14

Focus on territorial typologies

Traditionally, typologies of territory were determined by population size and density of local administrative units at level 2 (LAU level 2), such as communes, municipalities or local authorities. The new typologies that are described here use a population grid, which is a more accurate basis to characterise areas and regions. This article provides a short overview of the typologies, including definitions, terminology and some basic statistical data.

These typologies start by classifying grid cells of 1 km² to a typology of clusters according to their similarities in terms of population size and density: each grid cell is classified to one type of cluster only. Areas (LAU level 2) or regions (NUTS level 3) can then be classified to area or regional typologies based on the population share in different types of clusters: again, each LAU level 2 area or NUTS level 3 region is classified to one type only. In each of these various typologies (of clusters, areas or regions) the whole geographical territory of the European Union (EU) is covered without any overlaps or omission.

The area typology applied to LAU level 2 is primarily used in surveys such as the labour force survey (LFS) and the survey on income and living conditions (SILC); the regional typology applied to the NUTS level 3 regions is mainly used to monitor rural development.

Typologies

Cluster types

The typology of clusters classifies 1 km² grid cells (and clusters thereof), splitting them into three types. The criteria used are the population density in the individual grid cells and the combined population level of clusters, where clusters are made up of contiguous cells (in other words, neighbouring or adjoining cells); see later for a more detailed explanation of contiguous cells and the so-called gap-filling technique used for high-density clusters. The three types of grid cells or clusters in the typology are the following.

- High-density clusters/city centres/urban centres: clusters of contiguous grid cells of 1 km² with a density of at least 1 500 inhabitants per km² and a minimum population of 50 000 after gap-filling.
- Urban clusters: clusters of contiguous grid cells of 1 km² with a density of at least 300 inhabitants per km² and a minimum population of 5 000.
- Rural grid cells: grid cells outside high-density clusters and urban clusters.

Contiguous cells and filling gaps in the cluster typology

To determine population size, the grid cells need to be grouped in clusters. The methods presented here use three different rules for contiguity to create clusters. These three rules are explained below.

- Contiguous including diagonals — used for urban clusters. If the central square (grid cell) in Figure 14.1 is above the density threshold, it will be grouped with each of the other surrounding eight grid cells that exceed the density threshold.
- Contiguous excluding diagonals — used for high-density clusters. If the central square in Figure 14.1 is above the density threshold, it will be grouped with each of the four cells directly above, below or next to the central square that also exceed the density threshold. This means that cells numbered 2, 4, 5 and 7 can be included in the same cluster. Cells with number 1, 3, 6 and 8 cannot as they have a diagonal connection.
- The majority rule or gap-filling — used for high-density clusters. The goal for the high-density clusters is to identify urban centres without any gaps. Therefore, enclaves need to be filled. If the central square in Figure 14.1 is not, in its own right, a part of a high-density cluster, it will be added to a high-density cluster if five or more of the eight surrounding cells (therefore including diagonals) belong to a single high-density cluster. This rule is applied iteratively until no more cells can be added.

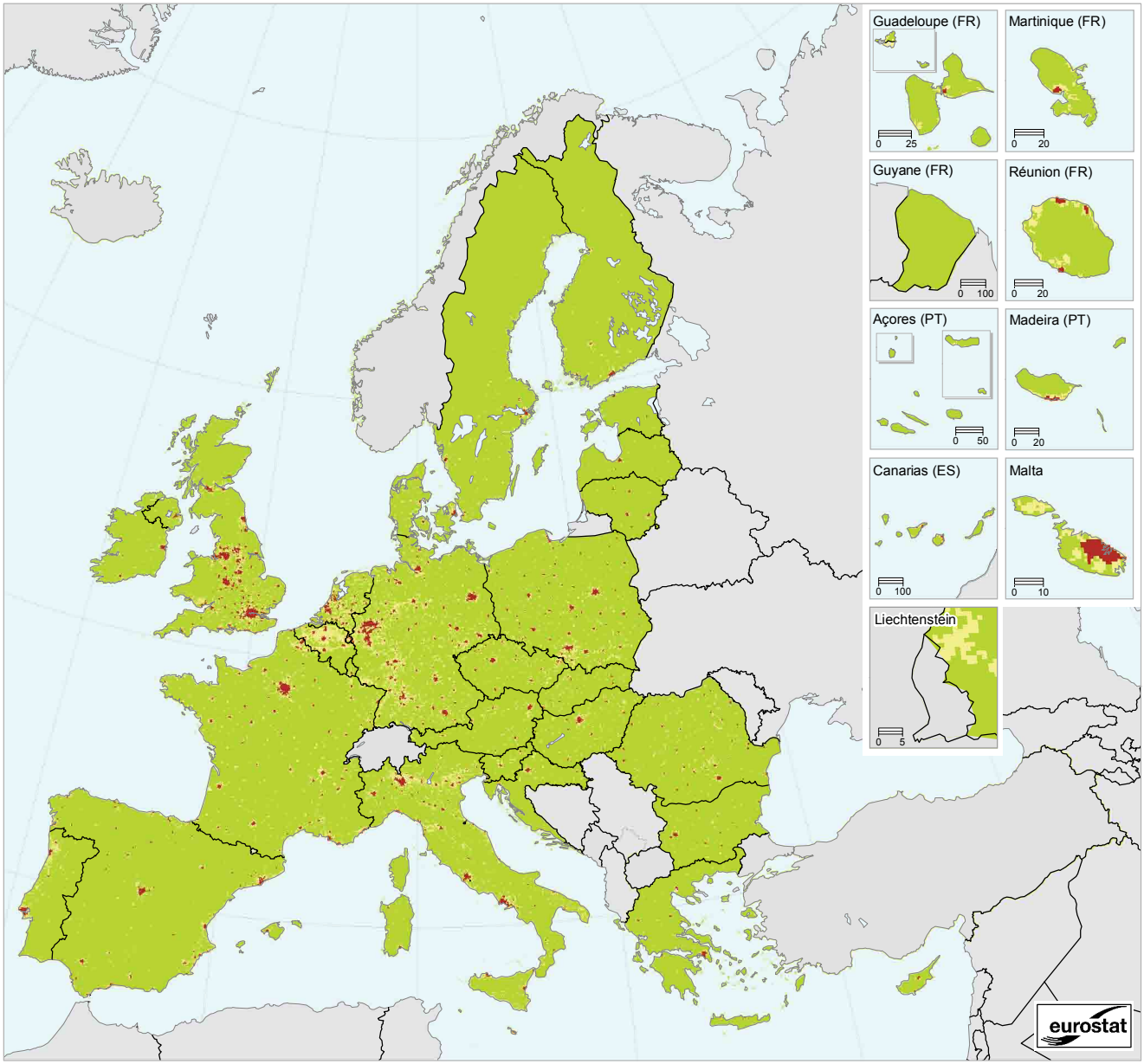
Degree of urbanisation typology for LAU level 2 areas — an area typology

Depending on the share of the population living in the different types of cluster, LAU level 2 areas are classified into three degrees of urbanisation.

- Densely-populated areas/cities/large urban areas: at least 50 % of the population lives in high-density clusters ([1]).
- Intermediate density areas/towns and suburbs/small urban areas: less than 50 % of the population lives in rural grid cells and less than 50 % lives in high-density clusters.
- Thinly-populated areas/rural areas: more than 50 % of the population lives in rural grid cells.

([1]) In addition, each high-density cluster should have at least 75 % of its population in densely populated LAU level 2 areas. This also ensures that all high-density clusters are represented by at least one densely populated LAU level 2, even when this high-density cluster represents less than 50 % of the population of that LAU level 2.

Map 14.1: Types of clusters



High-density clusters (a cluster of contiguous grid cells of 1 km² with a density of at least 1 500 inhabitants per km² and a minimum population of 50 000)

Urban clusters (a cluster of contiguous grid cells of 1 km² with a density of at least 300 inhabitants per km² and a minimum population of 5 000)

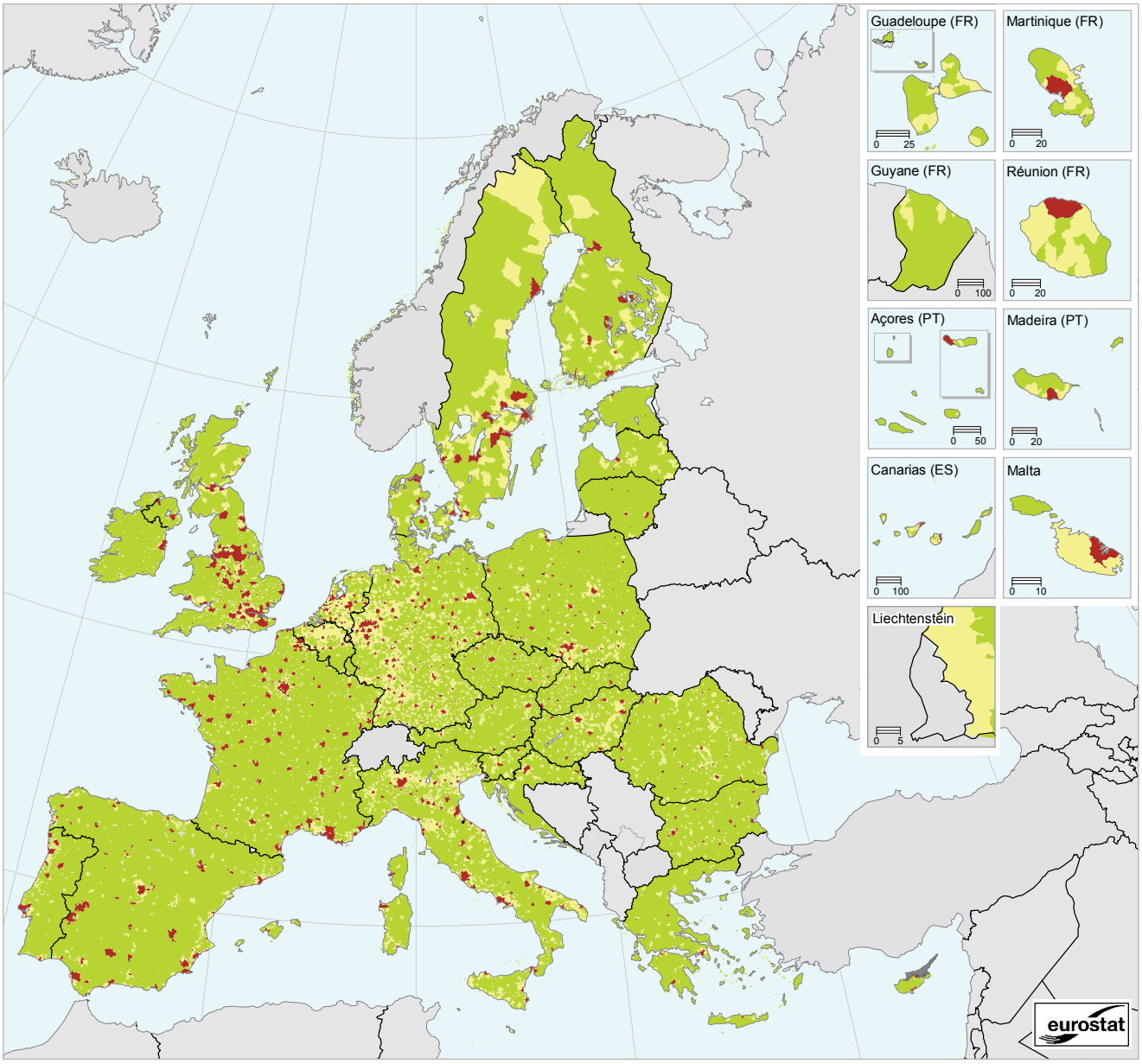
Rural grid cells (grid cells of 1 km² outside urban and high-density clusters)

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 05/2012

0 200 400 600 800 km

Source: Eurostat, JRC, EFGS, REGIO-GIS

Map 14.2: Degree of urbanisation for local administrative units level 2 (LAU2) ([1])



Densely populated area (more than 50 % of the population lives in high-density clusters)

Intermediate density area (less than 50 % of the population lives in rural grid cells and less than 50 % of the population lives in high-density clusters)

Thinly populated area (more than 50 % of the population lives in rural grid cells)

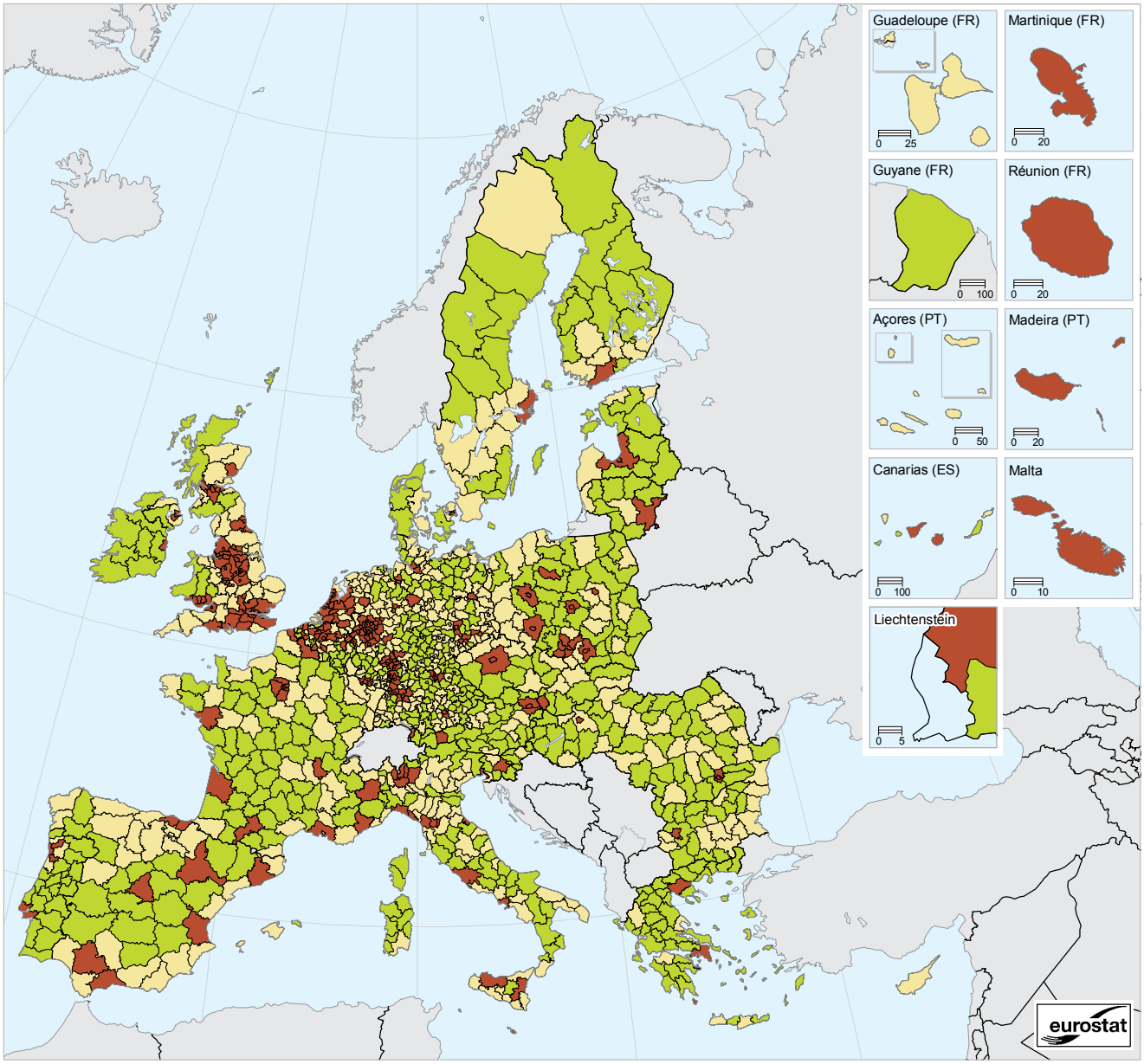
Data not available

Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 05/2012

0 200 400 600 800 km

([1]) The degree of urbanisation is based on the share of population living in a specific type of cluster (contiguous grid cells of 1 km^2).
Source: Eurostat, JRC, EFGS, REGIO-GIS

Map 14.3: Urban–rural typology for NUTS level 3 regions (1)



Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat
Cartography: Eurostat — GISCO, 03/2012

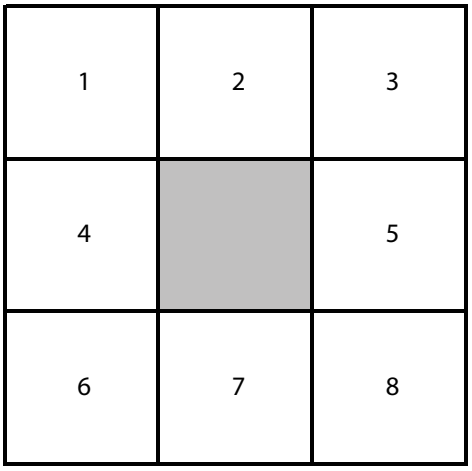
Predominantly urban regions (rural population is less than 20 % of the total population)
Intermediate regions (rural population is between 20 % and 50 % of total population)
Predominantly rural regions (rural population is 50 % or more of total population)
Data not available

0 200 400 600 800 km

(1) This typology is based on a definition of urban and rural 1 km² grid cells; urban grid cells fulfil two conditions: (1) a population density of at least 300 inhabitants per km² and (2) a minimum population of 5 000 inhabitants in contiguous grid cells above the density threshold; the other grid cells are considered rural; for Madeira, Açores and the French outermost regions, the population grid is not available, as a result, the typology uses the OECD classification for these regions.

Source: Eurostat, JRC, EFGS, REGIO-GIS

Figure 14.1: Contiguous grid cells



Urban–rural typology for NUTS level 3 regions — a regional typology

Depending on the share of the rural population (in other words, the share of the population living in rural grid cells), the NUTS level 3 regions are classified into the following three groups.

- Predominantly urban regions/urban regions: the rural population is less than 20 % of the total population.
- Intermediate regions: the rural population is between 20 % and 50 % of the total population.
- Predominantly rural regions/rural regions: the rural population is 50 % or more of the total population.

In a last step, the size of the cities in the region is considered.

- A region classified as predominantly rural by the criteria above becomes intermediate if it contains a city of more than 200 000 inhabitants representing at least 25 % of the regional population.
- A region classified as intermediate by the criteria above becomes predominantly urban if it contains a city of more than 500 000 inhabitants representing at least 25 % of the regional population.

Summary table: names and alternative names

The names of typologies and items may differ according to context, users or means of dissemination. Table 14.1 gives a summary of the vocabulary used as well as the geographical scale.

Main statistical findings

Share of population by type of territory

Although these typologies show similar patterns, the use of different typologies may produce rather different figures. Thus, as Table 14.1 shows, around 34 % of the EU-27 population lived in rural grid cells, 29 % in thinly populated areas and 24 % in predominantly rural regions.

Moreover, the variability between the figures is more pronounced at the national level than for the EU as a whole. As Table 14.2 illustrates, 35 % of the Bulgarian population lived in high-density clusters, 43 % in densely populated areas and 15 % in predominantly urban regions.

Share of land area by type of territory

The data produced using these different typologies present a broader range in terms of surface area than in terms of the population. As Table 14.3 shows, 3 % of the EU-27's land area was covered by urban clusters, 13 % by intermediate density areas and 35 % by intermediate regions. Again, there is greater variability at the national level than for the EU as a whole, as Table 14.3 clearly shows.

Table 14.1: Summary regarding the names of the different typologies and items

Geographic scale	Name of the typology	Alternative name of typology	Items	Alternative name of items
1 km² grid cells	Type of clusters		High-density clusters Urban clusters Rural grid cells	Urban centres or city centres
Local administrative units, level 2 (LAU level 2 areas)	Degree of urbanisation	Area typology	Densely populated areas Intermediate density areas Thinly populated areas	City or large urban areas Towns and suburbs or small urban areas Rural areas
NUTS level 3 regions	Urban-rural typology	Regional typology	Predominantly urban regions Intermediate regions Predominantly rural regions	Urban regions Intermediate regions Rural regions

Source: Eurostat, JRC, EFGS, REGIO-GIS

Table 14.2: Share of population using different typologies (1)
(% of population)

	Type of cluster (contiguous grid cells of 1 km²)			Degree of urbanisation (LAU level 2 areas)			Urban–rural typology (NUTS level 3 regions)		
	High-density clusters	Urban clusters	Rural grid cells	Densely populated areas	Intermediate density areas	Thinly populated areas	Predominantly urban regions	Intermediate regions	Predominantly rural regions
EU-27	35	32	33	40	32	28	40	36	24
Belgium	25	53	22	27	57	16	67	24	9
Bulgaria	35	26	39	43	23	34	15	45	40
Czech Republic	22	36	42	30	33	37	22	44	34
Denmark	24	31	45	34	21	45	21	36	43
Germany	31	41	28	34	42	24	42	40	18
Estonia	32	29	39	40	17	43	0	52	48
Ireland	27	20	53	35	21	44	30	0	70
Greece	46	15	39	38	25	37	46	10	44
Spain	43	25	32	48	25	27	48	38	14
France	35	27	38	46	21	33	35	36	29
Italy	31	38	31	33	42	25	35	44	21
Cyprus	44	27	29	52	22	26	0	100	0
Latvia	35	25	40	42	20	38	47	14	39
Lithuania	32	12	56	41	5	54	25	31	44
Luxembourg	16	44	40	18	37	45	0	100	0
Hungary	24	33	43	29	35	36	17	35	48
Malta	64	25	11	50	43	7	100	0	0
Netherlands	42	36	22	43	42	15	71	28	1
Austria	29	28	43	30	29	41	33	27	40
Poland	28	28	44	34	25	41	28	34	38
Portugal	28	33	39	44	30	26	48	13	39
Romania	30	21	49	33	22	45	10	44	46
Slovenia	15	25	60	18	32	50	25	31	44
Slovakia	17	35	48	21	36	43	12	38	50
Finland	17	35	48	33	31	36	25	31	44
Sweden	23	30	47	38	31	31	21	56	23
United Kingdom	54	30	16	57	30	13	71	26	3

(1) Estimation based on 2006 density grid.
Source: Eurostat, JRC, EFGS, REGIO-GIS

Table 14.3: Share of land area using different typologies (1)
(% of land area)

	Type of cluster (contiguous grid cells of 1 km²)			Degree of urbanisation (LAU level 2 areas)			Urban–rural typology (NUTS level 3 regions)		
	High-density clusters	Urban clusters	Rural grid cells	Densely populated areas	Intermediate density areas	Thinly populated areas	Predominantly urban regions	Intermediate regions	Predominantly rural regions
EU-27	1	3	96	4	13	83	9	35	56
Belgium	3	23	74	5	41	54	35	32	33
Bulgaria	1	1	98	2	6	92	1	45	54
Czech Republic	1	4	95	3	12	85	15	37	48
Denmark	1	4	95	6	14	80	1	27	72
Germany	2	8	90	5	28	67	12	48	40
Estonia	0	1	99	1	1	98	0	18	82
Ireland	0	1	99	2	3	95	1	0	99
Greece	0	1	99	1	5	94	6	12	82
Spain	1	1	98	4	6	90	14	40	46
France	1	3	96	4	7	89	9	31	60
Italy	1	6	93	5	23	72	12	42	46
Cyprus	1	2	97	5	4	91	0	100	0
Latvia	0	1	99	1	13	86	16	21	63
Lithuania	0	1	99	1	2	97	15	20	65
Luxembourg	1	7	92	2	10	88	0	100	0
Hungary	1	3	96	3	20	77	1	33	66
Malta	22	27	51	16	62	22	100	0	0
Netherlands	5	11	84	13	42	45	47	51	2
Austria	1	3	96	1	11	88	9	19	72
Poland	1	3	96	2	10	88	9	35	56
Portugal	1	3	96	5	9	86	7	6	87
Romania	0	2	98	1	10	89	1	39	60
Slovenia	1	3	96	2	20	78	13	26	61
Slovakia	0	3	97	2	13	85	4	37	59
Finland	0	1	99	1	11	88	2	15	83
Sweden	0	1	99	4	26	70	1	46	53
United Kingdom	4	5	91	11	13	76	25	47	28

(1) Estimation based on 2006 density grid.
Source: Eurostat, JRC, EFGS, REGIO-GIS

Data sources and availability

These typologies classify different territories, defined at different geographical scales, namely grid cells, LAU 2 areas or NUTS level 3 regions. However, the analysis of the statistical data using these typologies may be disseminated at a higher geographical level. Hence, the proportion of EU-27 land area classified as composed of intermediate regions is an indicator for the EU based on a regional typology. A similar indicator could also be disseminated at national, NUTS level 1, NUTS level 2 and NUTS level 3 levels. However, in some cases statistical data using these typologies can only be calculated and disseminated for the EU as a whole or at the national level. This is mainly to do with representativeness, confidentiality and reliability of the indicator. Some surveys, for example SILC, can provide reliable statistics by degree of urbanisation for thinly populated areas at the national level, but not at NUTS level 3.

Further information

For further information about regional typologies please consult Eurostat's website at http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Regional_typologies_overview.

For further information specifically on urban-rural typologies please consult Eurostat's website at http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Urban-rural_typology.

Context

The European Commission has introduced typologies based on population size and density to monitor situations and trends in urban and rural areas and regions. The Treaty on European Union (also called the Treaty of Maastricht) specifically mentions that particular attention should be paid to rural areas and rural regions.

The Lisbon Treaty has included territorial cohesion alongside economic and social cohesion as an objective for the EU. This new concept was presented in a 'Green Paper on territorial cohesion — Turning territorial diversity into strength' (COM(2008) 616) and the debate has been summarised in the 'Sixth progress report on economic and social cohesion' (COM(2009) 295 final) in 2009. The publication Investing in Europe — Fifth cohesion report on economic, social and territorial cohesion explains the main issues related to territorial cohesion and how these could be transposed into policy proposals. One of the main issues related to territorial cohesion is the need for data on different territorial levels, particularly for lower geographical levels. The classification of the degree of urbanisation provides a unique insight into trends at the local level, and highlights the differences between urban and rural areas.