GEOSTAT 2011

Quality documentation of national population grid data

Date:	09/10/2015
Version:	1.0.1
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Revised by:	NA
Approved by:	NA
Public:	Yes
Reference Number:	GEOSTAT-EFGS_grid_POP_1K_2011_V_2_0_1_QA

Document History

Version	Date	Comment	Modified Pages
1.0	28/07/2015	Document created by Eurostat	All
1.0.1	09/10/2015	Note on designation of Kosovo added. QA information of Italy slightly updated	21, 43-44

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Direct Access to individual country quality information

Modell of the EFGS quality assessment parameters V 3.0 with explanatory filling instructions

The following quality assessment parameters cover the spatial reference framework, the production of unit record data (primary data) and the production of grid data.

Model for the explanatory notes on the production of primary data

[1]	Spatial reference data	*This should describe the spatial objects to which persons have been assigned in the Census and in this dataset. E.g. georeferenced address points, building points, building polygons, enumeration polygons. This data set needs to be identified with a clear name or ID and a reference to further documentation of this datasets should be provided here.*
[2]	Positional accuracy	*Positional accuracy of the spatial reference object in [1], to be indicated in meters.*
[3]	Positional source	*Source of [1], e.g. cadastre, Municipal address registers*
[4]	Comparability	*Description of the comparability of [1] in different parts of the country.*
[5]	Logical consistency	*Definition of total population at the place of residence applied?* *(Yes/No, if No please describe the applied definition), e.g. place of permanent residence, and the share of records with either definition.*
[6]	Bias	*Types of persons attributed to a spatial object where they did not live/stay on the day of the census e.g. homeless people, short term residence in prisons. Share in the total population and absolute number, approach to locating them.*
[7]	Accuracy of the figures	*Differences (total and in %) between national census figures and georeferenced population in spatial objects [1], due to homeless people or non-geocoded addresses.*
[8]	Coverage of georeferenced data	*Share of [1] which are georeferenced and used for georeferencing population. Share of population covered by [1].*
[9]	Temporal accuracy of the spatial data	*Agreement between reference date of [1] and the census date. Timeliness of [1] (+/- year)*
[10]	Temporal coherence	*Did revisions occur, reasons for revisions*
[11]	Quality report(s)	*On census data, and on [1] Available or Not available with URL*
[12]	Inspire compliant metadata	*Available or Not available with URL*

Model for the explanatory notes on the production of grid data

[1]	Production methods	*Aggregated from point sources, from grid cells, other small areas, hybrid approaches. (Total and in %)*
[2]	Accuracy of the figures	*Differences between grid data totals and totals from official statistics, reasons for deviation between official figures and grid figures*
[3]	Temporal accuracy (Timeliness)	*Difference between census date and release date of the grid dataset*
[4]	Geographical coverage	*Share of the territory of the country covered by the grid data*
[5]	Comparability of grid data	*Regional differences due to different production methods and source data (fully comparable as unique production method OR partially then indicate the differences and the share in the total grid data for each cause for differences.*
[6]	Temporal coherence	*Did different reference dates in any of the data sources lead to differences in the grid data, i.e. would the grid data be different if all data had the same reference date.*
[7]	Confidentiality treatment	*Confidentiality treatment and thresholds, number of grid cells that were confidentiality treated, amount of persons affected by confidentiality treatment*
[8]	Quality report	*Available with URL?*
[9]	INSPIRE compliant metadata	*Available with URL?*

1. BELGIUM

1.1. Production of primary data

[1]	Spatial reference data	BE_DSECR20110101_xy is a file composed of georeferenced address points : the addresses are the addresses of the people as recorded in the national population register, situation on 01.01.2011.The coordinates are expressed in the CRS Belgian Lambert 72(EPSG31370) and have been extracted mostly from buildings position in the cadastral numeric map (Cadmap). The quality of the coordinates is indicated by a code. The file is not disseminated. It is a joint work of The FPS Finances and Statistics Belgium.
[2]	Positional accuracy	0-10 meters for about 85 % of the addresses. Estimation for about 15 % of them.
[3]	Positional source	About 99 % of address points have their coordinates derived from the cadastre. About 0.40 % have been approximated by Statistics Belgium by using large scale regional maps, information from municipalities, fieldwork. Addresses for a total of 10.718 people could not be georeferenced with coordinates.
[4]	Comparability	The quality is even throughout the country.
[5]	Logical consistency	Yes, the people are georeferenced according to their address in the national population register.
[6]	Bias	Some refugees, some homeless people and other very particular populations are registered in addresses which are rather administrative than real. idem for the grid cell they are assigned to.
[7]	Accuracy of the figures	Differences are only due to non-geocoded addresses. (Census2011 is fully administrative). Total population falling in a grid cell : 10.989.920 people Population without a grid cell (homeless or non-geocoded addresses): 10.718 people, or 0,1% of the people. Belgium total population according to census 01.01.2011: 11.000.638.
[8]	Coverage of georeferenced data	99,97 % of the addresses are georeferenced. 99,90 % of the population is geocoded.
[9]	Temporal accuracy of the spatial data	The reference date of the spatial dataset and the census date are the same.
[10]	Temporal coherence	The version 01012011 of the file has not been revised and has to be used with the census 2011 data. However the file is updated once a year because of new addresses and renumbering. Renumbering of houses numbers occurs every year.
[11]	Quality report(s)	On census data at https://ec.europa.eu/CensusHub2/query.do?step=selectHyperCube&qhc=false, and on not available on [1]
[12]	Inspire compliant metadata	No.

1.2. Production of grid data

[1]	Production methods	100 % of grid data were aggregated from point sources.
[2]	Accuracy of the figures	The difference is 10.718 people or 0,1 %. Their addresses as stated in the national population register could not be found in the cadastre or other sources.
[3]	Temporal accuracy (Timeliness)	These data were only released to the GEOSTAT project in summer 2013.

[4]	Geographical coverage	100 % of the territory is covered by the grid data.
[5]	Comparability of grid data	The data are fully comparable as the production method was the same throughout the country.
[6]	Temporal coherence	All the data have the same reference date.
[7]	Confidentiality treatment	There was no confidentiality treatment as total population was not considered as sensitive
[8]	Quality report	available on demand
[9]	INSPIRE compliant metadata	Not available

2. BULGARIA

2.1. Production of primary data

[1]	Spatial reference data	Persons are assigned to spatial objects by means of their usual residence **address description** contained in the Census 2011 dataset (total 7364570). ADDR – georeferenced address points LU – small area localization units or sub city districts (polygons) LAU2 - administrative territorial units (polygons) Spatial reference includes the process of matching to address locator objects. Persons not matched to a point location are matched to the next level of polygon geometry. All persons are matched to location up to LAU2 level
[2]	Positional accuracy	-
[3]	Positional source	ADDR, LU: Geodesy, Cartography and Cadastre Agency, NSI LAU2: Ministry of Agriculture and Foods
[4]	Comparability	ADDR, LU - Differences in the quality in urban and rural areas across the country (mainly due to partial coverage of the national territory with digital cadastral map, urban areas are with better quality)
[5]	Logical consistency	Yes
[6]	Bias	Approximately located population: Persons with incomplete address description not enough to locate to a point: 305562 (4.1% from the total) of which 287 homeless people and 1635 diplomatic staff located outside the national territory
[7]	Accuracy of the figures	3145249 (42.7% from the total population) non-geocoded addresses
[8]	Coverage of georeferenced data	to ADDR: 4219321 (57.3%) to LU: 222173 (3.0%) to LAU2: 2923076 (39.7%)
[9]	Temporal accuracy of the spatial data	Census date 01/February/2011 ADDR - (+/- 2) LU, LAU2 - (+/- 0)
[10]	Temporal coherence	No revisions occurred
[11]	Quality report(s)	http://www.nsi.bg/sites/default/files/files/pages/Census2011_QR_EN.pdf
[12]	Inspire compliant metadata	Not available

2.2. Production of grid data

[1]	Production methods	Hybrid production approach Aggregated from ADDR: 4219321 (57.3%) Disaggregated from LU and LAU2: 3145249 (42.7%)
[2]	Accuracy of the figures	Grid data totals are equal to official Census 2011 totals (7364570).

[3]	Temporal accuracy (Timeliness)	Census 2011 date - February 2011 Grid dataset release date - June 2014
[4]	Geographical coverage	100%
[5]	Comparability of grid data	Regional differences in grid data quality due to different production methods
[6]	Temporal coherence	-
[7]	Confidentiality treatment	No data treated for confidentiality
[8]	Quality report	Not available
[9]	INSPIRE compliant metadata	Yes, in the dataset package http://www.nsi.bg/bg/node/12305

3. CZECH REPUBLIC

3.1. Production of primary data

[1]	Spatial reference data	Georeferenced building points – described with unique identifier of the building in the Czech Republic (IDOB) Statistical districts (polygons) - acronym: SO
[2]	Positional accuracy	0,5 – 10 meters for all spatial objects (source: large scale maps, ortho-photos)
[3]	Positional source	Register of census districts and buildings (RSO) – administered by the Czech Statistical Office
[4]	Comparability	Even quality of [1] across the country
[5]	Logical consistency	People are georeferenced according to their place of usual residence which they stated in the Population and Housing Census 2011. Place of usual residence is the place where the person has in fact lived long-term and where he/she has a household or family. It is not important where the person is registered for permanent residence or whether, for example, for reasons of work or study he/she spends the greater part of the week in another place. Consistency of census data is in agreement with Recommendations for Population and Housing Censuses around 2010.
[6]	Bias	About 11 thousands of homeless people or people living in emergency buildings were counted up in the appropriate establishments providing services for them (shelter houses, halfway houses or doss-houses), even though they usually live in the street.
[7]	Accuracy of the figures	Total georeferenced population was lower by ca 0,9 % than total population number reported under the official census results, since 96 thousands persons were difficult to assign to the recorded georeferenced building points (e.g. people living in buildings without final approval or in emergency buildings, shelters or recreational cottages, homeless people etc.).
[8]	Coverage of georeferenced data	About 99,5% of all census buildings were georeferenced. Remaining 0,5% were spatially identified by statistical districts. 99,1 % of the total population from the census were covered with georeferenced data. Remaining 0,9 % persons were matched with derived coordinates additionally.
[9]	Temporal accuracy of the spatial data	All the spatial reference data relate to the census date.
[10]	Temporal coherence	Spatial reference data stated in [1] are updated on a regular basis every quarter of a year. Last update was conducted in October 2014.
[11]	Quality report(s)	Not yet available.

[12]	Inspire compliant metadata	Available at http://geoportal.gov.cz/web/guest/catalogue-client

3.2. Production of grid data

[1]	Production methods	10 340 478 persons (99,1 % of total population) were aggregated direct from georeferenced building points (i.e. bottom-up method). These grid cells are marked with letter A (aggregation) in the dataset. Another 96 082 persons (0,9 %) were firstly disaggregated from the level of statistical districts (SO) into a set of derived building points within appropriate statistical districts (i.e. top-down method) according to selected statistical methods and consequently aggregated into grids. Such grid cells in the dataset, where the population was located only in the derived building points, are marked with letter D (disaggregation). With letter M (mixed mode) are marked grid cells, where the number of persons in the derived building points was equal or higher than the number of persons in the existing building points.
[2]	Accuracy of the figures	Total population number in grids is equal to the total population number reported under the official census results (i.e. usually living population).
[3]	Temporal accuracy (Timeliness)	The total population grid dataset for the Czech Republic was released in March 2014, i.e. 3 years after the census date.
[4]	Geographical coverage	100 % of country area is covered by grid data.
[5]	Comparability of grid data	There might be small regional differences in a quality due to spatial statistical computation of 0,9 % population. Share of population, which was assigned to derived building points, varies among NUTS3 regions between 0,6 % and 1,4 %. Higher shares are usually observed in recreational areas with private cottages or mass boarding facilities, or in developing areas with new houses.
[6]	Temporal coherence	All the data sources relate to the same reference date (26/03/2011)
[7]	Confidentiality treatment	0 % of grid cells were confidentiality treated, 0 % of population affected by confidentiality treatment, since confidentiality restriction for the total population are not defined at the Czech Statistical Office.
[8]	Quality report	Not yet available.
[9]	INSPIRE compliant metadata	Not yet available.

4. DENMARK

4.1. Production of primary data

[1]	Spatial reference data	Persons linked to inhabited address – building points.
[2]	Positional accuracy	Within 3 meters.
[3]	Positional source	Municipal address registers
[4]	Comparability	It's comparable.
[5]	Logical consistency	Place of permanent residence. Definition of total population at the place of residence applied? (Yes/No, if No please describe the applied definition), e.g. place of permanent residence, and the share of records with either definition.

[6]	Bias	No bias.
[7]	Accuracy of the figures	No match 0,46% persons in dataset with night time population as of 1.1.2011 for 1x1 km grid.
[8]	Coverage of georeferenced data	Match 99,54% persons in dataset with night time population as of 1.1.2011 for 1x1 km grid.
[9]	Temporal accuracy of the spatial data	Date released within 3 month of release of public census date.
[10]	Temporal coherence	No revision.
[11]	Quality report(s)	Check www.statbank.dk for census data and www.dst.dk for documentation
[12]	Inspire compliant metadata	http://inspire-danmark.dk/ http://inspire-danmark.dk/for-the-eu-english/

4.2. Production of grid data

[1]	Production methods	Each inhabited address has an address coordinate with link to the grid cell ID. Aggregated from point sources, from grid cells, other small areas, hybrid approaches. (Total and in %)
[2]	Accuracy of the figures	No match 0,46% persons in dataset with night time population as of 1.1.2011 for 1x1 km grid. Addresses without sufficient address coordinates linking them to a grid cell. Differences between grid data totals and totals from official statistics, reasons for deviation between official figures and grid figures
[3]	Temporal accuracy (Timeliness)	Date from 1. January of each year can be delivered latest by the end of the first quarter of the same. Difference between census date and release date of the grid dataset
[4]	Geographical coverage	The entire Denmark is included (Faroe Islands and Greenland not part of the dataset). Share of the territory of the country covered by the grid data
[5]	Comparability of grid data	Full comparability. Regional differences due to different production methods and source data (fully comparable as unique production method OR partially then indicate the differences and the share in the total grid data for each cause for differences.
[6]	Temporal coherence	Coherent
[7]	Confidentiality treatment	Not for total population at the place of residence.
[8]	Quality report	See attachment for specification of the National Danish Grid.
[9]	INSPIRE compliant metadata	In the process.

5. GERMANY

5.1. Production of primary data

[1]	Spatial reference data	Georeferenced data in the form of points
[2]	Positional accuracy	-
[3]	Positional source	Derived from national address and building register
[4]	Comparability	Yes

[5]	Logical consistency	Yes
[6]	Bias	The population is based on the place of usual residence. In applying the definition of 'usual residence' given in Article 2(d) of Regulation (EC) No 763/2008, 'usual residence' means the place of registered residence.
[7]	Accuracy of the figures	The total georeferenced population is higher than the real population (80.209.997) because grid cells with < 3 individuals have been modified.
[8]	Coverage of georeferenced data	100 % of data (residential building) is covered with georeferenced data.
[9]	Temporal accuracy of the spatial data	May 9th 2011
[10]	Temporal coherence	All population data relates to May 9th 2011
[11]	Quality report(s)	not available
[12]	Inspire compliant metadata	not available

5.2. Production of grid data

[1]	Production methods	Aggregation from register data
[2]	Accuracy of the figures	National total not preserved (real population = 80209997) due to confidentiality treatment.
[3]	Temporal accuracy (Timeliness)	May 9th 2011
[4]	Geographical coverage	100 % of the country area are covered by grid cells, not all cells contain population data
[5]	Comparability of grid data	no regional differences in quality
[6]	Temporal coherence	100% of grid data of the same reference date (May 9th 2011)
[7]	Confidentiality treatment	Grid cells with < 3 individuals have been modified. Populated grid cells could have been converted to non-populated. The number of treated grid cells is not published.
[8]	Quality report	not available
[9]	INSPIRE compliant metadata	not available

6. ESTONIA

6.1. Production of primary data

[1]	Spatial reference data	Building points, each building point has a unique identifier (hoone_ID).
[2]	Positional accuracy	0,5–100 meters
[3]	Positional source	National address data system (ADS) and building data from Estonian Topographical Database (responsible party: Estonian Land Board).
[4]	Comparability	Building points are comparable in different parts of the country.
[5]	Logical consistency	Some of the building points have been added by enumerators on the field. The accuracy of GPS points can be up-to 100 meters, but overall the accuracy is 0,5

		meter. Besides that there have been added points to the centre of the settlement unit or census enumeration area for residents (including homeless people), whose address was impossible to identify or only a part of the address was encoded. Aggregation into grids is based on the place of residence of a person. Place of residence (permanent/usual place of residence) – is usually the region or settlement, where a person spends most of his/her daily rest and sleep time. It may differ from the registered place of residence. The place of residence was the place where the person has been living continuously for at least 12 months before the moment of Census or before 31 December 2011, or where he/she came to live before the moment of Census, and where he/she intended to stay for at least one year.
[6]	Bias	About 2100 people (0.16%) were count up in various institutions (care homes, custodial institutions, etc.), 860 of them are homeless and tagged to the centre of the settlement unit or census enumeration area.
[7]	Accuracy of the figures	Difference between national census figures and georeferenced population is in total 5700 persons, which is 0.4% lower than total population number reported.
[8]	Coverage of georeferenced data	Approximately 98% of the total population were covered with georeferenced data.
[9]	Temporal accuracy of the spatial data	Building and address data of May 2010; PHC 31st of December 2011.
[10]	Temporal coherence	No revisions occurred
[11]	Quality report(s)	Not available
[12]	Inspire compliant metadata	Not available

6.2. Production of grid data

[1]	Production methods	100% aggregation from point data.
[2]	Accuracy of the figures	To preclude the possibility of direct or indirect identification, controlled rounding method is used. Controlled rounding results in the upwards or downwards adjustment of real values, preserving totals in the table as much as possible. Due to rounding, the published total may differ from the sum of subdivisions and the value of the same indicator may differ slightly in different tables. Rounding is carried out using a base of 3, meaning that all values are rounded to the nearest number divisible by three. This protects the values 1 and 2. At the same time, it creates very little noise, while allowing the publication of data on small local government units as well. On the most detailed level, the published values differ from the actual values by 1–2 persons. The difference may be greater in case of sums, but will remain below 1%. The value 0 is not changed in the rounding process; the values 1 and 2 are rounded to 0 or 3. This method is applied using the special tau-Argus software.
[3]	Temporal accuracy (Timeliness)	Grid data was released on 28 November 2014, 35 months after census.
[4]	Geographical coverage	100%, but only inhabited grid cells and cells with unoccupied residential buildings are included.
[5]	Comparability of grid data	To protect the values 1 and 2, all gird cell values were rounded to the nearest number divisible by three. The grid cell values 1 and 2 were rounded to 0 or 3; the value 0 is not changed in the rounding process. There are no differences between regions.
[6]	Temporal coherence	No differences occur.
[7]	Confidentiality treatment	To protect the values 1 and 2, all gird cell values were rounded to the nearest number divisible by three. The grid cell values 1 and 2 were rounded to 0 or 3; the value 0 is not changed in the rounding process.
[8]	Quality report	Not available

[9]	INSPIRE compliant metadata	Not available

7. IRELAND

7.1. Production of primary data

[1]	Spatial reference data	Georeferenced address points linked to an unique identifier on the Irish Census 2011 file
[2]	Positional accuracy	The georeferenced point should be accurate to within 1 metre of its map position based on the most up-to-date mapping from Ordnance Survey Ireland (OSi). However 2% of the point data was georeferenced by census staff based on the markings on the enumerator maps, the accuracy of which cannot be measured.
[3]	Positional source	Primary data sourced from the national address database (GeoDirectory). As mentioned above 2% of the point data was georeferenced by census staff based on the markings on the enumerator maps as they were not originally listed on the GeoDirectory.
[4]	Comparability	Equal comparability across different parts of the country.
[5]	Logical consistency	Yes. Definition of usual resident population is in agreement with Article 2 of Regulation 763/2008
[6]	Bias	The geographical location of persons absent from the State on Census night but usually reside in the State was based on the position of the household where they were marked as absent on the census form.
[7]	Accuracy of the figures	100%
[8]	Coverage of georeferenced data	98.6%. Persons who were enumerated on Census night but are not usually resident in the State have been excluded.
[9]	Temporal accuracy of the spatial data	All the spatial reference data relate to the census date.
[10]	Temporal coherence	Spatial reference data stated in [1] are updated on a regular basis every quarter of a year. Last update was conducted in October 2014.
[11]	Quality report(s)	Available at http://www.cso.ie/en/media/csoie/census/documents/census2011griddataset/1,Km%C2%B2,Grid,dataset,User,Guide,2011.pdf
[12]	Inspire compliant metadata	Available at https://www.geoportal.ie/geoportal/catalog/main/home.page

7.2. Production of grid data

[1]	Production methods	Aggregated from point sources
[2]	Accuracy of the figures	The following adjustments were made to the grid data concerning total population: (1) If the number of households in the grid is either 1 or 2 the total population has been set to 4 or 5 such that the total population in the grid dataset equals what has been published already. (2) If not rule (1) above and population of grid is 4 persons or less or total households in grid is 3. However the total population number in the grid dataset is equal to the total population number reported under the official census results (i.e. usually living population). Of the 10236 grid cells which meet these conditions, a total of exactly 2,000 grids have their real values. The national total of population is preserved by moving persons between these cells.

[3]	Temporal accuracy (Timeliness)	Grid dataset released in November 2013
[4]	Geographical coverage	100 % of country area is covered by grid data.
[5]	Comparability of grid data	Fully comparable as unique production method
[6]	Temporal coherence	All the data sources relate to the same reference date (10/04/2011)
[7]	Confidentiality treatment	18.2% of grid cells have been supressed.
[8]	Quality report	Available at http://www.cso.ie/en/media/csoie/census/documents/census2011griddataset/1,Km%C2%B2,Grid,dataset,User,Guide,2011.pdf
[9]	INSPIRE compliant metadata	Available at https://www.geoportal.ie/geoportal/catalog/main/home.page

8. GREECE

8.1. Production of primary data

[1]	Spatial reference data	The main volume of census data comes from census blocks (enumeration polygons) georeferenced uniquely by the census block code (ESYECODE) for each settlement uniquely identified by (KALCODE). All data held in a geodatabase. Part of the census data comes from settlement information (polygons) georeferenced uniquely by settlement area and uniquely identified by settlement code (KALCODE). All data held in a geodatabase.
[2]	Positional accuracy	1.25 – 5 metres for the census blocks (derived from analogue paper maps, ortho-photos). For the relative settlement area used where no census block information exists, the positional accuracy cannot be determined, the effort has been made to maximize the settlement area compactness around the built-up nucleus of the settlement.
[3]	Positional source	Census blocks dataset section of [1] is administered by the ELSTAT Cartographic Works Section. Settlement area data were derived from in-house digitising.
[4]	Comparability	Even quality of [1] across the country.
[5]	Logical consistency	Definition of total population at the place of residence applied? Yes. Resident population is defined as the number of persons that have lived in the place of their usual residence for at least 12 months before census day or they reside in the last 12 months before census day but with the intention to live there for at least one more year.
[6]	Bias	About 182.108 persons or 1,69% of the total resident population could not be georeferenced. These people fall into the following categories : • Questionnaires with incomplete/wrong/inexistent census block code that could not be matched with geographical datasets. • Persons registered in residences out of the settlement boundary. • Homeless people that were registered in the street Some homeless people living in buildings they occupy without approval or live in collective buildings that provide services for them were registered in the census block that the building is included. All people living in each settlement with no census block information were allocated in the area occupied.
[7]	Accuracy of the figures	Total georeferenced population coming from census block information was lower by 182.108 persons or 2,07% than the total population that could be referenced (homeless people, people registered with wrong/missing census block

		code). All in all, the figure of non-georeferenced people drops to 1,69% when compared to the total resident population announced. Total georeferenced population from settlement information has 100% coverage for the settlements that no census block information exists. For 19,07% of the values we have a 100% confidence, as the settlement area falls completely within the corresponding grid cell. For the rest 81,93%, a homogeneity in the spatial distribution of population is implied across the settlement area.
[8]	Coverage of georeferenced data	Total resident population announced is 10.816.286. Total population rendered to the grid from census block data is 8.629.140. Coverage percentage is 79,78%. Total resident population announced is 10.816.286. Total population rendered to the grid from settlement dataset 2.005.038. Coverage percentage is 18,53%.
[9]	Temporal accuracy of the spatial data	All the spatial data indicated refer to the census date.
[10]	Temporal coherence	Spatial reference data stated in [1] are updated decennially before census-taking. Due to field checking during census, some discrepancies are identified and some corrections in the spatial data are done post-census.
[11]	Quality report(s)	On census data (variables) used, available on http://www.statistics.gr/portal/page/portal/ESYE/PAGE-themes?p_param=A1602&r_param=SAM01&y_param=2011_00&mytabs=0 Regarding the production of grid data, not yet available.
[12]	Inspire compliant metadata	Not yet available.

8.2. Production of grid data

[1]	Production methods	8.629.140 persons (79,78% of the total resident population) were aggregated from census block information (bottom-up). The grid data set was combined with the outcome of rendering settlement information and compiled into a single data set. 182.108 persons (1,69%) were not spatially rendered due to problems mentioned in [6] (primary data). 2.005.038 persons (18,53% of the total resident population) were spatially rendered (broken-down) using geoprocessing options from the digitised settlement area dataset (top-down). Figures were combined with grid data from census block processing and compiled into a single grid data set.
[2]	Accuracy of the figures	Total resident population from census block dataset in grids is less than the total population announced because 1,69% of the people cannot be georeferenced.
[3]	Temporal accuracy (Timeliness)	The total population grid dataset for the Hellenic Republic was released on February the 28th 2015.
[4]	Geographical coverage	100% of the country area is covered by the grid data.
[5]	Comparability of grid data	There should be variable regional differences due to the hybrid production method applied and the statistical nature of the methodology used. Some differences should occur at the boundary of each settlement but cannot be quantified.
[6]	Temporal coherence	All the data refer to the same reference date (9/5/2011).
[7]	Confidentiality treatment	There were no confidentiality restrictions imposed during processing. Total resident population values are provided without confidentiality restrictions.
[8]	Quality report	Not yet available
[9]	INSPIRE compliant metadata	Not yet available

9. SPAIN

9.1. Production of primary data

[1]	Spatial reference data	The Census demographic data was assigned taking into account geo-positioned postal address approaches with a unique key identifier, specifically created for the census operation. All information about the population is assigned into an Enumeration District [acronym ED] ("Sección Censal").
[2]	Positional accuracy	No accuracy-test was conducted, mainly due to the ambiguous definition of postal addresses.
[3]	Positional source	In the 80% of ED, the points where captured by the Census during the previous Building fieldwork. Fieldwork agents marked in their portable devices the position of postal address over the cadastral cartography ("Ministerio de Economía y Hacienda" and for Basque Country and Navarre the "Diputaciones Forales") or ortho-photos from Map Agency (Instituto Geográfico Nacional), without detailed instructions. When the previous cadastral information was considered that had a very good quality no Buildings fieldwork was done, and in this case (the 20% of ED) the spatial points were captured from the parcel's centroid of the cadastral cartography.
[4]	Comparability	Even quality of [1] across the country
[5]	Logical consistency	People are located according to their place of usual residence in the Population and Housing Census at 1st of November 2011.
[6]	Bias	The concept of residence of the Census is the usual residence. No comparison with the residence in the day of the Census was searched.
[7]	Accuracy of the figures	The total population in the grid cells was adjusted to the total population according the Census. This figure includes usual households, collective residences and homeless people.
[8]	Coverage of georeferenced data	The Census's sample of dwellings encompass 2.326.247 units, across all municipalities. During the Census work, 95'1% of the dwellings coordinates were assigned and only 4'9% were missing. Two strategies were used to assign missing coordinates: using a close spatially dwelling donor (3'5%) or taken by the centroid of the Enumeration District when no close geo-positioned address was found (1'4%).
[9]	Temporal accuracy of the spatial data	All figures are referenced to the Census date: 1st of November 2014
[10]	Temporal coherence	No revisions of Census data were done or planed.
[11]	Quality report(s)	There are quality reports about Census, but they do not include any information about the process of assigning terrestrial coordinates: https://ec.europa.eu/CensusHub2/query.do?step=selectHyperCube&qhc=false http://ec.europa.eu/eurostat/web/population-and-housing-census/census-2011-metadata
[12]	Inspire compliant metadata	Not yet available

9.2. Production of grid data

[1]	Production methods	Aggregated methods from spatial point sources to grid cells (pure 100% bottom-up method).
[2]	Accuracy of the figures	Figures of total grid population are equal to the figures of Census population. Figures of total grid population are released with decimals.
[3]	Temporal accuracy (Timeliness)	The grid population was released on march 2014, 28 months after the Census date.

[4]	Geographical coverage	100% of the country was covered by the data grid.
[5]	Comparability of grid data	There are not any differences due the production method. Could be found small local or regional differences due to the share of geo-positioned address spatial points among the total of addresses.
[6]	Temporal coherence	All figures were referred to the Census date: 1st of November 2014
[7]	Confidentiality treatment	Not cells were treated by confidentiality reasons and no population was affected by these procedures.
[8]	Quality report	Not available
[9]	INSPIRE compliant metadata	Not yet available

10. FRANCE

10.1. Production of primary data

[1]	Spatial reference data	The coordinates are available for each dwelling in the tax files.
[2]	Positional accuracy	The accuracy is the same as the one observed in the cadastre, about few meters.
[3]	Positional source	The coordinates come from the cadastre.
[4]	Comparability	Even quality of [1] across the country.
[5]	Logical consistency	People are georeferenced according to their place of usual residence according to the tax law.
[6]	Bias	Students, who are fiscally dependent on their parents, are registered at their parent's address.
[7]	Accuracy of the figures	For the children under 18, the sex variable is randomly imputed according to the proportion observed in the 2010 census.
[8]	Coverage of georeferenced data	The coordinates are available for 92.3 % percent of the population.
[9]	Temporal accuracy of the spatial data	All the spatial reference data relate to the census date.
[10]	Temporal coherence	
[11]	Quality report(s)	Not yet available
[12]	Inspire compliant metadata	Not yet available

10.2. Production of grid data

[1]	Production methods	For each individual, the tax files provide age, sex and coordinates of his main residence. The sex is missing for children under 18 and coordinates are missing for people living in an institution (7.7 %). The population with coordinates figures from the tax files are calibrated on those of the 2010 census by age and municipalities. For each individual under 18, the sex variable is randomly imputed, for the weighted population, according to the sex ratio observed in the 2010 census. To establish the grid weighted population a bottom up method is then used. The results by cell are randomly rounded. approaches. (Total and in %)

[2]	Accuracy of the figures	The totals by age and municipalities are the same as those of the 2010 census.
[3]	Temporal accuracy (Timeliness)	
[4]	Geographical coverage	The dataset does not cover **the French Overseas** Departments and Territories
[5]	Comparability of grid data	yes
[6]	Temporal coherence	yes
[7]	Confidentiality treatment	Not for total population at the place of usual residence.
[8]	Quality report	Not yet available
[9]	INSPIRE compliant metadata	Not yet available

11. CROATIA

11.1. Production of primary data

[1]	Spatial reference data	The spatial objects to which persons have been assigned to are address points, or points of house numbers. Each distinctive address in principle has a unique point assigned to it. The key field used for joining was composed of Settlement-ID (string containing numeric values with leading zero; unique nationwide), Street-ID (numeric, sequence number of street within a settlement), House Number (numeric) and House Number Annex (string). Based on this key all addresses were matched, with 1.14 % un-matched records. In Croatian NSDI there is a register of spatial data sets where address points are considered part of Register of Spatial Units (RSU) dataset series, for which the ID is hr:nipp:pp:0008. ID for specific dataset of address points has not been assigned yet. The name of the data set is "Address Points of Croatia".
[2]	Positional accuracy	Each building, or part of building with its own house number, has got a point assigned to its address. Usually these are placed within the building footprint, close to the position of the entrance, or outside the building just close to its entrance. This implies that the volatility of this position is approximately within ±10 meters.
[3]	Positional source	Register of Spatial Units (RSU) managed by State Geodetic Administration (SGA) State Geodetic Administration (SGA) of Croatia is responsible for the RSU. It is at the same time responsible for cadastre. In some cases the data of address points were collected and maintained by local governments, such as in the cases of cities of Zagreb and Rijeka.
[4]	Comparability	As mentioned in [3], all data originating from SGA is comparable, but again, these data are usually collected and maintained in cadastral offices, which by inheritance are at different stages of development, have various levels of ICT equipment and knowledge. What is more important, a great deal of cadastre offices maintain cadastral maps originating back from 19th century Austrian-Hungarian cadastral survey of low positional accuracy. On cases when cadastral maps were used as source for address position the map quality influences address location quality. As regards address system, there are light differences depending of historical influence of Austrian-Hungarian Empire, Venice/Italy, Turkish Empire, or other, in certain parts of Croatia. These differences are minor and in practice the address system is unified in the whole Croatia.
[5]	Logical consistency	Definition of total population at the place of residence is applied.

[6]	Bias	Census did not cover diplomatic personnel of foreign diplomatic and consular missions in Republic of Croatia. Also representatives of international organisations nor members of their families who lives with them in Republic of Croatia and dwellings owned by foreign diplomatic or military personnel were not cover in census. Enumerators did not enter objects of Ministry of defence, Ministry of interior and Ministry of justice.
[7]	Accuracy of the figures	There is certain number of non-geocoded addresses, which makes 1.14 % of all addresses where census encountered inhabitants. This is caused by differences in address attribution in census records and in the spatial dataset with address points.
[8]	Coverage of georeferenced data	99.02 % of the total population from the census data were covered with georeferenced data.
[9]	Temporal accuracy of the spatial data	All the spatial reference date relate to the census date.
[10]	Temporal coherence	No revisions occur.
[11]	Quality report(s)	Quality report on address points is not available at any URL.
[12]	Inspire compliant metadata	In the NSDI geoportal of Croatia (http://geoportal.nipp.hr/en/application/find#fast=index&from=1&to=20) there is at the moment no metadata record on address point dataset.

11.2. Production of grid data

[1]	Production methods	4 242 962 persons (99.02 % of total population) were aggregated direct from georeferenced building points (bottom-up method). Another 41 927 (0.97 %) were disaggregated into grid cell that has the largest number of inhabitants within the appropriate settlement.
[2]	Accuracy of the figures	Total population number in grids is equal to the total population number reported under the official census results.
[3]	Temporal accuracy (Timeliness)	The total population grid dataset for the Republic of Croatia was released in December 2014, i.e. 3 years and 9 months after the census date.
[4]	Geographical coverage	Share of the territory of the country covered by the grid data: 100%
[5]	Comparability of grid data	Fully comparable as unique production method.
[6]	Temporal coherence	All the data sources relate to the same reference date 31/03/2011.
[7]	Confidentiality treatment	Confidentiality treatment and thresholds: cells having 4 or less persons were attributed as 4, marking the confidentiality protection. Number of grid cells that were confidentiality treated: 3274 Amount of persons affected by confidentiality treatment: 7775
[8]	Quality report	Not yet available
[9]	INSPIRE compliant metadata	Not yet available

12. ITALY

12.1. Production of primary data

[1]	Spatial reference data	Total population 59.433.788 split by 402.851 enumeration areas Istat Census_2011 enumeration areas divided into 21 files named as R_XX_2011_WGS84 where XX is the code of the Region Data can be downloaded: http://www.istat.it/it/archivio/104317
[2]	Positional accuracy	2,5 m (scale 1:5.000) – Urban centres 10 m (scale 1:10.000) – Extra-urban areas

[3]	Positional source	Extra-Urban areas: Cadastral, Technical Regional Cartography, Land Cover/Use Maps Urban areas: Street Maps, Point of Interest, Orthophoto (1 m of resolution)
[4]	Comparability	Absolutely comparable in any part of the country
[5]	Logical consistency	Yes
[6]	Bias	Cohabitations and homeless persons
[7]	Accuracy of the figures	Cohabitations: 301699 (0,51%) Homeless: 13.535 (0,02%) Administrative data collected by census
[8]	Coverage of georeferenced data	The whole census population has been geocoded inside enumeration areas. The entire population has been geocoded to the grid (difference between census population and grid population, 4.385 units, is due to rounding)
[9]	Temporal accuracy of the spatial data	1 year
[10]	Temporal coherence	Administrative changing
[11]	Quality report(s)	http://www.istat.it/it/files/2012/12/volume_popolazione-legale_XV_censimento_popolazione.pdf http://www.istat.it/it/archivio/104317
[12]	Inspire compliant metadata	http://www.istat.it/it/archivio/104317

12.2. Production of grid data

[1]	Production methods	1. Disaggregation of enumeration areas population onto regular grid of 20 m using several sources: (HRL (Copernicus data) to identify built-up and non-built-up areas, Technical Regional Cartography and Land Cover/Use Map to mask uninhabited areas; 2. Aggregation to European regular grid of results of 1.
[2]	Accuracy of the figures	difference between census population and grid population is about 4.000 persons due to rounding
[3]	Temporal accuracy (Timeliness)	No temporal difference
[4]	Geographical coverage	Total Italian territory
[5]	Comparability of grid data	The thematic maps are available only for some regions. For the other only CORINE and HRL have been used to mask inhabited areas
[6]	Temporal coherence	Evaluation not possible
[7]	Confidentiality treatment	Cells grid with no population:138765 Cells grid with 3 or less units: 28762 It should be underlined that due to the method used , the grid population is a "mathematical population"
[8]	Quality report	Available with URL
[9]	INSPIRE compliant metadata	Not available

13. CYPRUS

No data, disaggregated data available.

14. LATVIA

14.1. Production of primary data

[1]	Spatial reference data	Address points (X, Y coordinate pairs in LKS-92 coordinate system).
[2]	Positional accuracy	Not available. Address points are georeferenced manually and, in case of buildings, usually located within corresponding polygon, though misalignments in hundreds of meters are possible.
[3]	Positional source	State Address Register.
[4]	Comparability	Fully comparable countrywide.
[5]	Logical consistency	Yes.
[6]	Bias	Homeless people were counted in night shelters (2 342 persons, 0.1 % of population). People in short term residence in prisons were counted in their place of permanent residence in accordance with the definition of permanent residence.
[7]	Accuracy of the figures	No difference between Census figures and georeferenced population. All Census records were geocoded as, in case there was no match between Census data and Address Register or address in the latter was not georeferenced (in total 23 700 records, 1.1 % of population), location of the most similar georeferenced address was chosen (e.g., if Altonavas iela 9A, Rīga wasn't in the Address Register, but Altonavas iela 9, Rīga was, location of the latter was assigned).
[8]	Coverage of georeferenced data	Due to principle described in [7], all Census records were geocoded by using georeferenced address points.
[9]	Temporal accuracy of the spatial data	Data from the State Address Register was used from year 2014.
[10]	Temporal coherence	No revisions occurred.
[11]	Quality report(s)	Not available.
[12]	Inspire compliant metadata	http://www.vzd.gov.lv/files/adresu_metadati.xml

14.2. Production of grid data

[1]	Production methods	Entirely aggregated from point sources.
[2]	Accuracy of the figures	Difference between grid data totals 2 080 699 and totals from official statistics 2 070 371 due to confidentiality treatment, see [7].
[3]	Temporal accuracy (Timeliness)	Grid dataset released 3 years after the Census.
[4]	Geographical coverage	Entire territory of the country.
[5]	Comparability of grid data	Fully comparable countrywide.
[6]	Temporal coherence	Due to geocoding Census records according to State Address Register data from year 2014, some of them were assigned different coordinates than they would have been in case of the State Address Register data from the year of the Census.

[7]	Confidentiality treatment	Total population between 1 and 10 given as 5 affecting 21 054 grid cells and 94 942 persons.
[8]	Quality report	Not available.
[9]	INSPIRE compliant metadata	Not yet available.

15. LITHUANIA

15.1. Production of primary data

[1]	Spatial reference data	Address points – described with a unique identifier of a settlement, street, house number in Lithuania. Georeferenced building points – described with a unique identifier of the building in Lithuania.
[2]	Positional accuracy	0.5–10 metres for all spatial objects (source: large scale maps, ortho-photos).
[3]	Positional source	Geospatial data of the Republic of Lithuania – administered by the National Land Service under the Ministry of Agriculture. Graphic Address Register – administered by the state enterprise Centre of Registers.
[4]	Comparability	Even quality of [1] across the country
[5]	Logical consistency	Usual place of residence is the place where the person usually resides, irrespective of temporary absence when s/he is away on holiday, visiting friend or relatives, on business, for health care purposes. Usual resident is a citizen of the Republic of Lithuania usually (12 months and longer) residing within the territory of the Republic of Lithuania or staying abroad for less than a year; a foreigner granted a permanent residence permit and permanently residing within the territory of Lithuania; a foreigner granted a temporary residence permit for a year or longer.
[6]	Bias	If an individual resided in an institutional home (long-term care hospital, child or old people's care home, shelter for the homeless, special school, prison, monastery, convent, etc.) longer than a year, s/he was enumerated as a permanent resident of that institution. If a person started residing in an institutional home less than 12 months ago, s/he was enumerated as a temporary resident of the institution and recorded at her/his permanent place of residence. During the 2011 Census, institutions had 23 thousand permanent residents. Homeless persons sleeping on the street, in sewer wells, dumping sites, heating mains, buildings not meant for people to live in, shelters for the homeless, etc. because they had no home were enumerated. During the 2011 Census, 0.9 homeless persons were enumerated.
[7]	Accuracy of the figures	The individuals who during the Census resided in institutional (health, social care, correctional, etc.) homes are not geocoded. It makes up about 24 thousand people, or 0.8 per cent.
[8]	Coverage of georeferenced data	During the Census, the coordinates of all the dwellings enumerated were determined. 95 per cent of the dwellings enumerated acquired precise address and building point coordinates, the rest (5 per cent) were randomly distributed in the street or populated locality indicated.
[9]	Temporal accuracy of the spatial data	All the spatial reference data relate to the census date.
[10]	Temporal coherence	Coherent.
[11]	Quality report(s)	Not available
[12]	Inspire compliant metadata	Available at www.geoportal.lt

15.2. Production of grid data

[1]	Production methods	100 % aggregated
[2]	Accuracy of the figures	The individuals who during the Census resided in institutional (health, social care, correctional, etc.) homes are not geocoded. National total of population not preserved due to confidentiality treatment (real total population = 3043429).
[3]	Temporal accuracy (Timeliness)	The total population grid dataset for the Republic of Lithuania was released in May 2013, i.e. 2 years after the census date.
[4]	Geographical coverage	100% of the country area is covered by grid data.
[5]	Comparability of grid data	Don't analyse
[6]	Temporal coherence	Coherent
[7]	Confidentiality treatment	For 6142 grid cells containing fewer than 3 counts, TOT_P was set to 3.
[8]	Quality report	Not available
[9]	INSPIRE compliant metadata	www.geoportal.lt

16. LUXEMBOURG

No data, disaggregated data available.

17. HUNGARY

17.1. Production of primary data

[1]	Spatial reference data	We worked with addresses. Persons had been linked with addresses, then addresses were georeferenced. The name of the dataset is "2011 Census Address Database".
[2]	Positional accuracy	1 meter
[3]	Positional source	The reference database for geocoding was the database of the DSM-10 map. This map was worked out by the GeoX Ltd. with the cooperation of FÖMI (Institute of Geodesy, Cartography and Remote Sensing) and a background institution of the Ministry of Defence.
[4]	Comparability	Geocoding for the whole country was done by unified methods, so the quality is the same across the country.
[5]	Logical consistency	Yes, resident population was used for the work.
[6]	Bias	Only the roofless people caused bias. We enumerated one part of the homeless people in the accommodation for the homeless. The other part of the homeless (roofless) were enumerated on the streets or where we found them. Roofless belong only to a locality as they do not have addresses. In the GEOSTAT project roofless were put in the most populated grid of each locality. The number of roofless people is 5571 (0,056% of the total population), located in 306 settlement.
[7]	Accuracy of the figures	The georeferenced population is less than the census figure as it does not contain the data of the roofless people. (5571 persons, 0,056% of the total population)
[8]	Coverage of georeferenced data	"2011 Census Address Database" is geocoded completely (100%). The coverage of the population is 99,944%, as roofless people were not geocoded.

[9]	Temporal accuracy of the spatial data	The census reference date was 1st October 2011. The "2011 Census Address Database" was geocoded again according to the corrections. The Georeferenced Address Database relates to the status of 1st May 2014. The difference is 2 years and 7 months.
[10]	Temporal coherence	No revision
[11]	Quality report(s)	Quality report of the 2011 census is available in the Census Hub on the Eurostat website (https://ec.europa.eu/CensusHub2). The Census Department of the HCSO will disseminate a more detailed quality report in 2015.
[12]	Inspire compliant metadata	Not available

17.2. Production of grid data

[1]	Production methods	Geocoded addresses were aggregated to grids. (99,944% of the total population) Roofless were put in the most populated grid of each locality. (0,056% of the total population).
[2]	Accuracy of the figures	No difference in the total numbers
[3]	Temporal accuracy (Timeliness)	The census reference date was 1st October 2011. The dissemination of the grid dataset was 28th November 2014. The difference is 3 years and 2 months.
[4]	Geographical coverage	100% of the country is covered by grid data
[5]	Comparability of grid data	Unique method was used for the whole country, so the comparability of the grid data is 100%.
[6]	Temporal coherence	No difference. All data relates to the same reference date for the whole country.
[7]	Confidentiality treatment	We used target record swapping on all variables except the total population. 50,73% of the populated grid cells were modified, but this involved only 0,45% of the whole population. The reason is that this method had to be applied only in the thinly populated grids.
[8]	Quality report	Not available
[9]	INSPIRE compliant metadata	Not available

18. MALTA

18.1. Production of primary data

[1]	Spatial reference data	Streets data layer – described with a unique identifier per street
[2]	Positional accuracy	Based on scale of 1:1000 street centreline as prepared by the National mapping Agency (Mapping Unit within the MEPA (Malta Environment and Planning Authority))
[3]	Positional source	Street register administered by MEPA
[4]	Comparability	There is an even comparability of [1] across the whole country.

[5]	Logical consistency	Total Population in [1] is geographically referenced according to the definition of place of usual residence used in the Census of Population and Housing 2011. The place of usual residence is defined as 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. Census 2011 data is consistent with Recommendations for Population and Housing Censuses around 2010 by the UNECE (United Nations Economic Commission for Europe).
[6]	Bias	All persons were attributed to a spatial object according to where they lived on census day (20/11/2011). In particular, persons living in an institution were georeferenced according to the institution's street while homeless people, which accounted to 2, were georeferenced according to the street they were located in.
[7]	Accuracy of the figures	There is no difference between national census figures and georeferenced population in spatial objects since persons living both in a private dwelling and institutions were georeferenced. Homeless persons were also attributed to a spatial object. There is therefore a 0% difference.
[8]	Coverage of georeferenced data	Malta's population is 100% georeferenced.
[9]	Temporal accuracy of the spatial data	All spatial reference data relate to census date 20/11/2011.
[10]	Temporal coherence	Revision of [1] never occurred. Total population as at Census date amounted to 417,432.
[11]	Quality report(s)	Quality report on census data available at: http://nso.gov.mt/metadata/reports.aspx?id=45 Quality report on spatial reference data is not yet available.
[12]	Inspire compliant metadata	Not yet available.

18.2. Production of grid data

[1]	Production methods	100% were aggregated direct from Census data as elicited from street-level data. Each street centreline was converted to a centroid to ensure no duplication of streets and in turn the related data is duplicated in adjacent grid cells where the street is overlaid. Thus only one grid cell, that pertaining to where the centroid is located, contains the relative street data. The centroid was combined with the street Census data and the resultant centroid was overlaid over the grid file which in turn through a point-in-polygon query, the data was transferred to the grid cell attributes. Thus all grid cells are marked with letter A (aggregation) in the dataset.
[2]	Accuracy of the figures	The total number of persons in each grid amounting to 417,432 is equal to the total population reported in the Census of Population and Housing 2011.
[3]	Temporal accuracy (Timeliness)	Further to [2] above, there is a 4-year time lag since all spatial reference data relate to census date 20/11/2011.
[4]	Geographical coverage	Grid data covers 100% of the country.
[5]	Comparability of grid data	There are no regional differences as all Malta's data is gathered in a unique data layer due to the small size of the nation.
[6]	Temporal coherence	There were no differences in reference dates. All data sources are as at Census date, that is, as at 20/11/2011.

[7]	Confidentiality treatment	For grid cells containing fewer than 3 counts, TOT_P was set to 3. This amounts to 11 grid cells and contributes to 16 persons.
[8]	Quality report	Not yet available.
[9]	INSPIRE compliant metadata	Not yet available.

19. NETHERLANDS

19.1. Production of primary data

[1]	Spatial reference data	Georeferenced data in the form of address point, in national projection. Source of addresses and their coordinates is the National Address Register (BAG), maintained by the communities. Each address has an unique ID.
[2]	Positional accuracy	1 meter, located within the building. Addresses of caravan or houseboat are given the coordinate of the centre of the area awarded to the caravan/houseboat.
[3]	Positional source	Derived from national address register with meter accuracy.
[4]	Comparability	Uniform distribution of accuracy.
[5]	Logical consistency	Yes
[6]	Bias	Homeless people are not accounted for yet For a total of 1,578 people without an address or adequate location could not be awarded a grid (0,01%). These people are awarded a grid by proportional chance of the distribution of the population within the neighbourhood or within the community.
[7]	Accuracy of the figures	99,99% of the national census population could be addressed to a grid
[8]	Coverage of georeferenced data	100,00% of the addresses are covered with georeferenced data.
[9]	Temporal accuracy of the spatial data	Address coordinates of 1th of January 2013, accounted for temporal address changes. Earlier addresses are given coordinates by older cadastral information
[10]	Temporal coherence	No revisions
[11]	Quality report(s)	Not available
[12]	Inspire compliant metadata	Not available

19.2. Production of grid data

[1]	Production methods	Aggregation. Population is initially aggregated from address points into 100m grids in the national projection, RD_New (EPSG 28992). Aggregated 100m RD_New grid data is then recasted into the 1km European grid meaning the centre of the national 100m grid with its total figures to be projected into ETRS1998_LAEA. The values of the centres of the 100m national grid data are summed up onto the 1km INSPIRE grid codes.
[2]	Accuracy of the figures	Using recasting with the national 100m grid introduces a minimal difference from counting data from projected address points.
[3]	Temporal accuracy (Timeliness)	Address coordinates of 1th of January 2013, accounted for temporal address changes

[4]	Geographical coverage	100%, but not all addresses contain population
[5]	Comparability of grid data	100% of consistent and comparable data, no regional differences in quality.
[6]	Temporal coherence	100% of consistent and comparable data, no temporal differences.
[7]	Confidentiality treatment	No suppression on total number of people.
[8]	Quality report	not available
[9]	INSPIRE compliant metadata	not available

20. AUSTRIA

20.1. Production of primary data

[1]	Spatial reference data	Georeferenced building points from the Austrian address-, buildings and dwellings register. Unique IDs for each exist. http://www.statistik.at/web_en/publications_services/online_address_buildings_and_dwellings_register/buildings_and_dwellings_register/index.html
[2]	Positional accuracy	precise coordinates (0,01m) for each address (=parcel) (near the entrance) precise coordinates (0,01m) for each building (near the entrance); dwellings have the same coordinates as the building they are in
[3]	Positional source	Administrative register (ABDR address-, buildings- and dwellings register) administered by the municipalities on a daily basis
[4]	Comparability	Even quality of [1] across the country
[5]	Logical consistency	Population is registered in dwellings (resp buildings) in the Central Register of Residents, which uses a live link to the IDs from the building and dwelling register. Hence the population gets the georeference from the building they are registered in.
[6]	Bias	About 5000 official homeless people are assigned to buildings, mostly in those of relief organisations.
[7]	Accuracy of the figures	Almost 100% of the population could be linked to a georeferenced building. There are some cases without building-ID which has historic reasons and date back to the time before the ABDR. Since the start of the ABDR population is automatically assigned to dwellings/buildings when registering. Also there are/were … buildings with missing coordinates. To achieve a full coverage for the Census these were added manually.
[8]	Coverage of georeferenced data	About 99,99% of all census buildings were georeferenced. For the remaining substitute coordinates were used (address coordinates, point between neighbouring buildings, …) Almost 100% of the population from the census were linked with georeferenced buildings. Remaining were matched with derived coordinates additionally.
[9]	Temporal accuracy of the spatial data	All the spatial reference data relate to the census date 31.10.2011.
[10]	Temporal coherence	Buildings and dwellings register is continuously updated by municipalities, including the georeference (geo-client application). Most changes are recorded as such (historised), hence data can be withdrawn for each time stamp. Revisions are only considered if the quality is improved. E.g. if the coordinates are updated it is usually to make it more precise (each entrance separate, coordinate near the entrance).
[11]	Quality report(s)	See Census Hub

[12]	Inspire compliant metadata	Available for geographical grid systems https://geometadaten.lfrz.at/at.lfrz.discoveryservices/srv/de/csw202?service=CSW&request=GetRecordById&version=2.0.2&outputSchema=http%3A%2F%2Fwww.isotc211.org%2F2005%2Fgmd&ElementSetName=full&id=77679c2b-302c-11e3-beb4-0000c1ab0db6

20.2. Production of grid data

[1]	Production methods	population was aggregated directly using georeferenced building points (i.e. bottom-up method)
[2]	Accuracy of the figures	Total population number in grids is equal to the total population number reported under the official census results 99,99% population number in grids: 8401933 reported total population: 8401940 difference of 7 results from missing assignment of population to buildings
[3]	Temporal accuracy (Timeliness)	The total population grid dataset for Austria was released in June 2014, i.e. 2,5 years after the census date.
[4]	Geographical coverage	100 % of country area is covered by grid data. 85.708 grid cells (1km²) of which 43.182 are inhabited.
[5]	Comparability of grid data	fully comparable as unique production method
[6]	Temporal coherence	All the data sources relate to the same reference date, except for possible improvements of coordinates.
[7]	Confidentiality treatment	No confidentiality treatment for the total population. 0 % of grid cells were confidentiality treated, 0 % of population was affected by confidentiality treatment.
[8]	Quality report	Not available
[9]	INSPIRE compliant metadata	Will be made available on : https://geometadaten.lfrz.at/at.lfrz.discoveryservices/srv/de/csw202?service=CSW&request=GetCapabilities&version=2.0.2

21. POLAND

21.1. Production of primary data

[1]	Spatial reference data	Georeferenced address points (as x , y coordinates) - points integrated by ID with the National Official Register of the Territorial Division of the Country (TERYT) which reflects the geographic location of any residential building or the building which contains at least one dwelling. TERYT register is maintained in CSO.
[2]	Positional accuracy	1 – 5 m
[3]	Positional source	Digitalization (in regional statistical offices) based on reference data such as: Cadastral Data, Ortophotomap, , LPIS (Land Parcel Identification System). Data updated in municipalities and visual pre-survey by enumerators equipped with GPS device.
[4]	Comparability	Even quality of [1] across the country.
[5]	Logical consistency	The National Population and Housing Census conducted in Poland in 2011 was designed and implemented using a mixed model, i.e. employing data from administrative registers (1) and data obtained from respondents (2). (1) People georeferenced according to data obtained from registers; (2) People georeferenced according to their place of usual residence – the place where the person has in fact lived for 3 or more months.
[6]	Bias	About 9700 of homeless people were counted.
[7]	Accuracy of the figures	240768 (0,6 %)

[8]	Coverage of georeferenced data	All address points from TERYT were georeferenced. 99,4 % of the total population from the census were covered with georeferenced data. 0,6 % persons were matched with derived coordinates additionally.
[9]	Temporal accuracy of the spatial data	All the spatial reference data relates to the census date.
[10]	Temporal coherence	No revisions.
[11]	Quality report(s)	Quality report compliant with Eurostat guidelines has been provided and published in CIRCA-BC as a common report for all EU countries.
[12]	Inspire compliant metadata	Not available

21.2. Production of grid data

[1]	Production methods	Aggregated from point sources.
[2]	Accuracy of the figures	Total population number in grids is equal to the total population number reported under the official census results.
[3]	Temporal accuracy (Timeliness)	The total population grid dataset for the Poland was released in November 2014, i.e. 3,5 years after the census date (31/03/2011).
[4]	Geographical coverage	100 % of country area is covered by grid data.
[5]	Comparability of grid data	Fully comparable (with regard to [7])
[6]	Temporal coherence	All grid data relates to the same reference date (31/03/2011)
[7]	Confidentiality treatment	All cells with 1 or 2 individuals were recalculated to 0 or 3 individuals. 2,3 % of grid cells were confidentiality treated 0,03 % of population affected by confidentiality treatment
[8]	Quality report	Is to be published on the http://geo.stat.gov.pl website
[9]	INSPIRE compliant metadata	Are to be available at http://geo.stat.gov.pl/inspire

22. PORTUGAL

22.1. Production of primary data

[1]	Spatial reference data	Georeferenced data in the form of points, representing buildings. Dataset *PT_INE_TIII02_EDIFICIOS_2011*
[2]	Positional accuracy	Points have been georeferenced on paper maps, with a scale range from 1:1 000 to 1:10 000, and then digitalized trough a web application. The reference data for the web application and the paper maps were aerial ortophotos with a resolution of 0,5 meter. Each building point is located within the delimitation of the building. To increase the positional accuracy, we have restricted, in the web application, the edition of georeferenced census buildings points up to the 1:2.000 scale – above this scale (1:5.000, 1:10.000) it was not possible to register a point for a building.
[3]	Positional source	The census 2011 building points dataset was not built based on any existing data source. The dataset was built during the census operation field work. The buildings were georeferenced, by circa 17.000 census field workers, using a website with detailed ortophotos. Each building is represented by its centroid.
[4]	Comparability	100% fully comparable. The production method of the *PT_INE_TIII02_EDIFICIOS_2011* dataset was the same in all of the country, therefore no regional differences exist.
[5]	Logical consistency	The population is georeferenced according to the location of the building of usual place of residence, as stated at the 2011 Census.

		Place of usual residence is the place where the person has in fact lived long-term and where he/she has a household or family This is according the recommendations for the 2010 Population and Housing Censuses round 2010
[6]	Bias	Individual data of Homeless people, short term residence in prisons, hospitals, retirement homes, etc., diplomatic personnel, shipped personnel and mobile homes are recorded and counted by 'conventionally located population proportion' of the INSPIRE specification. The approach was to georeference this population to the location .of their collective dwelling, and if not available a fictitious location, usually the centroid of the census block (subsection) where they were inquired.
[7]	Accuracy of the figures	The whole of the population was georeferenced – some in fictitious locations (eg homeless people). Regarding the census quality survey for the 2011 census we had the following global result: "*Coverage indicators: It is estimated that, in Census results, there was an over coverage when counting the statistical units "Building" (+ 1,3%) and "Dwellings" (+ 1,4%) and an under coverage when counting the statistical units "Households" (- 3,6 %) and "Resident individuals" (- 2,5%).*"
[8]	Coverage of georeferenced data	The georeferenced data covers all of the country, 100% of the national territory and 99,9% of the residential building are represented by their correct geographic position.
[9]	Temporal accuracy of the spatial data	All the spatial reference data relate to the census date, 21 of march 2011
[10]	Temporal coherence	At the time there are no proper revisions that allow us to distinguish between different versions of the *PT_INE_TIII02_EDIFICIOS_2011*dataset. We are working to improve its accuracy and coherence but we haven't released a revised version yet.
[11]	Quality report(s)	A quality report of the 2011 census is available: http://censos.ine.pt/ngt_server/attachfileu.jsp?look_parentBoui=159574293&att_display=n&att_download=y
[12]	Inspire compliant metadata	URL available but only in Portuguese http://snig.dgterritorio.pt/geoportal/catalog/search/resource/details.page?uuid=1b7b5d830a5d498a844cd9c2e09613dd.

22.2. Production of grid data

[1]	Production methods	The grid spatial data was produced by the bottom-up method. The grid data totals were aggregated from point sources.
[2]	Accuracy of the figures	There are no differences between grid data totals and totals from official statistics.
[3]	Temporal accuracy (Timeliness)	The delay between census date and release date of the grid dataset was about 3 years, from 21 March 2011 (census date) and May 2014 (release of the grid dataset for 2011 census)
[4]	Geographical coverage	The grid dataset covers 100% of the national territory.
[5]	Comparability of grid data	100% fully comparable. The production method and the source data was the same in all of the country so there are no regional differences.
[6]	Temporal coherence	100%. There are no differences between statistical or spatial data sources reference dates.
[7]	Confidentiality treatment	0% of grid cells suppressed. There were no confidential treatments or thresholds in the constitution of the grid dataset.
[8]	Quality report	No
[9]	INSPIRE compliant metadata	No

23. ROMANIA

23.1. Production of primary data

[1]	Spatial reference data	Georeferenced address points Boundaries of built areas
[2]	Positional accuracy	0,5 – 10 meters for all spatial objects (source: Scanned plans, topographic measurements, ortho-photos etc.)
[3]	Positional source	National address register provided by Romanian National Agency for Cadastre and Land Registration
[4]	Comparability	Even quality of address dataset across the country. Differences appear between rural an urban areas. In urban areas the quality (accuracy, degree of completeness) is better than rural areas.
[5]	Logical consistency	Population data is georeferenced according to their place of usual residence which they stated in the Population and Housing Census 2011 survey.
[6]	Bias	1.5 thousands of homeless people or people living in emergency buildings were counted up in the appropriate establishments providing services for them (shelter houses, halfway houses or doss-houses), even though they usually live in the street. Some were registered in collective living spaces, i.e. hospitals, shelters etc., others in their former households (where they adjustments on the streets) and only a third category remained homeless on the street (1.5 thousands).
[7]	Accuracy of the figures	All the population data from the census was georeferenced
[8]	Coverage of georeferenced data	The georeferenced data is even distributed through all Romanian territory
[9]	Temporal accuracy of the spatial data	All the spatial reference data relate to the census date.
[10]	Temporal coherence	Spatial reference data stated in address register are not updated on a regular basis. National Agency for Cadastre and Land Registration is currently in process of implementing a project called RENNS (National register of street nomenclature) through which will keep up to date the georeferenced addresses. In this moment the position of addresses is kept in local register at municipality level.
[11]	Quality report(s)	Not yet available.
[12]	Inspire compliant metadata	Not yet available.

23.2. Production of grid data

[1]	Production methods	Generally the hybrid method was used because in rural areas the address register is not implemented in all administrative units. So from the start we have to differentiate the census results in 2 parts: Urban areas: • 93 % of the population data was georeferenced at address (point) level • 7 % of the population data was georeferenced using a disaggregation method (top down approach) Rural areas: • 85 % of the population data was georeferenced at address (point) level • 15 % of the population data was georeferenced using a disaggregation method (top down approach) The 2011 was the first census in Romania where the population data was georeferenced at address level at a national level.
[2]	Accuracy of the figures	Total population number in grids is equal to the total population number reported under the official census results (i.e. usually living population).

[3]	Temporal accuracy (Timeliness)	The total population grid dataset for Romania is equal to the population data result in 2011 Census
[4]	Geographical coverage	100 % of country area is covered by grid data. The grids with no population data where eliminated from the grid dataset recording to the EUROSTAT methodology
[5]	Comparability of grid data	There are no significant differences at regional or county level
[6]	Temporal coherence	All the data sources relate to the same reference date (2011)
[7]	Confidentiality treatment	0 % of grid cells were confidentiality treated, 0 % of population affected by confidentiality treatment
[8]	Quality report	Not yet available.
[9]	INSPIRE compliant metadata	Not yet available.

24. SLOVENIA

24.1. Production of primary data

[1]	Spatial reference data	Georeferenced building points as XY coordinates of house number centroids described with unique identifier of the address of building (HS_MID). For further detail please see: http://prostor3.gov.si/cepp_ang/index.jsp Choose Register of spatial data on the left menu.
[2]	Positional accuracy	1 meter. For further detail please see: http://prostor3.gov.si/cepp_ang/index.jsp Choose Register of spatial data on the left menu.
[3]	Positional source	Register of spatial units administered by the Surveying and mapping authority of the Republic of Slovenia.
[4]	Comparability	Even quality of [1] across the country.
[5]	Logical consistency	Yes.
[6]	Bias	No.
[7]	Accuracy of the figures	100 %. No differences.
[8]	Coverage of georeferenced data	100 % of all census buildings are georeferenced. 100 % of the total population from the (register based) census were covered with georeferenced data.
[9]	Temporal accuracy of the spatial data	All the spatial reference date relate to the census date.
[10]	Temporal coherence	Spatial reference data stated in [1] are updated on a daily basis by 12 Regional surveying and mapping authorities.
[11]	Quality report(s)	For the census data please see: https://ec.europa.eu/CensusHub2/metadata.do?method=loadMetadata Select Slovenia from the metadata menu. For [1] please see: http://prostor3.gov.si/cepp_ang/index.jsp Choose Register of spatial data on the left menu.
[12]	Inspire compliant metadata	Not yet available with URL.

24.2. Production of grid data

[1]	Production methods	2,050,189 persons (100 % of total population) were aggregated directly from georeferenced building points (i.e. bottom-up method).
[2]	Accuracy of the figures	Total population number in grids is equal to the total population number reported under the official census results.
[3]	Temporal accuracy (Timeliness)	The total population grid dataset for Slovenia was released together with the census data.
[4]	Geographical coverage	100 % of country area is covered by grid data.
[5]	Comparability of grid data	100 %. No regional differences.
[6]	Temporal coherence	All the data sources relate to the same reference data (01/01/2011).
[7]	Confidentiality treatment	0 % of grid cells were confidentiality treated and 0 % of persons were affected by confidentiality treatment. The totals are not subject to confidentiality rules.
[8]	Quality report	Not yet available with URL.
[9]	INSPIRE compliant metadata	Not yet available with URL.

25. SLOVAKIA

25.1. Production of primary data

[1]	Spatial reference data	Georeferenced address points – described with unique identifier of the address points – acronym AB, placed on buildings objects in the Slovak Republic. Address points are localised inside of the census districts polygons, which were created by interactive internet application SODB2011.
[2]	Positional accuracy	2,5 – 10 meters for all spatial objects (source: ortho-photo and middle scale maps)
[3]	Positional source	Register of census districts (RSO) and address points (AB) – administered by the Statistical Office of the Slovak republic
[4]	Comparability	Even quality of [1] over the whole territory of the Slovak Republic.
[5]	Logical consistency	People are georeferenced into address points according by place of enumeration. Place of enumeration in the Slovak Republic means where is person enumerated, i.e.is present among the population in statistics unit at the census reference date. Among the persons, who assess by place of enumeration are citizens of the Slovak republic also foreign citizens, persons with registered residence and residents without it.
[6]	Bias	About 23,4 thousand homeless people or people living in emergency buildings were counted up according by place of enumeration (shelter houses, halfway houses or doss-houses), even though they usually live in the street.
[7]	Accuracy of the figures	Total georeferenced population was lower by ca 5,69 % than total population number reported under the official census results, since 301 504 persons were difficult to assign to the recorded georeferenced address points (this people were placed to the virtual address point or to the existing address point inside of the right census district, by preservation of the spatial identification.
[8]	Coverage of georeferenced data	100% of all census address points were georeferenced.100 % of the total population from the census were covered with georeferenced data.
[9]	Temporal accuracy of the spatial data	All the spatial reference data relate to the census date.
[10]	Temporal coherence	Spatial reference data stated in [1] are not updated. Date of creation relate to census date.
[11]	Quality report(s)	Not yet available.

[12]	Inspire compliant metadata	Not yet available.

25.2. Production of grid data

[1]	Production methods	5 399 333 persons (100% of total population) were aggregated direct from address points sources (i.e. bottom-up method).
[2]	Accuracy of the figures	Total population number in grids is equal to the total population number reported under the official census SODB2011results.
[3]	Temporal accuracy (Timeliness)	The total population grid dataset for the Slovak Republic was released in November 2014, i.e. 3 years after the census date.
[4]	Geographical coverage	100 % of the territory of the Slovak republic is covered by the grid data.
[5]	Comparability of grid data	There was applied one production method (aggregation of address points) for all regions Slovak Republic.
[6]	Temporal coherence	All the data sources relate to the same reference date (21/05/2011)
[7]	Confidentiality treatment	0 % of grid cells were confidentiality treated, 0 % of population affected by confidentiality treatment, since confidentiality restriction for the total population are not defined at the Statistical Office of the Slovak Republic.
[8]	Quality report	Not yet available.
[9]	INSPIRE compliant metadata	Not yet available.

26. FINLAND

26.1. Production of primary data

[1]	Spatial reference data	Georeferenced building points (centre of buildings).
[2]	Positional accuracy	One metre
[3]	Positional source	Building and Dwelling Register (Population Register Centre)
[4]	Comparability	Even quality of the register across the country. Spatial accuracy may vary by municipalities.
[5]	Logical consistency	Yes
[6]	Bias	Data consists of persons with known residence. Persons without link to any building are not included.
[7]	Accuracy of the figures	Data covers 98.9 % of total population, 5 339 896 persons of 5 401 267 total population.
[8]	Coverage of georeferenced data	98.9 % of population is georeferenced 1.1 % of population is not georeferenced
[9]	Temporal accuracy of the spatial data	Reference date is equivalent to census date.
[10]	Temporal coherence	No
[11]	Quality report(s)	Not yet available

[12]	Inspire compliant metadata	Not available with URL

26.2. Production of grid data

[1]	Production methods	Production method: A (aggregated). Data is aggregated by using building points. National data is converted into ETRS89-LAEA before aggregation. Data covers 98.9 % of total population, 5 339 896 persons of 5 401 267 total population.
[2]	Accuracy of the figures	1.1 % of population, 61 371 persons, is not linked to any building and therefore they remain without location information.
[3]	Temporal accuracy (Timeliness)	Data was released on June 2013.
[4]	Geographical coverage	100 % of Finland is covered.
[5]	Comparability of grid data	Comparable, no regional differences
[6]	Temporal coherence	All data is dated 31.12.2011
[7]	Confidentiality treatment	Total population, no confidentiality treatment
[8]	Quality report	Not yet available
[9]	INSPIRE compliant metadata	Not yet available with URL

27. SWEDEN

27.1. Production of primary data

[1]	Spatial reference data	Coordinates of real estate units in the Swedish Real Property Register. Every unit has a unique property identifier.
[2]	Positional accuracy	0,5 – 10 meters for all spatial objects.
[3]	Positional source	Swedish Real Property Register.
[4]	Comparability	Even quality of [1] across the country
[5]	Logical consistency	People are georeferenced according to their registered place of permanent residence according to Statistics Sweden's Total Population Register (TPR).
[6]	Bias	N.A
[7]	Accuracy of the figures	Total population (2011) 9 482 855 of which 99,9% was georeferenced.
[8]	Coverage of georeferenced data	About 99,9% of all census population were georeferenced.
[9]	Temporal accuracy of the spatial data	All the spatial reference data relate to 31/12/2010 as do the total population numbers.
[10]	Temporal coherence	NO
[11]	Quality report(s)	Not available with URL

[12]	Inspire compliant metadata	Available at https://www.geodata.se/GeodataExplorer/index.jsp?loc=sv

27.2. Production of grid data

[1]	Production methods	All data are aggregated from point sources (Bottom-up).
[2]	Accuracy of the figures	About 99,9% of all census population were georeferenced.
[3]	Temporal accuracy (Timeliness)	No difference
[4]	Geographical coverage	100 % of country area is covered by grid data.
[5]	Comparability of grid data	No differences due to different production methods.
[6]	Temporal coherence	All the data sources relate to the same reference date (31/12/2010)
[7]	Confidentiality treatment	No Confidentiality due to the size of the grids and to the nature of the variable.
[8]	Quality report	Not available.
[9]	INSPIRE compliant metadata	Available at https://www.geodata.se/GeodataExplorer/index.jsp?loc=sv

28. UNITED KINGDOM

28.1. Production of primary data

[1]	Spatial reference data	An aggregation of georeferenced postcode unit level Census data from the Office for National Statistics (ONS), Northern Ireland Statistics and Research Agency (NISRA) and National Records Scotland (NRS) into a single reference dataset. England and Wales Postcode Counts (Postcode_Estimates_1_A_F.csv, Postcode_Estimates_1_G_L.csv, Postcode_Estimates_1_M_R.csv, Postcode_Estimates_1_S_Z.csv): http://www.ons.gov.uk/ons/rel/census/2011-census/headcounts-and-household-estimates-for-postcodes-in-england-and-wales/rft-headcounts-and-household-estimates.zip Scotland Postcode Counts (rel1c2tableA1.csv): http://www.scotlandscensus.gov.uk/documents/censusresults/release1c/rel1c2tableA1.csv Northern Ireland Postcode Counts (NI Headcount and Household Estimates for Postcodes.csv): http://www.ninis2.nisra.gov.uk/Download/Census%202011_Winzip/2011/Headcount%20and%20Household%20Estimates%20for%20Postcodes.ZIP
[2]	Positional accuracy	1 meter
[3]	Positional source	National Statistics Postcode Lookup (November 2012)
[4]	Comparability	Data for Scotland does not contain a male/female breakdown of total population as disclosure control requirements do not permit this in this part of the country.
[5]	Logical consistency	People are georeferenced according to their postcode unit as included in their return to the 2011Census in Scotland, Northern Ireland or England and Wales. The postcode unit is the unique identifier designed for sorting and delivering mail to each address within the United Kingdom. The grid reference of all

		addresses within a postcode are then averaged to generate a single grid reference that represents that postcode unit. The statistics for each postcode unit are themselves aggregations of the Census microdata at place of usual residence.
[6]	Bias	ONS, NISRA and NRS do not quantify the adjustment and imputation to official statistics (as part of the agreed disclosure control methodology) for 2011 Census but additional quality information on the production of the statistics for this dataset can be found here: http://www.ons.gov.uk/ons/guide-method/method-quality/quality/quality-information/population/2011-census---population-and-household-estimates.pdf
[7]	Accuracy of the figures	For the United Kingdom, the national population estimate had a 95 per cent confidence interval of +/- 0.15 per cent, suggesting that the true population count is expected to be within plus or minus 83,000 of the census estimate. This could vary between the countries of the United Kingdom. Additional quality information on the production of the statistics for this dataset can be found here: http://www.ons.gov.uk/ons/guide-method/method-quality/quality/quality-information/population/2011-census---population-and-household-estimates.pdf
[8]	Coverage of georeferenced data	99.97% of postcode units were georeferenced. Those that could not be georeferenced were postcodes that were captured at Census day but do not match the existing postcode lookups from November 2012 (which include postcode units that are no longer operational). The 0.03% of postcodes that could not be georeferenced were exclusively within the Scottish data.
[9]	Temporal accuracy of the spatial data	2 years
[10]	Temporal coherence	No revisions have been made
[11]	Quality report(s)	Not yet available
[12]	Inspire compliant metadata	Not yet available

28.2. Production of grid data

[1]	Production methods	The total population of the United Kingdom at 2011 Census was 63182178. The statistics for these postcodes were released as a dataset as part of the 2011 Census releases for England and Wales, Scotland and Northern Ireland. The postcode unit data was then aggregated from postcode level point source (National Statistics Postcode Lookup) to grid cells using a GIS point-in-polygon process. During this process a total of 28091 population could not be allocated to the grid meaning the final grid population is 63154087 (98.95% of the total population).
[2]	Accuracy of the figures	10648 population could not be allocated from postcode to the grid either due to the postcode unit not containing a valid grid reference (5423) for geocoding or as a result of a point falling directly on a boundary (5225). This is a difference of 0.02% deviation from the official statistics at the postcode level.
[3]	Temporal accuracy (Timeliness)	England and Wales – 24 months Scotland – 22 months Northern Ireland – 21 months
[4]	Geographical coverage	United Kingdom
[5]	Comparability of grid data	Regional differences due to different production methods and source data (fully comparable as unique production method OR partially then indicate the differences and the share in the total grid data for each cause for differences.

[6]	Temporal coherence	All data was captured on and 11 March 2011 and all geographic referencing was from November 2012
[7]	Confidentiality treatment	Low level record swapping was applied to the data
[8]	Quality report	Not yet available
[9]	INSPIRE compliant metadata	Not yet available

29. LIECHTENSTEIN

29.1. Production of primary data

[1]	Spatial reference data	Georeferenced building points - described with a unique identifier of the building in Liechtenstein (GEID - Gebäudeidentifikator)
[2]	Positional accuracy	Centre of building (+/- 5 meters)
[3]	Positional source	Public register / cadastre
[4]	Comparability	Even quality across the country
[5]	Logical consistency	Usual residence of inhabitants (at census 2010) refers to a building which has a unique identifier (GEID). The GEID is georeferenced.
[6]	Bias	Communal administration had no homeless people in their registers. People with usual residence in the municipality are considered as living there.
[7]	Accuracy of the figures	No differences between national census figures and georeferenced population in spatial objects.
[8]	Coverage of georeferenced data	100%.
[9]	Temporal accuracy of the spatial data	Reference date of georeferenced data and the census date corresponds.
[10]	Temporal coherence	No revisions
[11]	Quality report(s)	Not available
[12]	Inspire compliant metadata	Not available

29.2. Production of grid data

[1]	Production methods	Each person with usual residence in Liechtenstein is registered with a building identifier referring to the person's address. The building identifier is linked to spatially referenced points which are being loaded into census database.
[2]	Accuracy of the figures	No differences between population numbers in registers and georeferenced data. Total population preserved after confidentiality treatment.
[3]	Temporal accuracy (Timeliness)	The total population grid dataset for Liechtenstein was released in 2014, i.e. 3 years after the census reference date.
[4]	Geographical coverage	100% of the territory of the country covered by the grid data
[5]	Comparability of grid data	No regional differences due to different production methods and source data

[6]	Temporal coherence	Grid data is coherent with population registers and census data (2010/2011).
[7]	Confidentiality treatment	For confidentiality reasons, georeferenced data were shifted to a neighbouring grid cell (1 km2) when 3 or less people were in the same grid cell. Approx. 40 persons were concerned (1 per 1000 inhabitants).
[8]	Quality report	Not available.
[9]	INSPIRE compliant metadata	Not available.

30. ICELAND

No data, disaggregated data available.

31. NORWAY

31.1. Production of primary data

[1]	Spatial reference data	Georeferenced address points.
[2]	Positional accuracy	1-50 meters
[3]	Positional source	Derived from national cadastre data
[4]	Comparability	100 % consistent and comparable data, no regional differences in quality down to Statistical Units/Enumeration Areas (Sub municipality level).
[5]	Logical consistency	Yes
[6]	Bias	Population register is based upon where people have their primary dwelling. In this preliminary delivery homeless people are not accounted for yet. This is covered by the 'conventionally located population proportion' of the INSPIRE specification.
[7]	Accuracy of the figures	
[8]	Coverage of georeferenced data	99,7 % of statistical (primary) data is covered with georeferenced data.
[9]	Temporal accuracy of the spatial data	Address data of November 2011
[10]	Temporal coherence	No revisions
[11]	Quality report(s)	Not available
[12]	Inspire compliant metadata	Georeferenced address points. http://www.geonorge.no/geonetwork/srv/eng/metadata.show?id=75792&currTab=simple

31.2. Production of grid data

[1]	Production methods	Aggregated from point sources
[2]	Accuracy of the figures	4 address points out of all 14277259 addresses were found to be located on the boundary in between two grid cells. These addresses including 9 people were manually checked using the building area data for referring the data to a specific grid cell.
[3]	Temporal accuracy (Timeliness)	Georeferenced and released 9 months after the census date

[4]	Geographical coverage	100%
[5]	Comparability of grid data	100% of consistent and comparable data, no regional differences in quality
[6]	Temporal coherence	100% of same reference date
[7]	Confidentiality treatment	No confidentiality treatment on total population.
[8]	Quality report	Not available
[9]	INSPIRE compliant metadata	Not available

32. SWITZERLAND

32.1. Production of primary data

[1]	Spatial reference data	Individuals in the census are linked to a building, whose coordinates are known from the Building register. Each building is identified by a unique identifier (EGID).
[2]	Positional accuracy	5m
[3]	Positional source	National register of buildings – administered by the Swiss Statistical Office
[4]	Comparability	The quality of the data is very similar for all parts of the country
[5]	Logical consistency	Only the permanent population is included in the data. In the case where a person has more than one domicile, only the main one is taken into account. The legal basis can be found here: Federal Act on the Federal Census: http://www.admin.ch/opc/en/classified-compilation/20061673/index.html (in English) Ordonnance sur le recensement fédéral de la population: http://www.admin.ch/opc/fr/classified-compilation/20080482/index.html (only in French, German and Italian)
[6]	Bias	People who don't have a physical domicile are georeferenced on the central hectare (~centroid) of the commune. Examples of such people are: homeless, prisoners hosted in a jail in a different commune…)
[7]	Accuracy of the figures	[2012] 54 796 people out of 8 039 060 were affected to a central hectare (0.68%)
[8]	Coverage of georeferenced data	100% of the population is included in the geocoded data
[9]	Temporal accuracy of the spatial data	Same date (31.12 of each year)
[10]	Temporal coherence	No update / correction has been made (but the georeferenced data is published every year)
[11]	Quality report(s)	http://www.bfs.admin.ch/bfs/portal/fr/index/news/publikationen.html?publicationID=5719 (available in French, German and Italian only)
[12]	Inspire compliant metadata	N/A

32.2. Production of grid data

[1]	Production methods	Aggregation from buildings into hectare cells (100x100m)

[2]	Accuracy of the figures	The only difference with official figures comes from the classification of cells containing less than 3 individuals (if 1, 2 or 3 persons, the cell gets the value 3). National total not preserved (real total population = 7954662).
[3]	Temporal accuracy (Timeliness)	Census date: 31.12.yyyy Release date: 20.08.yyyy+1
[4]	Geographical coverage	100%
[5]	Comparability of grid data	100% comparable
[6]	Temporal coherence	100% temporal coherence (reflects the state of the population on 31.12.yyyy)
[7]	Confidentiality treatment	For total pop values 1, 2 and 3 are given the value 3
[8]	Quality report	N/A
[9]	INSPIRE compliant metadata	http://www.geocat.ch/geonetwork/srv/fre/metadata.show?fileIdentifier=1a474ee8-01c9-47bd-8036-43af2c82fc91&currTab=simple

33. ALBANIA

33.1. Production of primary data

[1]	Spatial reference data	georeferenced building polygons
[2]	Positional accuracy	1 meter
[3]	Positional source	The source data of the population are the georeferenced residential buildings from the 2011 census
[4]	Comparability	The population is based on where people have their primary dwelling
[5]	Logical consistency	Yes
[6]	Bias	Students in tertiary education who live away from home are enumerated in the place where they have their usual residence when they attend education.
[7]	Accuracy of the figures	0.3% of population is non-matching with georeferenced building data. These data were placed in the centre of census enumeration area based on the known code of enumeration area. 0.8% of population refused to answer. During the data collection, the enumerated refusals were recorded at the level of household heads, while the overall number of household members of the households who refused, was estimated by assign to each of those households the average Number of household members in the same enumeration areas where the refusal took place.
[8]	Coverage of georeferenced data	98.9 % of the total population from the census data are covered with georeferenced data.
[9]	Temporal accuracy of the spatial data	2011
[10]	Temporal coherence	100%
[11]	Quality report(s)	http://www.instat.gov.al/media/242028/quality_dimensions_of_the_2011_population_and_housing_census.pdf
[12]	Inspire compliant metadata	Not available

33.2. Production of grid data

[1]	Production methods	Aggregation of census data that are georeferenced into building points, in grid cells 1km^2
[2]	Accuracy of the figures	Only 0.8% of the population who refused to answer in census 2011 are not included in aggregation of grid population.
[3]	Temporal accuracy (Timeliness)	2014
[4]	Geographical coverage	100% of country is covered by 1km^2 grid dataset, but not all the cells are populated
[5]	Comparability of grid data	
[6]	Temporal coherence	
[7]	Confidentiality treatment	For 2.82% of the cells with less than 5 persons, all data are set to 0. Only 0.085% of the population lives in these cells.
[8]	Quality report	Not yet available
[9]	INSPIRE compliant metadata	Not yet available

34. KOSOVO*

*This designation is without prejudice to positions on status, and is in line with UNSCR 1244 and the ICJ Opinion on the Kosovo declaration of independence.

34.1. Production of primary data

[1]	Spatial reference data	Georeferenced data in the form of points, representing buildings, Dataset. (Data are organized for Building polygon, but we have created centroids Buildings after that we have aggregated in grid format).
[2]	Positional accuracy	Buildings are digitalized trough aerial ortho-photos map with a resolution of 20 cm per pixel for rural area, and 10 cm per pixel for urban area. This dataset is updated 6 month before census date from Satellite image with resolution 40 cm per pixel. Each building point is located within the delimitation of the building.
[3]	Positional source	The census 2011 building points dataset was not built based on any existing data source. The dataset was built during the census preparation and this building dataset was update 2 days before census date during field work operation in paper map format.
[4]	Comparability	100% fully comparable. The production method of the Building dataset was the same in all of the country, therefore no regional differences exist.
[5]	Logical consistency	The population is georeferenced according to the location of the building of usual place of residence, as stated at the 2011 Census. Place of usual residence is the place where the person has in fact lived long-term and where he/she has a household or family This is according the recommendations for the 2010 Population and Housing Censuses round 2010
[6]	Bias	In Kosovo we have no homeless people also data for residence in prisons and other collective dwellings are not included in Grid dataset.
[7]	Accuracy of the figures	The whole of the population was georeferenced – Just some in fictitious locations (e.g. residence in prisons and other collective dwellings are not georeferenced).
[8]	Coverage of georeferenced data	The georeferenced data covers all of the country, 100% of the national territory and the residential building are represented by their correct geographic position.
[9]	Temporal accuracy of the spatial data	All the spatial reference data relate to the census date, 1 April 2011

[10]	Temporal coherence	At the time there are no proper revisions that allow us to distinguish between different versions.
[11]	Quality report(s)	A quality report of the 2011 census is available: http://ask.rks-gov.net/rekos2011/repository/flipbook/2/QA_Raporti_ENG/#/64
[12]	Inspire compliant metadata	No

34.2. Production of grid data

[1]	Production methods	The grid spatial data was produced by the bottom-up method. The grid data totals were aggregated from point sources.
[2]	Accuracy of the figures	There are no differences between grid data totals and totals from official statistics.
[3]	Temporal accuracy (Timeliness)	The delay between census date and release date of the grid dataset was about 2 years, from 1 April 2011 (census date) and May 2013 (release of the grid dataset for 2011 census)
[4]	Geographical coverage	The grid dataset covers 100% of the national territory.
[5]	Comparability of grid data	100% fully comparable.
[6]	Temporal coherence	Census data is presented for the whole territory of Kosovo, except for the municipalities of Leposaviq, Zubin Potok, Zveçan and for north Mitrovica, where the 2011 census did not take place. However, for a limited number of variables, data is represented also for those areas as estimates based on a field update conducted at household level in 2008 and 2009.
[7]	Confidentiality treatment	0% of grid cells suppressed. There were no confidential treatments or thresholds in the constitution of the grid dataset.
[8]	Quality report	No
[9]	INSPIRE compliant metadata	No