

Survey on the Equipment and Use of Information and Communications Technology in Households (ICT_H)

Methodology

October 2024

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I Introduction

The Survey on the Equipment and Use of Information and Communications Technology in Households, TIC_H 2024, is a panel-type statistical operation, carried out by the National Statistics Institute (INE), following the methodological recommendations of the Statistical Office of the European Union (EUROSTAT). **The European Union has co-financed the costs of implementing this statistical operation.**

The general objective of the ICT_H Survey is to collect data on the development and evolution of the so-called **Information Society**.

The specific objectives of this annual survey are as follows:

- To know the information and communications technology equipment in Spanish households (Internet connection, fixed and mobile telephony and computer equipment).
- To analyse the use and new habits of the Spanish population in relation to the Internet: activities carried out, use of e-commerce, relationship with e-government, Internet of Things, recycling of ICT products. In order to analyse more aspects of the use of new technologies, the questionnaire is dynamic and includes new sections with different periodicity.
- To serve as a basis for comparisons between Spain and other countries and to meet the information requirements of international organisations. It is the only source of its kind whose data are strictly comparable not only between the countries of the European Union, but also in other international spheres.
- To obtain comparable information between the Autonomous Communities.

This operation is a statistical operation for state purposes and is included in the National Statistical Plan (PEN) 2021-2024.

The ICT_H Survey is part of the Community statistics on the Information Society and is therefore subject to the following Community Regulations:

- Regulation (EU) 2019/1700 of the European Parliament and of the Council of 10 October 2019 establishing a common framework for European statistics on persons and households based on individual data collected from samples.
- Regulation (EU) 2023/1484 of 18 July 2023 implementing the previous Regulation.

II Investigation Scope

1 Geographical Scope

The geographical scope of the research is the entire Spanish territory.

2 Population Scope

The ICT_H is a survey that examines the main family household and the persons aged 16 and over living in it at the time of the interview, from which one person is randomly selected for further investigation of Internet use.

In addition, if there are children aged 10 to 15 living in the household, a minimum set of questions on this topic is asked for all of them.

To improve comparability with data published by Eurostat, the results presented from 2006 onwards refer to households occupied by at least one person aged 16 to 74 and to persons of the same age group.

However, the full results for the population aged 16 and over are available in the microdata files. The publication also includes additional tables for minors (10 to 15 years) and people aged 75 and over.

- *Family household*

A household intended to be inhabited by one or more persons who do not constitute a group, regardless of the links between them.

- *Main family household*

A family household is considered to be the main household if it is used as the main residence for all or most of the year.

3 Time Scope

The statistics are compiled on an annual basis. Results are available from 2002 onwards.

Reference period of the survey results: traditionally three months.

In this edition, the collection has been extended from 1 April to 28 June 2024.

Reference period of the information: most of the ICT_H variables refer to the three months prior to the time of the interview.

- Current time: questions on household equipment, mobile phone use, level of trust in the Internet and teleworking.
- Previous week (Monday to Sunday): demographic and socio-economic questions.
- Last three months (measured from the date of the interview): for most variables related to ICT use (data on children aged 10 to 15, Internet activities, e-commerce, Internet of Things, etc.).
- Last 12 months (measured from the date of interview): e-government.

At some point, delete a free account, recycle ICT products.

III Questionnaire Design

1 Questionnaire Development

The ICT_H Survey provides a comparable, standardised and flexible framework for studying the Information Society.

To this end, the questionnaire design for each edition of the survey is based on the following:

- Eurostat Regulation establishing, on the basis of meetings and consultations between Member States, a common, homogeneous and comparable methodology and questionnaire with compulsory and optional questions for all EU countries.
- Contributions from collaborating bodies (red.es, Autonomous Communities, etc.).
- Contributions from other national and international bodies (International Telecommunications Union, etc.).

On the basis of all this information, INE prepares the national questionnaire, including all the compulsory questions laid down in the Eurostat Regulation and the rest of the contributions considered to be of national interest, always taking into account the length of the questionnaire and the burden on the respondent.

In order to avoid increasing the non-response rate due to respondent fatigue, the questionnaire is administered in such a way as to follow the logical flow of the questionnaire, omitting questions that are not necessary for the purpose of the survey.

2 Basic Concepts

The main concepts that are used in the ICT_H Survey are the following:

Internet use

Use of electronic devices with access to the Internet data communications network for browsing (searching for or consulting information by scrolling through web pages) in the following cases:

- Carried out through any device that allows access (mobile phones, desktops, laptops, tablets, game consoles, smart TVs, smart devices, etc.)
- Carried out from any place (own home, work or study centre, co-working centres, other homes of relatives or acquaintances, public roads, etc.) and for any period of time.
- Whose use includes mainly private purposes and, exceptionally, professional or educational purposes, both personal and accompanying other people in their use.

E-government

E-government is the use of ICT in government, combined with organisational change and new skills, to improve public services, democratic processes and support for public policies.

It refers to the use of government websites or applications (e.g. government and/or justice at national, regional and local levels) and the use of public services via the Internet.

Websites or applications of authorities or public services that include websites related to citizens' obligations (e.g. tax returns, notification of change of address, etc.), rights (e.g. social benefits, etc.), official documents (e.g. national identity card, birth certificate, etc.), public education services (e.g. public libraries, information on enrolment in public schools or universities...), health services (e.g. public hospital services...).

E-commerce (online shopping)

Commercial exchange of goods and services carried out through Information and Communication Technologies, usually with the support of standardised platforms and protocols through the Internet.

From a household perspective, it generally includes all purchases, downloads, bookings, service requests and orders made by any means (desktop, laptop, tablet, mobile phone, etc.), whether personally or in the company of others.

Only purchases made for private reasons are considered in the questionnaire.

Internet of Things (IoT)

Based on existing communication technologies such as the Internet, IoT represents the next step towards digitalisation, where all objects and people in and across private, public and industrial spaces can be connected via communication networks and report on their status and/or the state of the environment.

The questionnaire is limited to individual use of IoT solutions in the context of private life. It refers mainly to the use of home automation solutions (domotics), but also to the use of wearable devices, e-health solutions or cars with built-in wireless connectivity.

ICT Recycling

The aim of this block is to gather information on recycling habits of ICT equipment (mobile phones, laptops or tablets and desktop computers) that are no longer in use.

Teleworking

Teleworking is remote work that is carried out through the exclusive or prevalent use of computer, online and telecommunication media and systems. Work is done away from the office and can be done from home, a co-working centre or anywhere there is an internet connection.

A person is considered employed if such is felt and declared.

3 Questionnaire Structure

The questionnaire is divided into blocks that can be grouped into three main sections:

1. ICT information on the household
2. ICT information on all minors aged 10 to 15 years
3. ICT information on the selected person aged 16 or over in the household

Section 1. ICT Information on the Household (Blocks I, II and III of the questionnaire)

- Household composition and selection of the person to be interviewed in the individual questionnaire (Block I).
- In the questionnaire, the table “Household Members” is reported first to define which persons are members of the household and which of them are surveyable (household members aged 16 and over). The selection of the person to be interviewed is computerised and random.
- Household equipment in technologies (computers, mobile phones...) (Block II).
 - Desktop or laptop computer (excluding tablets)
 - Tablet-like computer
 - Landline
 - Mobile phone
- Internet access used in the household (Block III).
 - Fixed broadband connection (ADSL, cable, fibre, satellite, public Wi-Fi, WiMax, etc.), regardless of whether it is also connected via mobile data.
 - Mobile broadband connection only (3G, 4G or 5G, via USB modem or card in laptops, etc.).

Section 2. ICT Information on Minor (from 10 to 15 years) Living in the Household and Their Use of ICT (Block IV)

This block should be completed if there are children aged 10 to 15 living in the household. The following information is collected:

- Computer use
- Internet use
- Mobile phone use

Section 3. ICT Information on the Selected Person in the Household (blocks V to XII)

This block should only be completed by the selected person.

Mobile Phone and Internet Use by the Person Selected (Block V)

This block provides general information about the frequency of use and activities carried out on the Internet.

- **Mobile phone use**
- **Frequency of Internet use** from any location, for any purpose (private, professional or educational) and with any device. The following frequency of use scales are obtained:
 - Several times a day
 - Daily
 - At least once a week

- At least once in the past three months
- At least once in the past twelve months
- At any time in your life
- Never used the Internet

This question is the basis for applying filters throughout the questionnaire.

- **Level of trust in the Internet** (little or none, quite a lot and a lot)
- **Type of Internet activity undertaken** in the last three months from any location and for private purposes
 - Communication activities: sending or receiving emails, making phone or video calls, participating in social networks, using instant messaging.
 - Information access activities: reading news on websites, online newspapers/magazines, looking for information about goods or services.
 - Activities related to political and social participation: expressing civic or political opinions on websites or social networks, participating in online consultations or voting on civic or political issues.
 - Entertainment-related activities: listening to or downloading music, watching programmes broadcast by TV channels over the Internet, watching films or video on demand from commercial companies, watching video content from sharing sites, playing or downloading games.
 - Health-related activities: searching for information on health topics (e.g. injury, nutrition, illness), making an appointment to see a doctor via a website or mobile application, accessing personal health records online, accessing other health services via a website or mobile application instead of going to a hospital or doctor's office.
 - Learning activities undertaken via the Internet in the last three months (for this activity the scope is extended from strictly private to educational and professional): taking an online course, using learning materials other than a full online course, communicating with teachers or students via online audio or video tools.
 - Purpose of the learning activities in which you participated: for formal education, for professional or work-related purposes, for private purposes.
 - Other activities: sale of goods or services (transaction or business conducted online), internet banking (including mobile banking).

Issues Encountered when Deleting an Account (Block VI)

This block contains information about creating and deleting accounts in free applications or web services, as well as issues encountered when trying to delete such accounts or unsubscribe from these applications or services.

The respondent will be asked about:

- Creating an account or registering for a free application or web service
- Deleting an account
- Issues when trying to delete an account

E-government (Block VII)

Block aimed at investigating the selected person's use of the Internet in his/her possible relationship with public administrations and services. These services should include public education and health services.

It refers to public administrations at all levels: local or city council, autonomous community, state, management companies, etc.

The reference period for the questions in this block will be the 12 months prior to the interview and will only be considered for private reasons (i.e. excluding work reasons, etc.).

It should be completed by people who have used the Internet in the last 12 months.

The following information is collected:

- Access to information held by the public administration:
 - Access to their information from public authorities or services (e.g. pensions, health, employment, fines)
 - Access to database information or public records (e.g. availability of books in public libraries, cadastral records, business records, census)
 - Obtain other information from public administrations websites or applications (e.g. services, benefits, entitlements, laws, taxes)
- Download or print official forms from a government or public service website or application
- Requesting or reserving an appointment via a website or application of public administrations or services (e.g. with a civil servant, a medical service, a reservation for activities in public centres, a book or an application for admission to selective public employment tests)
- Filing of tax returns (Yes/No)
- Request for documents or applications:
 - Request any official document or certificate (e.g. graduation certificate, birth, marriage, divorce, death, residence, police record, criminal record)
 - Apply for subsidies or rights (e.g. pension, unemployment, child support, enrolment in colleges or universities)
 - Other requests, claims or complaints (e.g. reporting a theft, filing a legal claim, requesting legal assistance, filing a lawsuit)
- In the case of not having applied for any of them, the various possible reasons for not having applied for official documents or not having applied online to government websites or applications, despite the need to do so, are explored: Lack of skills or knowledge, concerns about the protection or security of personal data, being processed online by someone else on their behalf (manager, accountant, family member, friend, etc.), other reasons.
- They are also asked about possible problems when using these public administration websites or applications: website difficult to use, technical problems when using the

website or application, problems when using the electronic signature, problems when accessing from a mobile phone or tablet, other problems.

Additional information includes the average number of contacts the individual has made with the e-government. Contacts are counted according to the different types of interaction of the nine above.

E-commerce (Block VIII)

It includes all purchases, service requests, downloads, bookings and confirmed orders made for personal use, on any device, from any location. Purchases made for work-related purposes are excluded.

It covers both business-to-business and business-to-private purchases, provided that there is a payment and that it is made (the contact and agreement) through a website or application. This means that:

- Goods, downloads and services obtained free of charge via the Internet are excluded.
- The purchase or booking contract must be concluded via the application or web shop and is binding. This does not include websites or applications that simply connect people to each other, but do not include the closing of the deal, with the transaction taking place later between the people themselves, either by email, WhatsApp, Facebook, etc.

Payment does not have to be made online and can be made at a later date (any payment system in use is included).

The time reference period for the questions in this block is the 3 months prior to the interview.

- **Frequency of purchases.** The following scales of e-commerce use frequency are obtained:
 - At least once in the past three months
 - At least once in the past twelve months
 - At any time in your life
 - Has never shopped online

A distinction is made according to the type of product or service:

- Purchase in physical format
- Purchases in online format (downloads) or subscriptions
- Contract for a transport or accommodation service

The accrual principle is applied: purchases are recorded at the time they are made and not at the time of payment (whether in cash or in instalments).

Invoice payments (instalments) are not included if the purchase/subscription of the good/service was made before the reference period of the question (last 3 months).

The questions will be answered by **Internet users in the last 3 months who have shopped in the same time period.**

- **Type of physical product purchased:**
 - Clothing (including sportswear), footwear or accessories
 - Sports goods (excluding sportswear)
 - Children's toys or childcare articles
 - Furniture, home accessories or garden products
 - Music in physical format: CDs, vinyl, etc. or films or series in physical format: DVD, Blu-ray, etc.
 - Printed books, magazines or newspapers in physical format
 - Computers, tablets, mobile phones or accessories
 - Electronic equipment or electric household appliances
 - Medications or dietary supplements
 - Deliveries from restaurants, fast food chains, caterers
 - Food or drink from shops or supermarkets
 - Cosmetics, beauty or spa products
 - Cleaning or personal hygiene products
 - Bicycles, motor vehicles or other vehicles or their spare parts
 - Other physical goods
- **Type of online product downloaded or subscribed to in the last 3 months:**
 - Music, streaming or downloads
 - Films or series, streaming or downloading
 - E-books, online magazines or online newspapers
 - Online games, including downloaded games
 - Software downloads, including updates
 - Applications related to health or fitness
 - Other applications (e.g. related to language learning)
 - Tickets to sporting events
 - Tickets to cultural events (cinema, concerts, fairs, etc.)
 - Internet subscriptions or mobile phone connections
 - Subscriptions to electricity, water or gas supply
- **Type of service contracted** in the last three months:
 - Transport services
 - Accommodation services
- **Financial activities carried out** in the last three months for private purposes (excluding transactions carried out by email), distinguishing between:

- Buying or selling shares, bonds or other financial investment products
- Taking out or renewing insurance policies
- Taking out a loan or mortgage or arranging credit from banks or other financial institutions

Internet of Things (Block IX)

Based on existing communication technologies such as the Internet, IoT represents the next step towards digitalisation, where all objects and people in and across private, public and industrial spaces can be connected via communication networks and report on their status and/or the state of the environment.

The questionnaire is limited to individual use of IoT solutions in the context of private life. It refers mainly to the use of home automation solutions (domotics), but also to the use of wearable devices, e-health solutions or cars with built-in wireless connectivity.

ICT Recycling (Block X)

The aim of this block is to collect information on the recycling habits of ICT equipment (mobile phones, laptops or tablets and desktops) that are no longer in use.

Teleworking (Block XI)

This block is devoted to exploring the performance of teleworking by respondents who have worked in the last week, as well as exploring different aspects of teleworking that the pandemic has brought to light.

Teleworking is remote work that is carried out through the exclusive or prevalent use of computer, online and telecommunication media and systems. Work is done away from the office and can be done from home, a co-working centre or anywhere there is an internet connection.

A person is considered employed if such is felt and declared.

– Relationship to teleworking in the main job according to availability to work online

- a) Their job allows them to work remotely (fully or partially) and they have worked remotely in the past week.
- b) Their job allows them to work remotely (fully or partially) and they have not worked remotely.
- c) Their job does not allow them to work remotely.

– Percentage of online working time currently spent in teleworking mode

For people who have worked remotely

- Every day without going to the workplace (100%)
- Every day, going occasionally to the workplace
- 4 days a week (between 80% and less than 100%)
- 3 days a week (between 60% and less than 80%)
- 2 days a week (between 40% and less than 60%)

- 1.5 days a week (between 30% and less than 40%)
 - Less than 1.5 days (less than 30%)
- **Evaluation of teleworking (scale from 0 to 10)**

For people who have worked remotely

Socio-Economic Characteristics of the Selected Person (Block XII)

In this block, questions are asked exclusively about the socio-economic characteristics of the selected person.

The respondent is therefore asked to give his/her country of birth, nationality, marital status, whether he/she is living with a partner, the level of education attained, the situation with regard to work and, if he/she is working, his/her employment situation, the main activity of the establishment where he/she works, his/her occupation and, finally, the amount of his/her net monthly household income.

See ANNEXES I and II for the level of education attained and the main activity carried out.

4 What is new in the ICT_H 2024 questionnaire compared to the ICT_H 2023 questionnaire?

The world of ICT is very dynamic, constantly evolving, becoming more complex, versatile and comprehensive. It would be materially impossible to attempt to explore all aspects of it in a single edition of the survey, i.e. in a single questionnaire.

For this reason, and with the aim of analysing and deepening the various aspects of the Information Society, the ICT_H questionnaire is a dynamic questionnaire, since it includes modules with different periodicity (annual, biennial, triennial) and new sections as a result of the development of new technologies and the information needs of users.

As in the past, the main changes are due to the modifications necessary to meet the minimum requirements of the model questionnaire proposed by Eurostat and the commitments with other institutions.

The information excluded is defined on the basis of the different non-annual collection periodicities established by Eurostat and the need to adapt the questionnaire to a moderate length that does not impose an excessive burden on respondents.

The blocks in which there have been changes compared with the previous year's survey are listed below, with the **most important changes** indicated.

– **Block II: Equipment of the Main Household in Terms of ICT Products**

It remains the same as the 2023 edition.

– **Block III: Household Internet Access**

It remains the same as the 2023 edition.

– **Block IV: Children's Use of Computers and the Internet (aged 10-15)**

It remains the same as the 2023 edition.

– **Block V: Mobile Phone and Internet Use by the Person Selected**

The question on devices used to connect to the Internet in the last three months has been removed (biennial).

Given its biennial periodicity, it includes questions on activities related to:

- Entertainment (listening to music, watching programmes broadcast over the Internet from TV channels, watching films or videos on demand, watching video content from sharing sites, and playing or downloading games); and
- Some of the health-related activities (accessing personal health records or other health services online instead of going to the hospital).

The question on whether the Internet was used to look for or apply for a job is excluded in this edition (biennial).

The question on the purpose of learning activities is included again (biennial).

– **Block VI: Issues Encountered when Deleting an Account**

This block is a new addition to the 2024 edition.

– **Block VII: E-government**

The tax declaration question is modified by reducing the number of answer options to two: Yes/No.

Issues encountered when using a website or application of public administrations or services are included.

– **Block VIII: E-commerce**

The question about the origin of the sellers has been removed.

Questions about the number of times they have shopped online and the amount they have spent on their online purchases have been removed.

Subscription and download categories were updated.

Removed for home services contracting. In general (transport and accommodation), no distinction is made between those hired from a company and those hired from a private individual (sharing economy).

Questions addressed to people who have made a purchase in the last 3 months are excluded, in order to find out what issues they may have had for specific reasons when making a purchase via a website or an application (biennial).

– **Block IX: Internet of Things**

It remains the same as the 2022 edition (this block has a biennial periodicity).

– **Block X: ICT Recycling**

It remains the same as the 2022 edition (this block has a biennial periodicity).

– **Block XI: Teleworking**

It remains the same as the 2023 edition.

– **Block XII: Socio-Economic Characteristics of the Selected Person**

Two new questions on health are included, on whether the respondent is restricted in carrying out usual activities due to a health problem and whether he/she has been affected by such a restriction in the last 6 months.

Due to their biennial periodicity, the **Computer Literacy and Privacy and Protection of Personal Data** blocks are not included in the current survey.

IV Sample Design

1 Sample Type

Three stage sampling with stratification of the first stage units is used.

The first stage units are the census sections. In the second stage, the main family household is selected and in the third stage, **one person** over the age of 15 is selected in each household. In addition, **all children** aged between 10 and 15 in each household are interviewed.

The selection of the sample was based on a frame of areas formed from the list of existing census sections with reference to October 2023. However, changes that occur over time are periodically incorporated into the sample.

For the selection of units in the second stage, the list of main family households in each of the sections selected for the sample, obtained from the most recent Continuous Register available, was used.

The sections are grouped into stratum within each Autonomous Community according to the size of the municipality to which they belong.

The following stratum have been taken into account:

- Stratum 0: Municipalities with 500,000 inhabitants or more.
- Stratum 1: Provincial capital municipalities with less than 500,000 inhabitants.
- Stratum 2: Municipalities with between 100,000 and less than 500,000 inhabitants that are not provincial capitals.
- Stratum 3: Municipalities with between 50,000 and less than 100,000 inhabitants that are not provincial capitals.
- Stratum 4: Municipalities with between 20,000 and less than 50,000 inhabitants that are not provincial capitals.
- Stratum 5: Municipalities with between 10,000 and less than 20,000 inhabitants.
- Stratum 6: Municipalities with less than 10,000 inhabitants.

For each Autonomous Community, an independent sample is designed to represent it, as one of the objectives of the survey is to provide data at this level of disaggregation.

2 Sample Size - Allocation

In order to achieve the objectives of the survey, i.e. to provide estimates with a certain degree of reliability at national and Autonomous Community level, the sample size was set at 2,500 census sections, with 15(*) being the number of households selected in each enumeration section, depending on the Autonomous Community.

The distribution of the sample by Autonomous Community is determined by a uniform allocation of obligations proportional to the size of the Community. The aim is to ensure that the sample size is sufficient to produce reliable estimates in each Autonomous Community.

The distribution of the number of sections selected by Autonomous Community is as follows:

Autonomous Community	Number of census sections
Andalucía	236
Aragón	112
Asturias, Principado de	120
Balears, Illes	116
Canarias	136
Cantabria	112
Castilla y León	136
Castilla - La Mancha	132
Cataluña	216
Comunitat Valenciana	180
Extremadura	136
Galicia	152
Madrid, Comunidad de	200
Murcia, Región de	124
Navarra, Comunidad Foral de	116
País Vasco	140
Rioja, La	108
Ceuta and Melilla	28
TOTAL	2,500

The allocation between stratum is strictly proportional to the size of the stratum.

(*) Note: From 2023, the number of households to be selected within each section in the first interview sample is 15.

3 Sample Selection

In the first stage, the units in each stratum were selected with a probability proportional to the size of each section in order to carry out the survey. In the second stage, the households were selected with equal probability from among the households in the section by means of systematic sampling with random starting point, a procedure that leads us to obtain self-weighted samples of households in each stratum.

In the third stage, within each household, a person aged 16 and over is selected with equal probability.

4 Sample Renewal

The research is a continuous survey carried out every year. In order to take account of the fluctuations that occur in the census sections, on the one hand, and to avoid the fatigue of the cooperating families and to increase the probability of selection of new families, on the other, the sample of sections and households is partially renewed, for which the scheme of rotating shifts is introduced.

The *rotation shifts* are groups of sample sections used to progressively incorporate the changes in the sample. The number of sample sections per stratum in each Autonomous Community is distributed among the rotation shifts in such a way that they are representative.

The survey is a rotating panel with four rotation shifts.

4.1 SAMPLE SECTIONS RENEWAL. UPDATE OF SELECTION PROBABILITIES.

Based on the information from the electoral files and the Continuous Register, the selection probabilities of the sections are updated.

The changes resulting from the update are continuously incorporated into the sample by rotation shift.

In 2024, the changes took place in rotation shift 3, i.e. the shift corresponding to the renewal of the household sample.

The updating procedure is that proposed by L. Kish and A. Scott (JASA 1971).

4.2 HOUSEHOLD SAMPLE RENEWAL.

As mentioned above, the sample of households is partly renewed by rotating shifts in order to avoid fatigue among the interviewed households and to give other new households in the census section a chance to be selected.

Therefore, new households are selected in all sections belonging to a given rotation.

In 2024, the households in the sections of rotation shift 3 were renewed.

5 Estimators

The following types of estimators are considered for estimating survey characteristics:

- Estimator for household data
- Estimator for data on persons aged 16 and over
- Estimator for data on persons aged 10-15

In all cases ratio estimators calibrated to information from external sources are used.

a) Estimator for household data

For household characteristics, an estimator obtained through the following steps is used:

- i) *Expansion estimator based on the design factor with correction for non-response at stratum level.*

In each stratum h , the estimator of the sum of a characteristic X is obtained by the expression:

$$\hat{X}_h = \sum_{i=1}^{n_h} \sum_{j=1}^{v_{h(e)}} \frac{V_h}{v_{h(e)}} x_{hij}$$

where:

V_h : stratum h households.

$V_{h(e)}$: effective sample size of households in stratum h.

x_{hij} : value of the characteristic under study in household j of section i.

n_h : number of sample sections in stratum h.

$V_{ih(e)}$: effective number of households in section i of stratum h.

ii) *Separate ratio estimator to adjust for population in each stratum h.*

$$\hat{X}_h^R = \frac{\sum_{i=1}^{n_h} \sum_{j=1}^{V_{ih(e)}} x_{hij}}{\sum_{i=1}^{n_h} \sum_{j=1}^{V_{ih(e)}} p_{hij}} P_h$$

where:

p_{hij} : total sample persons (aged 16 and over) in household j in section i.

P_h : population in stratum h.

iii) *The final estimator is obtained by applying reweighting techniques to the previous estimator, using the CALMAR software.*

As an auxiliary variable, the estimate of the total number of main households by size (4 sizes) was used for each Autonomous Community, with reference to 15 May 2024.

b) Estimator for data on persons aged 16 and over

It is obtained from the information in the individual questionnaire, which is answered by a person selected from among the household members aged 16 or over. The estimator is similar to that used in the case of the household, but takes into account the existence of a factor that incorporates the probability of selection of the person within the household.

i) *Estimator based on the design factor with correction for non-response.*

$$\hat{X}_h = \sum_{i=1}^{n_h} \sum_{j=1}^{V_{ih(e)}} \frac{V_h p_{hij}}{V_{h(e)}} x_{hij}$$

ii) *Ratio estimator to adjust for stratum population.*

$$\hat{X}_h^R = \frac{\sum_{i=1}^{n_h} \sum_{j=1}^{V_{ih(e)}} p_{hij} x_{hij}}{\sum_{i=1}^{n_h} \sum_{j=1}^{V_{ih(e)}} p_{hij}} P_h$$

iii) *Application of calibration techniques using as auxiliary variables the population by age, sex and nationality groups at the level of the Autonomous Communities, for which the CALMAR macro is used.*

The *population* used in the survey was an estimate of the population living in the main family household on 15 May 2024, derived from the *Population Figures*.

c) Estimator for data on persons aged 10-15

Sample information for all household members aged 10 to 15 is provided by the selected person aged 16 and over in each household.

The estimator used to obtain the information on these persons is similar to that described in Section A, except that the auxiliary variables used in the calibration (Section A.3) are the estimates of the population living in the main family household, by sex, aged 10 to 15 in each Autonomous Community, derived from the *Population Figures*.

6 Sampling Errors

The indirect Jackknife method is used to calculate the sampling errors for the main characteristics investigated¹.

This method is based on the creation of sub-samples where each of these is obtained by eliminating a primary unit from the total sample. Estimating the variance of the estimator has the following expression:

$$\hat{V}(\hat{X}) = \sum_h \frac{(n_h - 1)}{n_h} \sum_{j \in h} (\hat{X}_{(hj)} - \hat{X})^2$$

where:

$\hat{X}_{(hj)}$ is the estimate of characteristic X when the primary unit j of stratum h is removed from the sample.

\hat{X} is the estimate of X obtained with the full sample.

n_h is the number of primary units in stratum h .

Sampling theory determines that in the interval between

$$\left(\hat{X} - 1,96 \sqrt{\hat{V}(\hat{X})} \quad , \quad \hat{X} + 1,96 \sqrt{\hat{V}(\hat{X})} \right)$$

there is a 95 percent confidence that the true value of parameter X be found.

The INE website (www.ine.es) publishes the sampling errors for some of the main variables relating to households, persons (16 to 74 years) and minors (10 to 15 years).

¹ Formally, these errors are estimates of the *standard deviations* of the characteristic estimators.

They are grouped in three tables according to the results of the survey, which include information at both national and Autonomous Community level.

1 Fieldwork Organisation

The fieldwork covered the entire national territory and was carried out from 1 April to 28 June 2024.

The information was obtained through different channels of completion, using two different interview methods:

CAWI: The data coming from this channel are collected via an electronic questionnaire available on the Internet, using the IRIA (Integration of Information Collection and Administration) application.

This channel was introduced for the first time in 2017, and was offered to all sample units before being called by the corresponding centre associated with the household.

Once the questionnaire has been completed, the same web application determines the completeness and validity of the questionnaire by transferring the information to the central database.

- **CATI:** Telephone interview conducted by a CATI centre. The interviewer does not use paper questionnaires but records the respondent's answers directly on the electronic questionnaire.

The CATI collection was carried out by an external company contracted for this purpose.

In the CATI centres, the contact hours for telephone interviews were from 10:00 to 21:30.

- **CAPI:** Face-to-face interview using a laptop or tablet computer. The interviewer does not use paper questionnaires, but has a laptop with the questionnaire on it and conducts the interviews with this laptop.

The CAPI Filling Channel is initially programmed for households in the following cases:

- There is no telephone number available for a person who is living in the household.
- The WEB questionnaire has not been completed.

There is therefore a third collection option for these households.

However, due to the lack of available resources, this third option was only marginally used.

A telephone number was available for about 92% of the first interview sample. INE requests from the CNMC (National Commission on Markets and Competition) the telephone numbers corresponding to the sample units selected to participate in this survey, in application of Article 10.1 of the Law on the Public Statistical Function (Law 12/1989), following a report from the Spanish Data Protection Agency, which guarantees the provision of this information under certain conditions that guarantee the proportionality, usefulness and protection of the same.

2 Collection Method

The first contact with the selected households is made by sending them a letter requesting their cooperation, informing them that they have been selected for the survey and explaining the confidential nature of the survey.

They are also given an access address to fill in the questionnaire via WEB (CAWI) with their corresponding user codes and passwords.

Households that did **NOT complete the online questionnaire** within the set deadlines, or whose completed questionnaire was incomplete or contained inconsistencies, were subsequently contacted to conduct the interview or to complete/correct the questionnaire by telephone (CATI).

In other words, the collection is planned in two phases:

- Phase 1. For all households: Possibility to fill in via Internet (CAWI)
- Phase 2. For those households that did not complete the CAWI questionnaire: CATI interview and residual CAPI

3 Incidents in Households and Groups and their Management

The **household codes** taken into account are:

- Households used for other purposes (OF)

The selected household is entirely devoted to purposes other than family residence. For example: monastery, retirement home, garage, office, etc.

- Inaccessible household (IN)

For CAPI, this is a household that cannot be accessed to conduct the interview due to climatic reasons (floods, snowfall, etc.), geographical reasons (if there are no passable roads to reach it) or other reasons.

Those households for which no telephone number was available were assigned the incident IN.

For CATI, this incident is automatically assigned if the telephone number you have for a household does not correspond to the address where the interview should take place and you cannot find a correct telephone number.

- Empty household (V)

The selected household is not the main household and may be a seasonal household (occupied or not at the time of the interview) or unoccupied for any reason, such as death or change of residence of the persons living there.

- Previously selected household (SA)

This is a household that has already been selected previously (less than five years ago) in the sample of any other INE population and household survey and, having cooperated in this survey, has been selected again.

- Surveyable household (E)

The **group codes** taken into account are:

- Total refusal (TN)

This is considered to be the case when it has not been possible for an interview to take place due to a refusal by the initial respondent, whether this is a direct, initial refusal or whether it occurs later, after collaboration has begun.

- Refusal of the selected person (NS)

This is considered to be the case whenever the initial respondent answers questions related to the general household but **the selected person refuses to provide information**, whether this is a direct, initial refusal or whether it occurs later, after collaboration has begun.

- Total absence (TA)

This incident occurs when, after successive calls (in CATI), no contact has been made with anyone in the household or when contact is established with someone who does not live in the household and reports that its occupants are absent.

- Absence of the selected person (AS)

This occurs when, after successive visits or successive calls to the household, it is not possible to carry out an interview because the selected person is absent and cannot be contacted.

- Inability to answer (IC)

This incident occurs when the interview cannot be carried out due to the inability to respond to the interview, either because of age, disability, illness, lack of language skills or any other circumstance, both of the members of the household as a whole, which prevents initial contact, and of the selected person.

If the selected person is unable to answer, the interviewer is allowed to use a third person as an intermediary to obtain the information.

- Other incidents (OI)

This incident occurs when none of the above has occurred and the completed questionnaire does not meet the requirements to be considered *complete* because of incomplete or inconsistent information or because it was received after the deadline.

- Surveyed (E)

The filled in questionnaire meets the requirements to be considered *complete*.

A questionnaire is **complete** when all relevant questions have been answered according to the flow of the electronic questionnaire.

The CAWI interviews are all considered to be Surveyed (E) because, if for some reason the completed and returned questionnaire is not received, a CATI centre is assigned to conduct the interview or to complete or refine the questionnaire.

4 Response Rate

The distribution of incidents in the households and the response rate were as follows:

Household Incidents

	GROSS SAMPLE	Surveyable households	Inaccessible households	Empty household	Household used for other purposes	Previously selected household	Unlocatable dwellings
TOTAL	26,193	23,583	2,199	386	36	7	-
%		90.0%	8.4%	1.4%	0.1%	0.0%	0.0%

The original theoretical sample consisted of 26,193 households, of which 23,583 or 90.0% were surveyable.

Group Incidents

	Surveyable household	Surveyed household or Net Sample	Total refusal	Selected person's refusal	Total absence	Absence of the selected person	Inability to answer	Other Incidents
TOTAL	23,583	16,478	232	2	6,833	6	32	-
%		69.9%	1.0%	0.0%	29.0%	0.0%	0.1%	0.0%
CAPI	95	7	11	0	76	-	1	-
%		7.4%	11.6%	0.0%	80.0%	0.0%	1.1%	0.0%
CATI	13,990	7,109	221	2	6,621	6	31	-
%		50.8%	1.6%	0.0%	47.3%	0.0%	0.2%	0.0%
CAWI	9,498	9,362	-	-	136	-	-	-
%		98.6%	0.0%	0.0%	1.4%	0.0%	0.0%	0.0%

Of the 23,583 households that could be surveyed at the start, 16,478 completed a full questionnaire (surveyed household or net sample). The **non-response rate** is therefore **30.1%**.

Total Absence represents 29.0% of the total number of surveyable households.

For the CAWI process, group incidents due to a non-response do not apply as the households that did not initially fill in the questionnaire were assigned to a CATI interview.

Percentage of Households Surveyed by Interview Channel

	NET SAMPLE	CAWI (Web)	CATI (Telephone)	CAPI (Personal)
TOTAL	16,478	9,362	7,109	7
%		56.8%	43.1%	0.1%

Of the total number of households surveyed, 56.8% were collected by filling in the questionnaire via the internet (CAWI), 43.1% via telephone interview (CATI) and the remaining 0.1% through personal interview (CAPI).

5 Use of Administrative Records

In accordance with the Code of Good Practice, information from administrative registers has been used:

- For the variable “net monthly household income”, “don't know/no answer” cases have been imputed using information from administrative registers: AEAT and Provincial Councils of Guipúzcoa and Álava.

1 Quality Assurance

Quality is guaranteed at all stages of the survey through error detection and control mechanisms.

The TIC_H Survey collection applications are designed to ensure the highest quality of information collected, as the recording is intelligent and allows for the detection and correction of coverage errors, flow errors (partial non-response) and a range of inconsistencies.

Therefore, the application is tested for each edition of the survey to ensure that it does not contain any computer errors that could lead to missing or biased information. In addition, from the start of the Survey, any errors/inconsistencies detected are analysed and immediately communicated to all the collection centres, which may lead to some interviews being repeated.

On the other hand, response rates are monitored daily at the provincial level in order to detect any problems in data collection, as well as the main indicators of the survey at the sample level, which are compared with those of previous years in order to detect gaps or irregularities in the collection of information, which are immediately communicated to those responsible for data collection and which may also entail the repetition of certain interviews.

Once the survey has been completed, the coding of classification variables, such as level of education, occupation or activity of the enterprise for which the person works, is checked and any erroneous codes are corrected.

2 Quality Evaluation

Once the evaluation factors have been obtained, detailed analyses are carried out both for internal consistency and for comparison with previous editions and external data sources to identify possible macro-level inconsistencies.

In addition, as they are subject to the European regulatory framework, the microdata are subject to Eurostat's error and inconsistency detection programme, which is designed independently from the one applied in the INE collection programmes. This Eurostat programme guarantees that the survey results are free of coverage, flow and inconsistency errors. In other words, the results are subject to a double control, the INE survey application and the Eurostat programme.

Eurostat also sends an annual Y2Y report analysing the year-to-year variations of the data in the files submitted for justification/explanation, thus ensuring twice that the results are consistent and comparable.

In addition, in order to comply with the EU regulation, INE prepares an annual quality report on the ICT_H Survey for Eurostat (Quality Report), which is approved by the aforementioned organisation.

In terms of quality documentation available to users, an annual non-response assessment report has been published since 2004 and, since 2008, sampling errors for the main survey estimates have been published in the detailed results tables.

Finally, the non-response rate may also increase depending on the organisation responsible for collection. Since 2011, the collection has been outsourced and the non-response rate has increased compared to previous years. For this reason, the collection specifications put special emphasis on reducing non-response.

VII Dissemination of Results

The results are disseminated annually.

The statistical tables of the survey results, together with the methodological report and other complementary information (anonymised microdata files, sampling error tables, questionnaire, non-response analysis, standardised methodology, glossary of terms, press release, static and dynamic graphs or tableau) are published on the INE website (www.ine.es).

The number of comparable years of the time series published in 2024 is 19 (since 2006, when the European methodology was adopted).

As in previous editions, and in order to improve comparability with data published by Eurostat, the statistical tables of the ICT_H 2024 results presented here refer to households occupied by at least one person aged 16-74 and to persons of the same age group (16-74).

However, the full results for the population aged 16 and over are available in the microdata files. The publication also includes additional tables for minors (10 to 15 years) and people aged 75 and over.

In microdata files, variables that might allow the direct or indirect identification of the informant are eliminated. In addition, personal and contact details are only available at the time the information is collected.

Summary and evolution tables of the main variables (series 2006-2024) are published, as well as detailed information on Internet equipment and access in households and by individuals, Internet usage, Internet activities, the relationship with e-government, e-commerce and the Internet of Things. ICT product recycling and Internet trust.

These statistical variables inherent to the survey are crossed with demographic variables (sex, age, size of municipality of residence, size of household, type of household, cohabitation and nationality), socio-economic variables (net monthly household income, studies completed, employment and professional situation and type of main activity) and the Autonomous Community of residence.

The unit of measurement of the Total column (first column) of the results tables is the number of households or persons, while that of the remaining columns (breakdowns of the total according to various variables) refers to percentages of the total.

LEVEL OF EDUCATION COMPLETED

This variable uses a highly grouped classification of the different levels of the CNED 2014 classification of educational attainment.

The topic is presented as follows (question P60):

1. Illiteracy and incomplete primary education
2. Primary education
3. First stage of secondary education and similar
4. Second stage of secondary education and similar (baccalaureate and intermediate vocational training)
5. Non-higher post-secondary education
6. Higher vocational training and university degrees of a duration of 2 years or more
7. University degrees of 240 ECTS credits (Bologna), university graduates, own university expert or specialist qualifications and equivalent
8. University degrees of more than 240 ECTS credits (Bologna), Bachelor's, Master's degrees and specialisations in Health Sciences through the Residency System and equivalent
9. PhD degree
10. Cannot be coded

Studies are coded according to the National Classification of Education (CNED) 2014, which is attached to facilitate the coding of question **P70**:

CLASSIFICATION OF LEVEL OF EDUCATION ATTAINED, CNED-A.

CODE 0:

Illiteracy and incomplete primary education

01 Illiterate persons

- Illiterate person

02 Incomplete primary education

- Incomplete primary education, people who can read and write and have attended less than 5 years of schooling

CODE 1:

Incomplete primary education

10 Primary education

- Primary education (completed)
- Adult basic education, initial education and programmes equivalent to primary education
- Applicable to persons who have been in education for 5 years or more and cannot be classified under any other heading

- Enrolled in Compulsory Secondary Education (ESO) and not classified in level 2

CODE 2

First stage of secondary education and similar

21 First stage of secondary education without a graduate degree in ESO or similar

Compulsory Secondary Education, 3d grade (all grades, passed or failed) or more, without diploma

- Adult secondary education fully completed or to the equivalent of ESO 3d grade without a lower secondary diploma
- Completed the first 9 years of primary and secondary education, without lower secondary education diplomas
- School leaving certificate before LOGSE (EGB certificates or certificates before 1999)
- Completion of EGB (8th grade) without secondary school diploma
- Elementary baccalaureate (4th grade), not passed
- Training programmes for the transition to adult life
- Persons who have attended school for at least 9 years (only if years of schooling and certifications cannot be determined)

22 First stage of secondary education with a graduate title in ESO or equivalent

- ESO Graduate Diploma through Compulsory Secondary Education
- ESO Graduate Diploma through PCPI (voluntary modules)
- ESO Graduate Diploma through Secondary Education for adults
- ESO Graduate Diploma through free exams
- School Graduate Diploma/EGB completed
- Elementary Baccalaureate Diploma/Elementary Baccalaureate (general, occupational or technical)
- Certificate of Primary Education (prior to the academic year 1975-1976)
- Certificate of having passed the entrance examination to a CFGM of Vocational Training
- Certificate of having passed the entrance examination to a CFGM of Plastic Arts and Design
- Certificate of having passed the entrance examination to the Intermediate Level of Physical Education

23 Level 1 professional certificates and similar

- Level 1 professional certificates (CdPN1)
- PCPI, Initial Vocational Qualification Programme (compulsory modules only)
- Social Guarantee Programmes

24 Level 2 professional certificates and similar

- Level 2 professional certificates (CdPN2)

CODE 3

Second stage of secondary education or similar (Baccalaureate and Intermediate Vocational Training)

32 Baccalaureate and similar

- Baccalaureate Degree
- Baccalaureate Degree/Unified and Polyvalent Baccalaureate (BUP)
- University Orientation Course (COU) passed
- Baccalaureate Degree/REM or Experimental Baccalaureate
- Higher Baccalaureate Degree/Higher Baccalaureate
- Pre-university course passed
- Certificate of having passed the university entrance examination (>25 years of age)
- Certificate of having passed the entrance examination to a CFGS of Vocational Training
- Certificate of having passed the entrance examination to a CFGS of Plastic Arts and Design
- Certificate of having passed the entrance examination to the Higher Level of Physical Education

33 Vocational education, plastic arts and design, and sports education at the middle level and similar

- Technician Degree/Intermediate Level Training Cycles (CFGM) of Vocational Training
- Plastic Arts and Design Technician Degree/Intermediate Level Training Cycles (CFGM) in Plastic Arts and Design (APyD)
- Sports Technician Degree/Intermediate Level Sports Education
- Auxiliary Technician Degree/First Level Vocational Training
- Industrial Officer Degree
- Applied Arts and Artistic Trades, 3 common courses
- Auxiliary Technician Degree/Experimental Modules of Vocational Training Level II
- Military Technician Degree
- National Police/Training Programmes for the Basic Scale of the National Police Forces
- Training Programmes for the Basic Scale of the Squadron Officers Forces
- Training Programmes for the Basic Scale of the Ertzaintza
- Training Programmes for the Local Police Forces in the Autonomous Community of País Vasco

- Training Programmes for the Local Police Forces in the Autonomous Community of Navarra
- Training Programmes for the Local Police Forces in the Autonomous Community of Generalitat de Catalunya
- Civil Guard, Basic Scale
- Agricultural Foreman

34 Professional education in music, dance, and similar subjects

- Professional Music Degree/Professional Music Education (LOE)
- Professional Dance Degree/ Professional Dance Education (LOE)
- Professional Music Degree/Intermediate Music Education (LOGSE)
- Professional Dance Degree/Intermediate Dance Education (LOGSE)
- Music Conservatory Intermediate Degree (LGE)
- Music Teacher Degree (Decree 2618/1966)
- Opera Singer Degree (Decree 313/1970)

35 Certificates issued by an official language school, advanced level and similar

- EOI Proficiency Certificate/Official Language School, Higher Cycle (LOGSE)
- EOI Advanced Level Certificate/Official Language School, Advanced Level (LOE)

38 Basic vocational training

- Basic Vocational Degree/Basic Vocational Training

CODE 4

Non-higher post-secondary education

41 Level 3 professional certificates, short-term programmes requiring second stage of secondary education and similar

- Level 3 professional certificates (CdPN3)
- University-specific courses requiring a baccalaureate degree, lasting 1 semester or more but less than 2 years

CODE 5

Higher level vocational training and equivalent and university degrees lasting 2 years or more

51 Vocational training, visual arts and design and sports training of a high level and equivalents

- Higher Technician Degree/Higher Level Training Cycles (CFGS) of Vocational Training
- Higher Technician Degree/Higher Level Training Cycles (CFGS) of Vocational Training (remotely)

- Higher Plastic Arts and Design Technician Degree/Higher Level Training Cycles (CFGS) in Plastic Arts and Design (APyD)
- Higher Sports Technician Degree/Higher Level Sports Education
- Specialist Technician Degree/Second Level Vocational Education
- Specialist Technician Degree/Experimental Modules of Vocational Training Level III
- Industrial Master's Degree
- Business Expert Degree
- Applied Arts and Crafts Degree/AA and Artistic Trades
- Military Education, Former Scale of Non-Commissioned Officers of the Armed Forces (access to the scale prior to 2015)
- Higher Technician Degree/Higher Level Training Cycles (CFGS) of Vocational Training through Military Training (access to the scale prior to 2015)
- Civil Guard, Non-Commissioned Officers Scale Education

52 University own qualifications with courses of 2 years or more that require a baccalaureate diploma

- University-specific degrees requiring a baccalaureate degree lasting 2 years or more

CODE 6

University degrees of 240 ECTS credits (Bologna), university graduates, own university expert or specialist qualifications and equivalent

61 University degrees of 240 ECTS credits and equivalent

- Graduate Degree (of 240 ECTS credits)/University Degrees of 240 ECTS credits and equivalent
- Graduate Degree/Double University Degree (combination of two degrees with 240 ECTS credits)
- Engineering Degree in any discipline
- Higher Degree in Conservation and Restoration of Cultural Heritage equivalent to Graduate (LOE)/Conservation and Restoration of Cultural Heritage Education (LOE)
- Higher Degree in Plastic Arts and Ceramics equivalent to Graduate (LOE)/
- Plastic Arts and Ceramics Higher Education (LOE)
- Higher Degree in Plastic Arts and Glass equivalent to Graduate (LOE)/Plastic Arts, Glass Higher Education (LOE)
- Higher Degree in Design equivalent to Graduate (LOE)/Design Higher Education (LOE)
- Higher Degree in Music (LOE) equivalent to Graduate/Music Higher Education (LOE)
- Higher Degree in Dance equivalent to Graduate (LOE)/Dance Higher Education (LOE)

- Higher Degree in Dramatic Art equivalent to Graduate (LOE)/Dramatic Art Education (LOE)
Baccalaureatus Degree (Ecclesiastical Education)/Ecclesiastical Education equivalent to Bachelor's Degree
- Graduate Degree in Theology/Bachelor's Degree in Theology
- Armed Forces Officer Degree (access to the scale from 2015)
- Armed Forces Officer Degree (access from the former Officers' Scale)

62 University diplomas and equivalent

- University Degree
- Technical Engineer Degree
- Architectural Technician Degree
- Bachelor's Degree in any discipline (first 3 years completed)
- Engineering Degree in any specialisation (first 3 years completed)
- Architecture (first 3 years completed)
- Quantity Surveyor
- Mining Technical Engineer
- Business Professor Degree
- Higher Degree in Conservation and Restoration of Cultural Heritage equivalent to Diploma (LOGSE)/Conservation and Restoration of Cultural Heritage Education (LOGSE)
- Higher Degree in Design equivalent to Diploma (LOGSE)/Design Higher Education (LOGSE)
- Higher Degree in Ceramics equivalent to Diploma (LOGSE)/Ceramics Higher Education (LOGSE)
- Higher Degree in Glass equivalent to Diploma (LOGSE)/Glass Higher Education (LOGSE)
- Airline Transport Pilot Degree (Airplane)
- Airline Transport Pilot Degree (Helicopter)
- Military Education, Former Scale of Officers of the Armed Forces (access to the scale prior to 2015)
- Ecclesiastical Education equivalent to Diploma

63 University-specific expert or specialist degrees of less than 60 ECTS credits with access requiring a university degree

- University-specific expert degrees
- University-specific specialist degrees
- University-specific degrees of more than 30 ECTS credits and less than 60 for which a university degree is required

- Non-official university postgraduate courses of 6 months or more and less than 1 year for which a university degree is required

CODE 7

University degrees of more than 240 ECTS credits (Bologna), Bachelor's, Master's degrees and specialisations in Health Sciences through the Residency System and equivalent

71 University degrees with more than 240 ECTS credits and equivalents

- Graduate Degree (of more than 240 ECTS credits)
- Double University Degree (combination of one degree with more than 240 ECTS credits and another degree)
- Graduate Degree in Medicine
- Graduate Degree in Pharmacy
- Graduate Degree in Veterinary
- Graduate Degree in Dentistry
- Graduate Degree in Architecture

72 Graduates and equivalent

- Bachelor's Degree
- Engineering Degree
- Architect Degree
- Higher Degree in Music equivalent to Bachelor's Degree (LOGSE)/Music Higher Education (LOGSE)
- Higher Degree in Dance equivalent to Bachelor's Degree (LOGSE)/Dance Higher Education
- Higher Degree in Dramatic Art equivalent to Bachelor's Degree (LOGSE)/Dramatic Art Higher Education (LOGSE)
- Higher Degree in Music Teacher (Decree 2618/1966)
- Music Teacher Degree and Professional Music Degree (Decree of 15 June 1942)
- Teacher Degree and Professional Theatrical Actor Degree (Decree 15/06/1942)
- Higher Diploma of Specialisation for Soloists (Decree 313/1970)
- Military Education, Former Higher Scale of Officers of the Armed Forces (access to the scale prior to 2015)
- Civil Guard, Higher Officer Scale Education
- Civil Guard, Officer Scale Education
- Professional Degree of Second Officer of the Merchant Navy
- Professional Degree of First Officer of the Merchant Navy
- Professional Degree of Captain of the Merchant Navy
- Professional Degree of Second Engineer Officer of the Merchant Navy

- Professional Degree of First Engineer Officer of the Merchant Navy
- Professional Degree of Chief Engineer of the Merchant Marine
- Professional Degree of Second Radio-Electronic Officer of the Merchant Navy
- Professional Degree of First Radio-Electronic Officer of the Merchant Navy

73 Official University Master's Degree and equivalent

- University Master's Degree (professional or academic specialisation)
- University Master's Degree (specialising in research or associated with a PhD)
- PhD, training period completed
- Advanced Studies Diploma
- PhD, research proficiency recognised
- Official Postgraduate Training leading to a PhD (other than a Master's Degree)
- Master's Degree in Art Education
- National Police Inspector
- Advanced Studies of National Defence with Degree
- Baccalaureatus Degree (Ecclesiastical Education)/Ecclesiastical Education equivalent to Master's Degree

74 Specialisations in Health Sciences through the Residency System and similar

- Medical Specialist Degree (various specialities)/Medicine Specialities (Health Sciences) through the Residency System
- Hospital Pharmacy Specialist Degree/Hospital Pharmacy Speciality (Health Sciences) through the Residency System
- Clinical Psychologist Degree/Clinical Psychology Speciality (Health Sciences) through the Residency System
- Health Specialist Degree (various specialities)/Multidisciplinary Specialities (Health Sciences) through the Residency System
- Nursing Specialist Degree (various specialities)/Nursing Specialities (Health Sciences) through the Residency System
- BIR, Specialisation Programmes for Biologists
- FIR, Specialisation Programmes for Pharmacists
- MIR, Specialisation Programmes for Physicians
- PIR, Specialisation Programmes for Psychologists
- QIR, Specialisation Programmes for Biochemists

79 University own Master's qualifications of 60 or more ECTS credits with access requiring a university degree Whose access required to be university graduates

- Non-official University Master's Degree
- University-specific degrees of more than 60 ECTS credits that require a university degree

- Non-official university postgraduate courses of 1 year or more that require a university degree
- Professional Degree in Didactic Specialisation (CAP)

CODE 8

PhD Degree

81 University PhD

- PhD Degree
- Ecclesiastical Education equivalent to PhD

CNED-2014 Codes	ICT-H Codes (P70)
01, 02	0
10	1
21, 22, 23, 24	2
32, 33, 34, 35, 38	3
41	4
51, 52	5
61, 62, 63	6
71, 72, 73, 74, 75	7
81	8
-	9

OCCUPATION OR TYPE OF WORK PERFORMED

The 2008 INTERNATIONAL STANDARD CLASSIFICATION OF OCCUPATIONS (ISCO 08) is used at two-digit level according to Eurostat.

1 Directors and managers

11 Chief executives, managerial staff in public administration, and members of the executive and legislative bodies

- Members of executive and legislative bodies
- Chief executives and managing directors

12 Administrative and commercial directors

- Directors of administration and services
- Sales, marketing and development directors

13 Production and operations managers and directors

- Agricultural, forestry and fishery production directors
- Manufacturing, mining, construction and distribution directors
- Information and communication technology services directors
- Professional services directors and managers

14 Hotel, restaurant, retail trade and other services managers

- Hotel and restaurant managers
- Wholesale and retail trade managers
- Other service managers

2 Scientific and intellectual professionals

21 Professionals in science and engineering

- Physicists, chemists and related professionals
- Mathematicians, actuaries and statisticians
- Life science professionals
- Engineers (except electrical engineers)
- Electrical engineering professionals
- Architects, urban planners, surveyors and designers

22 Health professionals

- Doctors
- Nursing and midwifery personnel
- Traditional and alternative practitioners
- Paramedical practitioners
- Veterinarians

- Other health professionals

23 Education professionals

- University and higher education teachers
- Vocational training teachers
- Secondary school teachers
- Primary school teachers and pre-school teachers
- Other education professionals (language, music, pedagogical methods, special needs, etc.)
- Information technology trainers (ICT occupation)

24 Public administration and business organisation specialists

- Finance specialists
- Management organisation specialists
- Sales, marketing and public relations professionals

25 Information technology and communications professionals

- Systems analysts
- Software developers
- Web and multimedia developers
- Application programmers
- Software and multimedia developers and analysts, and analysts not elsewhere classified
- Database designers and administrators
- System administrators
- Computer network specialists
- Database and computer network professionals not elsewhere classified

26 Professionals in law, social sciences and cultural fields

- Legal professionals
- Archivists, librarians, curators and related professionals
- Social scientists and theologians
- Writers, journalists and linguists
- Creative and performing artists

3 Technicians and associate professionals

31 Middle-level professionals in science and engineering

- Physical science and engineering technicians
- Mining, manufacturing and construction supervisors

- Process control technicians
- Technicians and middle-level professionals in the biological sciences and related professionals
- Maritime and aeronautical navigators and air traffic controllers

32 Middle-level health professionals

- Medical technicians and pharmacists
- Middle-level nursing and midwifery practitioners
- Middle-level practitioners of traditional and alternative medicine
- Veterinary technologists and assistants
- Other middle-level health professionals

33 Middle-level professionals in financial and administrative operations

- Middle-level finance and mathematics professionals
- Commercial agents and brokers
- Commercial service agents
- Administrative and professional secretaries
- Public law enforcement officials and related professionals

34 Middle-level professionals in legal, social, cultural and other related professionals

- Middle-level, legal, social and religious service professionals
- Sports and fitness instructors
- Middle-level cultural, artistic and culinary professionals

35 Information technology and communications technicians

- Information and communications technology operations technicians
- Information and communications technology user support technicians
- Computer systems and network technicians
- Web technicians
- Broadcasting and audiovisual recording technicians (*camera operators, sound recordists, video editors, audiovisual technicians*)
- Telecommunications technicians

4 Administrative support staff

41 Clerks

- General clerks
- Secretaries (general)
- Office machine operators

42 Customer-facing employees

- Payers, window collectors and related professionals
- Customer information services employees

43 Accounting employees and materials record keepers

- Accounting and finance assistants
- Material and transport registration clerks

44 Other administrative support personnel

- Other administrative support personnel

5 Service workers and shop and market sales workers

51 Personal services workers

- Staff in direct contact with passengers
- Chefs
- Waiters
- Hairdressers, beauty treatment specialists and related professionals
- Building maintenance and cleaning supervisors
- Other personal service workers

52 Sales workers

- Street and market sellers
- Shop and warehouse traders and sellers
- Cashiers and ticket sellers
- Other sellers

53 Personal care workers

- Childcare workers and teaching assistants
- Healthcare workers

54 Protection services personnel

- Protection services personnel

6 Farmers and skilled agricultural, forestry and fishing workers

61 Farmers and skilled workers in agricultural enterprises for the market

- Farmers and skilled workers in horticulture and market gardening
- Breeders and skilled livestock workers in market animal husbandry and related workers
- Producers and skilled workers on mixed agricultural holdings whose output is intended for the market

62 Skilled forestry workers, fishermen, and hunters

- Skilled forestry workers and related professionals

- Fishermen, hunters and trappers

63Agricultural workers, fishermen, hunters, and subsistence gatherers

- Subsistence agricultural workers
- Subsistence livestock workers
- Subsistence agricultural workers
- Subsistence fishers, hunters, trappers and gatherers

7 Officers, operatives and craftsmen in mechanical arts and crafts and related professionals

71Construction officers and workers excluding electricians

- Building and trades workers (rough construction) and related professionals
- Building and trade workers (finishing) and related professionals
- Painters and decorators and related professionals

72Officials and workers in metallurgy, mechanical construction, and related professionals

- Moulders, welders, sheet metal workers, boilermakers, metal fitters and related professionals
- Blacksmiths, toolmakers and related professionals
- Machinery mechanics and repairers

73Artisans and workers in the graphic arts

- Craftsmen
- Graphic arts workers and operators

74Workers specialised in electricity and electrotechnology

- Installers and repairers of electrical equipment
- Electronics mechanics and repairers
- Information and communications technology installers and repairers

75Workers and officers in food processing, garment making, carpentry, other artisans, and related professionals

- Food processing officers and operators and related professionals
- Wood processing officers, joiners, cabinetmakers, and related professionals
- Garment workers and operators and related professionals
- Other officers, operators and craftsmen in the mechanical arts

8 Plant and machine operators and assemblers

81Operators of fixed installations and machines

- Mining and mineral extraction and processing plant operators
- Metal processing and coating plant operators

- Chemical and photographic plant and machinery operators
- Rubber, paper and plastics machinery operators
- Textile, leather, fur and leather goods machinery operators
- Food and allied products machinery operators
- Paper and wood processing plant operators
- Other machinery and equipment operators

82Assemblers

- Assemblers

83Vehicle drivers and operators of heavy mobile equipment

- Train drivers and related professionals
- Car, van and motorcycle drivers
- Heavy goods vehicles and buses drivers
- Heavy equipment operators
- Deckhands and related professionals

9 Elementary occupations

91Cleaners and assistants

- Hotel and office cleaners and domestic assistants
- Car, window, laundry and other hand cleaners

92Agricultural, fishing, and forestry labourers

- Agricultural, fishing, and forestry labourers

93Labourers in mining, construction, manufacturing, and transportation

- Mining and construction labourers
- Manufacturing labourers
- Transport and storage labourers

94Food preparation assistants

- Food preparation assistants

95Street vendors of services and related professionals

- Street workers of services and related professionals
- Street vendors (except food)

96Waste collectors and other elementary professionals

- Waste collectors
- Other elementary occupations

0 Military occupations

01 Officers of the armed forces

02 Non-commissioned officers of the armed forces

03 Other members of the armed forces

The following code is also included:

99 Cannot be coded

For the breakdown “Manual/non-manual workers” the following applies:

– *Manual workers:*

This category includes ISCO-08 major groups 6 to 9:

- Main Group 6: Skilled agricultural, livestock, forestry and fishing sector workers
- Main Group 7: Craftspersons and related trades
- Main Group 8: Installation and machinery operators and assemblers
- Main Group 9: Elementary occupations

– *Non-manual workers:*

This category corresponds to ISCO-08 major groups 0 to 5.

- Main Group 1: Managers
- Main Group 2: Professionals
- Main Group 3: Technicians and associated professionals
- Main Group 4: Administrative support workers
- Main Group 5: Service and sales workers
- Main Group 0: Armed forces.

For the breakdown of ICT and non-ICT professionals the following applies:

– *ICT professionals:*

- Group 25: Information technology and communications professionals
- Group 35: Information and communications technicians

Where possible, some ICT occupations classified in other groups should also be included:

133 ICT service managers: *Includes: application development managers, IT managers, data processing managers, ICT development managers, information technology managers, etc.*

2356 Information technology trainers: *They design, structure and deliver training programmes and courses for IT users outside the mainstream primary, secondary and higher education systems. Includes: IT teachers (private lessons or academies), IT training teachers, IT training course teachers, etc.*

7422 ICT installers and administrators: *IT equipment repair technicians, computer installers, data and telecommunications cable operators, IT equipment assemblers, telecommunications equipment repair technicians, telephone installers.*