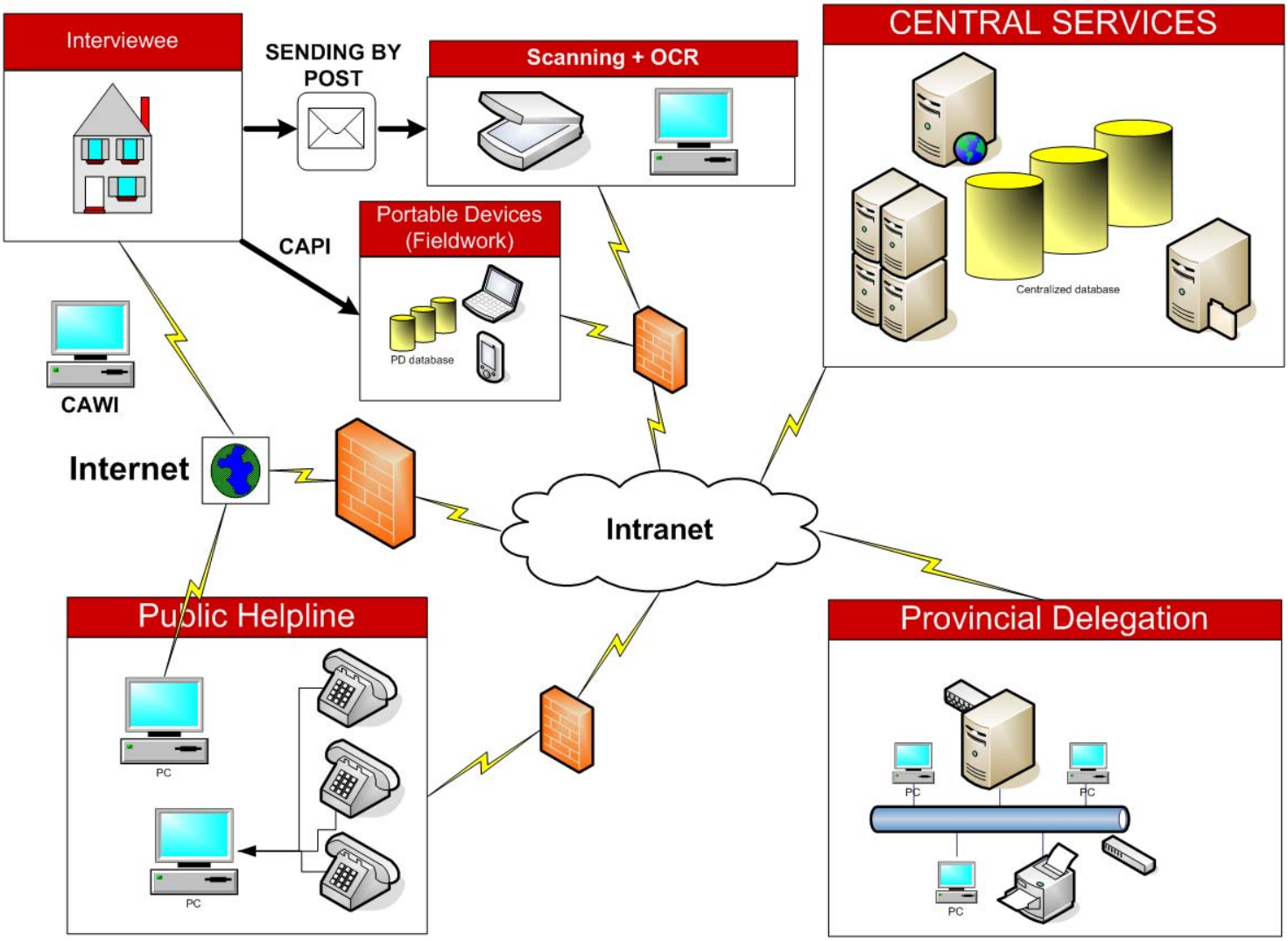
administrative operations for the collection by CAPI, such as being able to register and delist agents, assign sample sections, etc. Moreover, it should also have the communication systems necessary for voice communications (on mobile telephones), and for the communication of data (the communication of the tablets with the Central Services).

As regards the security of the information, the INE shall specify, to the allocated companies, the conditions and requirements that must be fulfilled in order to guarantee statistical secrecy and protect the personal data, as well as the safeguards that must be present in the different systems involved and their installations, so as to protect the confidentiality, integrity and availability of the information. One possible measure for guaranteeing this could be that of counting on a remote administrative system for the tablets that erases all of the information stored therein when one ceases to be under the control of the INE (due to loss or theft). This system would also allow for the updating of the base software, so that the device always has the latest version thereof. The tablets must also enable the blocking of all their entry and exit interfaces, including those for communication, in order to avoid the attack of viruses or the loss of the confidentiality and integrity of the information.

In particular, the entire operation with have applied the regulations foreseen in the National Security Plan, corresponding to its average level, aside from some additional controls that are estimated to be necessary in view of the relevance of the operation.

Other security measures will also be applied in the communication systems of the tables with the Central Services, between the allocated companies and the INE in all types of information transmission, and between the citizens and the CAWI system, such as through the numbering of data and the use of the SSL (*Secure Sockets Layer* or *Protocolo de Capa de Conexión de Segura*), among others.

In summary, the following figure shows the scheme of the architecture of the collection system for the 2011 Censuses:


Interviewee
SENDING BY POST
Scanning + OCR
CENTRAL SERVICES
Centralized database
CAPI
Portable Devices (Fieldwork)
PD database
CAWI
Internet
Intranet
Public Helpline
PC
PC
Provincial Delegation
PC
PC
PC

11 Dissemination

The main objectives in the dissemination of the results of the 2011 Census are:

a. To maximise the content of the information offered to all users, bearing in mind the guarantees that must ensure statistical secrecy and the conditioning factors of the information estimated by sampling

b. To take advantage of the new possibilities in the geographical analysis of the information, derived from the geo-referencing of the buildings

c. To shorten the availability periods of the information from the census operation, offering the different results as they become available

To this end, the following specifies the forecasts regarding the content to be disseminated, the different information access systems and the availability of results.

11.1 CONTENT OF THE DISSEMINATION

The content of the dissemination of the 2011 Census will be similar to that of the 2001 Census, even if, for certain variables and geographical scopes, the available information will be less, due to the conditioning factors established by the sample in which our sample will be based.

Regarding territorial breakdown, we will have the following:

A. For the **building variables** that shall be collected within the comprehensive route, it is expected that the information dissemination will reach a breakdown similar to that for the 2001 Census.

B. For the **variables of dwellings and persons**:

1) In those municipalities with fewer than 200 inhabitants, where the Population Survey will be comprehensive, they will reach a breakdown similar to that for the 2001 Census.

2) In the remaining municipalities, it is necessary to distinguish between the variables that are susceptible of being used from the data contained in the Pre-Census File and those that come directly from the sample.

a) For the variables in the first group, referring to the basic structure of the population, again the dissemination would reach a territorial breakdown similar to that from the 2001 Census.

b) In the remaining variables, it will be necessary to consider the limitation of the representativeness of the sample, in such a way that it will only provide data for those territorial breakdowns and variables in which the sampling error is acceptable.

Bearing in mind the size of the sample with which we will work, the information will continue to be similar to that from the 2001 Census, up to population sizes of approximately 10,000 to 20,000 persons, depending on the variable being analysed. Below these sizes, the information provided by this census will be less than that for the previous census.

11.2 DISSEMINATION SYSTEMS

1. General query system

The experience of the INE will be used, and the users in the use of the census information through data warehouse-type tools currently used in the dissemination of the results fro the 1991 and 2001 Censuses.

In these systems, with the restrictions necessary for guaranteeing the confidentiality of the information and the existence of a sufficient sampling size, users may design queries "a la carte" that best adjust to their needs.

Online services will be available that enable carryout out automated uses of the information, in order to facilitate the re-use of the census information in other applications.

2. Geographical information systems

Given the effort suggested in the project, regarding the geo-referencing of the territorial units, the dissemination system will have navigation mechanisms that enable approaching the census information through the territory.

- **Thematic maps:** User queries including any geographical level may be represented by thematic maps.
- **Census grid**: Eurostat is promoting a dissemination initiative for Census 2010/11, with a set of harmonised European data, based on a uniform network and in accordance with the recommendations of the INSPIRE Community Directive. The dissemination of data from the Censuses regarding a grid provides great analytical value. Given that the grid is regular, the size of the cell is constant, and we know the position, in coordinates, of the centre of each cell, it could be stated that all of them are geo-referenced. In addition to being continuous for the entire territory, there is a great advantage to its invariable form, allowing for an easy study of a variable over time. To this end, it is absolutely necessary to have the data from the

Censuses geo-referenced as well, which will be associated by their coordinates to the corresponding cell of the chosen grid.

In order to have a precise description of the variable that we plan to disseminate, or represent, there is the possibility of using different grids, depending on the scale, that is, the size of the cell. Always bearing in mind the preservation of statistical secrecy. Projects and studies have been presented in different countries, turning to the lateral cells: 1 km, 500 m and 250 m.

- **Analysis by area defined by the user**: The strategy that the INE proposes generalises the concept of census grid to any other closed polygon, within which it accounts for, according to the sample, a quantity of the population that exceeds a given threshold, which may be between 10,000 and 20,000 persons (in the population, not in the sample). This means that the census dissemination system may enable responding to answers such as which the population characteristics are in a radius of 500 metres around a given point (if this population threshold is surpassed in this circle) or at a given distance in a length of road or beach.

  This means of dissemination - not necessary based on administrative divisions - may be carried out, given that each household has some approximate GPS coordinates assigned (those of the building where they reside).

  In particular, it is especially interesting for the analysis of the population in large urban agglomerations, where the user of the information may chose her/his own population aggregations, always conditioned by those aforementioned population thresholds, in such a way that the protection of confidentiality is guaranteed.

11.3 PHASES OF THE PUBLICATION OF RESULTS

It is expected that, prior to the end of 2012, the first information preview will be published, containing the population figures and at least the data on the basic structure of the population.

Throughout the year 2013, the dissemination of all the census information will be completed in the previously described dissemination systems. At the end of 2013, the sets of public microdata will be available.

11.4 OTHER PRODUCTS

1. Detailed territorial information:

Although the expected dissemination systems should satisfy most queries, an information synthesis will be published in the forma of elementary variables and indicators for very small territorial scopes (census sections, population entities, road sections), allowing for users to download this pre-processed information.

2. Microdata files:

Microdata files will be produced for their use by the general public, and the file characteristics will be determined, insofar as they can be submitted for scientific purposes.

3. Thematic publications:

We will consider compiling reports, using data from the census operation, in those aspects that are of the greatest interest, accompanying the information with graphs, maps and commentaries that ease their understanding.

4. Cartographic products:

As a result of the census operation, the territorial directories used in the collection will be updated, since this information is also interesting for users (nomenclature, roadmap, etc.). Likewise, this considers the dissemination of detailed cartographic layers (census sections) that enable interested parties to integrate the census information in the systems they work in, using standard formats (Shape, in addition to PxMap).

12 Quality in the census operation

Regulation (EU) No. 1151/2010, of 8 December 2010, applying regulation (EC) no. 763/2008 of the European Parliament and Council, deals with aspects relating to the structure that the reports issued regarding the quality of the data and the technical format for the transmission of said data must have.

This allows for having a reference framework for the monitoring of the quality of the census operation, which in summary, will include the following processes and will generate the following documentation.

1.- A first general report regarding the census process, which will include the following information:

1.1- Legal context encompassing the census.

1.2- Sources of data used. Relationship between sources of data and census variables. Characteristics of said sources of data: individual listing, simultaneousness, universality, availability of data relating to small areas.

1.3- Lifecycle of the census

- Reference date
- Design and assessment of the census questionnaires. Preparation of the fieldwork. Information regarding cartography and advertising. Data collection. Registers relating to the Census. Crossings of registers. Data extraction.
- Data processing: collection, encoding, identification, filtering, estimation of information. Assessment of quality and coverage.
- Census dissemination channels. Guarantees of statistical confidentiality.
- Measures taken in order to guarantee the cost-efficiency relationship in the census.

2- A second detailed report, with statistical data and metadata regarding the quality of the data sources and census variables:

2.1- Relating to "**belonging**".

- Information regarding whether the data sources are adequate. Repercussions that any significant deviation of the essential characteristics may have.
- Information relating to the number of unavailable cells, unreliable cells and confidential cells, for each one of the hyper-cubes that must be filled out by Eurostat and for the national and Autonomous Community geographical levels.

2.2- Relating to "**precision**".

- For each one of the data sources used, the following data and metadata shall be provided:
    - Information regarding under-coverage or over-coverage situations

- Methods used for imputing or suppressing registers
- Methods used for weighting registers
- Measures for identifying and limiting a lack of information

- For each of the census variables, the following information will be provided, on both national and Autonomous Community geographical levels:
  - Information regarding imputations carried out
  - Variation coefficient for the cells of the hyper-cube established for each variable

- For each one of the census variables, the following metadata will be provided on a national geographic level:
  - Information regarding the method used for processing the non-response for the variable in question.
  - Information regarding the sample design, possible biases, calculation algorithm of the standard deviation.

2.3- Relating to the "**present**" and "**punctuality**".

- Information relating to the date of publication of results
- Information relating to the dates of the main data revisions, if there are any
- Information relating to the date of publication of the census metadata

2.4- Relating to "**comparability**".

- For each variable, we shall notify regarding any definition or practice that could hinder the comparability of the data.

13 Tentative calendar of the operation

The following lists the most relevant dates of the census operation:

- Second pilot survey: May 2011
- Beginning of the mailing of letters to households for the completion of questionnaires online: September 2011
- Beginning of the territorial route for updating the directory and building census: November 2011
- Beginning of the personal interviews: January 2012

- Publication of the population figures and basic structure variables of the population: last four months of 2012
- Publication of the rest of the census information: throughout the year 2013

14 The ongoing population census

As of the 2011 Census, it is logical that, in the context of rapid demographic change, it is not reasonable to wait 10 years to have the new information similar to that provided by the censuses available. The strategy of the INE for the coming years is based on the future Integrated Demographic Information System, whose main piece is the Ongoing Population Survey.

For the purposes of quantifying the population, this begins with the idea that its real evolution, in a given period, consists of the result of a simple accounting exercise of demographic events occurring between the two reference dates. That is, the population resident in a given geographical area, at 1 January of year t+1 is no more than the result of adding, to the population resident in said area at 1 January of year t, the births to mothers resident therein throughout the year, subtracting the deaths of residents in said area in said period, and adding the migratory balance occurring therein. To this end, it is necessary to have instruments that enable measuring, with precision, those demographic flows. Without a doubt, there is an adequate instrument for the natural growth component (the Vital Statistics), but for the migratory component, it would be necessary to complete it with a contrast with information collected in the field.

Regarding the monitoring of the characteristics of the population, if, as in the 2011 Census, a survey targeting a percentage of nearly 10% of the population is necessary to have municipal data available, a somewhat smaller survey (around 1% of the population) may be sufficient to have a greater estimation frequency at a NUTS-3 level (province, island).

With that first, but not only, purpose, the **Ongoing Population Survey(ECP)** was conceived, as the central piece of an Integrated Demographic Information System, which would contain the following elements (the new elements are written in cursive):

- Sources
    - Municipal Register and other administrative sources
    - Vital Statistics
    - *Ongoing Population Survey (ECP)*
- Intermediate products
    - *Demographic information database (BDID)*

- Monthly short-term demographic estimates

- Final products
  - Flow statistics
    - Births and deaths (Vital Statistics)
    - *Migration Statistics*
  - *Population figures*
    - *Population Figures*
    - *Preview Population Estimates*
    - Short-term and Long-term Population Projections
  - Other demographic information
    - *Population and household structure, by socio-demographic variable* [1]
    - Statistical use of the Municipal Register
    - Other surveys or specific studies.

It is important to highlight, in this system, the separation of statistical operations that will be sources or intermediate products of those that will constitute the final products that are the target of external dissemination. Thus, the Ongoing Population Survey is a source, an *input* of the system, but not the product in which we publish, for example, the population figures.

Another source is the Demographic Information Database, which will arise as a result of the updated maintenance of the Pre-Census File of the 2011 Census in the post-census period. In fact, it will be the combination of the data offered by said database, and by the ECP itself, that which will provide the Migration Statistics, the Population Figures and other products.

The Integrated Demographic Information System considers all the demographic information to be produced by the INE in the coming years, both ongoing production (Register, Population Figures, etc.) and that information to be collected sporadically or infrequently, as in the case of a fertility survey. The ECP, as states, constitutes a central element in this system, as it is a source of final products in the three sections mentioned: migration statistics, population figures and for other demographic information (population structure and specific studies).

It will be necessary to describe, at least, the objectives for the new products (Migration Statistics, Population Figures, Population and Household

[1] Most likely, so as to maintain coherence with the production of the INE, this information is published under the name *Ongoing Population Survey*, though conceptually the ECP is s source, rather than a product.

Structure), in order to be able to better describe the basic characteristics of the ECP.

OBJECTIVES OF THE ONGOING POPULATION SURVEY

- To serve as a **primary source for obtaining the Population Figures,** starting with the 2011 Census.
- To comprise the tool that, together with the information from the BDID, enables producing a **Migration Statistics** operation, which is fully coherent with the population figures.
- To offer, annually, **stock-type demographic information**: persons classified according to basic socio-demographic variables, dwellings, households and forms of cohabitation. In summary, it should offer the socio-demographic information, at least on an aggregate level, not included in the current population surveys or available in administrative registers, without having to wait for a new census.
- Given its design, based on a very slight questionnaire, this can allow for becoming an **omnibus *survey***, to which we can add **modules** that allow, in a flexible way, researching phenomena such as fertility, forms of cohabitation, characteristics of migrants, integration, causal analysis of modifications of demographic trends, etc.
- Lastly, worth adding is an objective with a special meaning in internal matters: it can serve as an **instrument for integrating the production of other current and future social and demographic surveys of the INE**, enabling greater capacity and a better reaction to future demands in the social area, and a better integration of the social information, also reducing the costs of the operations.

Before offering the design of the survey in detail, it is necessary to better know the different objectives of the survey.

14.1 THE POPULATION FIGURES FROM THE 2011 CENSUS

As noted previously, in the current system, there is a duality in the population figures which, though they are of a different nature (registered population and resident population), causes a certain tension in the demographic information system produced by the INE. In recent years, we have coined the term *official population figures* to refer to the figures derived from the Municipal Register, though bearing in mind that any piece of data that the INE disseminates is official for this reason, those derived from the Register are as official as those obtained from the Census, which have had their continuity through the statistical operation known as the *Population Now Cast (EPOBA).*

The new *Population Figures* statistics regarding year t will be published in December of year t it self, and will offer final figures on the resident

population on a national level and by Autonomous Community, province and island for 1 January (and 1 July of t-1).

Up until today, we will maintain the publication of registered population figures, derived from the Ongoing Register, which except at the time of the census (the Census also offers data by municipality), will be the only source at a municipal level.

Once the results from the coming 2011 Population Census are available, the strategy for obtaining the Population Figures resident in Spain must be the result of a simple aggregation of the flows, accounted for through the Vital Statistics and the Ongoing Population Survey, always guaranteeing the coherence of the compensatory equation of the population[1].

On the other hand, in order to answer to the demand of the statistical system (sampling surveys, National Accounts), it is necessary to have population figures available almost immediately. Therefore, it is necessary to build another series of figures that enable giving coverage with the nature of **results and preview estimates**, for the most recent time period. To this end, the **Preview Population Estimates** will be a chapter within the population figures. They will be published quarterly, with a preview or provisional nature, and will provide continuity for the current operation, the **Population Now Cast**. These estimates will constitute the population reference throughout each current year, for the entire statistical system, as soon as the **Population Figures** are available, which will constitute the final revision thereof. In order to provide support for obtaining these preview figures, we have also created the Monthly Short-term Demographic Estimates (EMECO) mentioned above, for the purpose of having the necessary information available regarding demographic flows, ahead of the Vital Statistics calendar.

The population figures, both the final figures and the preview estimates, would be published with a breakdown level that is coherent with the level of detail that their primary information sources can offer. In any case, this shall offer, for each aggregation, the population by sex, date of birth and age, by nationality[2] and place of birth (with aggregations to be determined).

14.2 THE MIGRATION STATISTICS

Other objective of the ECP is to serve as the basis for the construction of a new migration statistics operation, which has been conceived as a synthesis statistical operation based on different primary sources, and integrated in

[1] That is, $P_{t+1} = P_t + (N_t - D_t) + (I_t - E_t)$ where: N= births, D= deaths, I= immigration, E= emigration.

[2] It is necessary to consider the possible transfers that could occur, of the foreign population to the Spanish population, as a result of the possible acquisitions of Spanish nationality that might take place.

the demographic information system, and which therefore, would always provide figures guaranteeing the coherence between flows and stocks.

The Residential Variation Statistics, which have been used as a main source of information in terms of international migrations during the last decade, is hindered by the limitations that are common to their origin, which is no more than an administrative register. The **Migration Statistics**, with one of the sources being that same register, the Register, must provide the system with demographic coherence, constructing the figures through the empirical observation that the ECP provides.

14.3 INFORMATION REGARDING POUPLATION STOCKS, DWELLINGS AND HOUSEHOLDS, FROM THE 2011 CENSUS

There is a demand for statistical information on population that is currently not covered satisfactorily. In fact, the statistical use of the register can only go so far as a few variables. A large amount of details regarding the population can only be obtained in the censuses, or partially or in a derived manner, from the sampling surveys targeting households. This refers to matters such as the number and composition of the households (information is offered in the EAPS or in the HBS, among others), the dwellings (about which there is barely any information), or other population classification variables such as education variables (largely included in the EAPS) or second generations of migrants.

The existence of the Ongoing Population Survey can bridge this gap, with a stable supply of some of these variables, constituting, among other things, **the source for the information regarding the structure of the population, households and forms of cohabitation.**

This information would be constructed directly from the ECP. With the goal of coherence with the rest of the statistical operations of the INE, it seems logical for this use to be known by the name of the survey itself. Thus, on speaking of the Ongoing Population Survey, we are speaking of it both as a source of the integrated system, and as a product, as it is susceptible of the statistical use mentioned here.

14.4 THE ECP AS AN INSTRUMENT FOR INTEGRATING THE PRODUCTION OF OTHER CURRENT AND FUTURE SOCIAL AND DEMOGRAPHIC SURVEYS OF THE INE

Lastly, it is worth including an element within the objectives, which can be considered as a key factor of the project. Moreover, the ECP could be an instrument for drastically improving the production capacity of the INE in household surveys. On the one hand, the survey would consist of a very limited questionnaire, which opens the door to many possibilities regarding its method of administration. On the other hand, the brief duration of the process of completing it, regardless of the method, allows for considering the inclusion of demographic content modules. The large sample size would even allow, if the survey is adequately designed, carrying out different modules at the same time, using sub-samples.

The potential of a survey with a large sample size, but which is simple in terms of the size of the questionnaire, as is this survey, does not extend only to the possibility of adding modules. The ECP could work as a kind of household file, also enabling the re-interviewing of households, in order to conduct other surveys which are currently carried out independently. Hence, the ECP could serve as a first interview for many of the current surveys. Those households which, on completing the survey, supply a contact telephone or e-mail, enable online or CATI re-interviews, which would reduce costs in the processes of other surveys.

14.5 INTRODUCTION CALENDAR OF THE ECP

Given that the first objective is to be able to offer annual statistical information that provides continuity for the 2011 Census, ideally, it should be designed for its implementation immediately following the Census. Due to operative matters, this suggestion might be too demanding. One alternative that seems reasonable would be to implement the ECP during the **fourth quarter of 2012**.

As the Census information has 1 November 2011 as the reference date, it would be necessary to build a population figure at 1 January 2012, which would be carried out by maintaining the current Population Now Cast operation, EPOBA, already under the new name, Preview Population Estimates. From there, the new system of population figures, both preview and final, built around the ECP, would become fully functional.