

CENSUS_INS21ES_A_EL_2021_0000

National Reference Metadata in Euro SDMX Metadata Structure (ESMS)

Compiling agency: Hellenic Statistical Authority (ELSTAT)



Eurostat metadata

Reference metadata

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1. Contact

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1.1. Contact organisation

Hellenic Statistical Authority (ELSTAT)

1.1.1. Responsible party

Hellenic Statistical Authority (ELSTAT)

1.1.2. Responsible party role	Resource Provider Custodian Owner User Distributor Originator
1.2. Contact organisation unit	Population, Employment and Cost of Living Statistics Division (B4) Population and Migration Statistics Section (B41)
1.5. Contact mail address	46 Pireos & Eponiton str. 18510 Piraeus Greece

2. Metadata update Top	
2.1. Metadata last certified	21/03/2023
2.2. Metadata last posted	21/03/2023
2.3. Metadata last update	21/03/2023

3. Statistical presentation Top	
3.1. Data description	
population distribution, demography	
3.1.1. Resource title	
Population distribution, demography	
3.1.2. Resource abstract	
Total population	
3.1.3. Resource type	
Spatial data set	
3.1.3.1. Additional information if 'spatial data set' is marked	

https://data.europa.eu/en
3.1.4. Resource locator
https://ec.europa.eu/eurostat/web/gisco/geodata/reference-data/grids
3.1.5. Unique resource identifier
https://data.europa.eu/en
3.1.6. Coupled resource
https://data.europa.eu/en
3.1.7. Resource language
English (EN)
3.1.8. Keyword value
Population Distribution
3.1.9. Originating controlled vocabulary
https://inspire.ec.europa.eu/theme/pd
3.1.10. Metadata language
english
3.2. Classification system
3.3. Coverage - sector
The Population and Housing Census was conducted all over the Greece and covered all the administrative divisions at the following geographical levels: NUTS 1-3 and LAU.
3.3.1. Topic category
Society
3.3.2. Spatial data service type
Download Service
3.4. Statistical concepts and definitions

The necessary concepts and definitions are presented in categories 3.4.1 - 3.4.6.

3.4.1. Statistical concepts and definitions - Total population

For census purposes, the total population of the country consists of all the persons falling within the scope of the census in EU on usual residents.

Usual residence means the place where a person normally spends the daily period of rest, regardless of temporary absences for purposes of recreation, holidays, visits to friends and relatives, business, medical treatment or religious pilgrimage.

Persons usually resident in the place of enumeration but absent, or expected to be absent, at the time of the census for less than one year shall be considered as temporarily absent persons and thus included in the total usually population. In contrast, persons living or expected to live outside the place of enumeration for one year or more shall not be considered temporarily absent and shall therefore be excluded from the total population. This is regardless of the length of visits that they may pay to their families from time to time.

Persons who are enumerated but do not meet the criteria for usual residence in the place of enumeration, i.e. do not live or do not expect to live in the place of enumeration for a continuous period of at least 12 months, are considered temporarily present and are therefore not counted in the total usually resident population. Unless otherwise stated in this report.

3.4.2. Statistical concepts and definitions - Sex

Males - Females

3.4.3. Statistical concepts and definitions - Age

The age reached at the reference date (in completed years).

3.4.4. Statistical concepts and definitions - Employed person

Employed persons comprise all persons aged 15 years or over who during the reference week: (a) performed at least one hour of work for pay or profit, in cash or in kind, or (b) were temporarily absent from a job in which they had already worked and to which they maintained a formal attachment, or from a self-employment activity.

3.4.5. Statistical concepts and definitions - Place of birth

The place of birth for persons born within the country is the civil division in which the person was born; for those born in other countries, it is the country of birth. For persons born in the country (the native-born population), the concept of place of birth usually refers to the geographic unit where the mother of the individual resided at the time of the person's birth.

3.4.6. Statistical concepts and definitions - Place of usual residence one year prior to the census

The relationship between the current place of usual residence and the place of usual residence one year prior to the census.

For all persons that have changed their usual residence more than once within the year prior to the reference date, the previous place of usual residence is the last usual residence from which they moved to their current place of usual residence.

3.5. Statistical unit

Grid cell

3.6. Statistical population

Persons who were usual residents in the territory of Greece (present or temporary absent).

3.7. Reference area

Greek territory

3.7.1. Geographic bounding box

NORTHBOUND : 41,769418 dd

SOUTHBOUND : 34,781266 dd

WESTBOUND : 19,345722 dd

EASTBOUND : 29,672813 dd

3.7.2. Spatial resolution

1000

Unit:m

3.7.3. Coordinate Reference System

EPSG:3035 - ETRS89 / LAEA Europe

3.8. Coverage - Time

Data refer to the situation in the Greek territory at the census reference date.

3.9. Base period

Not applicable.

4. Unit of measure

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Counts of statistical units.

5. Reference Period

[Top](#)

2021.10.22

5.1. Temporal extent

2021.10.22

6. Institutional Mandate

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6.1. Institutional Mandate - legal acts and other agreements

The legal framework concerning the organization and operation of ELSTAT is as follows:

- Law 3832/2010 (Government Gazette No 38, Issue A): "Hellenic Statistical System Establishment of the Hellenic Statistical Authority (ELSTAT) as an Independent Authority", as amended and in force.
- Regulation on the Operation and Administration of the Hellenic Statistical Authority (ELSTAT), 2012, (Government Gazette No 2390, Issue B, 28-8-2012) Regulation (EC) No 223/2009 of the European Parliament and of the Council, on the European statistics (Official Journal of the European Union L 87/164).
- Article 14 of the Law 3470/2006 (Government Gazette No 132, Issue A): "National Export Council, tax regulations and other provisions".
- Article 3, paragraph 1c, of the Law 3448/2006 (Government Gazette No 57, Issue A): "For the further use of information coming from the public sector and the settlement of matters falling within the responsibility of the Ministry of Interior, Public Administration and Decentralization".
- European Statistics Code of Practice, adopted by the Statistical Programme Committee on 24 February 2005 and promulgated in the Commission Recommendation of 25 May 2005 on the independence, integrity and accountability of the national and Community statistical Authorities, after its revision, which was adopted on 28 September 2011 by the European Statistical System Committee.
- Presidential Decree 73/2019 (Government Gazette No 114, Issue A): "Organization of the Hellenic Statistical Authority".
- Articles 4, 12, 13, 14, 15 and 16 of the Law 2392/1996 (Government Gazette No 60, Issue A): "Access of the General Secretariat of the National Statistical Service of Greece to administrative sources and administrative files, Statistical Confidentiality Committee, settlement of matters concerning the conduct of censuses and statistical works, as well as of matters of the General Secretariat of the National Statistical Service of Greece".

The Legal Framework is detailed in the following link:

<http://www.statistics.gr/en/legal-framework>.

The national legal framework for the conduct of the 2021 Population and Housing Census is as follows:

- Law 4772/2021 (Government Gazette No 17, Issue A): "Conduct of the General Censuses of 2021 by the Hellenic Statistical Authority..."
Law
- 3882/2010 (A' 166) transposing Directive 2007/2/EC of the European Parliament and of the Council (14.3.2007) establishing an Infrastructure for Spatial Information in the European Community (INSPIRE), into national law.

The European legal framework is as follows:

- Regulation (EC) No 763/2008 of the European Parliament and of the Council of 9 July 2008 on population and housing censuses
- Commission Regulation (EU) 2017/712 of 20 April 2017 establishing the reference year and the programme of the statistical data and metadata for population and housing censuses provided for by Regulation (EC) No 763/2008 of the European Parliament and of the Council
- Commission Implementing Regulation (EU) 2017/543 of 22 March 2017 laying down rules for the application of Regulation (EC) No 763/2008 of the European Parliament and of the Council on population and housing censuses as regards the technical specifications of the topics and of their breakdowns
- Commission Implementing Regulation (EU) 2017/881 of 23 May 2017 implementing Regulation (EC) No 763/2008 of the European Parliament and of the Council on population and housing censuses, as regards the modalities and structure of the quality reports and the technical format for data transmission, and amending Regulation (EU) No 1151/2010
- Commission Implementing Regulation (EU) 2018/1799 of 21 November 2018 on the establishment of a temporary direct statistical action for the dissemination of selected topics of the 2021 population and housing census geocoded to a 1 km² grid
- Recommendations of the United Nations for the 2020 Censuses of Population-Housing.

6.2. Institutional Mandate - data sharing

Census Hub of European Statistical System

7. Confidentiality

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7.1. Confidentiality - policy

The issues concerning the observance of statistical confidentiality by the Hellenic Statistical Authority (ELSTAT) are arranged by articles 7, 8 and 9 of the Law 3832/2010 as in force, by Articles 8, 10 and 11(2) of the Regulation on Statistical Obligations of the agencies of the Hellenic Statistical System and by Articles 10 and 15 of the Regulation on the Operation and Administration of ELSTAT. More precisely:
ELSTAT disseminates the statistics in compliance with the statistical principles of the European Statistics Code of Practice and in particular with the principle of statistical confidentiality.
<http://www.statistics.gr/en/statistical-confidentiality?inheritRedirect=true>

7.2. Confidentiality - data treatment

ELSTAT protects and does not disseminate data it has obtained or it has access to, which enable the direct or indirect identification of the statistical units that have provided them by the disclosure of individual information directly received for statistical purposes or indirectly supplied from administrative or other sources. ELSTAT takes all appropriate preventive measures so as to render impossible the identification of individual statistical units by technical or other means that might reasonably be used by a third party. Statistical data that could potentially enable the identification of the statistical unit are disseminated by ELSTAT if and only if:

- a) these data have been treated, as it is specifically set out in the Regulation on Statistical Obligations of the agencies of the Hellenic Statistical System (ELSS), in such a way that their dissemination does not prejudice statistical confidentiality or
- b) the statistical unit has given its consent, without any reservations, for the disclosure of data.

The confidential data that are transmitted by ELSS agencies to ELSTAT are used exclusively for statistical purposes and the only persons who have the right to have access to these data are the personnel engaged in this task and appointed by an act of the President of ELSTAT.

ELSTAT may grant researchers conducting statistical analyses for scientific purposes access to data that enable the indirect identification of the statistical units concerned. The access is granted provided the following conditions are satisfied:

- a) an appropriate request together with a detailed research proposal in conformity with current scientific standards have been submitted;
- b) the research proposal indicates in sufficient detail the set of data to be accessed, the methods of analyzing them, and the time needed for the research;
- c) a contract specifying the conditions for access, the obligations of the researchers, the measures for respecting the confidentiality of statistical data and the sanctions in case of breach of these obligations has been signed by the individual researcher, by his/her institution, or by the organization commissioning the research, as the case may be, and by ELSTAT.

Issues referring to the observance of statistical confidentiality are examined by the Statistical Confidentiality Committee (SCC) operating in ELSTAT. The responsibilities of this Committee are to make recommendations to the President of ELSTAT on:

- the level of detail at which statistical data can be disseminated, so as the identification, either directly or indirectly, of the surveyed statistical unit is not possible;
- the anonymization criteria for the microdata provided to users;
- the granting to researchers access to confidential data for scientific purposes.

The staff of ELSTAT, under any employment status, as well as the temporary survey workers who

are employed for the collection of statistical data in statistical surveys conducted by ELSTAT, who acquire access by any means to confidential data, are bound by the principle of confidentiality and must use these data exclusively for the statistical purposes of ELSTAT. After the termination of their term of office, they are not allowed to use these data for any purpose.

Violation of data confidentiality and/or statistical confidentiality by any civil servant or employee of ELSTAT constitutes the disciplinary offence of violation of duty and may be punished with the penalty of final dismissal.

ELSTAT, by its decision, may impose a penalty amounting from ten thousand (10,000) up to two hundred thousand (200,000) euros to anyone who violates the confidentiality of data and/or statistical confidentiality. The penalty is always imposed after the hearing of the defense of the person liable for the breach, depending on the gravity and the repercussions of the violation. Any relapse constitutes an aggravating factor for the assessment of the administrative sanction.

Data Security

The data of the 2021 Population-Housing Census are stored in a dedicated secure database, which includes all the collected variables. Access to the information contained in the database is subject to all the necessary and appropriate technical and organisational protection measures provided for in national and EU legislation in order to observe the statistical confidentiality of the data, in accordance with the provisions of the Law 3832/2010, and the files of the database is inaccessible from any other database in order to protect the data provided against any unauthorised or unlawful processing.

Confidentiality - 1 km² grid data

Grid data on total population have not been treated for confidentiality. Grid data on the breakdowns (variables) will be treated for confidentiality by means of the recommended by Eurostat methods.

8. Release policy

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8.1. Release calendar

Pursuant to Commission Implementing Regulation (EU) 2018/1799, validated and aggregated data were initially provided to Eurostat on total population on 30.12.2022 and revised data on 17.03.2023. Data on all variables will be provided by 31.03.2024, as required by the aforementioned Regulation.

8.2. Release calendar access

The calendar is distributed to the press and is available to all interested parties free of charge. This calendar is also posted on ELSTAT's website (<http://www.statistics.gr/en/home/>) under the item "Release Calendar".

8.3. Release policy - user access
In line with the Community legal framework and the European Statistics Code of Practice, ELSTAT disseminates national statistics on ELSTAT's website respecting professional independence and in an objective, professional and transparent manner in which all users are treated equitably. In this content, data are released simultaneously to all interested parties and users through the announcements, which are posted on the website of ELSTAT (http://www.statistics.gr/en/home/) according to the release calendar. These announcements are also available by e-mail to all interested parties. In addition, data are provided to Eurostat on the predefined dates, concomitantly with their national publication. Neither users nor the government have access to the data prior to their publication.
8.3.1. Conditions applying to access and use
https://inspire.ec.europa.eu/metadata-codelist/ConditionsApplyingToAccessAndUse/noConditionsApply
8.3.2. Limitations on public access
https://inspire.ec.europa.eu/metadata-codelist/ConditionsApplyingToAccessAndUse/noConditionsApply

9. Frequency of dissemination	Top
Decennial	

10. Accessibility and clarity	Top
10.1. Dissemination format - News release	
Not applicable	
10.2. Dissemination format - Publications	
Not applicable	
10.3. Dissemination format - online database	
Not applicable	

10.4. Dissemination format - microdata access
Not applicable
10.5. Dissemination format - other
Not applicable
10.6. Documentation on methodology
The methodology implemented for the 2021 Population and Housing Census was laid down in Law 4772/2021 (Government Gazette, Series I, No 17/5-2-2021) and in a relevant circular published by ELSTAT (Circular 1 “ General guidelines for the preparation, organisation and conduct of the General Censuses”) taking into consideration international guidelines and practice and mainly the recommendations, guidelines and rules set out by Eurostat, in compliance with Regulation (EC) No 763/2008 of the European Parliament and of the Council on the Population and Housing Census, their Implementing Regulations (EU) 2017/543, (EU) 2017/881, (EU) 2017/712, (EU) 2018/1799, as well as with the methodological and organizational principles stipulated in the United Nations (UNECE) Recommendations for the 2020 Censuses of Population-Housing as well as relevant thematic Handbooks.
10.7. Quality management - documentation
Quality will be documented on the basis of the Single Integrated Metadata Structure (SIMS) on the 2021 Population-Housing Census that will be posted on the official website of ELSTAT.

11. Quality management	Top
11.1. Quality assurance	
<p>The Hellenic Statistical Authority (ELSTAT) aims to ensure and further improve the quality of statistics produced and maintain the confidence of users in them. This is achieved through the Quality Policy of ELSTAT which is posted on the website of ELSTAT and is available at the following link: http://www.statistics.gr/en/policies.</p> <p>According to the design of the 2021 Population - Housing Census, ELSTAT implemented advanced quality requirements and as a result the quality assurance procedures and the quality controls were stricter in comparison with previous censuses.</p> <p>More specifically, data collection was carried out mainly by electronic self-enumeration of the households, and for those households that could not be self-enumerated, as well as for people living in collective households, through a personal or telephone interview by enumerators. The electronic questionnaire of the Census had integrated automatic checks aimed at ensuring the collection of more complete and correct data. In addition, it was among the enumerators’</p>	

responsibilities to enter in the secure database of ELSTAT the data of the collected questionnaires. In this way, all the census data were incorporated into the ELSTAT database within a short period of time (a few days) after the end of the data collection and were ready to be processed.

An important innovation of the 2021 Population - Housing Census was the development and implementation of an electronic project management and monitoring system. All operations were managed electronically. Therefore, for the first time it was possible in real-time during the data collection phase to monitor the process of their collection, as well as to check the completeness and correctness of the data collected, at the level of responsibility, in order to address non-response, or incorrect responses, etc. This allowed immediate action to be taken to resolve any issue that arose. At the end of the Census, quality and completeness checks were carried out in order to obtain the results of the Census. More specifically, in the first phase, checks were carried out with the “data clearing” procedure for cases of double-recording, records or variables missing, such as sex, checking the location of the enumerated persons as temporary guests, encoding the geographical code of their place of usual residence and transferring them to their usual residence. In addition, quality checks were carried out as regards the full coverage of the total population, using data from administrative sources. Data from administrative sources were used as a means of quality control and/or completion of missing values of the main demographic characteristics of the population, such as place of residence, sex, age, place of birth, citizenship, legal marital status, missing records, etc. The collection through the Census of the AFM and the AMKA of the enumerated persons served as a “key” for the interconnection of the Census data with the data of administrative registers.

11.1.1. Lineage

2021 Population and Housing Census data are georeferenced for the first time at a finer detail (x,y building location). In the current provisional data set the data can not be fully validated. However - due to time limitations for data validation and corrections - data processing and final grid cell rendering was performed adopting a hybrid methodology including both a bottom-up and top-down approach. As a bottom-up approach the address points register along with census block centroid information were used where appropriate. The remaining data for settlements where no digital census block data or address information exist were rendered to the approximate polygon area each settlement occupies. As the selected hybrid solution was implemented, the locational accuracy is varying (better in urbanized settlements where more accurate georeferenced data were used). However, almost the total of the permanent population was rendered to the grid cells (58.04% using the address-based register, 26.44% using census block centroid information, 12.92% using settlement polygon area, 2.60% unallocated persons, included in the virtual grid cell). Thus, 84.48% of the total population was rendered with the bottom up approach and 12.92% with the top down approach. All things considered 97.40% of the population was rendered to grid cells. As it is the first compilation of the total permanent population in a preliminary basis it can be regarded as an official preliminary version.

11.1.2. Conformity, specification

Data are compliant with the implementing rules referred to in COMMISSION IMPLEMENTING REGULATION (EU) 2018/1799 and COMMISSION REGULATION (EC) No 1205/2008. Reference date of last revision is the 16th of March 2023.

11.1.3. Conformity, degree

The dataset conforms to the implementing rules adopted under Article 7(1) of Directive 2007/2/EC (conformant).

11.2. Quality management - assessment

Quality is assessed as very good. The special features of 2021 Census are the following: (i) it was the first digital census ever conducted in Greece; (ii) it exhibited an exceptionally high share of data collected through electronic self-enumeration; (iii) it featured a pioneering data collection method that induced massive participation of the population; (iv) enabled the geospatial location of buildings by locating the coordinates of buildings through an electronic application. Furthermore, the possibility of directly matching census data with administrative records, thanks to the use of common unique identifiers, has enabled the immediate and reliable identification of errors ("dummy" records, double recording, etc.) and thus ensured the quality and reliability of the census results.

Furthermore, concepts, definitions and methodology follow European and international standards and guidelines.

12. Relevance

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12.1. Relevance - User Needs

The purpose of the Population-Housing Census is to collect up-to-date and valid data on the demographic, economic and social characteristics of the population and its housing conditions, in order to meet the statistical information needs at national, European and international level. These data are essential for drawing the economic, social and environmental policies of the State and for fulfilling the Country's obligations towards the European Union and international organisations (e.g. United Nations, OECD). The above data are an important tool for the conduct of research in all scientific fields and for the formulation and implementation of academic and research programmes. They are a means of planning and regulating a variety of administrative issues. The results of the Censuses provide important information to the public and private sectors of the economy, to the citizens and society, in general. At the same time, they are further used as the basic framework for the conduct of many other statistical works carried out by the Hellenic Statistical Authority (as sampling frame for the organisation and methodological design of social, economic and environmental statistical surveys). Furthermore, the data of the 2021 Population-Housing Census are to be further utilised for the compilation of Statistical Registers for Buildings and Population, in accordance with the new European methodological framework, which provides for the transmission of census demographic data to Eurostat on an annual basis.

Moreover, the dissemination of population data at the 1 km² grid level is an area where there is significant user demand. These statistics are often needed to support the local-level policy decisions that are of importance to people's day-to-day lives. For this reason, improving the availability of geocoded social statistics has been noted as a priority at the level of the whole ESS to support evidence-based policy making. This serves key census data users at ESS level, in particular the Directorate-General for Regional and Urban Policy (DG REGIO).

12.2. Relevance - User Satisfaction

The Population and Housing Census is conducted pursuant to EU Regulations which were regulated taking into consideration users' needs at European and international level.

Moreover, ELSTAT conducts a user satisfaction survey every six months. More information about the results of the survey is available at the following link: <http://www.statistics.gr/en/user-satisfaction-survey>.

Furthermore, ELSTAT organises a User Conference, on an annual basis, in which representatives of private and public sector, educational and research institutions participate. The conferences provide a significant opportunity for ELSTAT to collect comments and suggestions from users relative to the dissemination and the accessibility of the statistical data and the gaps in the production of statistics. The user conferences help significantly ELSTAT to draw useful conclusions on the areas where the statistical products and services can be improved in order to meet the increasing users needs. These conclusions are incorporated in the annual and medium term statistical programs of ELSTAT. The most recent User Conference was held in 20 December 2022. More information on the conference is available at the link: <https://www.statistics.gr/en/user-conference-2022>.

12.3. Completeness

Grid data are fully in line with the EU Regulation 763/2008 and Commission Implementing Regulation (EU) 2018/1799.

13. Accuracy

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13.1. Accuracy - overall

The main sources of errors were: 1) Refusal of individuals to be enumerated during the census, thus resulting initially in under-coverage. 2) Some individuals were not enumerated on account of the enumerators who were not performing their tasks efficiently. Some other individuals, belonging to "single" households, were not enumerated because during the conduct of the census they were temporarily absent (these cases were also reflected as under-coverage). 3) Some questionnaires were not filled in properly either because the surveyed persons refused to answer all the questions, or on account of the enumerator (these errors were corrected and filled in with data from relevant administrative sources or imputed values).

Original collected buildings' coordinates may deviate from $\pm 15\text{m}$ up to $\pm 100\text{m}$ (regarding buildings inside a non-accessible, fenced landparcel) from the actual building location. Preliminary data sent : Positional accuracy of the address point register used partially for readjustments may deviate up to ± 15 meters of the actual building location. Address points are calculated from a polyline layer linearly interpolated from known addresses at the crossroads. Census block centroid locations can not have any measure of positional accuracy, census blocks are digitized following well defined landmarks (streets, stream lines, canals etc.) Peripheral census blocks tend to be less compacted, covering a wider area than the more central ones in a settlement. Digitizing scale of the census blocks boundaries is 1:5000. No accuracy measures can be given for the polygon area that the settlement occupies. The whole Greek territory is covered. More about the data processing procedure that was followed in Data Compilation section (18.5).

13.2. Sampling error

Not applicable

13.3. Non-sampling error

The non-sampling errors of the 2011 Population-Housing Census are as follows: 1) Under-coverage, which was duly corrected using data from administrative sources, as regards the full coverage of the total population and 2) Errors due to the erroneous filling in of questionnaires. These errors were identified and duly corrected either by utilizing available data from administrative sources or by applying the imputation method. More specifically, the variables of those individuals who had not responded were filled in with the corresponding values from other individuals with similar characteristics. This process minimized non-response bias. This procedure is still in progress with a view to produce the final datasets.

Coverage error: Under-coverage error is considered negligible, as data from administrative sources, along with vital statistics data were used for the quality checks which were carried out as regards the full coverage of the total population. These data were used as a means of quality control and/or completion of missing values of the main demographic characteristics of the population, such as place of residence, sex, age, place of birth, citizenship, legal marital status, missing records, etc. Moreover, data on electricity consumption were used to identify occupied dwellings that might have not been enumerated.

Over-coverage error: Over-coverage error is considered negligible, as checks were carried out with the "data clearing" procedure for cases of double-recording.

Measurement error: Measurement errors may occur during data collection and as a result the recorded values of variables are different from the actual ones. These errors are due to reasons that may be categorized as follows:

Census tools: the questionnaires or other measurement tools (e.g. maps) used for data collection may lead to erroneous recording of values.

Enumerated persons: the surveyed persons may, unintentionally or on purpose, provide erroneous information.

Enumerators: the external statistical interviewers may influence the answers given by the surveyed persons.

The data were collected by means of electronic self-enumeration (with the help of the

enumerators) of households through a dedicated online application and, for those households that could not be self-enumerated, as well as for people living in collective households, through a personal or telephone interview by filling in printed questionnaires. This data collection method ensured high quality of collected information, since, the electronic questionnaire of the Census had integrated automatic checks aimed at ensuring the collection of more complete and correct data, and the enumerators assisted the surveyed persons in filling in the questionnaire and checked thoroughly the filled in questionnaires. The enumerators were external survey workers. Before the Census, the enumerators attended a special training seminar. The purpose of the seminar was to help the enumerators to: a) fully understand the definitions of the census characteristics in order to avoid bias from the surveyed persons, b) fill in correctly the questionnaire and c) to check thoroughly the questionnaires in order to detect any errors by conducting logical checks. The structure and the size of the questionnaire were properly designed so as to be user-friendly for the enumerators and the questions were written in a simple language and in a clear manner by using the appropriate vocabulary. Furthermore, relevant circulars were elaborated containing useful information, analyzing all the questions of the questionnaire. All these actions were aiming at enhancing the collection of complete, filled in questionnaires without any missing values. Any measurement errors which were detected were duly corrected by means of numerous quality checks.

Non response error: Non response errors were also managed with processes described on paragraph 13.3.

Processing error: Once collected, the data are subject to a series of statistical processes before the production of final results (e.g., codification, data processing, etc.). Errors that may occur during these stages are called processing errors. Processing errors may be considered as random errors. The errors due to the processing of the questionnaire of the 2021 Population -Housing Census are considered negligible due to the use of specialised software applications.

14. Timeliness and punctuality	Top
14.1. Timeliness	
Pursuant to Commission Implementing Regulation (EU) 2018/1799, Member States shall provide Eurostat with validated and aggregated data and with metadata on total population by 31 December 2022.	
14.1.1. Date of publication	
30.12.2022	
14.1.2. Date of last revision	
17/03/2023	

14.1.3. Date of creation
30/12/2022
14.2. Punctuality
Pursuant to Commission Implementing Regulation (EU) 2018/1799, validated and aggregated data were initially provided to Eurostat on total population on 30.12.2022 and revised data on 17.03.2023. Relevant metadata were provided on 21.03.2023.

15. Coherence and comparability	Top
15.1. Comparability - geographical	
The results are comparable with the corresponding results of other EU Member States since they are based on common definitions and technical specifications of variables in compliance with Regulation (EC) 2017/543, and its implementing Regulations, including Commission Implementing Regulation (EU) 2018/1799, as well as on common and recommended procedures for the processing of data which are fully harmonized with international practices.	
15.1.1. Geographic information - data quality	
Locational data cover the whole of the settlements of the Greek territory. See also 13.1 (Accuracy - overall)	
15.2. Comparability - over time	
The methodology of the 2021 Census differs significantly in several respects from that of previous Censuses, both in terms of the way it was conducted - e.g., with a hybrid system, which initially provided for the electronic self-enumeration (with the help of the enumerators) of households through a dedicated online application, in contrast with previous censuses which were conducted exclusively by PAPI method (through personal interviews taking place between the enumerator and a representative of the household, with paper questionnaires) and in terms of the duration of the Census (November 2021 - February 2022) in contrast with 2011 census which was conducted within 15 days and with previous censuses which were conducted in 1 day. Moreover, data from administrative sources were used for the first time to perform quality checks as regards the full coverage of the total population and the completion of missing values of the main demographic characteristics of the population. Furthermore, in accordance with Regulation (EC) 763/2008 of the European Parliament and of the Council and relevant recommendations, during the 2021 and 2011 Censuses, ELSTAT focused on recording the Usual Resident Population of Greece, unlike previous Censuses, which aimed at recording the De Facto Population. Therefore, the results of the 2011 census are not fully comparable with the results of previous censuses.	

15.3. Coherence - cross domain

There is no cross-domain coherence between the Population-Housing Census data and the data from other surveys conducted by ELSTAT, e.g. the population-housing census data differ from the corresponding data of the Labour Force Survey because the latter is a sample survey.

15.4. Coherence - internal

The Census data are internally coherent for similar variables, at all geographical levels.

16. Cost and Burden

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On the basis of calculations for estimating the cost and the burden for the collection and processing of the data of the 2011 Population-Housing Census, it is estimated that all these procedures lasted 48 months from the phase of the organization to the date of grid data submission and encompassed the work and participation of ELSTAT staff, external survey workers and civil servants from other agencies of the public sector. The cost is estimated at 82 million Euros the final expenditure will be significantly lower.

17. Data revision

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17.1. Data revision - policy

The preliminary data when initially released are provisional data. They are validated and become final when all the collected data are finalized. The data are validated by ELSTAT on the basis of strict checking rules. Furthermore, the final aggregated data have undergone further checks. However, the final data may undergo some revisions at a later stage, if any errors are identified. More details on the general revision policy of ELSTAT are available on the portal of ELSTAT, at the following link: <http://www.statistics.gr/en/policies>.

17.2. Data revision - practice

Pursuant to Commission Implementing Regulation (EU) 2018/1799, validated and aggregated data were initially provided to Eurostat on total population on 30.12.2022. Revised data were provided on 17.03.2023.

18. Statistical processing

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18.1. Source data

Traditional Census without using registers from administrative sources or other surveys. Administrative data sources were used for quality checks and imputation purposes.

18.2. Frequency of data collection

The conduct of General Censuses at specific time intervals is provided for in article 10 of the Law 3832/2010 “Hellenic Statistical System (ELSS), Establishment of the Hellenic Statistical Authority (ELSTAT)”. More specifically, population censuses are conducted pursuant to Regulation (EC) No 763/2008 of the European Parliament and of the Council. It is agreed among UN Member States to conduct population censuses every ten years and more specifically in years ending in 0 or 1 (e.g., 1990 or 1991, 2000 or 2001, etc.), thus ensuring comparability of data among Member States. The previous Population Census was conducted on 9 May 2011. The 2021 Population-Housing Census was conducted pursuant to the legal framework that has been mentioned in paragraph 6.1.

18.3. Data collection

According to the initial census design, the 2021 General Censuses were conducted using the traditional method, which is based on the direct enumeration of all individuals and the collection of information on their characteristics through a questionnaire. In the context of safeguarding public health and due to the adverse conditions arising from the coronavirus pandemic (Covid-19), ELSTAT designed and carried out the 2021 Population - Housing Census with a hybrid system, which initially provided for the electronic self-enumeration (with the help of the enumerators) of households through a dedicated online application. For those households that could not be self-enumerated, as well as for people living in refugee camps, nursing homes, hospitals, other collective households, etc., the Census was conducted through a personal or telephone interview in full compliance with the applicable public health protection measures. The obstacle related to the absence of (administrative or statistical) population register was overcome with the help of the enumerators who distributed a unique (geospatial) residence code to each household in their area of responsibility. The population was enumerated on the basis of these codes.

In the preparatory phase, the Buildings Census was conducted before the Population–Housing Census to collect information on the number of buildings, their use and characteristics in order to meet national requirements for statistical information. In addition to buildings characteristics, the 2021 Buildings Census enabled the geospatial location of buildings by locating the coordinates of buildings through an electronic application. Moreover, this application enabled the compilation of lists of buildings, locating the dwellings (inhabited and not) within each Census Sector.

Subsequently, the Population Census was conducted on the basis of these lists. The Buildings Census was carried out by the Building Enumerators with the use of tablets. The location and the characteristics of each building were recorded through a specially designed online application, in a cloud database. Location data were recorded in the WGS84 reference system. The Buildings Enumerators visited on the spot each building block under their responsibility with the appropriate cartographic material, which was provided to them by ELSTAT and recorded, through the electronic application, the buildings located therein, their characteristics and use. Subsequently, this application produced the lists of buildings-dwellings, to which (dwellings) a unique residence code was assigned to be used for the conduct of the Population Census.

The questionnaires of the General Census were designed in accordance with the relevant EU law on

Population and Housing Census and the guidelines and methodological recommendations of the United Nations, also taking into account the experience in the Census of ELSTAT staff, as well as the recommendations and proposals of the bodies involved in the relevant consultation. The Census questionnaire included all the mandatory variables set out in the European Regulation (EU) 763/2008 on Population and Housing Censuses, as well as variables that meet national requirements for statistical information. However, it was chosen not to include sensitive personal data (e.g. data on health status, religion, sexual orientation, etc.).

For the first time, as part of the Population Census, the Tax Registration Number (AFM) and the Social Security Register Number (AMKA) of each enumerated person were collected. The aim was to have a unique identification number for each individual, which will be used as a “key” for linking statistical data from the Population Census to administrative records data, according to the Digital Transformation Paper in Greece (Law 4727/2020) on the interoperability of administrative registers. The purpose is twofold. Firstly, linking the census variables with data from administrative registers, in order to check their quality in terms of identifying double recordings and any errors, to check full coverage of the population and secondly, to create the first Statistical Population Register from the results of the 2021 Census and to regularly update it from administrative data.

18.4. Data validation

According to the design of the 2021 Population - Housing Census, it was among the enumerators’ responsibilities to enter in the secure database of ELSTAT the data of the collected questionnaires, through an interview. In this way, along with the electronic self-enumeration, all the census data were incorporated into the ELSTAT database within a short period of time (a few days) after the end of the data collection and were ready to be processed. The electronic questionnaire of the Census had integrated automatic checks aimed at ensuring the collection of more complete and correct data. An important innovation of the 2021 Population - Housing Census was the development and implementation of an electronic project management and monitoring system. All operations were managed electronically. Therefore, for the first time it was possible in real-time during the data collection phase to monitor the process of their collection, as well as to check the completeness and correctness of the data collected, at the level of responsibility, in order to address non-response, or incorrect responses, etc. This allowed immediate action to be taken to resolve any issue that arose. At the end of the Census, quality and completeness checks were carried out in order to obtain the results of the Census. More specifically, in the first phase, a check was carried out with the “data clearing” procedure for cases of double-recording, records or variables missing, such as sex, checking the location of the enumerated persons as temporary guests, encoding the geographical code of their place of usual residence and transferring them to their usual residence. In addition, quality checks were carried out as regards the full coverage of the total population, using data from administrative sources. Data from administrative sources were used as a means of quality control and/or completion of missing values of the main demographic characteristics of the population, such as place of residence, sex, age, place of birth, citizenship, legal marital status, missing records, etc. The collection through the Census of the AFM and the AMKA of the enumerated persons served as a “key” for the interconnection of the Census data with the data of administrative registers. In this context, administrative data were used for the first time by the Tax Authority of Greece (Independent Authority for Public Revenue - AADE) and the Social Security Organisation (IDIKA), the

Citizens' Register - which is under compilation -, as well as additional data from other sources, such as the Ministry of Labour and Social Affairs for specific population groups. Moreover, data from the Electricity Distribution Network Operator SA (DEDDIE) were used to identify occupied dwellings that might have not enumerated. The quality control of the data also took into account vital statistics data, administrative data on the pupil/student population, as well as data from the labour force survey with regard only to the change in employment of foreigners.

18.5. Data compilation

Census 2021 was conducted with the use of tablets. Buildings' locations were recorded through the use of a tablet e-questionnaire in the WGS84 reference system (lat,long). Due to the DOP (dilution of precision) effect in the urban areas and other potential mishandlings in some rural areas, locational outliers as well as missing location data were detected in the processing phase. For this reason, for the provisional data calculation and due to time limitations, a mixed mode approach was adopted. Locational data were readjusted with the use of an address based register for 802 urban settlements that address data exist. The address based register is derived from a polyline layer with known address information at the crossroads by linear interpolation. For the settlements where no address data were available but digitized census blocks are available (885 settlements), the adjustment was performed through the use of the census block polygon centroid location. These two options constitute the bottom up approach, the following step being the aggregation of the point information inside every grid cell. For the rest of the population data set the digitized polygons of the settlements' approximate built-up area were used for the geolocation of the statistical data. In the latter method, settlement polygons were intersected (spatial intersect procedure) with the grid layer and total population was statistically attributed to each portion of the polygon falling inside a grid cell. This constitutes the top-down approach of the methodology adopted.

18.6. Adjustment

Regarding spatial adjustment of the data, the procedures implemented for the provisional data are (where applicable):

1. Census data allocation to address based point data
2. Census data allocation to census-block polygon centroid data
3. Census data allocation to settlement polygon area

19. Comment

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No comment

Related metadata

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Annexes
