

MATILDE

Migration Impact Assessment to Enhance
Integration and Local Development in
European Rural and Mountain Regions

CARTOGRAPHIC REPRESENTATION OF MATILDE REGIONS AND THIRD COUNTRY NATIONALS DISTRIBUTION

MATILDE DELIVERABLE 2.3



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DELIVERABLE 2.3 - CARTOGRAPHIC REPRESENTATION of MATILDE regions and TCNS distribution

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INTRODUCTION

The Horizon 2020 project **MATILDE - Migration ImpAct Assessment To Enhance Integration and Local Development in European Rural and Mountain Regions** - aims to examine the impacts of migration on local development and territorial cohesion, with a specific focus on European rural and mountain regions. The project originates from the understanding that '**place matters**' (Massey 1994; Gieryn 2000; Dreier et al. 2014) and that it is the result of continuous socio-cultural **negotiations**. Such processes of negotiation involve territorial structures and different categories of inhabitants - old and new, temporary and permanent, nationals and foreigners (Membretti & Viazzo 2017). Geographical, structural and socio-territorial aspects influence the impact migration can have on society and the economy. These aspects, in addition, make the difference in terms of the settlement process of migrants and have an impact on the quantitative and qualitative impact of migration processes on those territories.

In order to assess such impacts and processes, MATILDE is carrying out 13 case studies in different regions across Europe. As a preliminary step, the classification of MATILDE regions has been elaborated (see MATILDE Deliverable 2.1) on the basis of their territorial and socio-economic characteristics as well as considering their socio-demographic profiles (absolute numbers and share over total population, age and gender) of TCNs living in MATILDE regions. The classification presented in Deliverable 2.1, has been based on **existing regional typologies** and **socio-economic indicators**.

Based on this data collection, MATILDE **Deliverable 2.3** presents the **cartographic representation elaborated with Geographic Information Systems (GIS) of MATILDE regions**. The aim of this deliverable is to provide visual representations of the salient features of the 13 regions that will be the setting of in-depth case studies during Work package 5 (March 2021-September 2022). In fact, the cartographies presented in this report represent a tool for the forthcoming phases of MATILDE research: each map can be used by MATILDE partners as a basis for stimulating the debate at the local level, in particular during the action research foreseen in Work Package 5. MATILDE intends to involve rural and mountainous European regions through a participatory reflection on their **capacity for resilience**, their **creative adaptation** to current and future challenges. The project's ambition is to stimulate the rethinking of the relationships between rural/mountain and urban dimensions, between local populations and newcomers. Through the assessment of regional performance and indicators, the project aims to **re-conceptualise and re-**

represent the active role of Third Country Nationals in these contexts, based on a balanced analysis grounded in sound scientific research.

Migration is undoubtedly a highly mediatised phenomenon, in Europe and beyond (Georgiou & Zaborowski 2017). The way migration phenomena are represented, especially through the massive use of images, oftentimes privileges the emergency frame related to sea landings and undocumented migrants, while obscuring the diversity of migration processes that take place in a given territory (Musarò & Parmeggiani, 2014) and the role of migrants in local development. The collective process of the so called “social construction of reality” (Berger & Luckman, 1967) is above all a **construction** (and re-construction / re-definition) **of images and through images**: these are the condensation of identities, the symbol of places and the main medium of communication itself. It is a matter of fact that today the distinction between “reality” and the image of reality seems difficult to sustain: we can therefore argue that if a situation is **represented by images**, and then visually perceived, as real, the observable consequences of this definition will be real, i.e. the representation will be of **performative** nature (Membretti, 2009). If we can say that, following Blumer’s statement (1969), human beings act towards things basing on the meanings they have for them, nowadays these meanings seem increasingly linked to the images that convey them. As a consequence, it seems of the utmost significance to produce a visual representation of the reality. The maps presented here represent the territory and its dynamics based on scientific evidence and, at the same time, offer a multi-faceted perspective on the “object” re-presented.

Therefore, to provide **visual representations of migration grounded on sound quantitative data**, it seems therefore crucial to **stimulate the collective rethinking and shared visualisation of the impact of migration to European rural and mountain regions**. With this objective in mind, the maps provided in this report, based on data collected in the primary part of the MATILDE project, gives accurate information about the territorial characteristics of the regions in focus, the distribution of Third Country Nationals therein and their socio-demographic characteristics.

We consider this collection of maps as an input to stimulate reflection and discussion at the local level, through the involvement of local stakeholders, on the multi-layered impact and diversified presence of TCNs in MATILDE regions. The action-research and participatory engagement of local communities will be the specific goal in WP5: Within the scope of this WP, the aim will be to rise new collective awareness on the territorial dimensions of migration and, at the same time, co-produce, together with the local stakeholders, a new representation of the reality, that is a different narrative of it, (also) through images.

While a detailed description of the dimensions and indicators considered for the production of these maps, as well as narrative profiles for each MATILDE region are provided in Deliverable 2.1, here we would like to recall two main aspects that emerge from this cartography and that shall guide the consultation of the maps.

First, the maps presented in this report show the significant degree of **diversity in MATILDE regions** in terms of spatial and territorial characteristics. In line with Woods and McDonagh (2011), the “rural” cannot be addressed as static but is instead subject to constant change and transformation, fostered by immigration and wider processes of globalisation and mobility. MATILDE rural and mountain regions have been selected based on their diversity in terms of the spatial dimension (location and border dimension); the different institutional and legal systems (migration regimes and degree of regional autonomy); the physical and geographical characteristics; the migration history; and, finally, the socio-economic performance. This local diversity affects their capacity to attract and integrate (or not) TCNs, as well as their ability to exploit the full potential of foreign presence for supporting local development. Identifying and assessing site-specific features and contextual factors of each region is therefore extremely relevant to study migration processes from a territorial perspective.

Second, MATILDE regions also encompass a significant **variety of migration profiles**. The maps provided in this report, and especially the comparative maps presented in Section C, show the heterogeneity in terms of share, development and socio-demographic profiles of the TCNs that live in MATILDE regions. This initial overview is an open invitation to dig deeper in the broad range of migration processes taking place in rural and mountain areas across Europe.

Section A offers an overview of the location and territorial aspects of MATILDE regions in the European context; Section B adopts a regional perspective in presenting the territorial, socio-economic and accessibility features of each region. Finally, Section C elaborates a preliminary comparison of the main aspects related to the presence of TCNs in the regions.

EXPLANATORY NOTES

SECTION A – OVERVIEW OF MATILDE REGIONS

Although the map series shows four different territorial aspects, every single map has the same scale and same spatial extent.

MAP 1 - Spatial positioning of MATILDE regions

Considering the wider European scale, MATILDE regions are ideally positioned on a diagonal line (with branches) that stretches from southeast (Turkey and then Bulgaria) to northwest (Scandinavian countries and the UK (Scotland)). Turkey and Bulgaria represent the south-eastern pole of the diagonal, with Italy, Germany and Austria in the middle of this axis, the Scandinavian countries the northern pole, and Spain to the west.

MAP 2 – MATILDE regions according to Rural-Urban typology

MATILDE regions include territories characterised by different degrees of physical and geographical features. As shown in Map 2, the regions are, for the majority, categorised as predominantly rural, with a smaller proportion of intermediate and predominantly urban areas, on the basis of established Degree of Urbanisation (DEGURBA) – classification by Eurostat (Eurostat 2019a).

MAP 3 – MATILDE regions according to Mountain Typology

As shown in Map 3, a wide proportion of MATILDE regions are classified as mountain regions with respect to a significant percentage of the population living in the mountains and/or territory defined as mountainous on the basis of Eurostat Mountain Typology (Eurostat 2020).

MAP 4 – MATILDE regions according to border typology

Map 4 places specific attention to the role of **international borders** in defining the status of these territories; in fact, we chose both regions bordering other EU and EFTA countries as well as inland regions. Border regions consider also regions that have population within 25 km of a land border.

SECTION B – REGIONAL PROFILES

Section B presents the MATILDE regions: each of them is described in two maps presenting different features. The maps have different scales and different spatial extensions, so that each region is visualized in the best possible way.

MAPS on Territorial and features

The first map series provided for each region depicts the **size and distribution of population** and the **degree of urbanization**, both on municipal level (LAU2). Urban poles are represented along with their size to grasp the existence of hubs that function as a service centre and workforce attraction pole.

MAPS on Accessibility features

Indicators of the accessibility and infrastructure dimension were selected in order to characterise MATILDE regions on the basis of Access to Services of General Interest, as this dimension interacts with the opportunities, aspirations and psycho-social attitudes of people who decide to settle down in rural and mountain regions. The source of data for this dimension is the ESPON PROFECY classification (ESPO Profecy 2017). Accessibility usually represents “the extent to which land-use and transport systems enable (groups of) individuals to reach activities or destinations by means of a (combination of) transport mode(s)” (Geurs et al. 2004). As such, the accessibility of a location (e.g. a municipality) is usually calculated by comparing an impedance indicator (e.g. travel time by car to a destination), with an attractiveness indicator (e.g. the population of the destination). In this case, an alternative way to calculate accessibility is proposed (Ferencsik et al. 2015). It is calculated as the weighted travel time by car to the closest service. The population of each origin location is used as weighting factor. The travel time by car weighted by the population shows the average travel time that an inhabitant needs to reach the closest service. Thus, this indicator is comparable among services and among different regions, while it cannot illustrate differences between municipalities within a region.

While considering access to services as a potential reason for TCNs arrival, resettlement and/or settling-down in MATILDE regions, we also acknowledge that migrant interests may differ from the general population: specific consumption habits, the need for legal advice, and religious sites are just a few examples. Different priorities in terms of Services of General Interest (SGI) shall therefore be kept in mind. Moreover, the data collected display the distance by private car, which often does not coincide with the life-worlds of TCNs, as they may be most inclined to rely on public transport, especially in the initial phases following their arrival.

We selected hospitals as a specialised service of general interest which can be found in central places. This selection made it possible to better visualise the distances of peripheral locations within the MATILDE regions. The selection of hospitals also represents a service of basic need, without dependency of gender or age of TCNs.

The population distribution is visualised through a population grid 1 x 1 km. The categorisation follows the definition of the population density thresholds for urban rural – typology by Eurostat. The threshold of 300 inhabitants per km² was used to define urban grid cells and 1,500 inhabitants per km² was used to define urban centres (Eurostat 2019b).

SECTION C – COMPARATIVE MAPS ON TCNS DISTRIBUTION

The visualisation of the characteristics of TCNs, foreigners and migration dynamics between 2008 and 2018 in a map series provided the opportunity to better compare migration patterns and the TCN's socioeconomic characteristics in MATILDE regions, as well as showing the remarkable presence of TCNs.

The added value of the visualisation lies in the common illustration of the scattered regions. Each region has the same scale to make the spatial dimensions comparable, but they are placed next to each other on different map sections.

Map 37 - Number and share of TCNs in 2018

Map 37 shows the remarkable presence of TCNs in MATILDE regions, using absolute numbers of TCNs by size of circles, and the share of TCNs with graduated colours.

Map 38 - Proportional gender distribution and total number of TCNs in MATILDE regions

Map 38 presents the percentage of female TCNs of total TCNs in the region, as well as the share of female and male TCNs (gender distribution) in 2018.

The graduation of colours for the change in female share of TCNs from 2008 to 2018 was chosen in orange for positive values and blue for negative values. The darker the blue colour, the more male TCNs moved to the region within the decade. Data for Turkey, Sweden and Bulgaria were not available.

Map 39 - Population development through migration, 2008-2017 in MATILDE regions

This map presents the categorisation of MATILDE regions into four typologies based on the categorisation of the national atlas in Germany, a service from the Leibnitz – Institut für Länderkunde – IfL (Leibert 2019):

- Type A, where population is growing due to both national/internal and international migration;
- Type B, where population is growing due to international migration;
- Type C, where population is growing, but specific data on foreign or national migration balances were not available; and
- Type D, where population is shrinking due to negative migration balances.

The map is based on data on cumulative migration balance divided by foreigners and nationals from 2008-2017, which were collected by national statistical offices by the project partners (see Database 2.2).

Map 40/41/42 - Population development, 2008-2018/ 2008-2012/ 2013-2018 in MATILDE regions

The map series on population development in MATILDE regions must be interpreted together with the population development through migration (map 39). It is also based on the on the categorisation of the national atlas in Germany regarding population development (Leibert 2019). Data originate from the Eurostat dataset “Population change - Demographic balance and crude rates at regional level (NUTS 3)”.

It enabled us to visualise five types of regional population development among the MATILDE regions:

- Type 1: growth through migration gains and birth surpluses
- Type 2: Growth: Migration gains exceed death surpluses
- Type 3: Decrease: Mortality surplus absorbs migration gains
- Type 4: Migration losses absorb birth surpluses; and
- Type 5: Shrinkage through migration losses and death surpluses

For a more detailed analysis, the visualisation of the development within the decade 2008-2018, was also split up into five – year periods 2008-2012 and 2013-2018.

LIST OF REGIONS

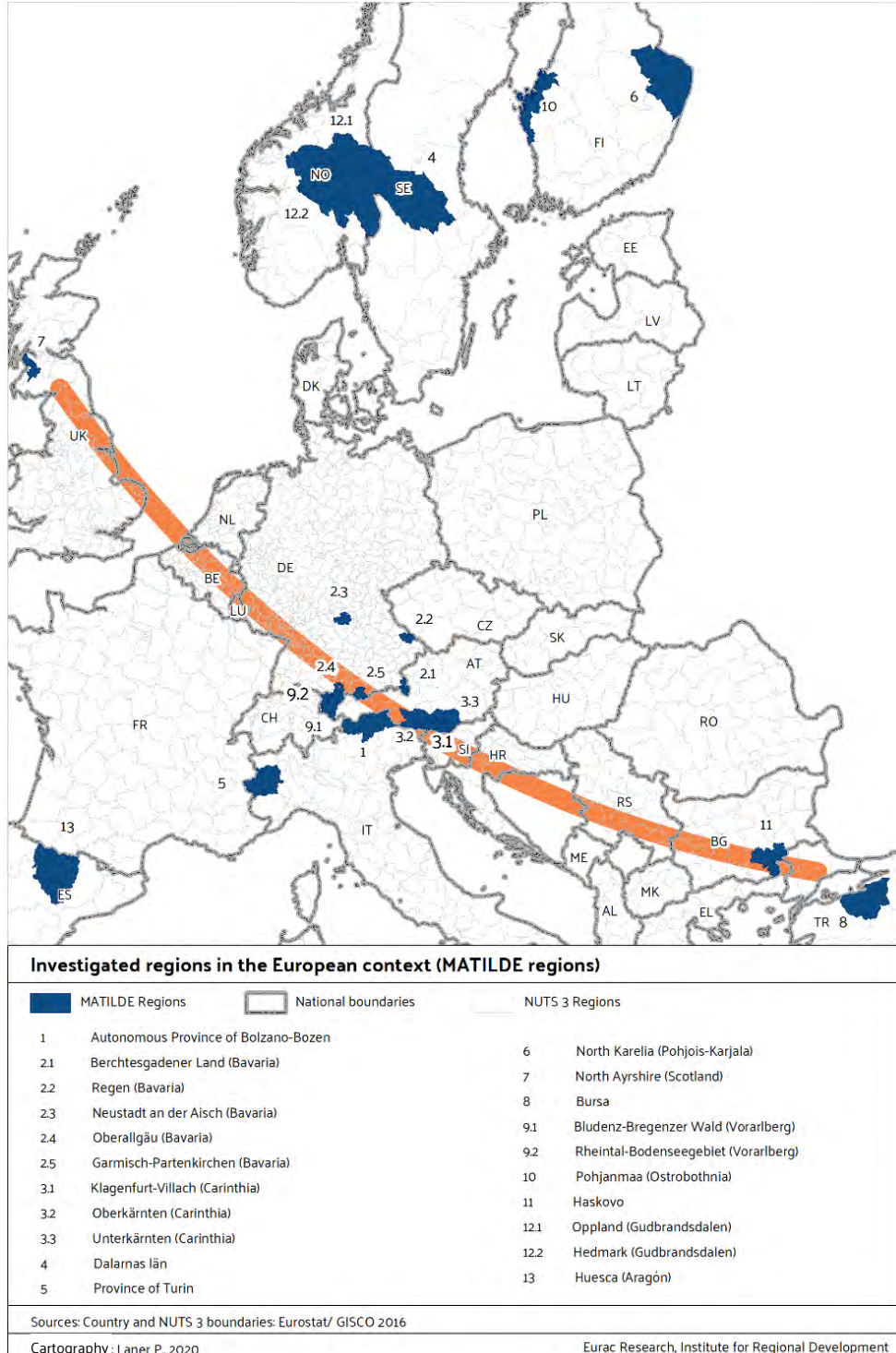
Regions are presented based on the list of countries and alphabetical order:

	Case study region	Country	MATILDE regions (NUTS3 level)
1	Vorarlberg	Austria	Bludenz-Bregenzerald
			Rheintal-Bodenseegebiet
2	Carinthia		Klagenfurt - Villach
			Oberkärntern
			Unterkärnten
3	Harmanli		Bulgaria
4	Ostrobothnia	Finland	Ostrobothnia
5	North Karelia		North Karelia
6	Bavaria	Germany	Berchtesgadener Land
			Garmisch-Partenkirchen
			Oberallgäu
			Neustadt an der Aisch-Bad Windsheim
			Regen

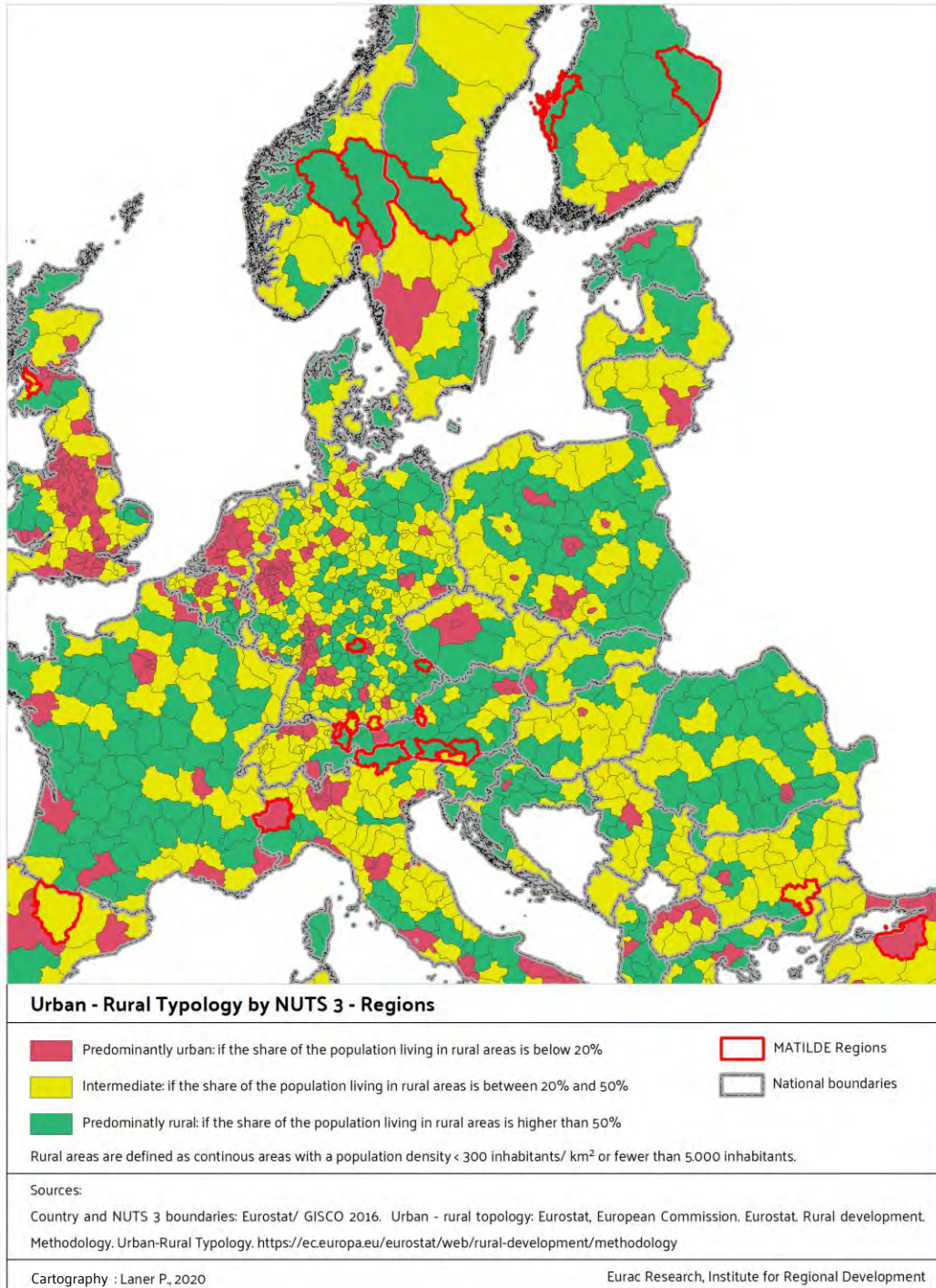
7	South Tyrol	Italy	South Tyrol
12	Metropolitan City of Turin		Turin
13	Inlandet (Gudbrandsdalen)	Norway	Oppland
			Hedmark
14	Huesca	Spain	Huesca
15	Dalarna county	Sweden	Dalarna
16	Bursa	Turkey	Bursa
17	North Ayrshire	United Kingdom	East Ayrshire and North Ayrshire mainland

SECTION A - OVERVIEW OF MATILDE REGIONS

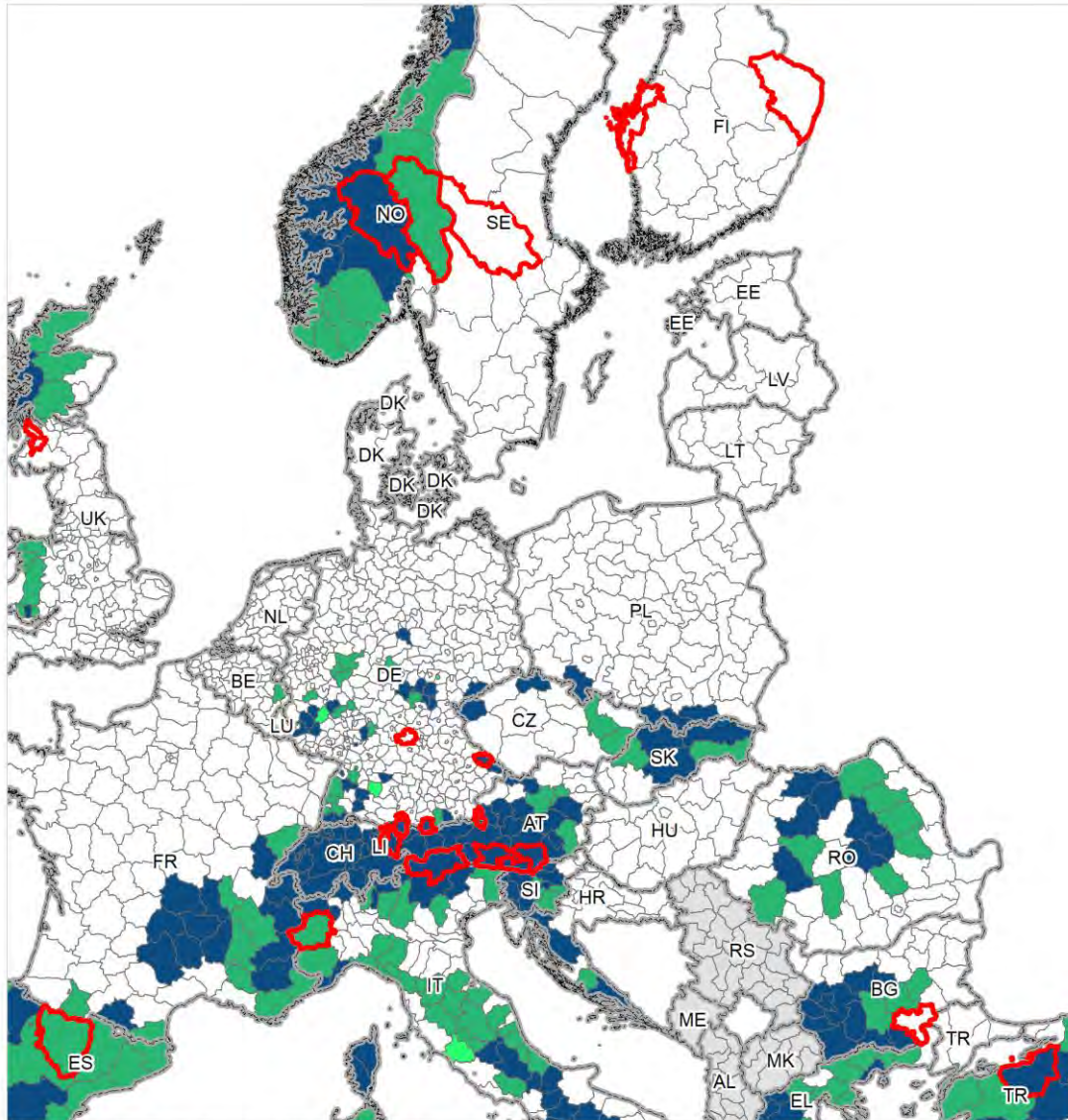
Map 1. Locating MATILDE regions



Map 2. MATILDE regions according to Urban-Rural Typology



Map 3. MATILDE regions according to Mountain Typology



Mountain Typology by NUTS 3 - Regions

- > 50 % of population and 50 % of surface are in mountain areas
- > 50 % of surface are in mountain areas
- > 50 % of population live in mountain areas
- Non-mountain regions
- Not applicable
- MATILDE Regions
- National boundaries

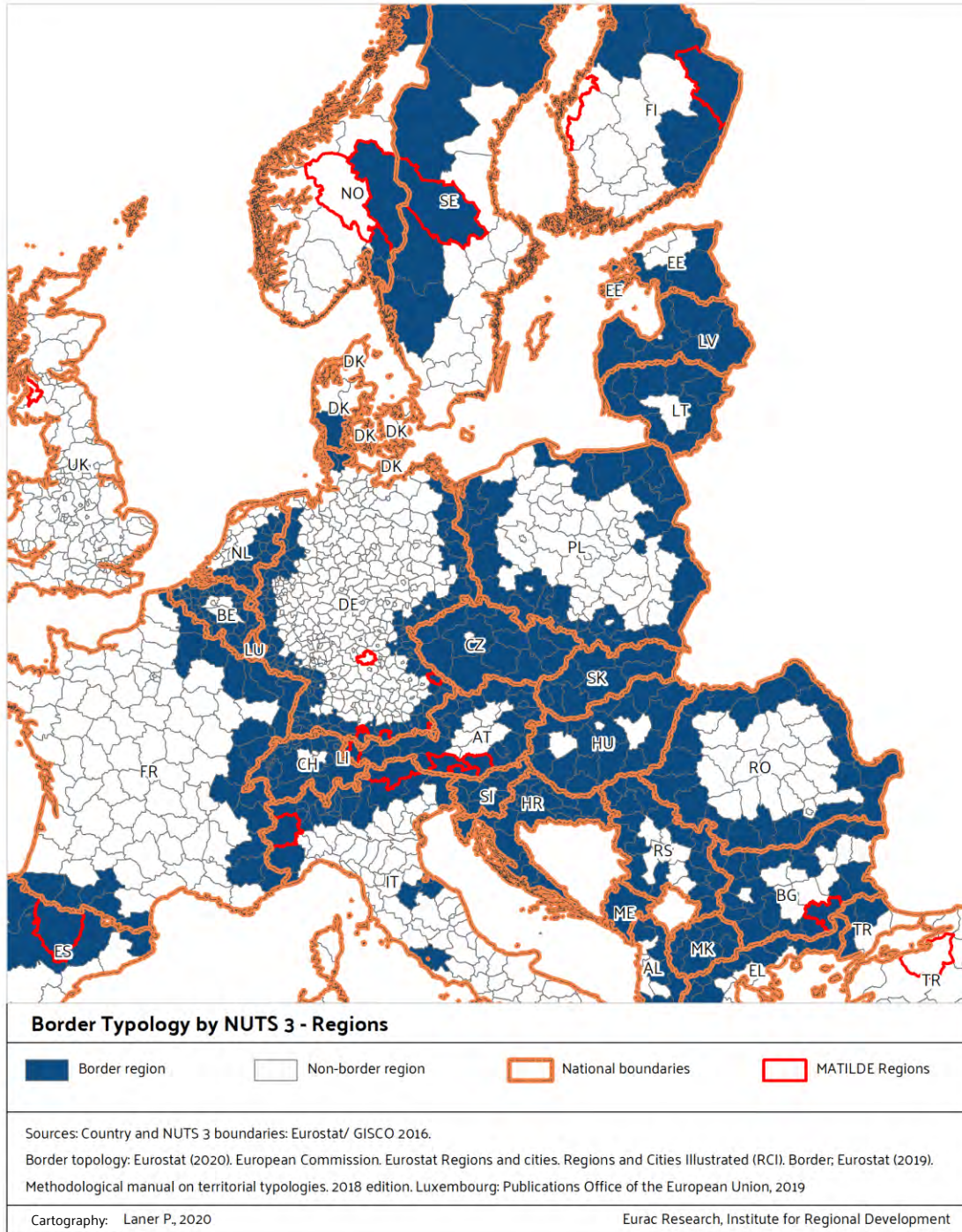
Sources: Country and NUTS 3 boundaries: Eurostat/ GISCO 2016.

Mountain topology: Eurostat (2020). European Commission. Eurostat Regions and cities. Regions and Cities Illustrated (RCI). Mountain; Eurostat (2019). Methodological manual on territorial typologies. 2018 edition. Luxembourg: Publications Office of the European Union, 2019.

Cartography: Laner P., 2020

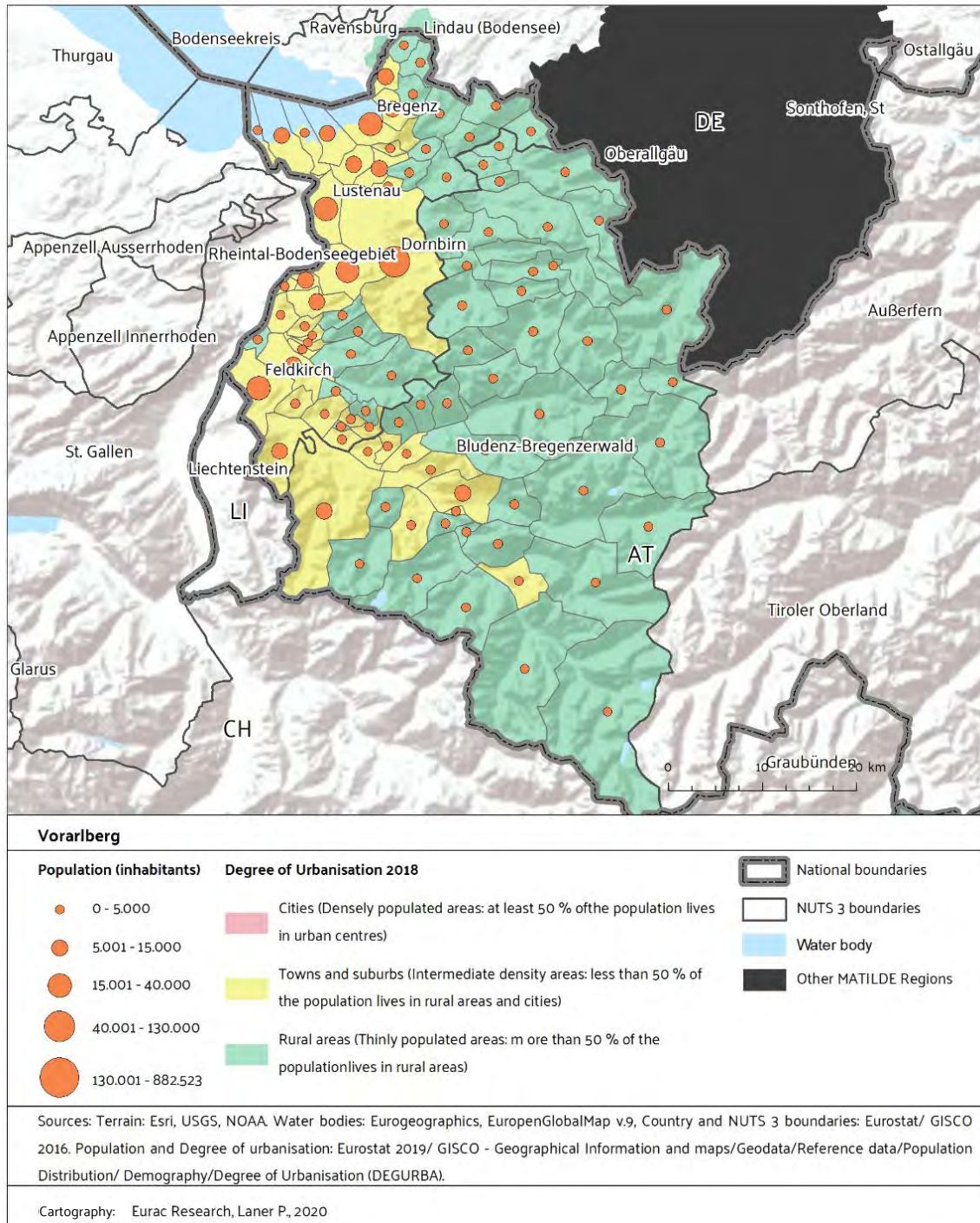
Eurac Research, Institute for Regional Development

Map 4. MATILDE regions according to Border Typology

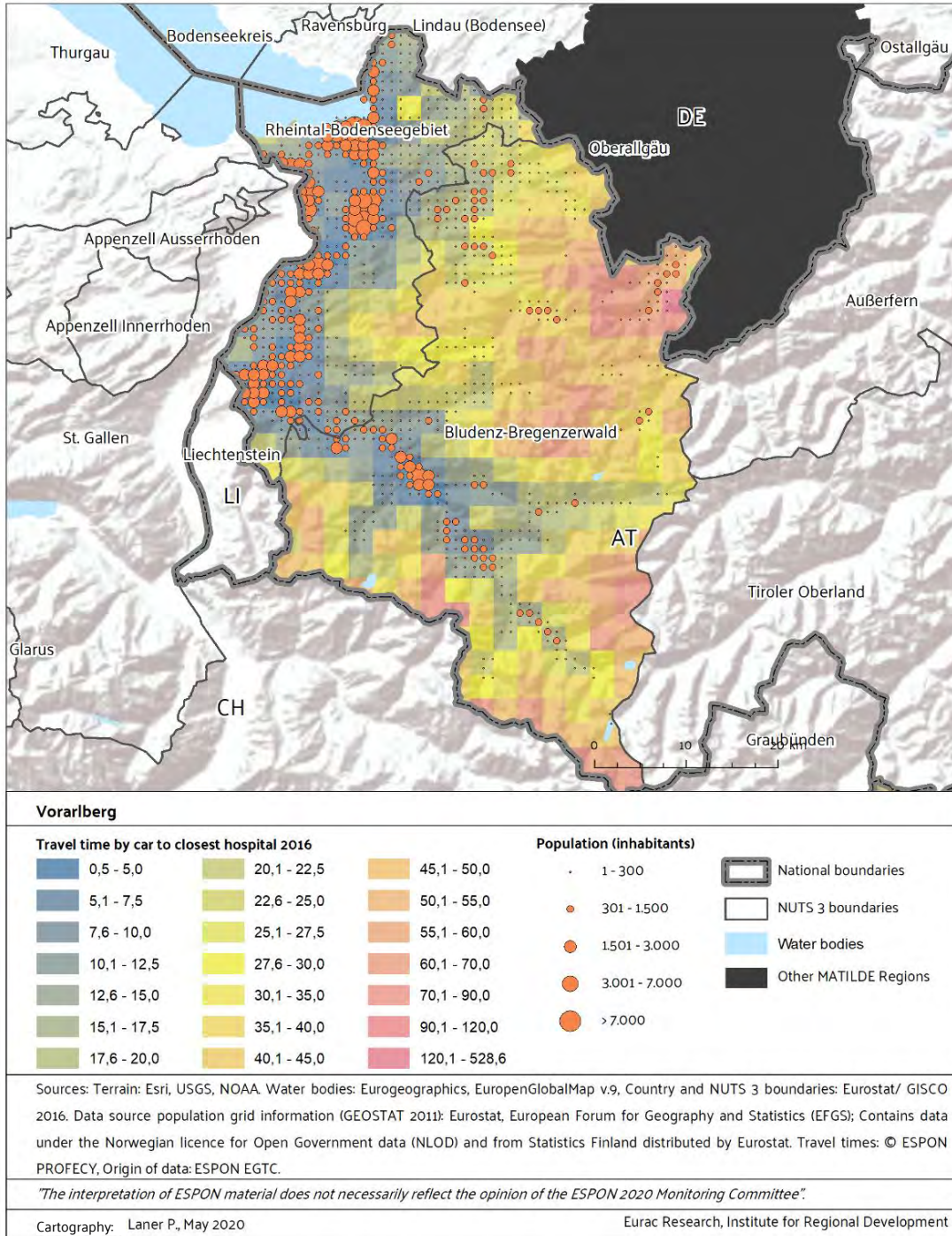


SECTION B - REGIONAL PROFILES

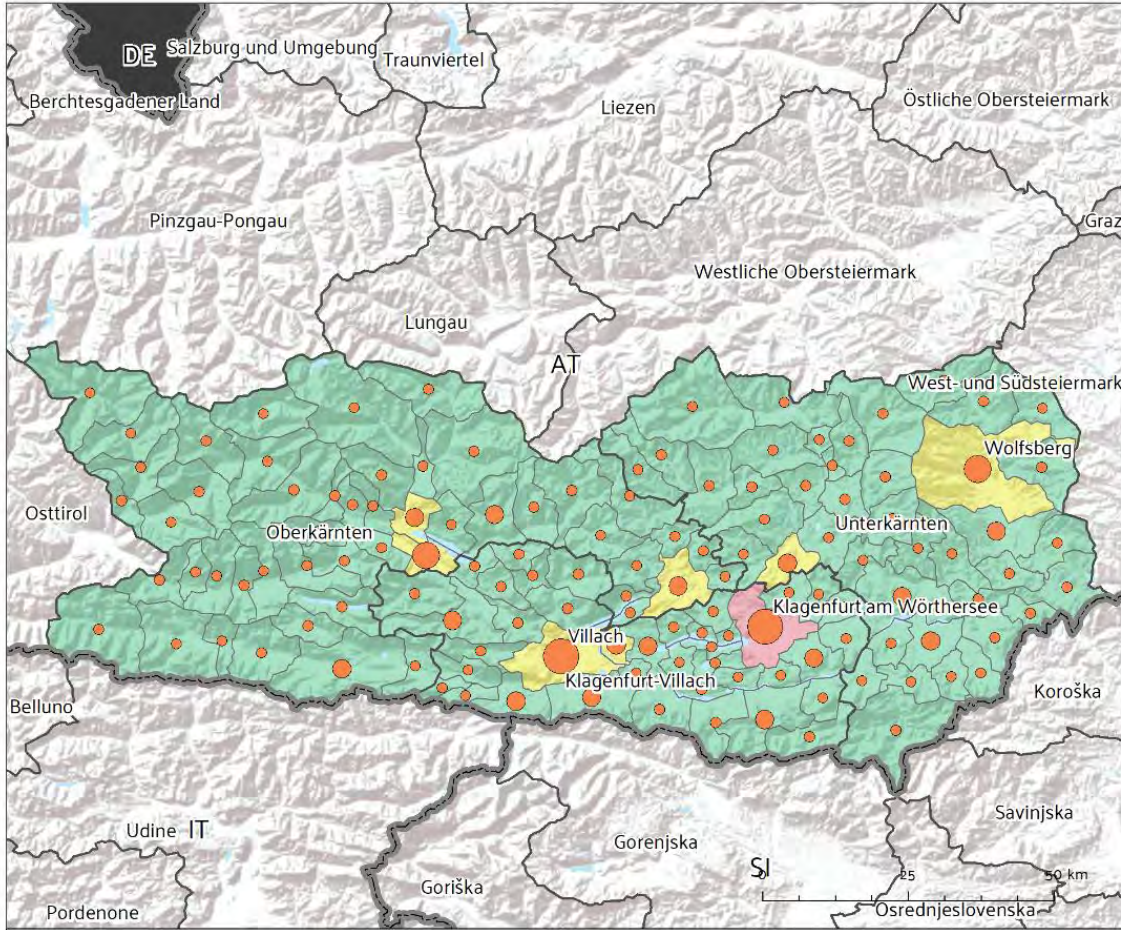
Map 5. Vorarlberg



Map 6. Population distribution and accessibility of hospitals in Vorarlberg

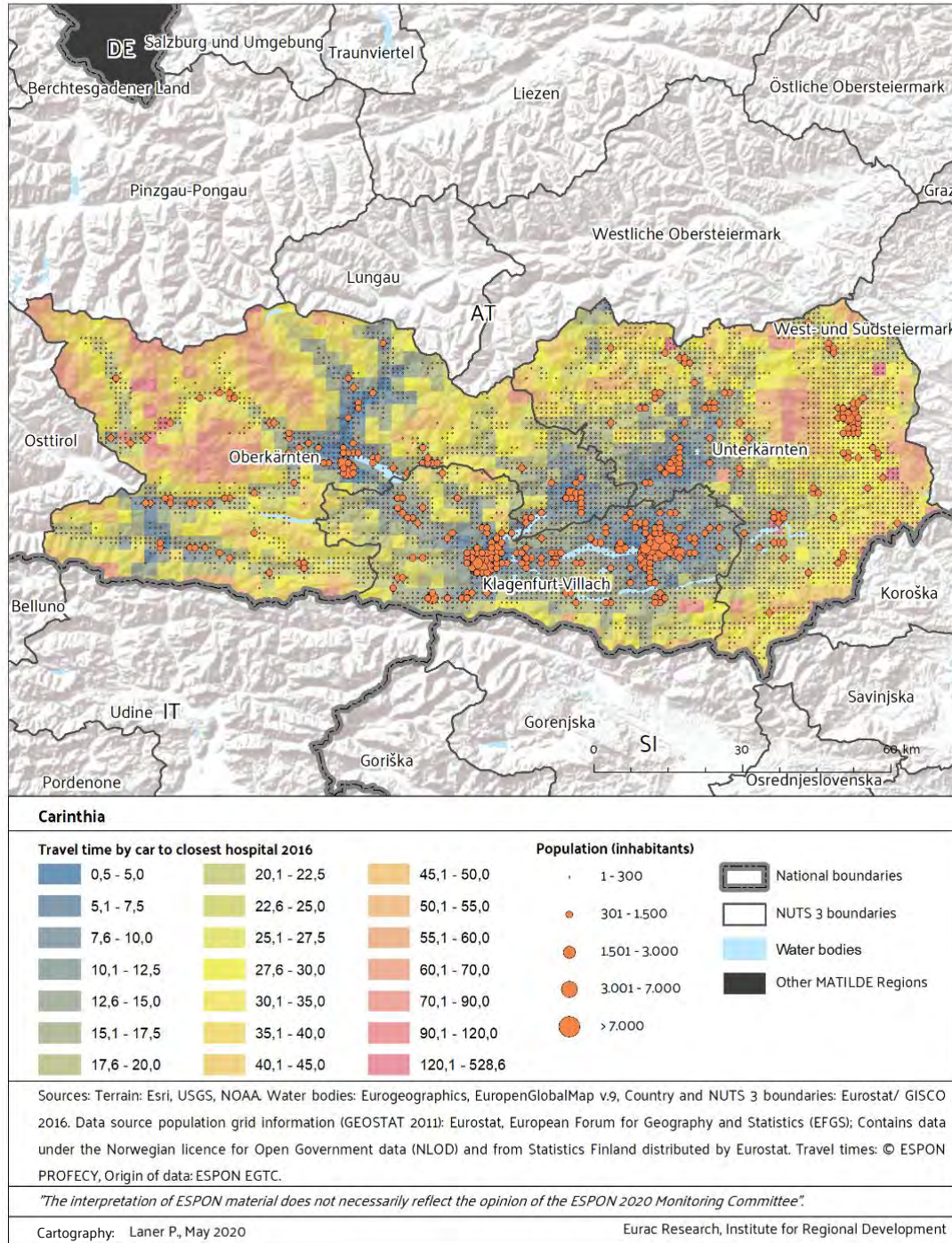


Map 7. Carinthia

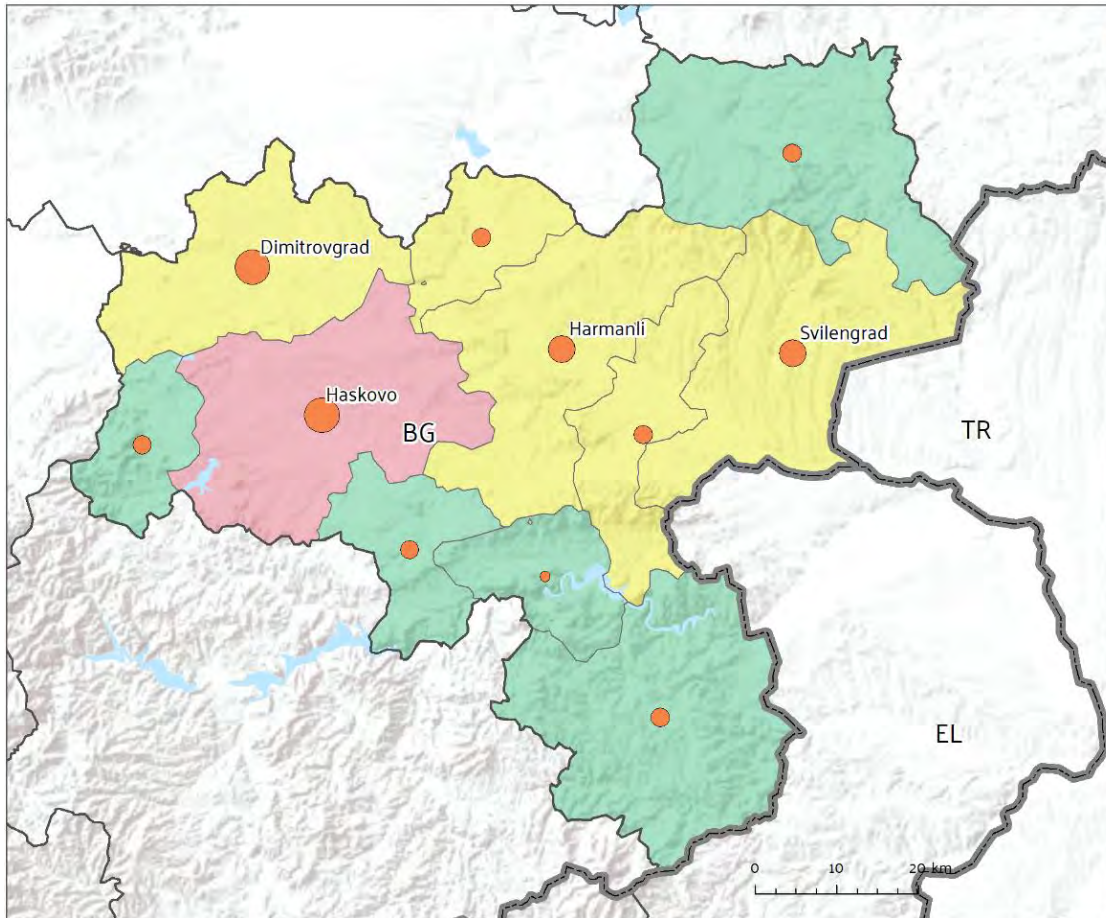














Carinthia		
Population (inhabitants)	Degree of Urbanisation 2018	
● 0 - 5.000	■ Cities (Densely populated areas: at least 50 % of the population lives in urban centres)	▭ National boundaries
● 5.001 - 15.000	■ Towns and suburbs (Intermediate density areas: less than 50 % of the population lives in rural areas and cities)	▭ NUTS 3 boundaries
● 15.001 - 40.000	■ Rural areas (Thinly populated areas: more than 50 % of the population lives in rural areas)	■ Water body
● 40.001 - 130.000		■ Other MATILDE Regions
● 130.001 - 882.523		
Sources: Terrain: Esri, USGS, NOAA. Water bodies: Eurogeographics, EuropeGlobalMap v.9, Country and NUTS 3 boundaries: Eurostat/ GISCO 2016. Population and Degree of urbanisation: Eurostat 2019/ GISCO - Geographical Information and maps/Geodata/Reference data/Population Distribution/ Demography/Degree of Urbanisation (DEGURBA).		
Cartography: Eurac Research, Laner P., 2020		

Map 8. Population distribution and accessibility of hospitals in Carinthia

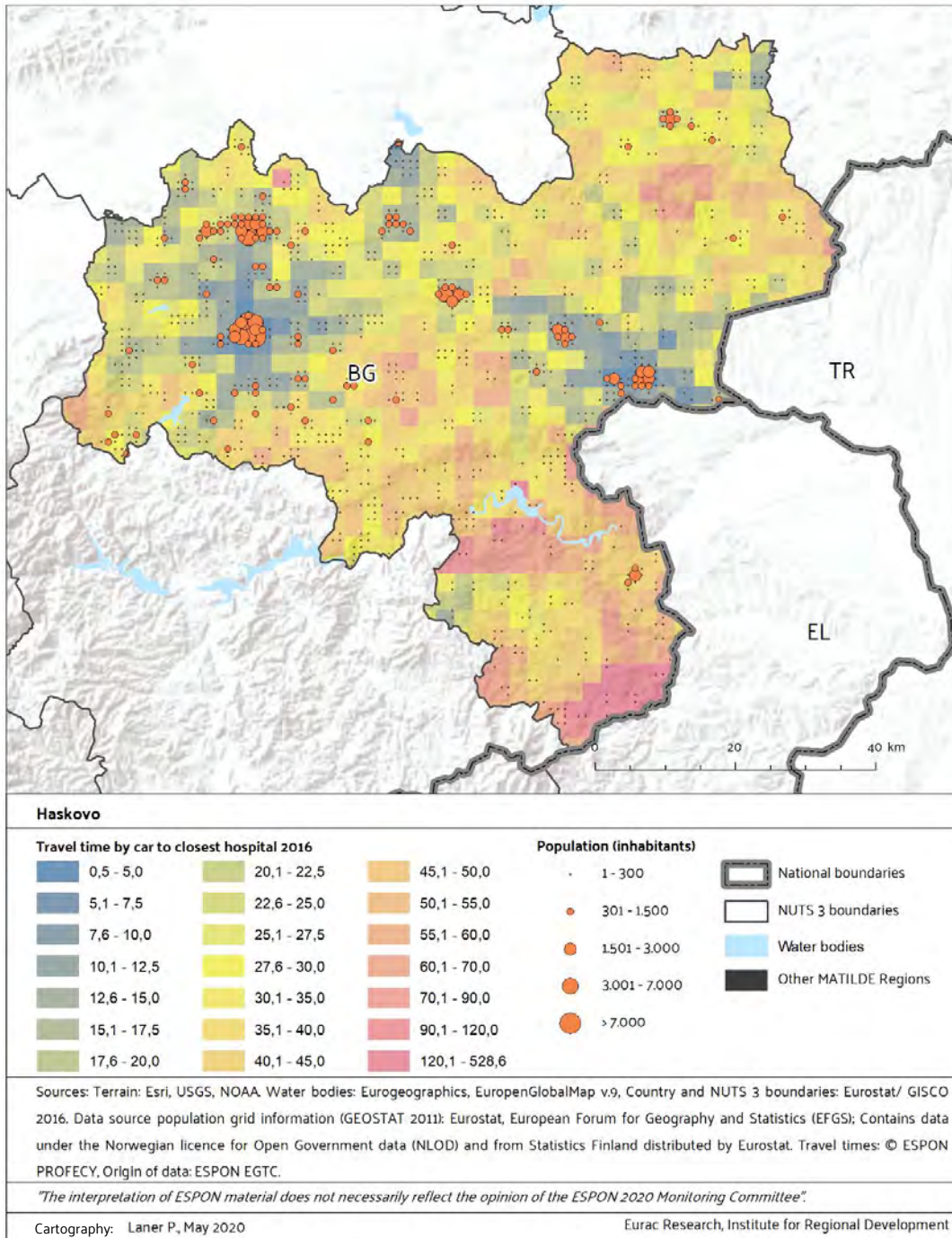


Map 9. Haskovo

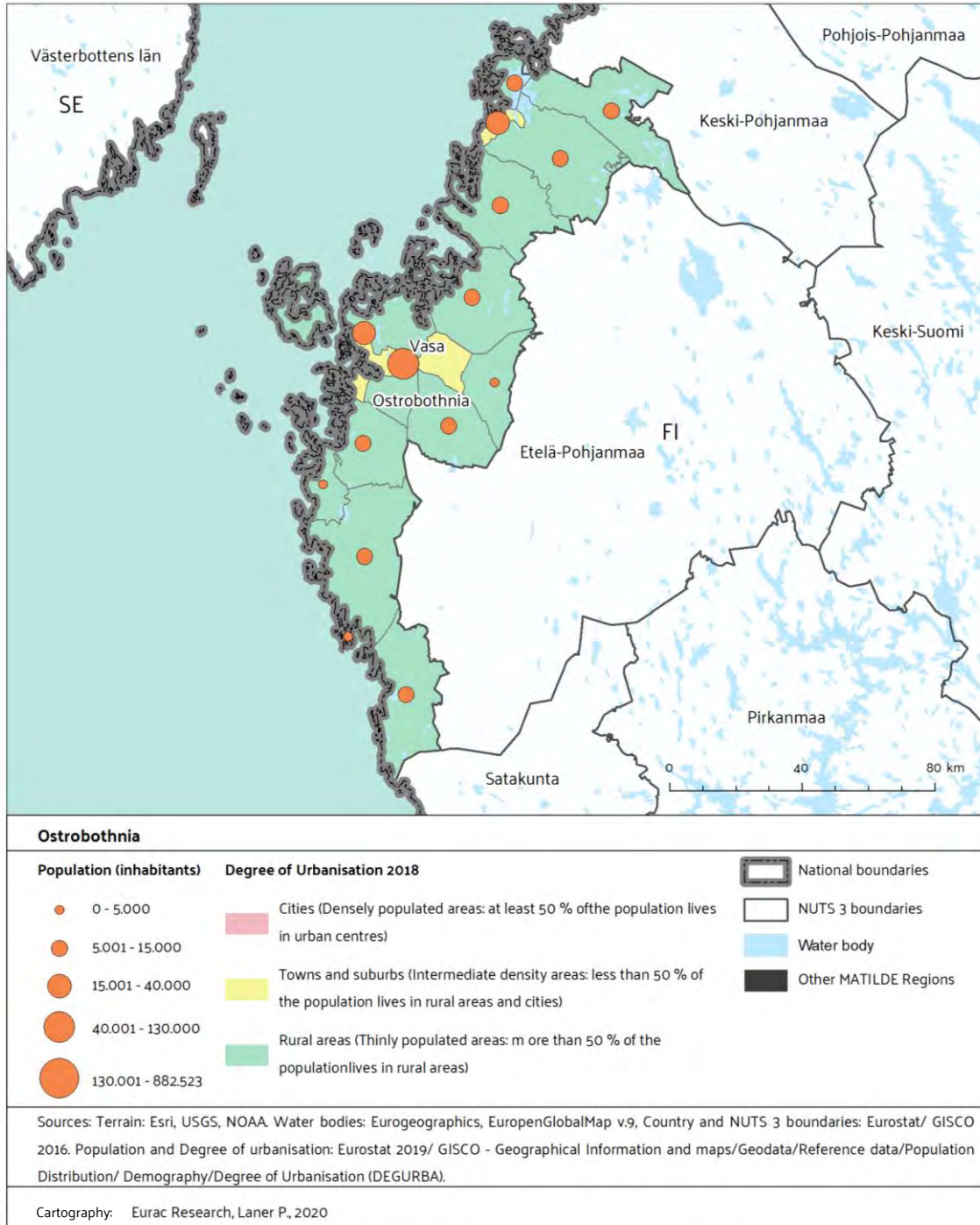


Haskovo		
Population (inhabitants)	Degree of Urbanisation 2018	 National boundaries
 0 - 5,000	 Cities (Densely populated areas: at least 50 % of the population lives in urban centres)	 NUTS 3 boundaries
 5,001 - 15,000	 Towns and suburbs (Intermediate density areas: less than 50 % of the population lives in rural areas and cities)	 Water body
 15,001 - 40,000	 Rural areas (Thinly populated areas: more than 50 % of the population lives in rural areas)	 Other MATILDE Regions
 40,001 - 130,000		
 130,001 - 882,523		
Sources: Terrain: Esri, USGS, NOAA. Water bodies: Eurogeographics, EuroGlobalMap v.9, Country and NUTS 3 boundaries: Eurostat/ GISCO 2016. Population and Degree of urbanisation: Eurostat 2019/ GISCO - Geographical Information and maps/Geodata/Reference data/Population Distribution/ Demography/Degree of Urbanisation (DEGURBA).		
Cartography: Eurac Research, Laner P., 2020		

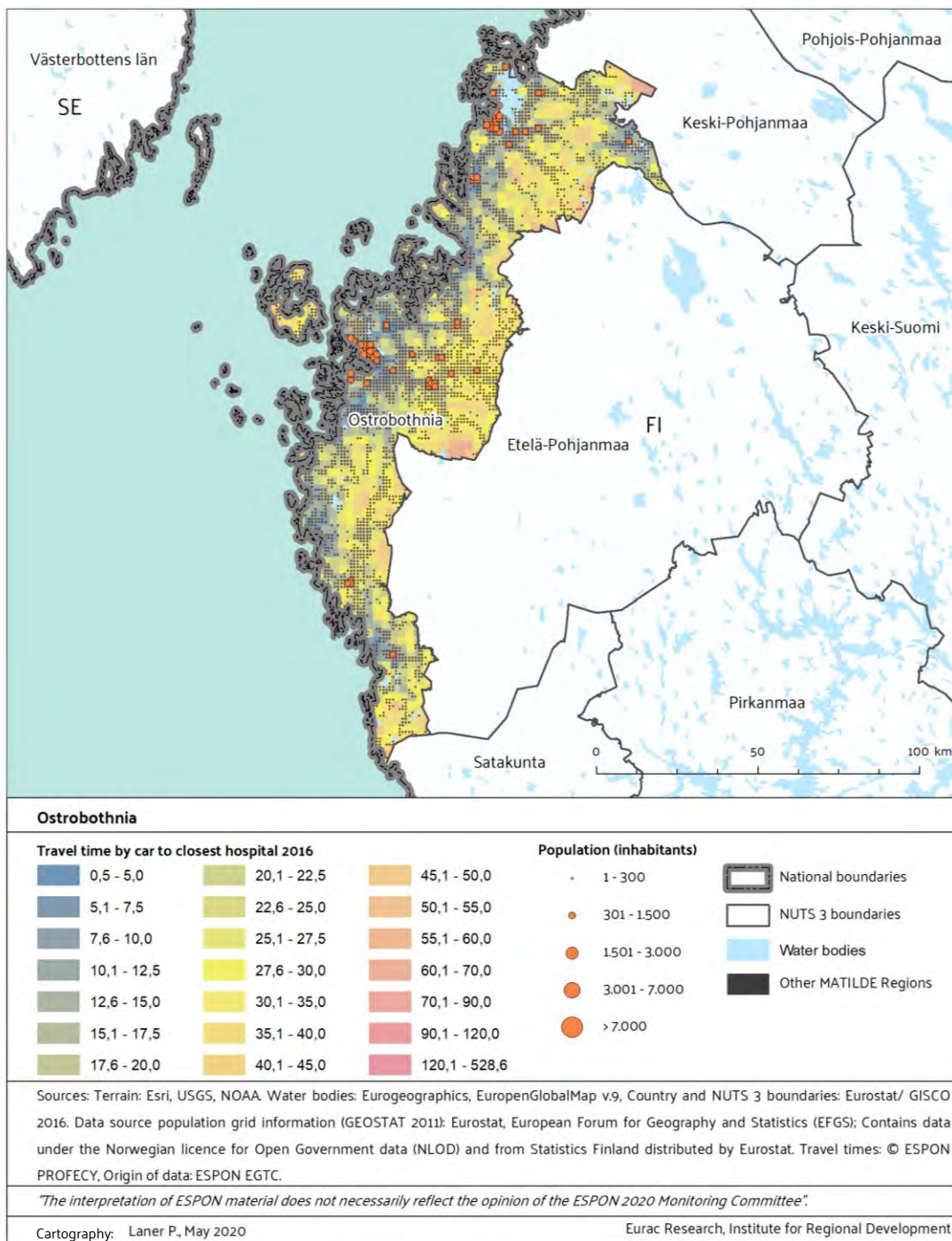
Map 10. Population distribution and accessibility of hospitals in Haskovo



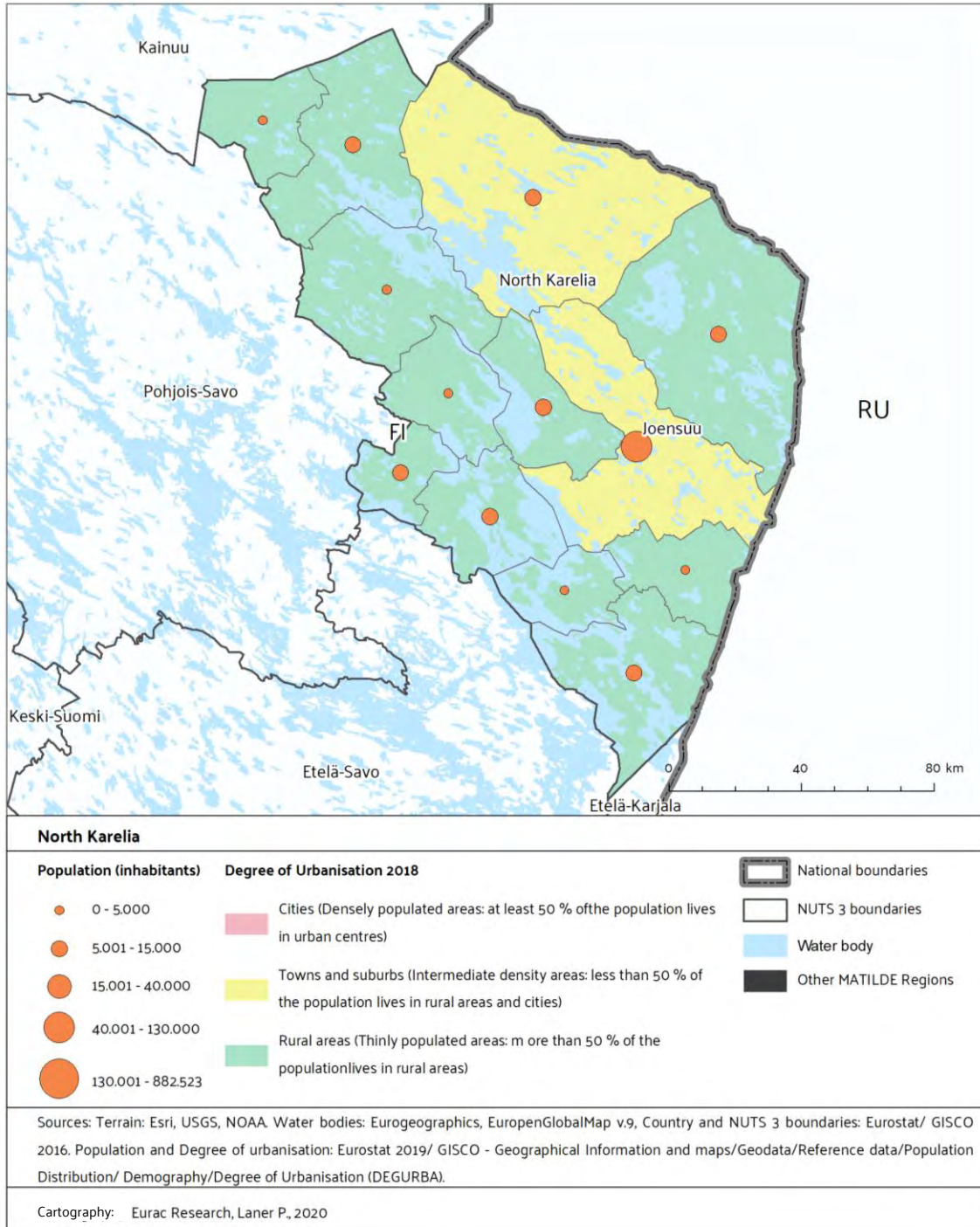
Map 11. Ostrobothnia



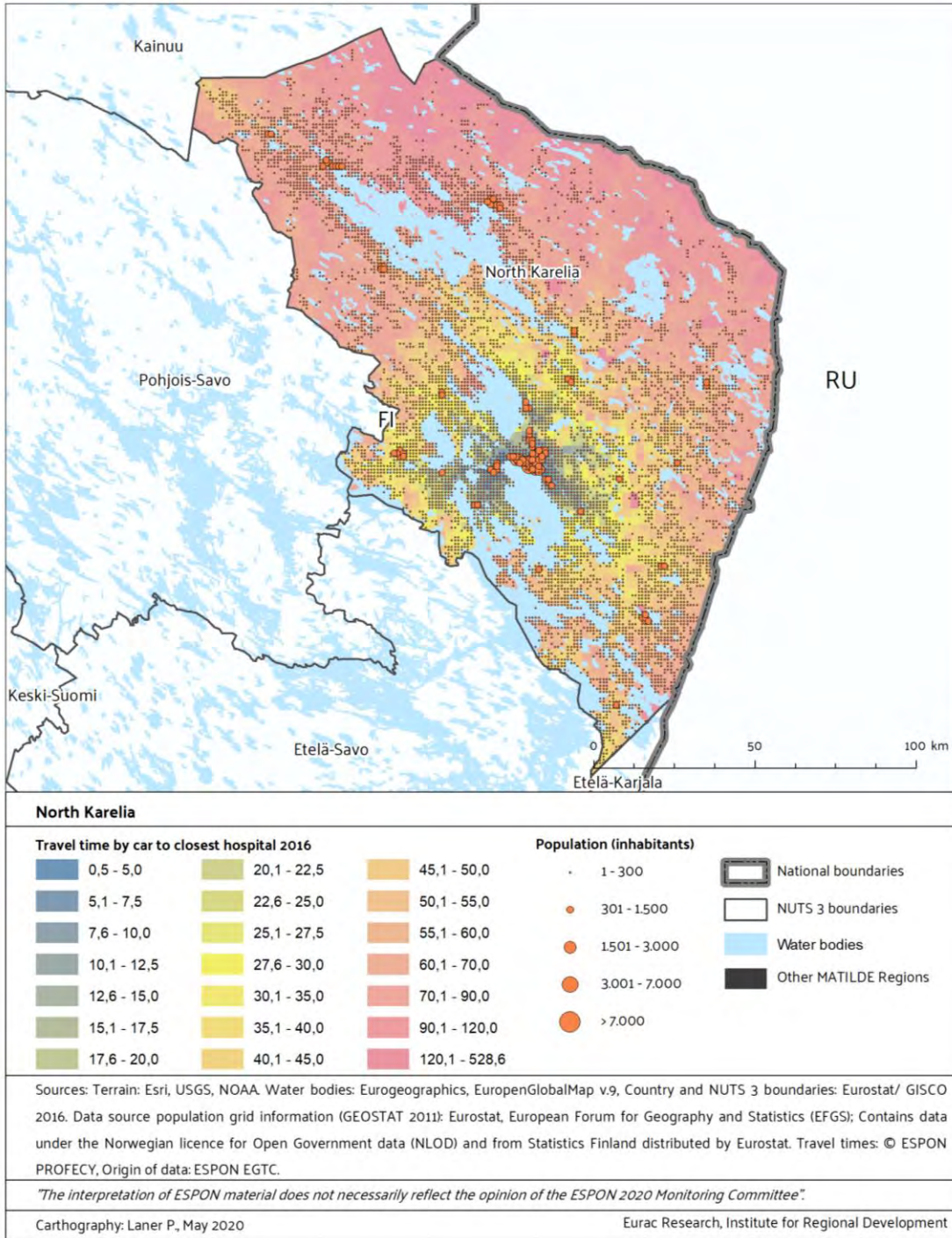
Map 12. Population distribution and accessibility of hospitals in Ostrobothnia



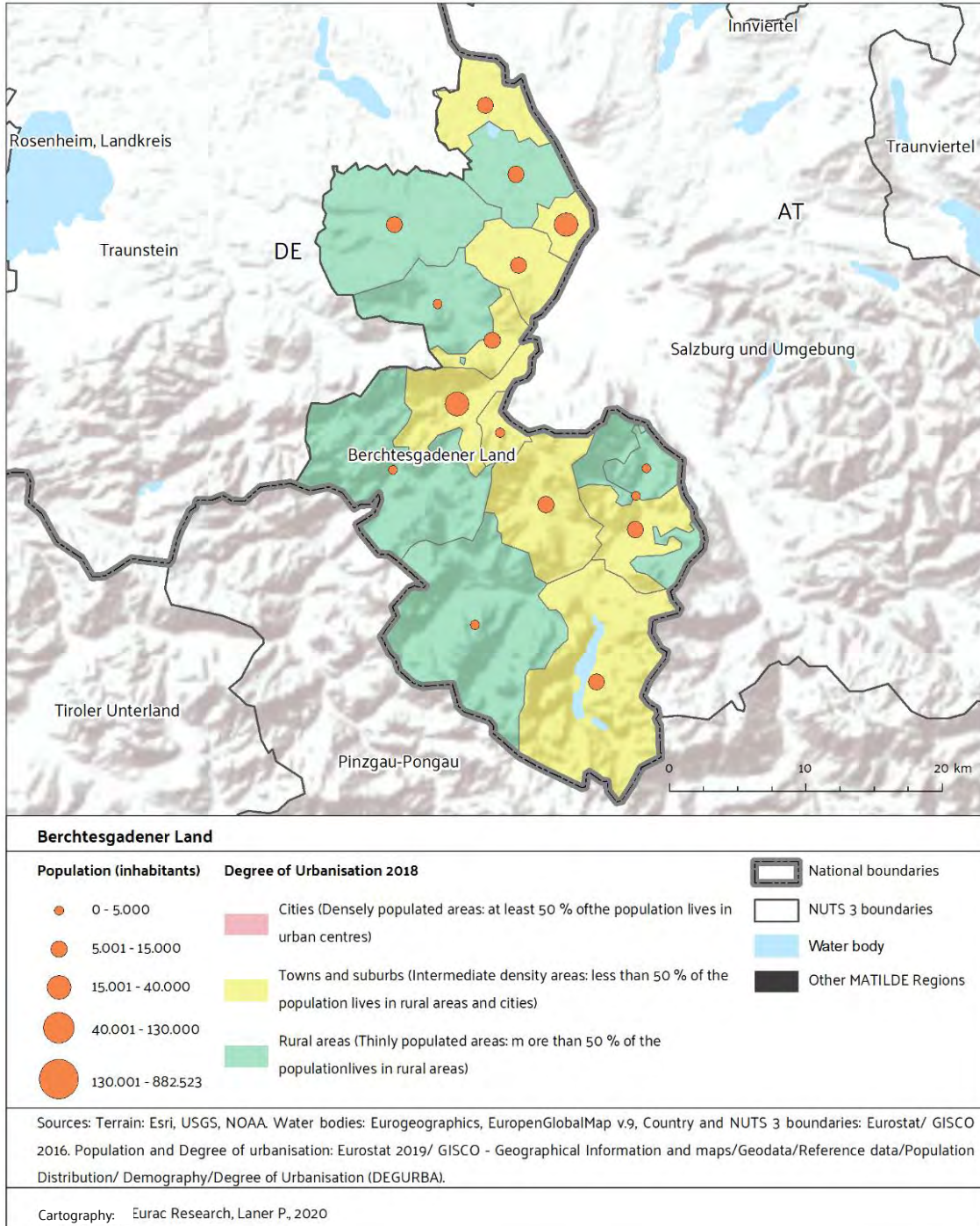
Map 13. North Karelia



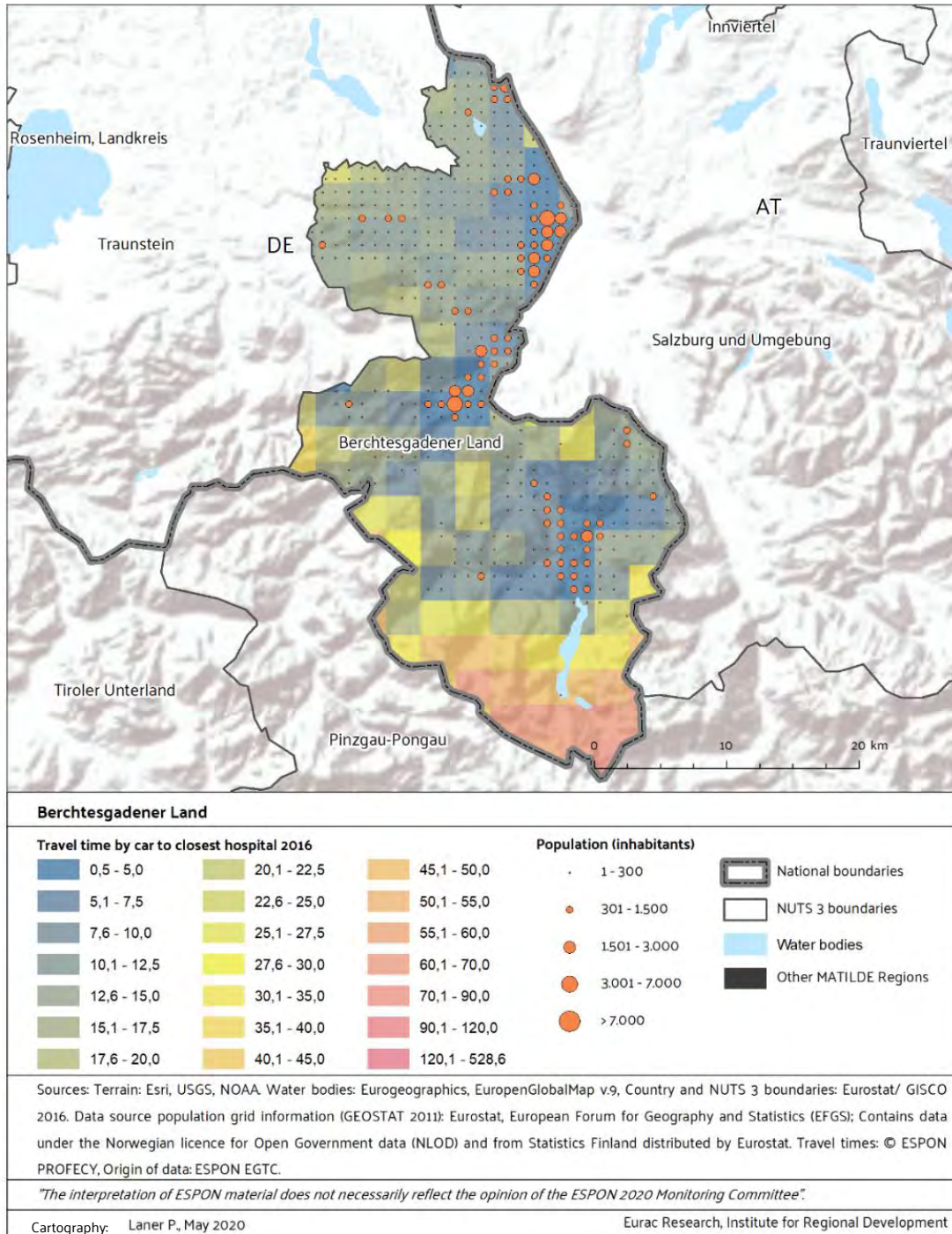
Map 14. Population distribution and accessibility of hospitals in North Karelia



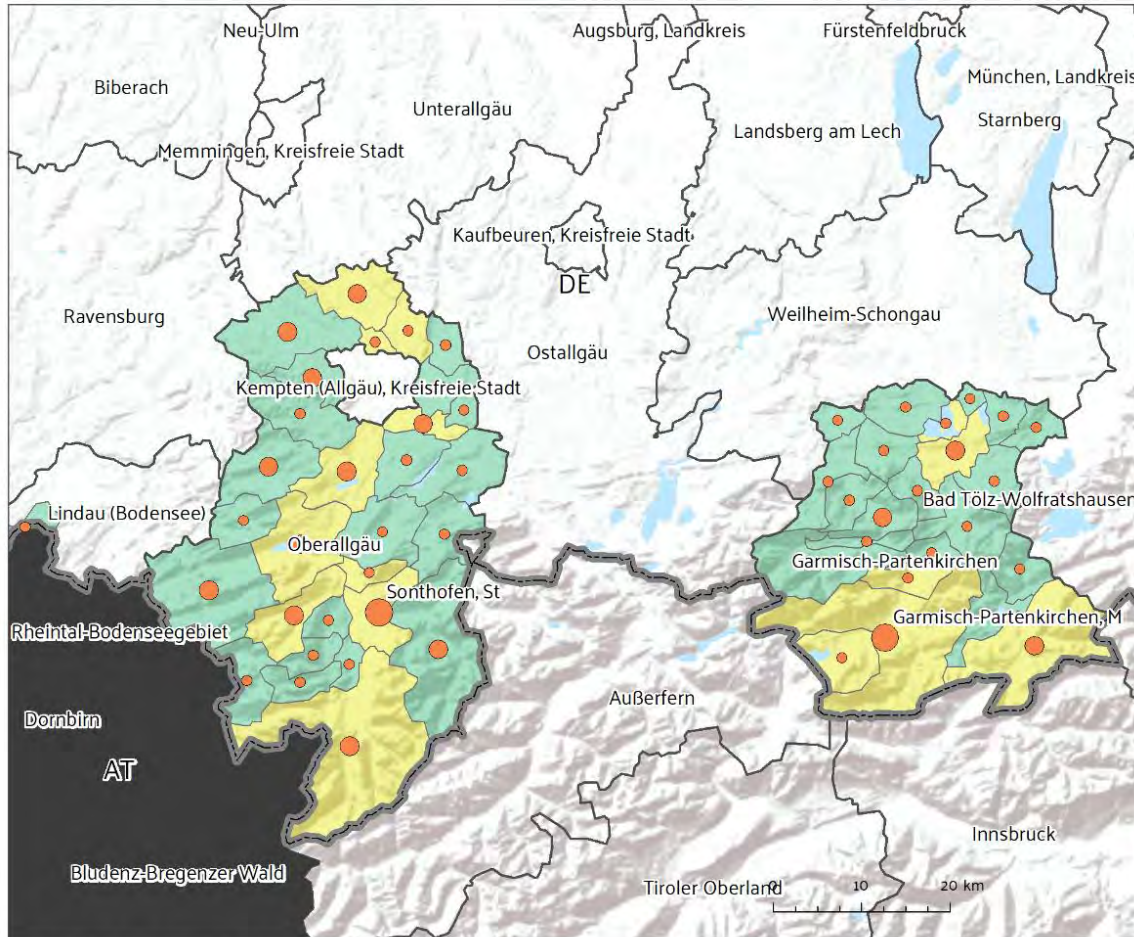
Map 15. Berchtesgadener Land



Map 16. Population distribution and accessibility of hospitals in Berchtesgadener Land

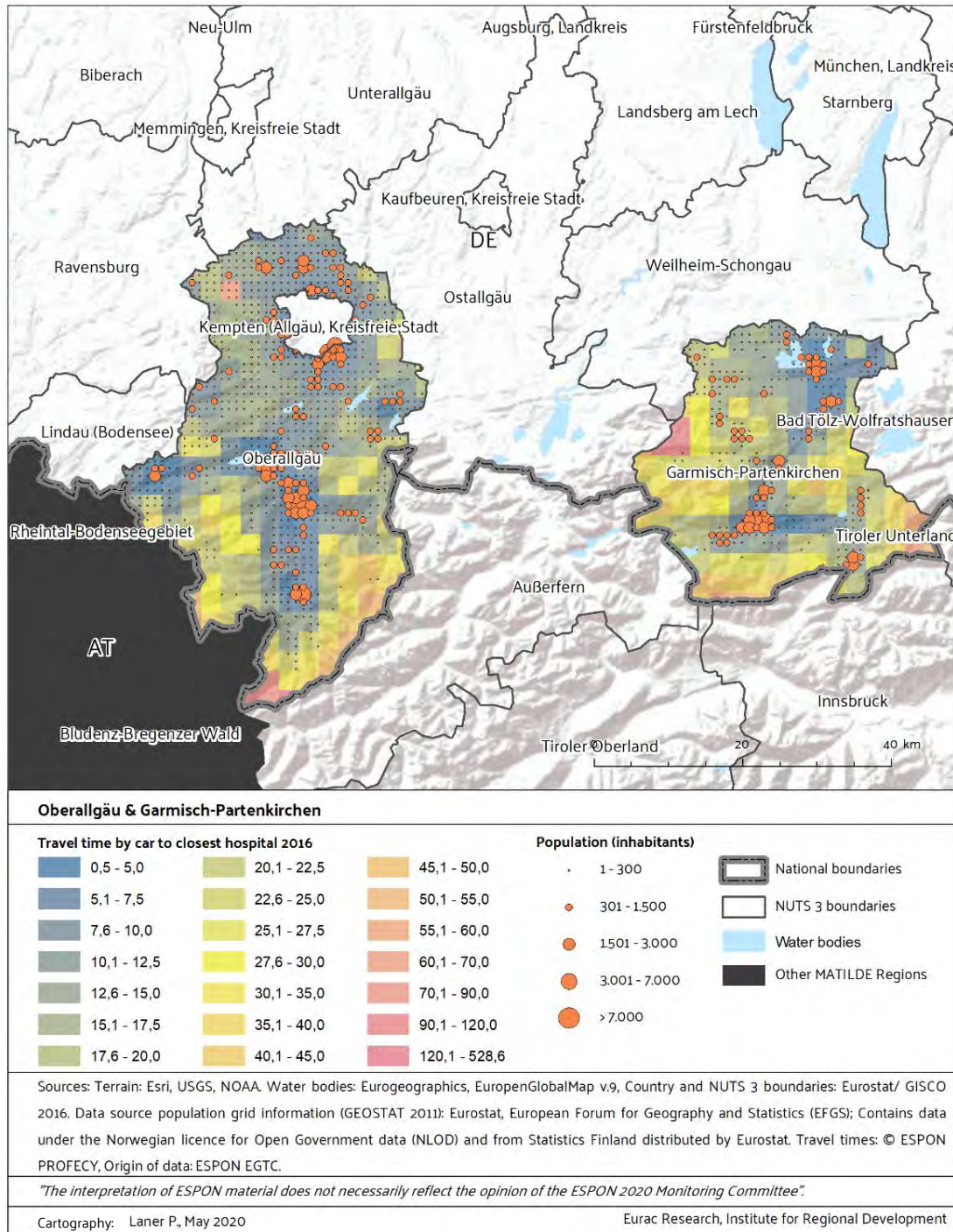


Map 17. Oberallgäu and Garmisch-Partenkirchen

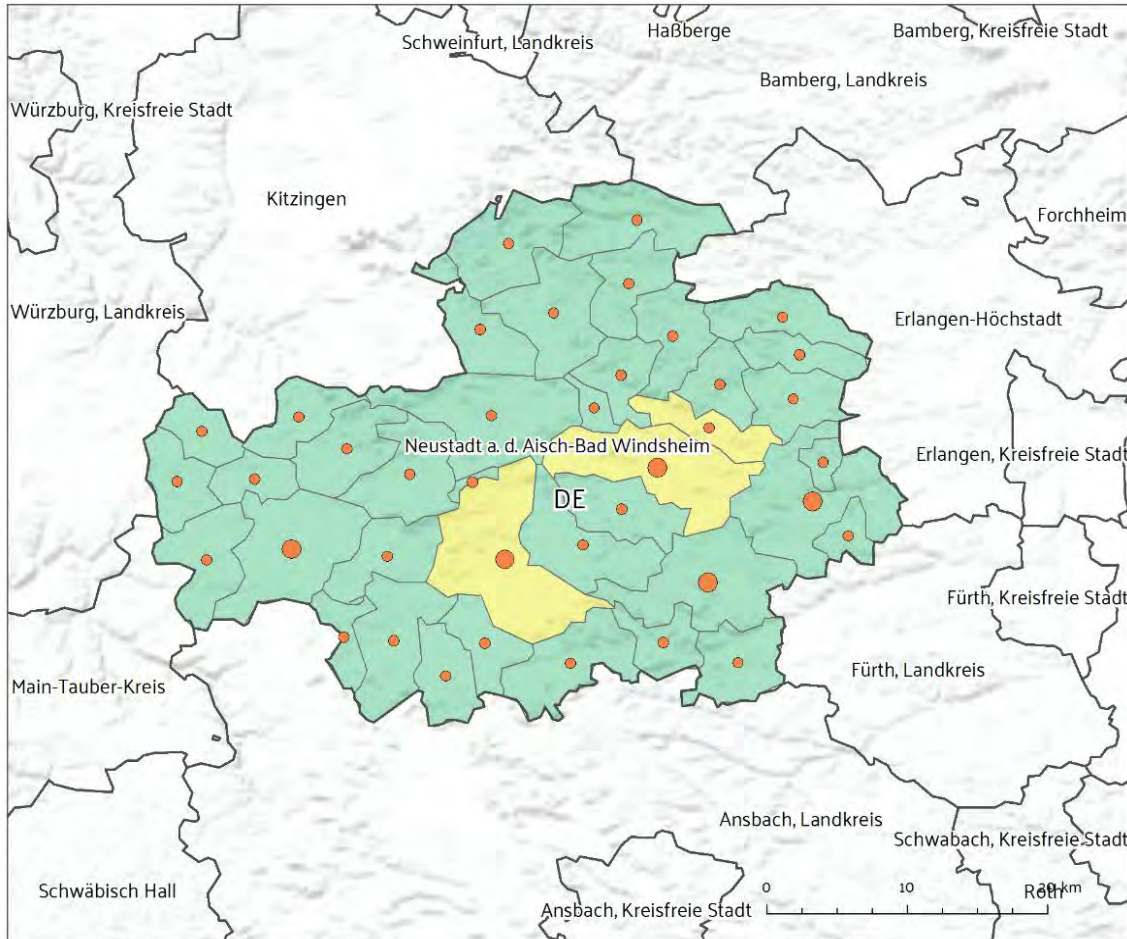


Oberallgäu & Garmisch-Partenkirchen		
Population (inhabitants)	Degree of Urbanisation 2018	Legend
<ul style="list-style-type: none"> ● 0 - 5.000 ● 5.001 - 15.000 ● 15.001 - 40.000 ● 40.001 - 130.000 ● 130.001 - 882.523 	<ul style="list-style-type: none"> Cities (Densely populated areas: at least 50 % of the population lives in urban centres) Towns and suburbs (Intermediate density areas: less than 50 % of the population lives in rural areas and cities) Rural areas (Thinly populated areas: more than 50 % of the population lives in rural areas) 	<ul style="list-style-type: none"> National boundaries NUTS 3 boundaries Water body Other MATILDE Regions
<p>Sources: Terrain: Esri, USGS, NOAA. Water bodies: Eurogeographics, EuropeanGlobalMap v.9, Country and NUTS 3 boundaries: Eurostat/ GISCO 2016. Population and Degree of urbanisation: Eurostat 2019/ GISCO - Geographical Information and maps/Geodata/Reference data/Population Distribution/ Demography/Degree of Urbanisation (DEGURBA).</p>		
<p>Cartography: Eurac Research, Laner P., 2020</p>		





Map 18. Population distribution and accessibility of hospitals in Oberallgäu and Garmisch-Partenkirchen



Map 19. Neustadt a.d. Aisch – Bad Windsheim



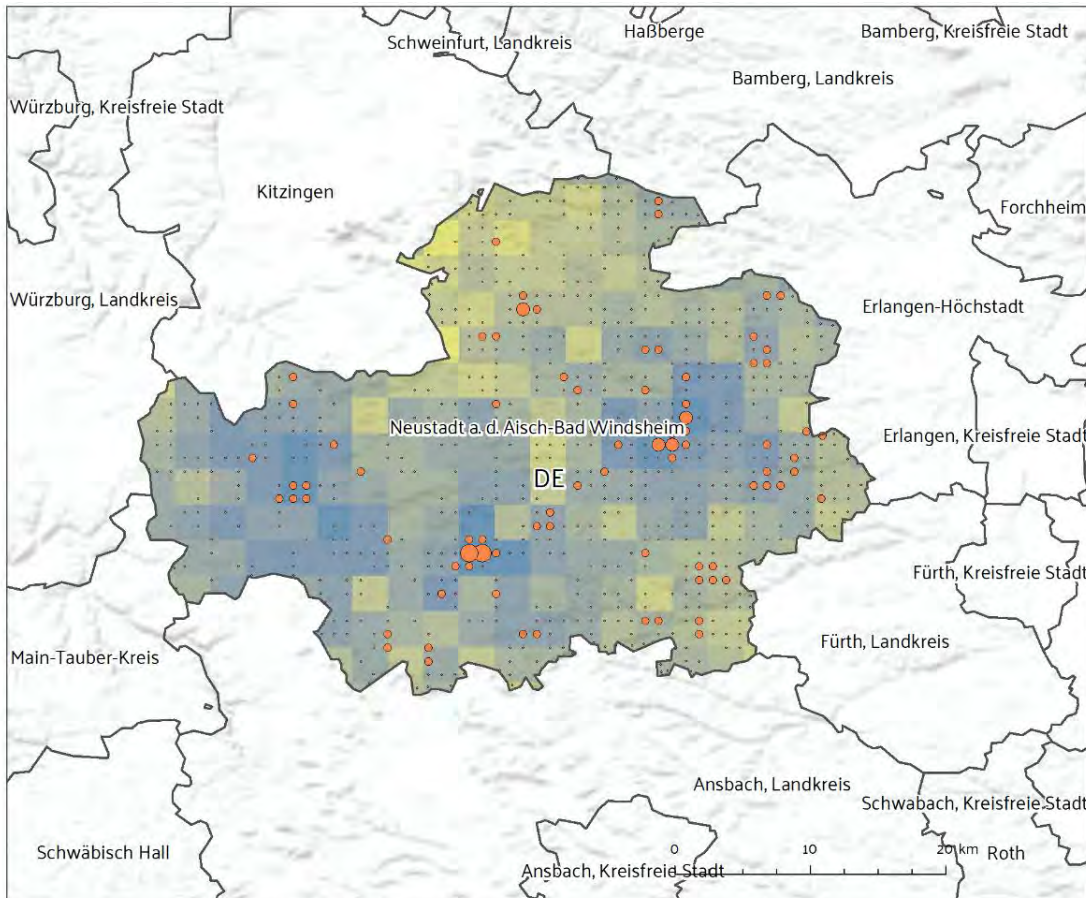
Neustadt an der Aisch - Bad Windsheim

Population (inhabitants)	Degree of Urbanisation 2018	
● 0 - 5.000	● Cities (Densely populated areas: at least 50 % of the population lives in urban centres)	 National boundaries
● 5.001 - 15.000	■ Towns and suburbs (Intermediate density areas: less than 50 % of the population lives in rural areas and cities)	 NUTS 3 boundaries
● 15.001 - 40.000	■ Rural areas (Thinly populated areas: more than 50 % of the population lives in rural areas)	 Water body
● 40.001 - 130.000		 Other MATILDE Regions
● 130.001 - 882.523		

Sources: Terrain: Esri, USGS, NOAA. Water bodies: Eurogeographics, EuropaGlobalMap v.9, Country and NUTS 3 boundaries: Eurostat/ GISCO 2016. Population and Degree of urbanisation: Eurostat 2019/ GISCO - Geographical Information and maps/Geodata/Reference data/Population Distribution/ Demography/Degree of Urbanisation (DEGURBA).

Cartography: Eurac Research, Laner P., 2020

Map 20. Population distribution and accessibility of hospitals Neustadt a.d. Aisch – Bad Windsheim



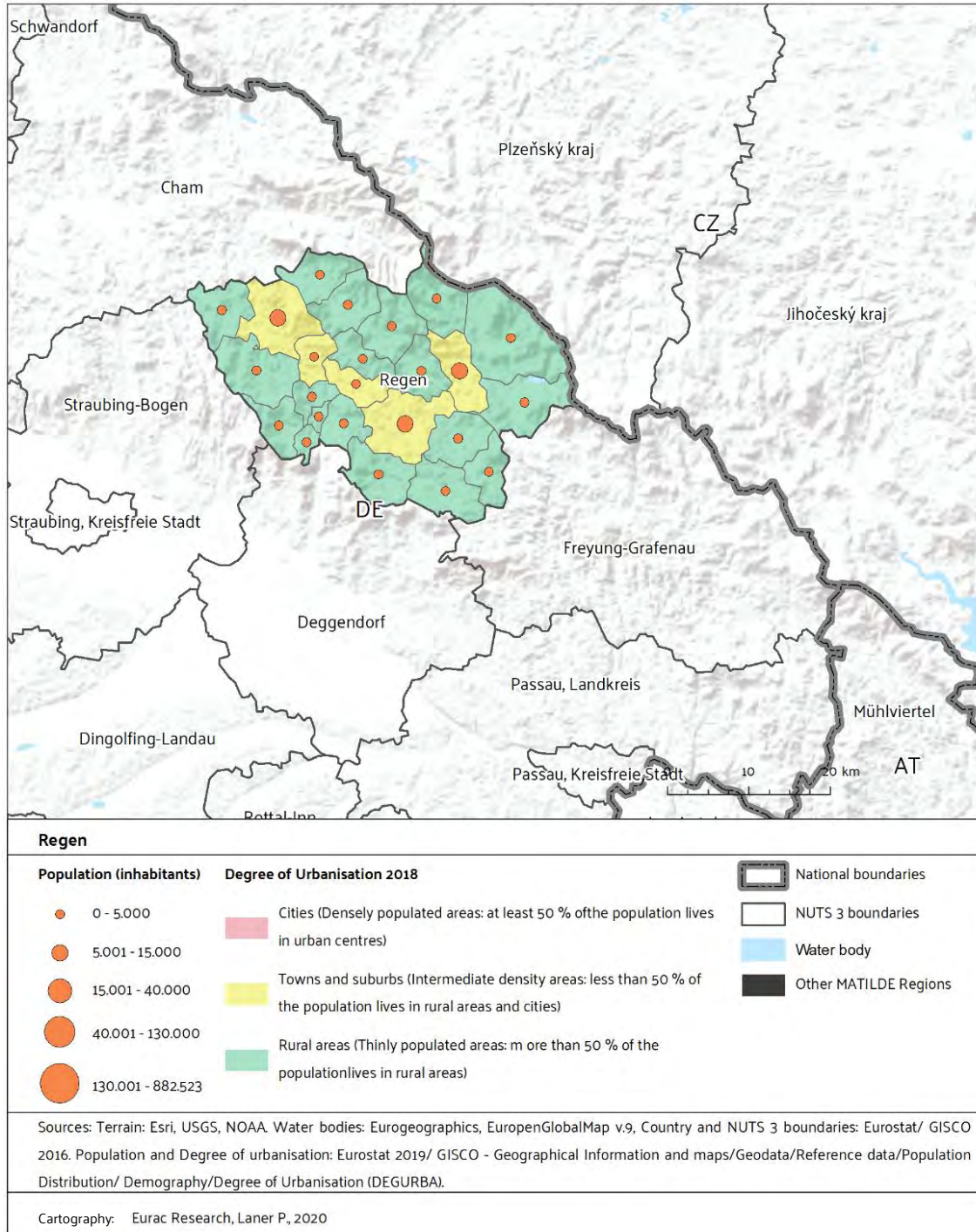
Neustadt an der Aisch - Bad Windsheim					
Travel time by car to closest hospital 2016			Population (inhabitants)		
0,5 - 5,0	20,1 - 22,5	45,1 - 50,0	• 1 - 300	National boundaries	
5,1 - 7,5	22,6 - 25,0	50,1 - 55,0	• 301 - 1.500	NUTS 3 boundaries	
7,6 - 10,0	25,1 - 27,5	55,1 - 60,0	• 1.501 - 3.000	Water bodies	
10,1 - 12,5	27,6 - 30,0	60,1 - 70,0	• 3.001 - 7.000	Other MATILDE Regions	
12,6 - 15,0	30,1 - 35,0	70,1 - 90,0	• > 7.000		
15,1 - 17,5	35,1 - 40,0	90,1 - 120,0			
17,6 - 20,0	40,1 - 45,0	120,1 - 528,6			

Sources: Terrain: Esri, USGS, NOAA. Water bodies: Eurogeographics, EuropeanGlobalMap v.9. Country and NUTS 3 boundaries: Eurostat/ GISCO 2016. Data source population grid information (GEOSTAT 2011): Eurostat, European Forum for Geography and Statistics (EFGS); Contains data under the Norwegian licence for Open Government data (NLOD) and from Statistics Finland distributed by Eurostat. Travel times: © ESPON PROFECY, Origin of data: ESPON EGTC.

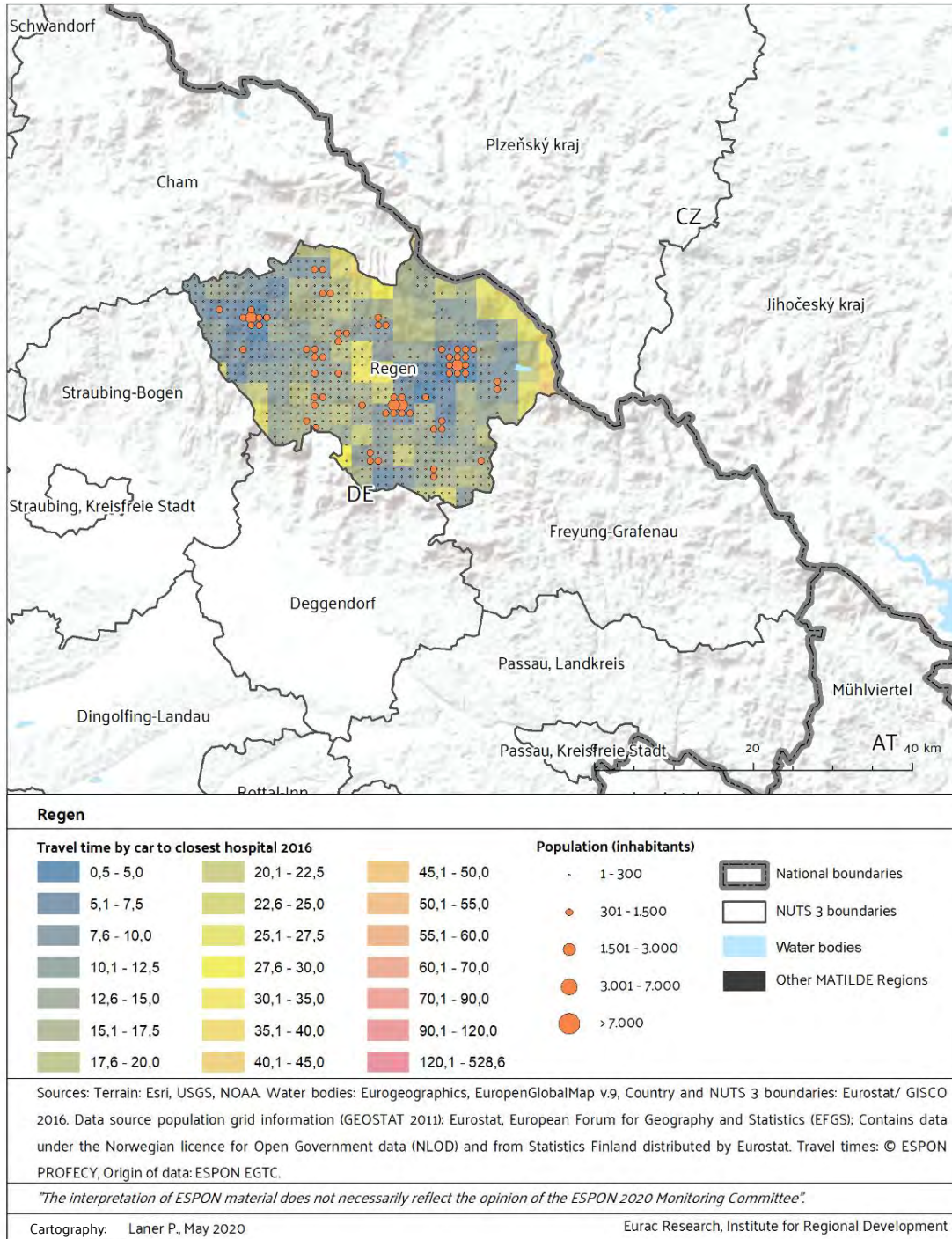
"The interpretation of ESPON material does not necessarily reflect the opinion of the ESPON 2020 Monitoring Committee".

Cartography: Laner P., May 2020 Eurac Research, Institute for Regional Development

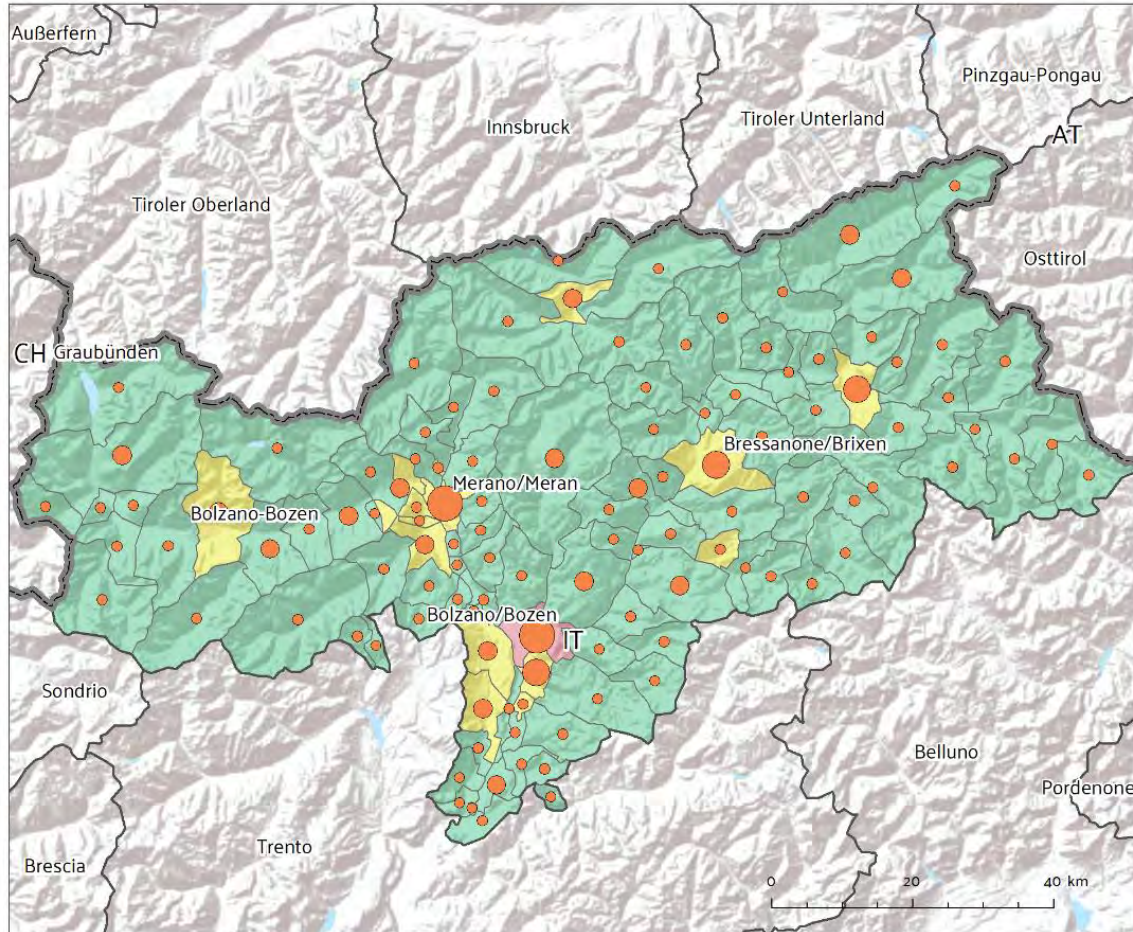
Map 21. Regen



Map 22. Population distribution and accessibility of hospitals in Regen



Map 23. South Tyrol



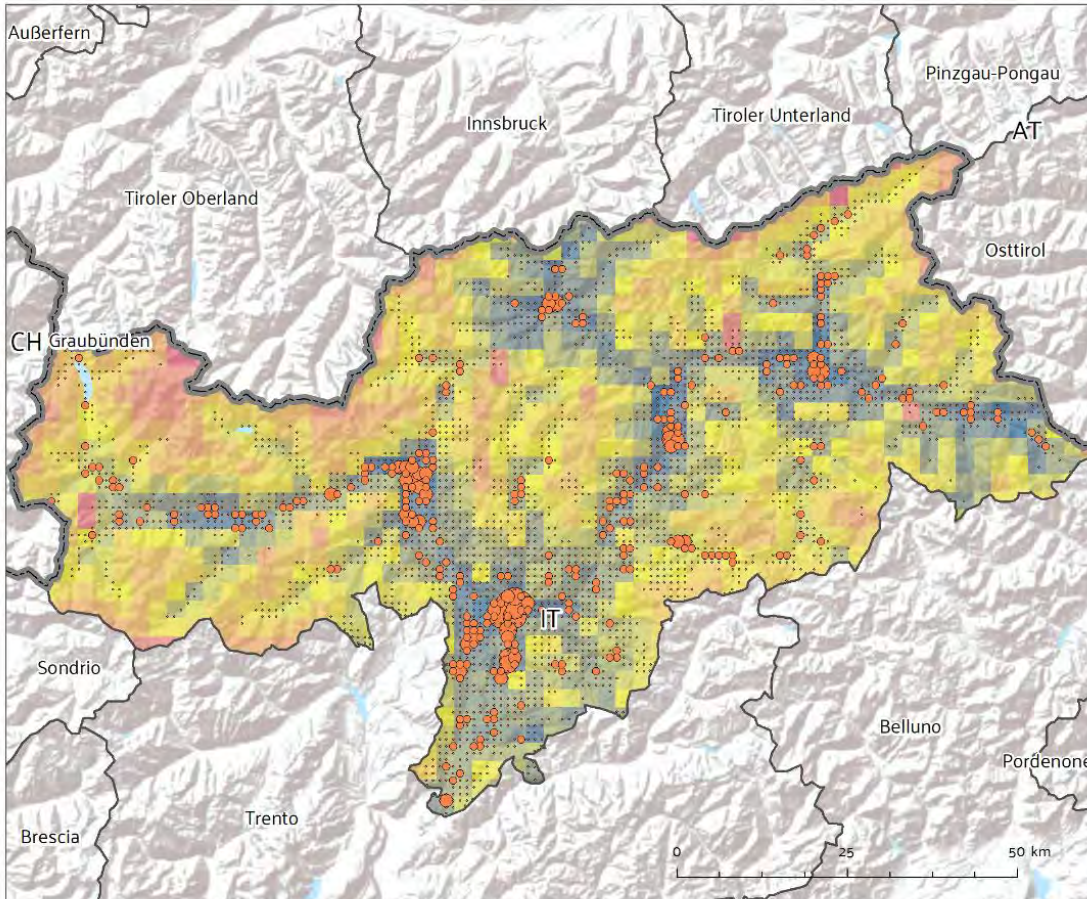
South Tyrol

Population (inhabitants)	Degree of Urbanisation 2018	Legend
● 0 - 5.000	● Cities (Densely populated areas: at least 50 % of the population lives in urban centres)	▭ National boundaries
● 5.001 - 15.000	■ Towns and suburbs (Intermediate density areas: less than 50 % of the population lives in rural areas and cities)	▭ NUTS 3 boundaries
● 15.001 - 40.000	■ Rural areas (Thinly populated areas: more than 50 % of the population lives in rural areas)	■ Water body
● 40.001 - 130.000		■ Other MATILDE Regions
● 130.001 - 882.523		

Sources: Terrain: Esri, USGS, NOAA. Water bodies: Eurogeographics, EuroGlobalMap v.9, Country and NUTS 3 boundaries: Eurostat/ GISCO 2016. Population and Degree of urbanisation: Eurostat 2019/ GISCO - Geographical Information and maps/Geodata/Reference data/Population Distribution/ Demography/Degree of Urbanisation (DEGURBA).

Cartography: Eurac Research, Laner P, 2020

Map 24. Population distribution and accessibility of hospitals in South Tyrol







South Tyrol

Travel time by car to closest hospital 2016

0,5 - 5,0	20,1 - 22,5	45,1 - 50,0
5,1 - 7,5	22,6 - 25,0	50,1 - 55,0
7,6 - 10,0	25,1 - 27,5	55,1 - 60,0
10,1 - 12,5	27,6 - 30,0	60,1 - 70,0
12,6 - 15,0	30,1 - 35,0	70,1 - 90,0
15,1 - 17,5	35,1 - 40,0	90,1 - 120,0
17,6 - 20,0	40,1 - 45,0	120,1 - 528,6

Population (inhabitants)

1 - 300
301 - 1500
1501 - 3000
3001 - 7000
> 7000

	National boundaries
	NUTS 3 boundaries
	Water bodies
	Other MATILDE Regions

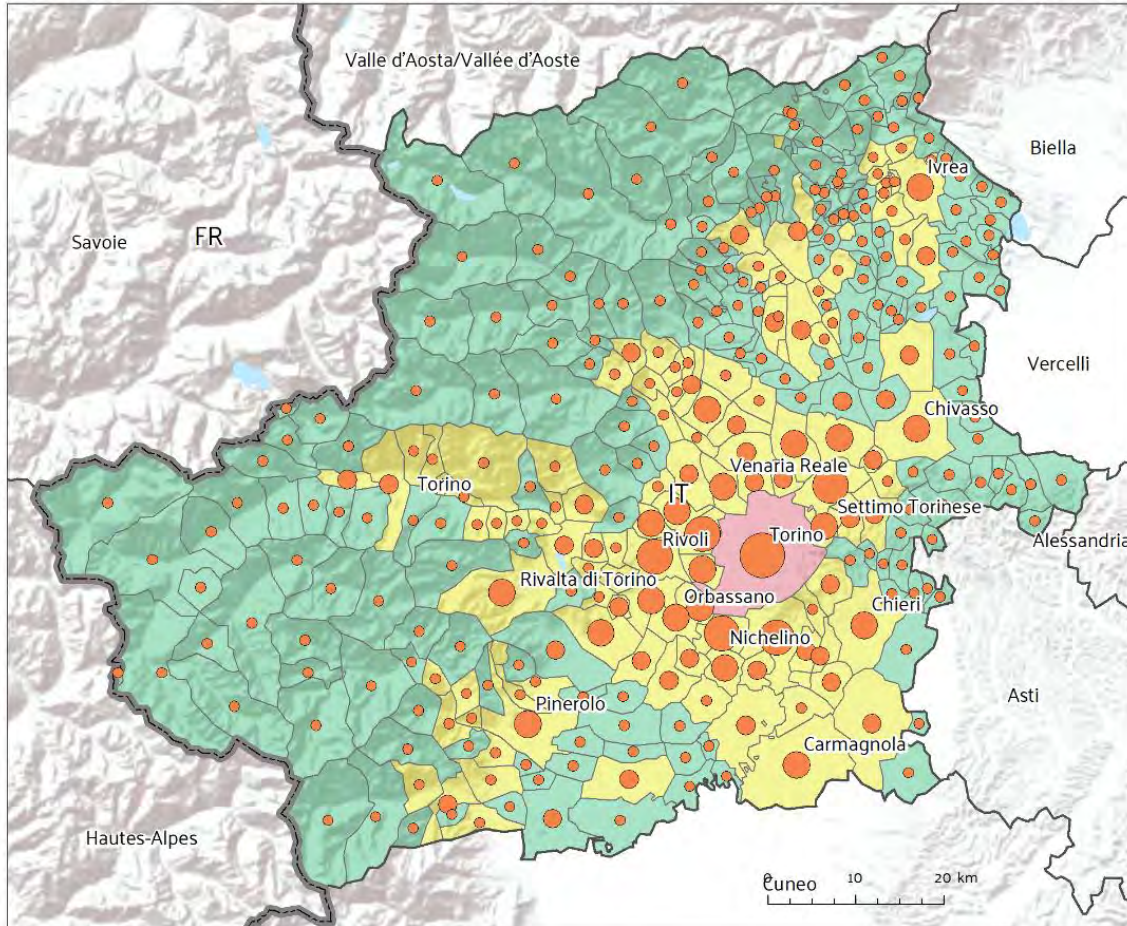
Sources: Terrain: Esri, USGS, NOAA. Water bodies: Eurogeographics, EuroGlobalMap v.9, Country and NUTS 3 boundaries: Eurostat/ GISCO 2016. Data source population grid information (GEOSTAT 2011): Eurostat, European Forum for Geography and Statistics (EFGS); Contains data under the Norwegian licence for Open Government data (NL0D) and from Statistics Finland distributed by Eurostat. Travel times: © ESPON PROFECY, Origin of data: ESPON EGTC.













"The interpretation of ESPON material does not necessarily reflect the opinion of the ESPON 2020 Monitoring Committee".

Cartography: Laner P., May 2020

Eurac Research, Institute for Regional Development

Map 25. Province of Turin

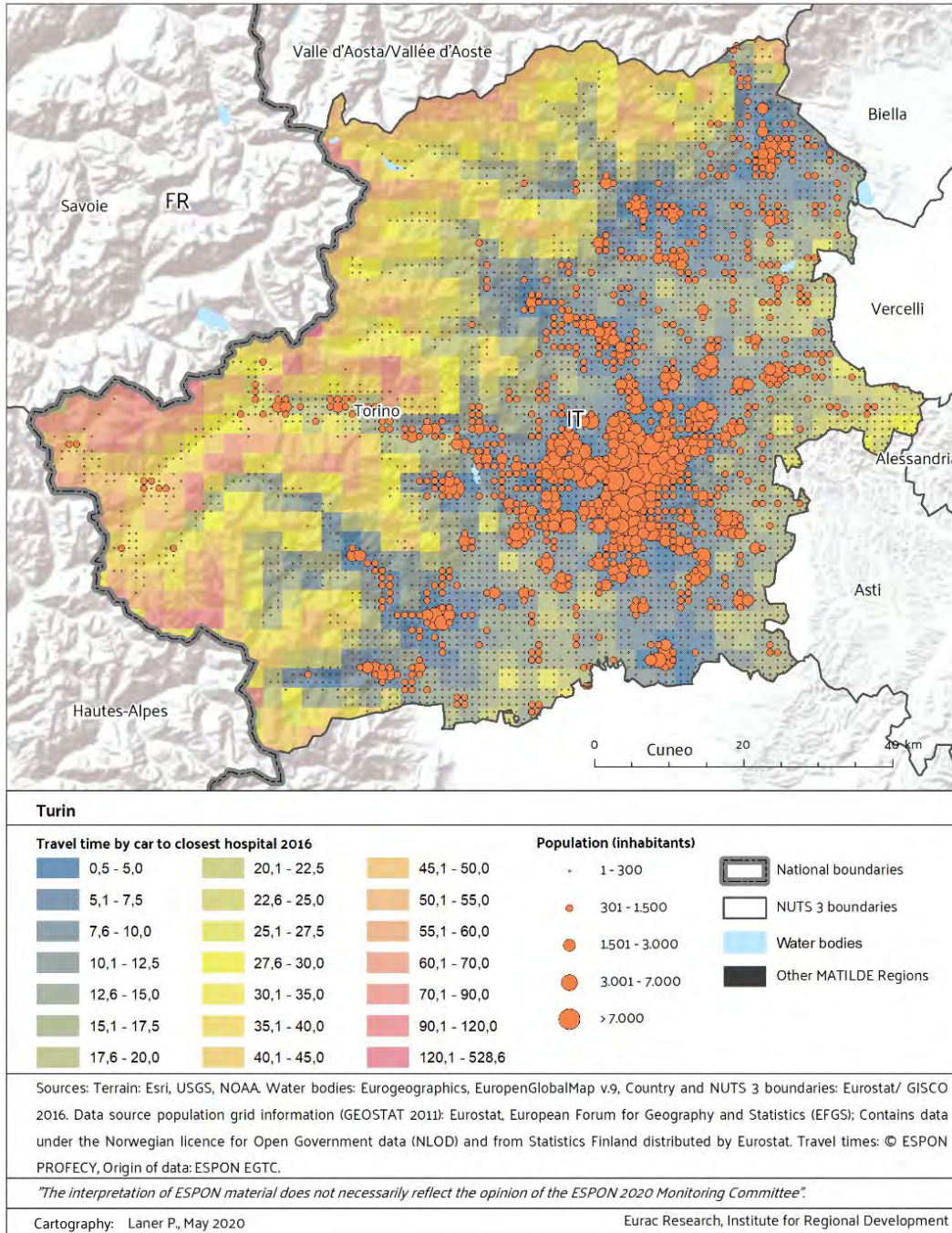


Turin		
Population (inhabitants)	Degree of Urbanisation 2018	 National boundaries
 0 - 5.000	 Cities (Densely populated areas: at least 50 % of the population lives in urban centres)	 NUTS 3 boundaries
 5.001 - 15.000	 Towns and suburbs (Intermediate density areas: less than 50 % of the population lives in rural areas and cities)	 Water body
 15.001 - 40.000	 Rural areas (Thinly populated areas: more than 50 % of the population lives in rural areas)	 Other MATILDE Regions
 40.001 - 130.000		
 130.001 - 882.523		

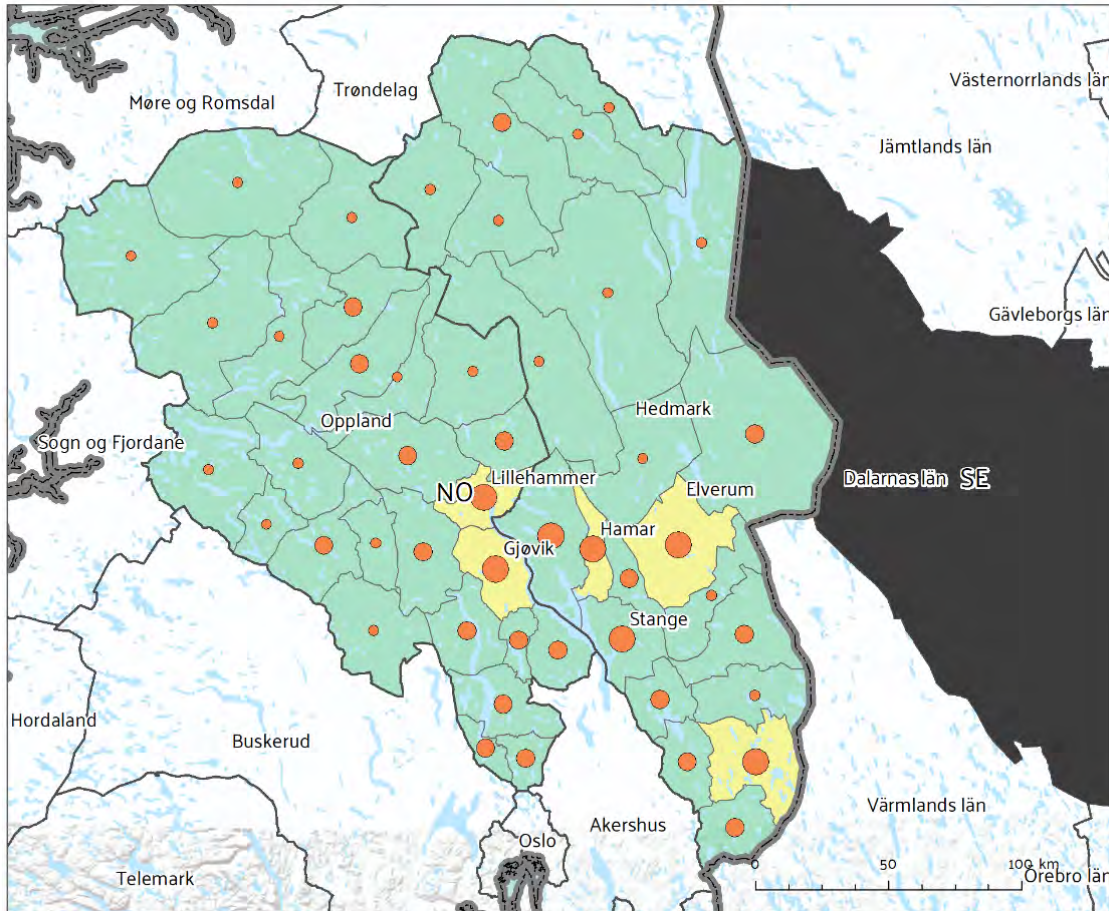
Sources: Terrain: Esri, USGS, NOAA. Water bodies: Eurogeographics, EuropeGlobalMap v.9, Country and NUTS 3 boundaries: Eurostat/ GISCO 2016. Population and Degree of urbanisation: Eurostat 2019/ GISCO - Geographical Information and maps/Geodata/Reference data/Population Distribution/ Demography/Degree of Urbanisation (DEGURBA).

Cartography: Eurac Research, Laner P., 2020

Map 26. Population distribution, accessibility of hospitals in the Metropolitan City of Turin



Map 27. Innlandet: Oppland and Hedmark



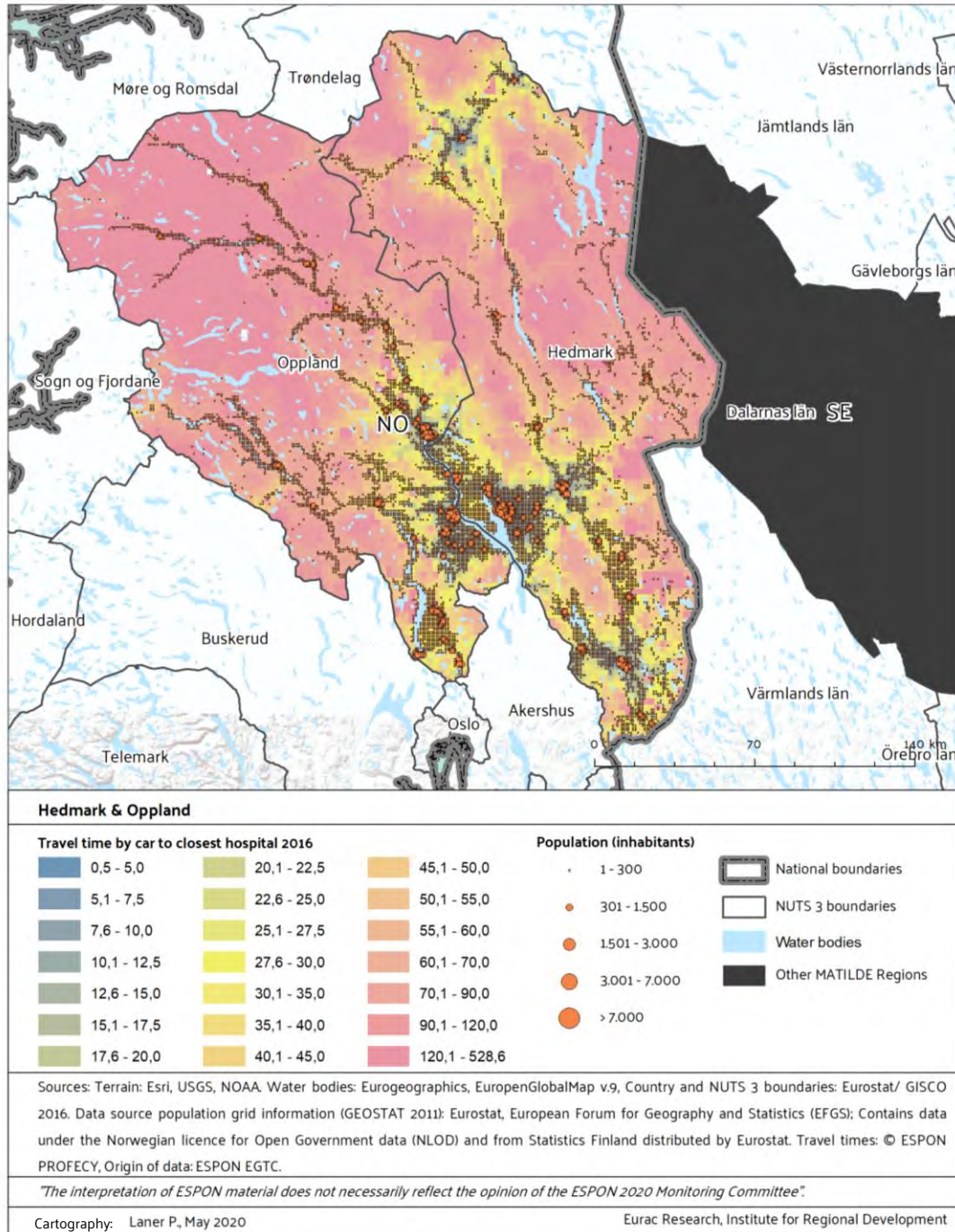
Hedmark & Oppland

Population (inhabitants)	Degree of Urbanisation 2018	
● 0 - 5.000	● Cities (Densely populated areas: at least 50 % of the population lives in urban centres)	▭ National boundaries
● 5.001 - 15.000	■ Towns and suburbs (Intermediate density areas: less than 50 % of the population lives in rural areas and cities)	▭ NUTS 3 boundaries
● 15.001 - 40.000	■ Rural areas (Thinly populated areas: more than 50 % of the population lives in rural areas)	■ Water body
● 40.001 - 130.000		■ Other MATILDE Regions
● 130.001 - 882.523		

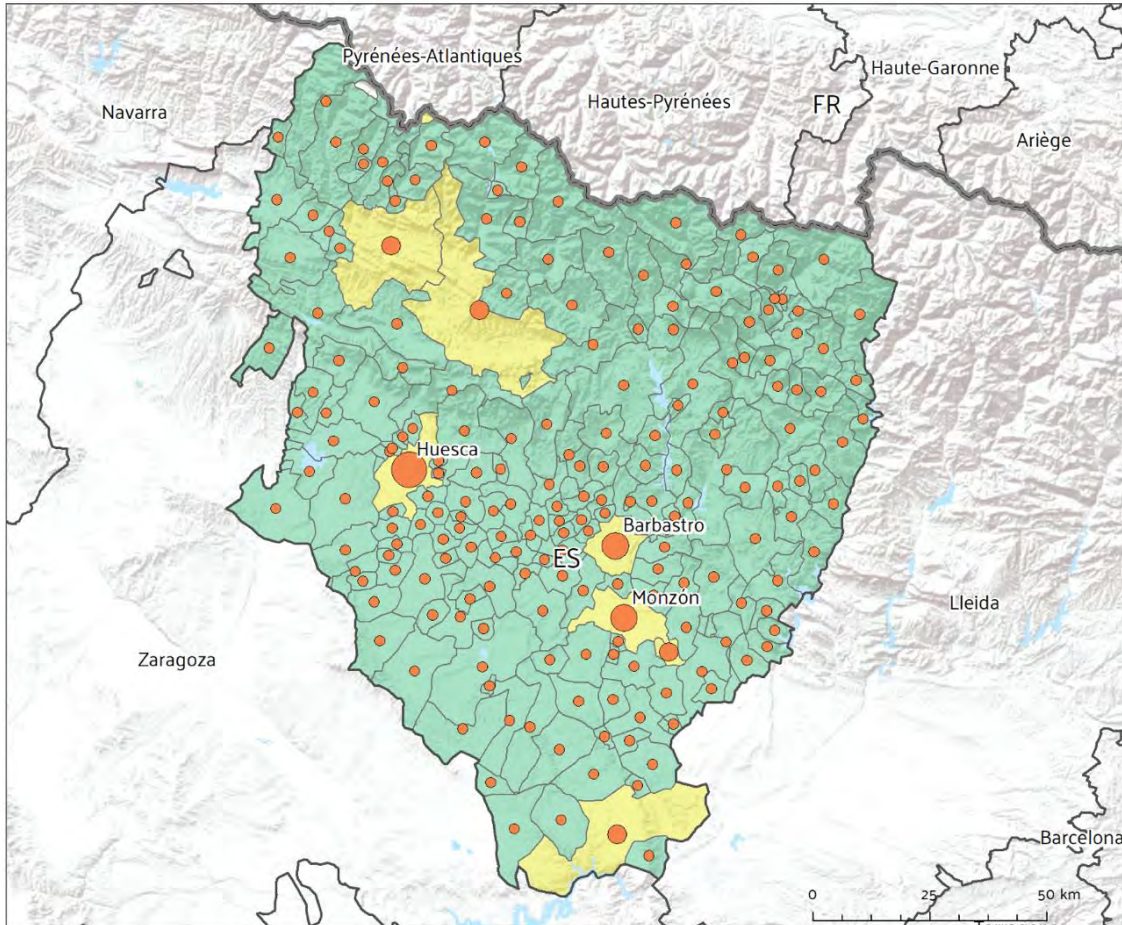
Sources: Terrain: Esri, USGS, NOAA. Water bodies: Eurogeographics, EuropeGlobalMap v.9, Country and NUTS 3 boundaries: Eurostat/ GISCO 2016. Population and Degree of urbanisation: Eurostat 2019/ GISCO - Geographical Information and maps/Geodata/Reference data/Population Distribution/ Demography/Degree of Urbanisation (DEGURBA).

Cartography: Eurac Research, Laner P., 2020

Map 28. Population distribution and accessibility of hospitals in Innlandet



Map 29. Huesca



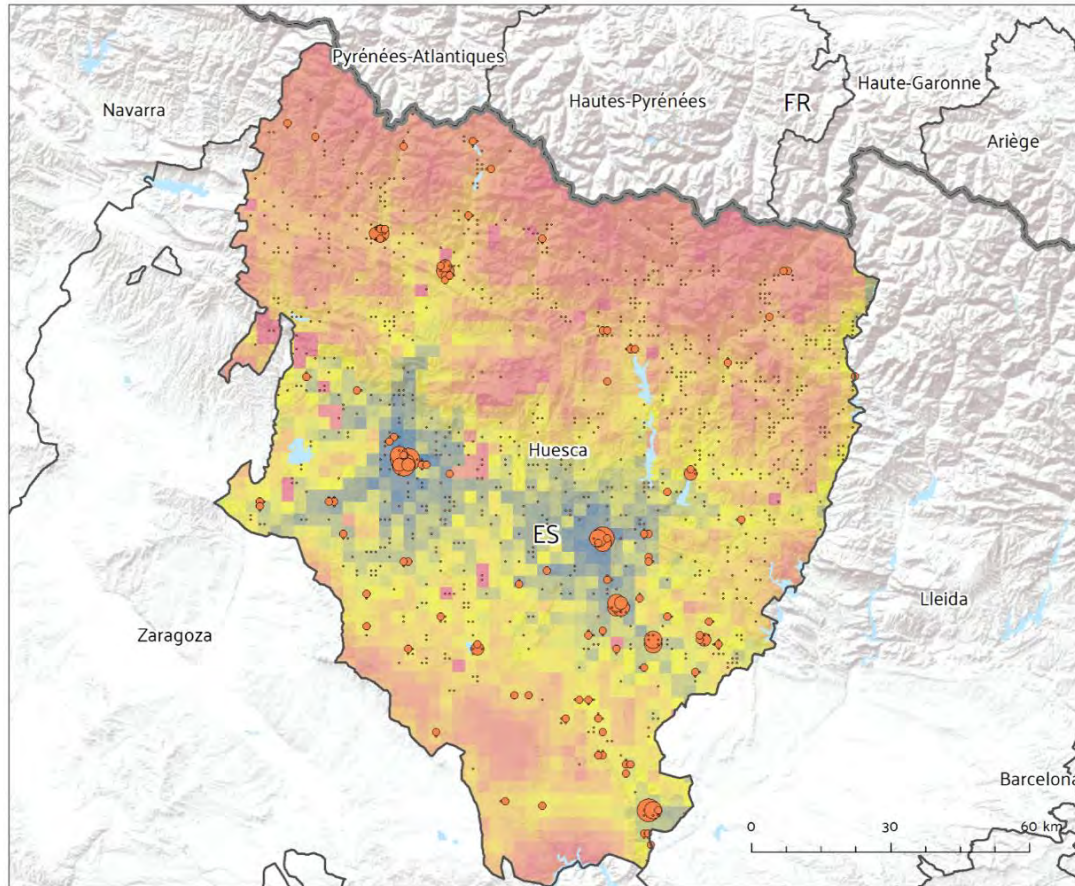
Huesca

Population (inhabitants)	Degree of Urbanisation 2018	Legend
<ul style="list-style-type: none"> ● 0 - 5.000 ● 5.001 - 15.000 ● 15.001 - 40.000 ● 40.001 - 130.000 ● 130.001 - 882.523 	<ul style="list-style-type: none"> Cities (Densely populated areas: at least 50 % of the population lives in urban centres) Towns and suburbs (Intermediate density areas: less than 50 % of the population lives in rural areas and cities) Rural areas (Thinly populated areas: more than 50 % of the population lives in rural areas) 	<ul style="list-style-type: none"> National boundaries NUTS 3 boundaries Lakes Other MATILDE Regions

Sources: Terrain: Esri, USGS, NOAA. Lakes: Eurogeographics, EuropeGlobalMap v.9, Country and NUTS 3 boundaries: Eurostat/ GISCO 2016. Population and Degree of urbanisation: Eurostat 2019/ GISCO - Geographical Information and maps/Geodata/Reference data/Population Distribution/ Demography/Degree of Urbanisation (DEGURBA).

Cartography: Eurac Research, Laner P., 2020

Map 30. Population distribution and accessibility of hospitals in Huesca



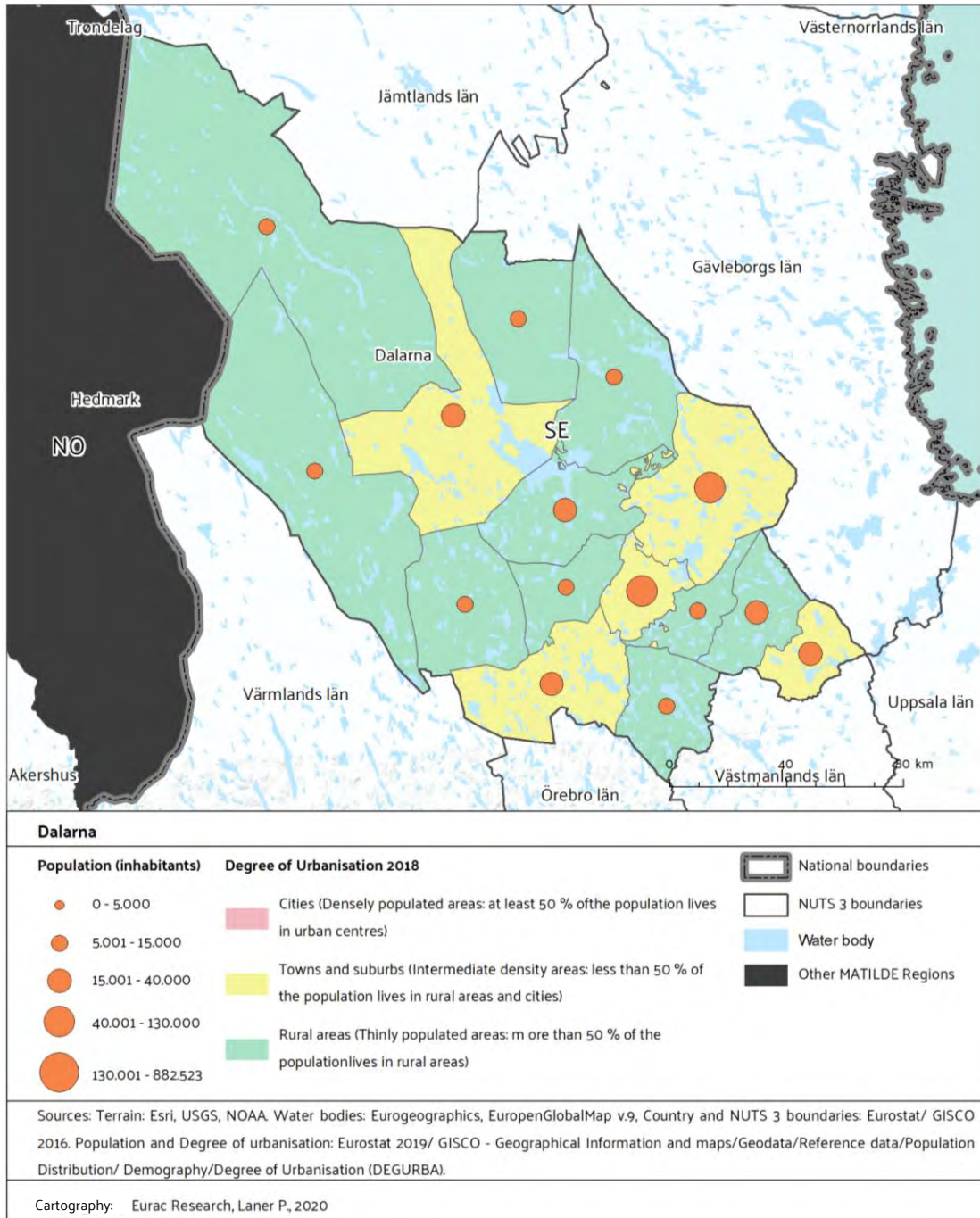
Huesca		
Travel time by car to closest hospital 2016		
0,5 - 5,0	20,1 - 22,5	45,1 - 50,0
5,1 - 7,5	22,6 - 25,0	50,1 - 55,0
7,6 - 10,0	25,1 - 27,5	55,1 - 60,0
10,1 - 12,5	27,6 - 30,0	60,1 - 70,0
12,6 - 15,0	30,1 - 35,0	70,1 - 90,0
15,1 - 17,5	35,1 - 40,0	90,1 - 120,0
17,6 - 20,0	40,1 - 45,0	120,1 - 528,6
Population (inhabitants)		
-	1 - 300	301 - 1.500
•	1.501 - 3.000	3.001 - 7.000
•	>7.000	
	□ National boundaries	□ NUTS 3 boundaries
	□ Lakes	□ Other MATILDE Regions

Sources: Terrain: Esri, USGS, NOAA. Lakes: Eurogeographics, EuropeGlobalMap v.9, Country and NUTS 3 boundaries: Eurostat/ GISCO 2016. Data source population grid information (GEOSTAT 2011): Eurostat, European Forum for Geography and Statistics (EFGS); Contains data under the Norwegian licence for Open Government data (NL0D) and from Statistics Finland distributed by Eurostat. Travel times: © ESPON PROFECY, Origin of data: ESPON EGTC.

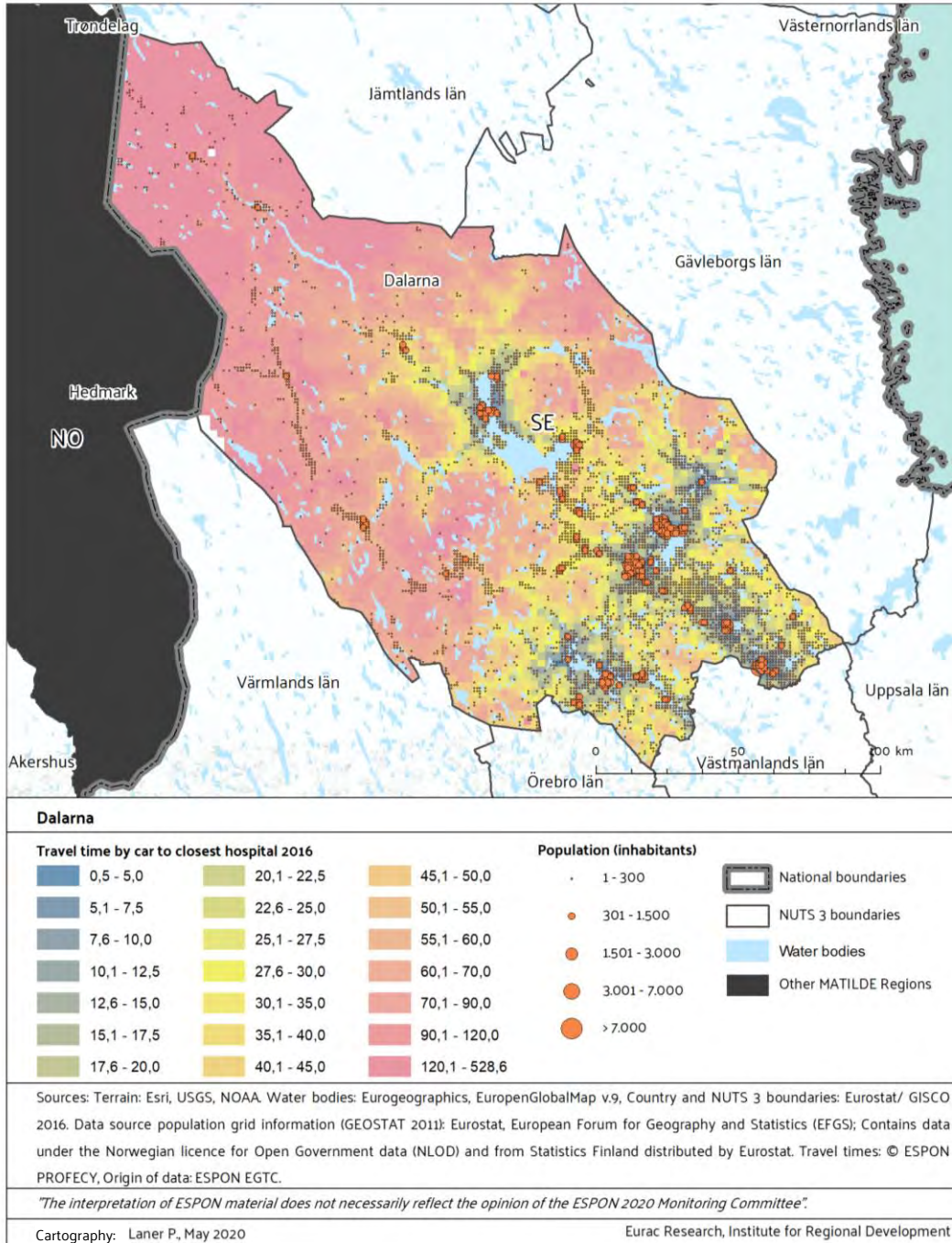
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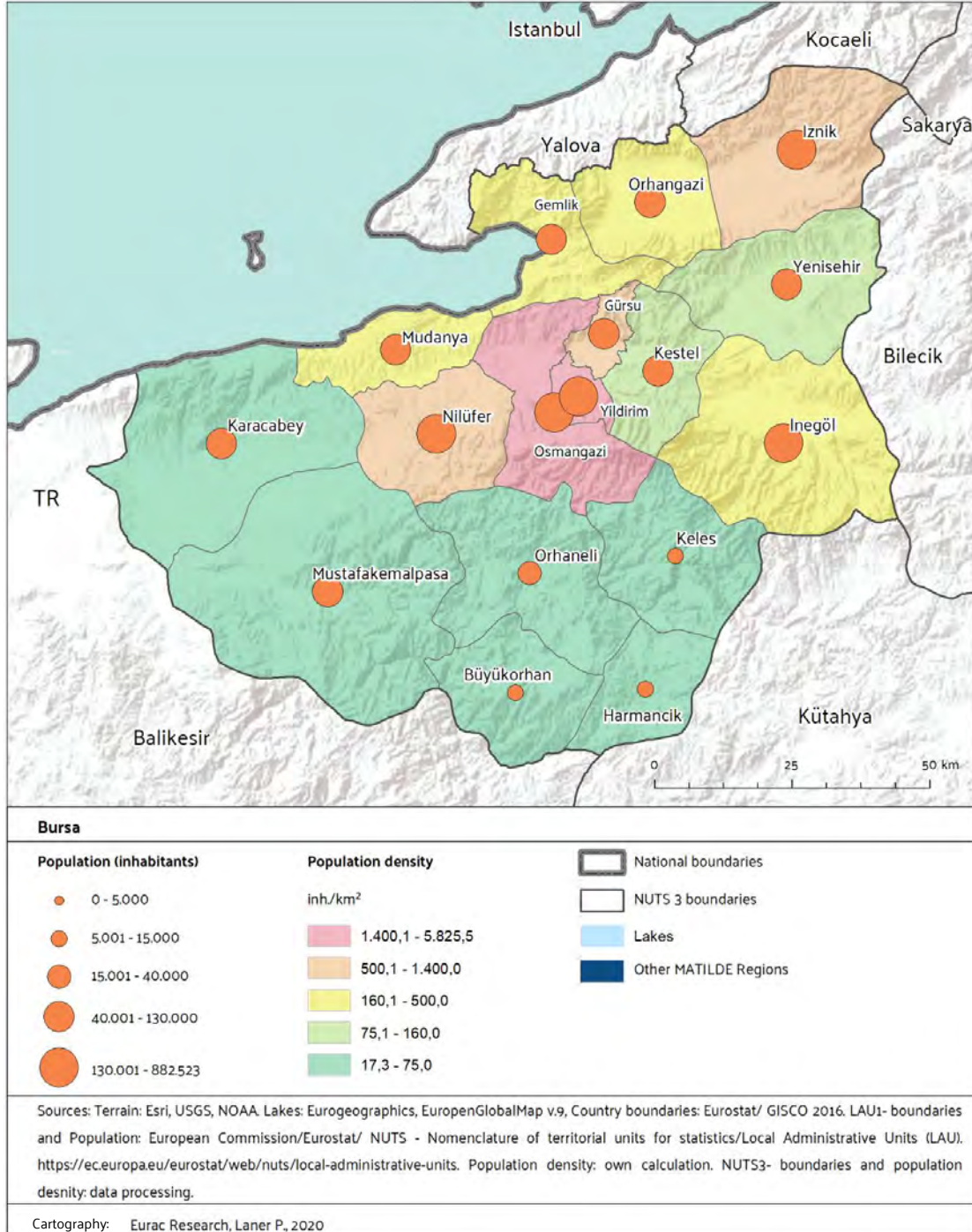
Map 31. Dalarna



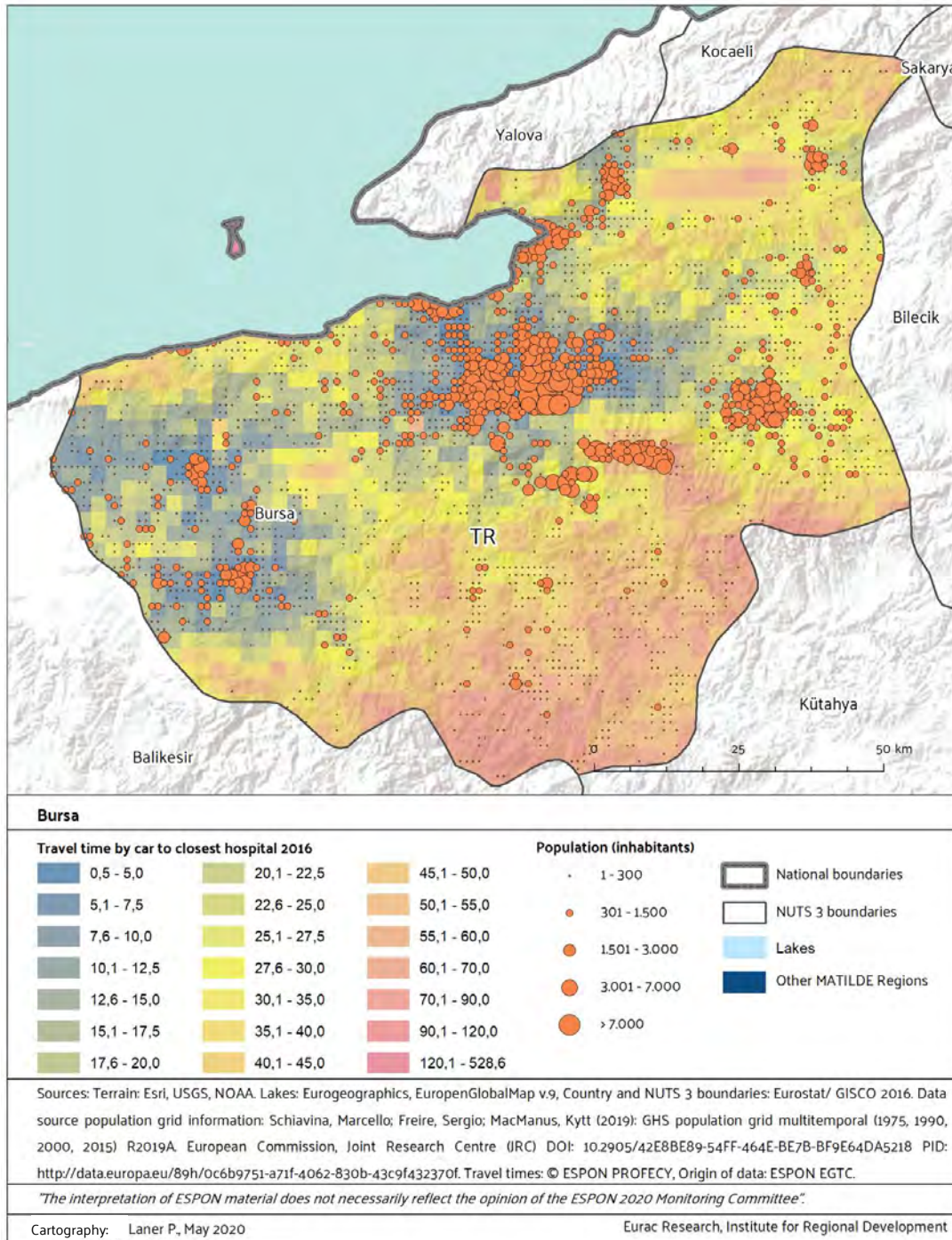
Map 32. Population distribution and accessibility of hospitals in Dalarna



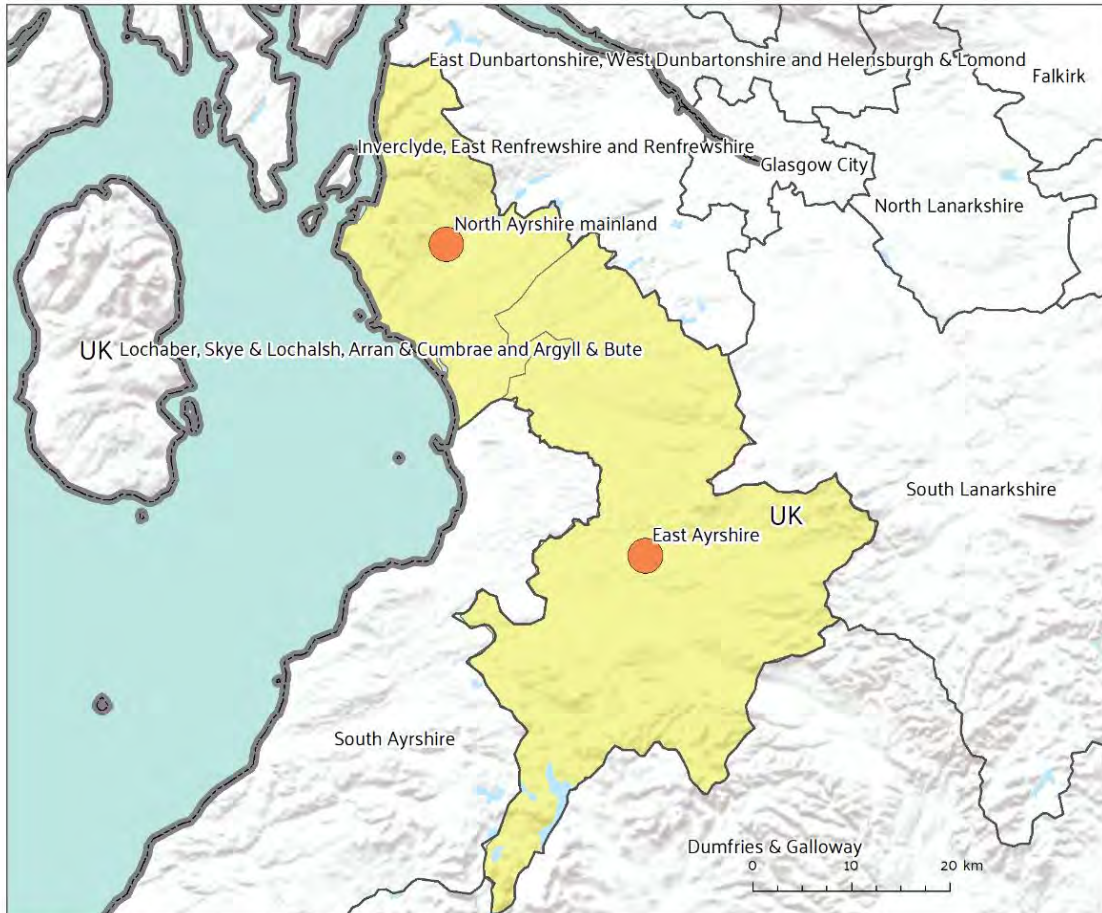
Map 33. Bursa region







Map 34. Population distribution and accessibility of hospitals in Bursa



Map 35. East Ayrshire and North Ayrshire mainland



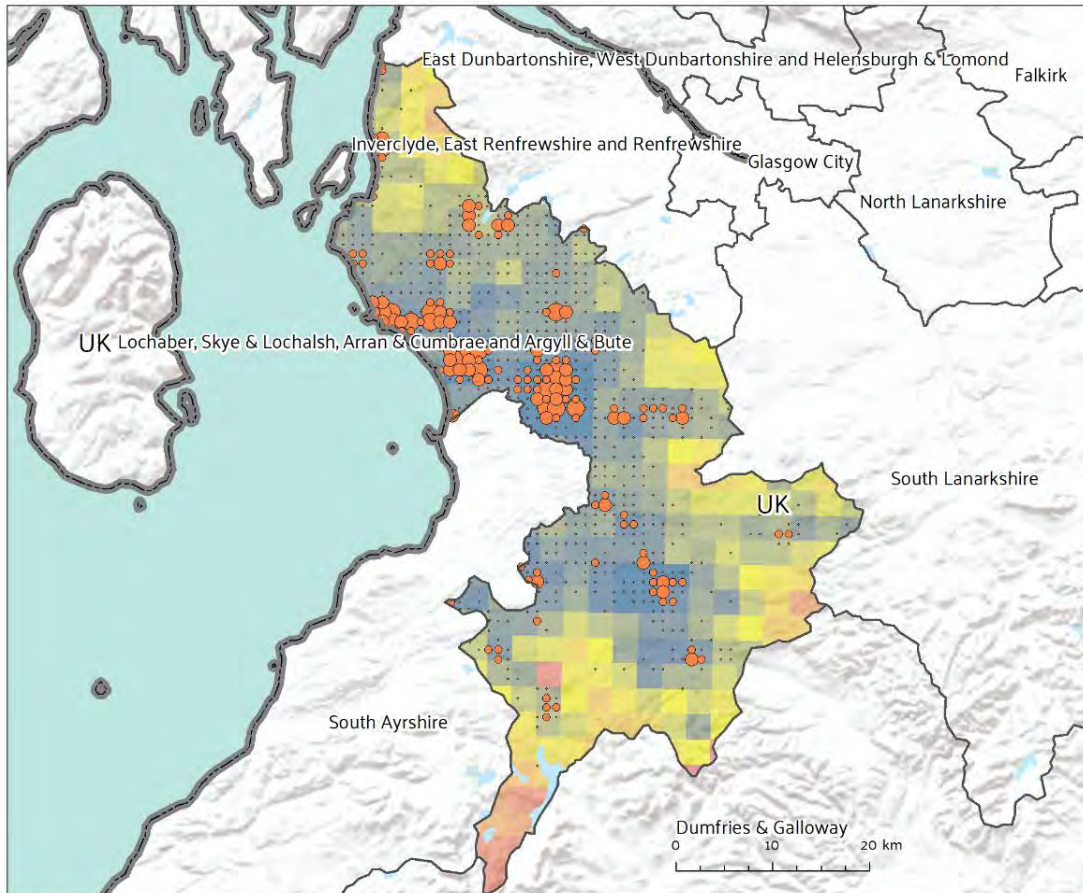
East Ayrshire and North Ayrshire mainland

Population (inhabitants)	Degree of Urbanisation 2018	
0 - 5,000	Cities (Densely populated areas: at least 50 % of the population lives in urban centres)	 National boundaries
5,001 - 15,000	Towns and suburbs (Intermediate density areas: less than 50 % of the population lives in rural areas and cities)	 NUTS 3 boundaries
15,001 - 40,000	Rural areas (Thinly populated areas: more than 50 % of the population lives in rural areas)	 Water body
40,001 - 130,000		 Other MATILDE Regions
130,001 - 882,523		

Sources: Terrain: Esri, USGS, NOAA. Water bodies: Eurogeographics, EuropeGlobalMap v.9, Country and NUTS 3 boundaries: Eurostat/ GISCO 2016. Population and Degree of urbanisation: Eurostat 2019/ GISCO - Geographical Information and maps/Geodata/Reference data/Population Distribution/ Demography/Degree of Urbanisation (DEGURBA).

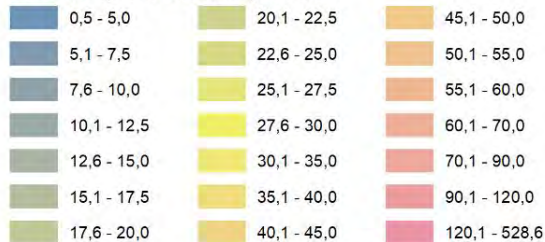
Cartography: Eurac Research, Laner P., 2020

Map 36. Population distribution and accessibility of hospitals in East Ayrshire and North Ayrshire mainland

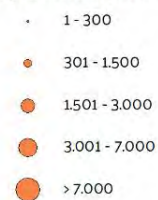


East Ayrshire and North Ayrshire mainland

Travel time by car to closest hospital 2016



Population (inhabitants)



Sources: Terrain: Esri, USGS, NOAA. Water bodies: Eurogeographics, EuropeGlobalMap v.9, Country and NUTS 3 boundaries: Eurostat/ GISCO 2016. Data source population grid information (GEOSTAT 2011): Eurostat, European Forum for Geography and Statistics (EFGS); Contains data under the Norwegian licence for Open Government data (NL0D) and from Statistics Finland distributed by Eurostat. Travel times: © ESPON PROFECY, Origin of data: ESPON EGTC.

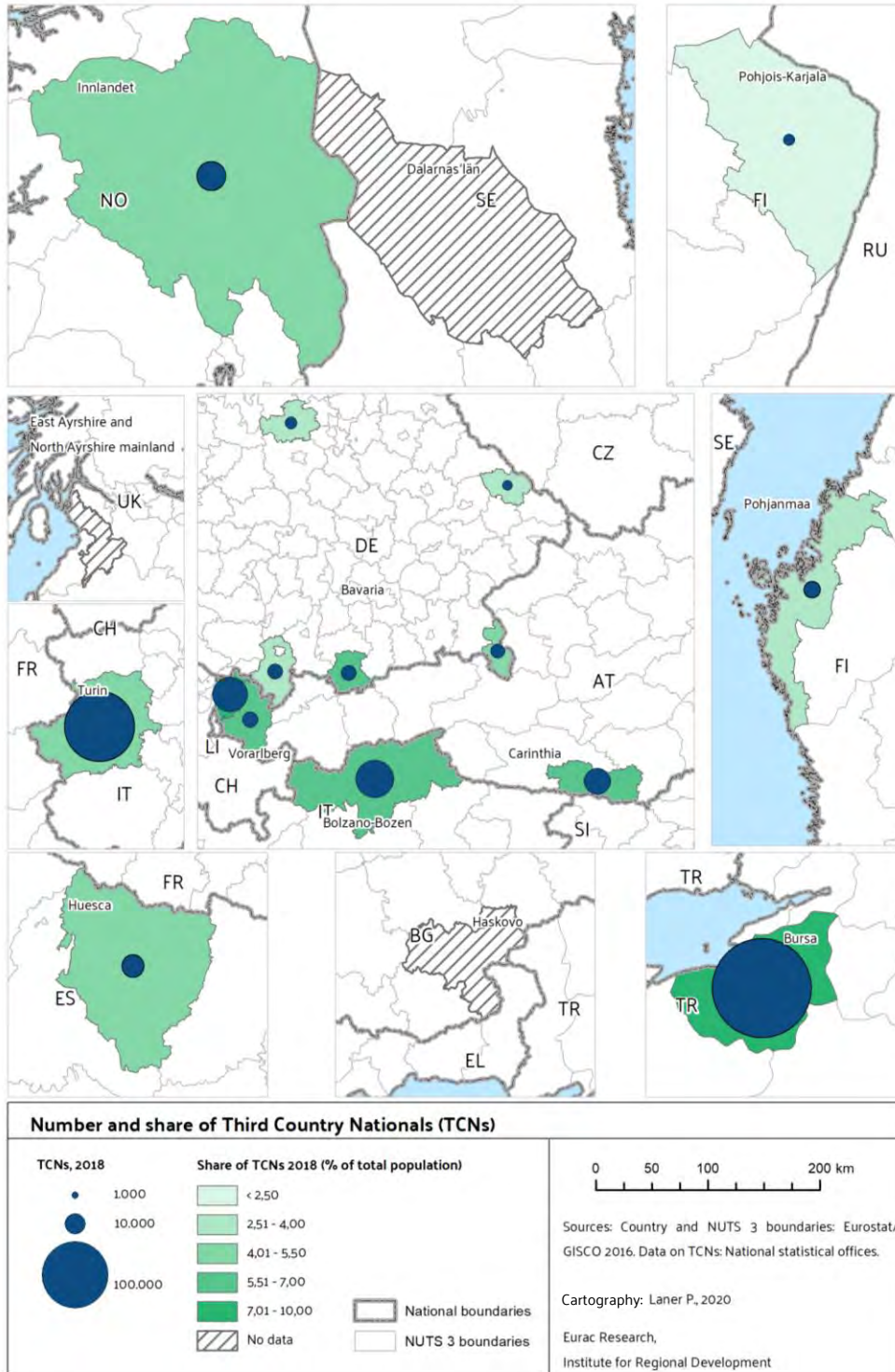
"The interpretation of ESPON material does not necessarily reflect the opinion of the ESPON 2020 Monitoring Committee".

Cartography: Laner P., May 2020

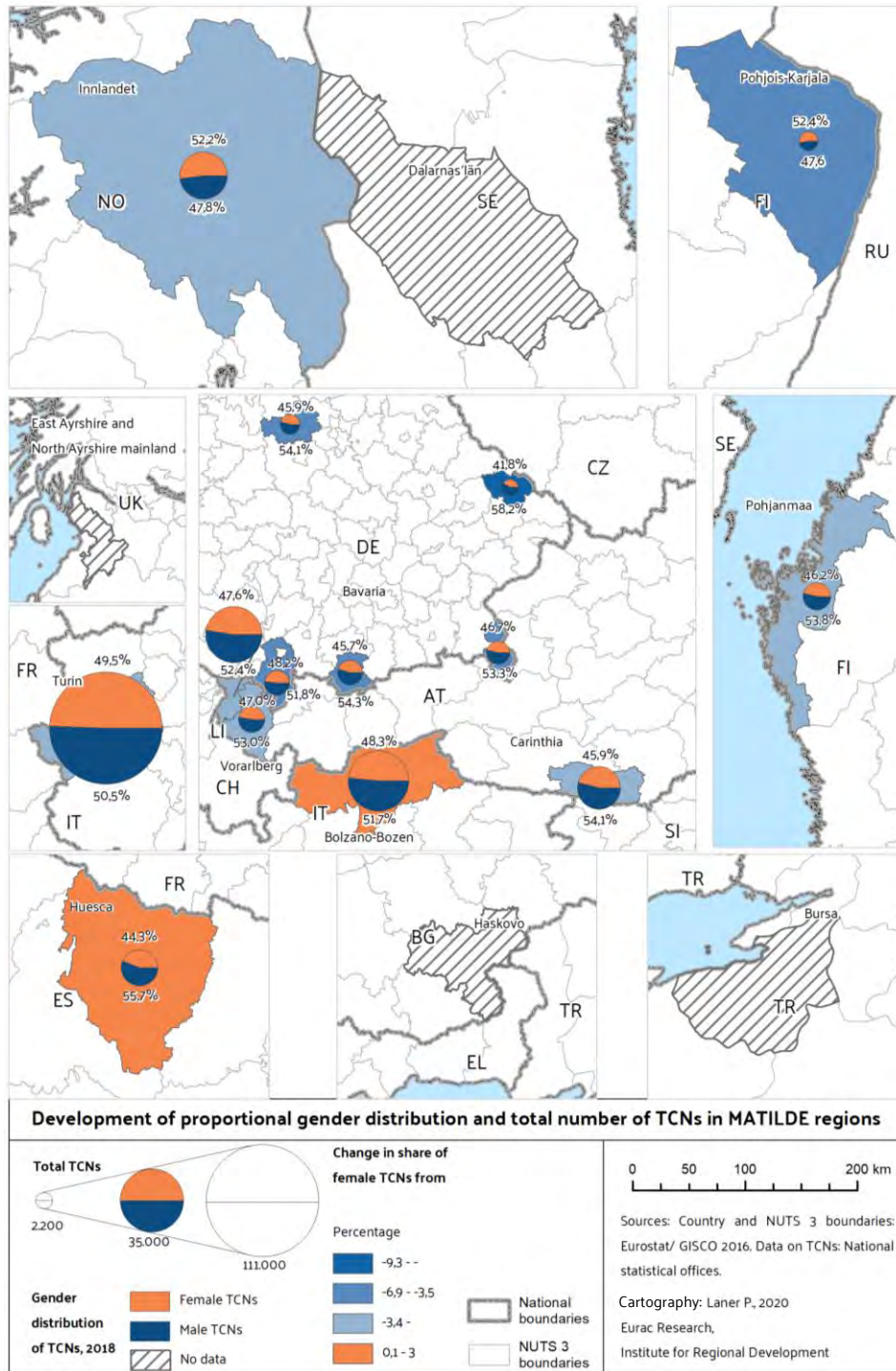
Eurac Research, Institute for Regional Development

SECTION C – COMPARATIVE MAPS

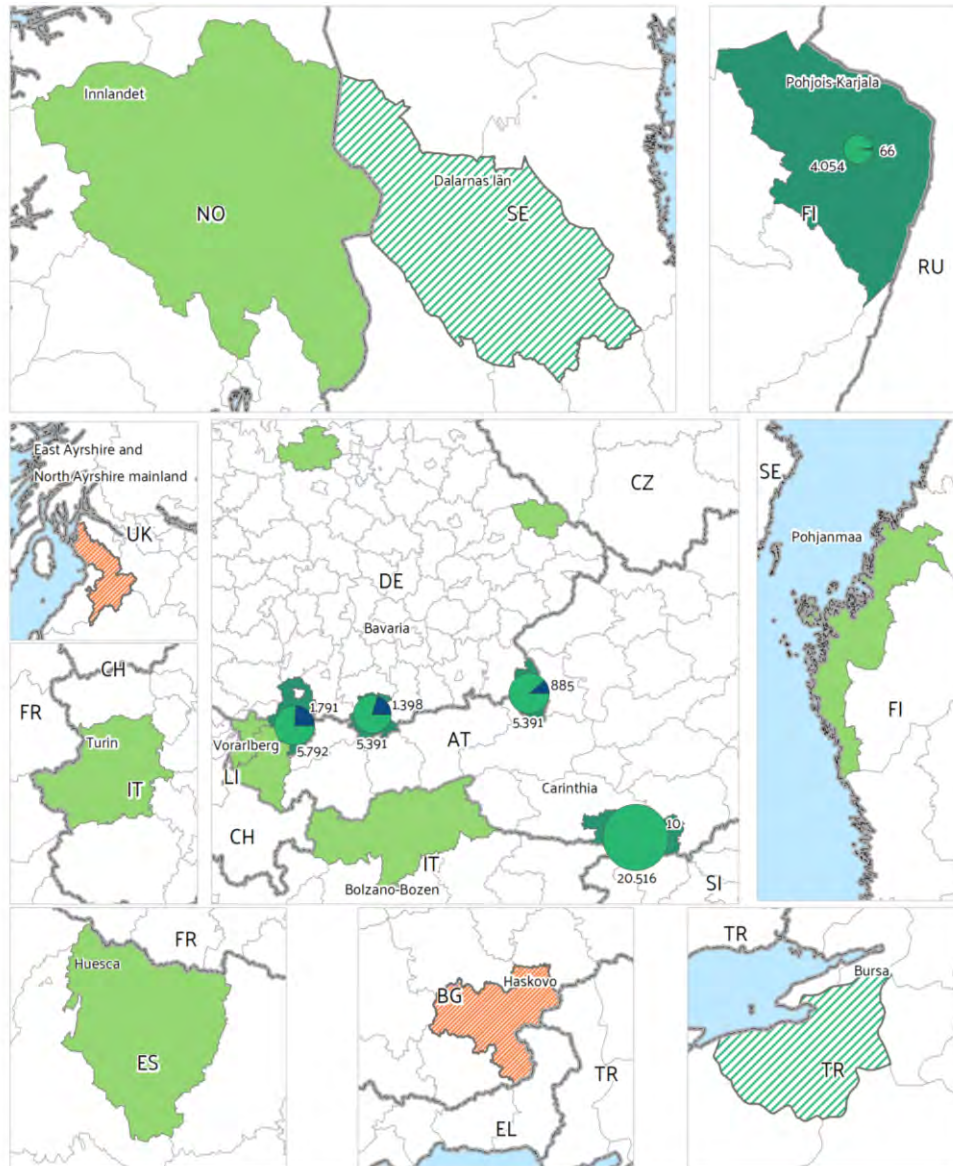
Map 37. Number and share of TCNs in 2018 in MATILDE regions




Map 38. Development of proportional gender distribution and total number of TCNs in MATILDE regions



Map 39. Population development through migration, 2008-2017 in MATILDE regions



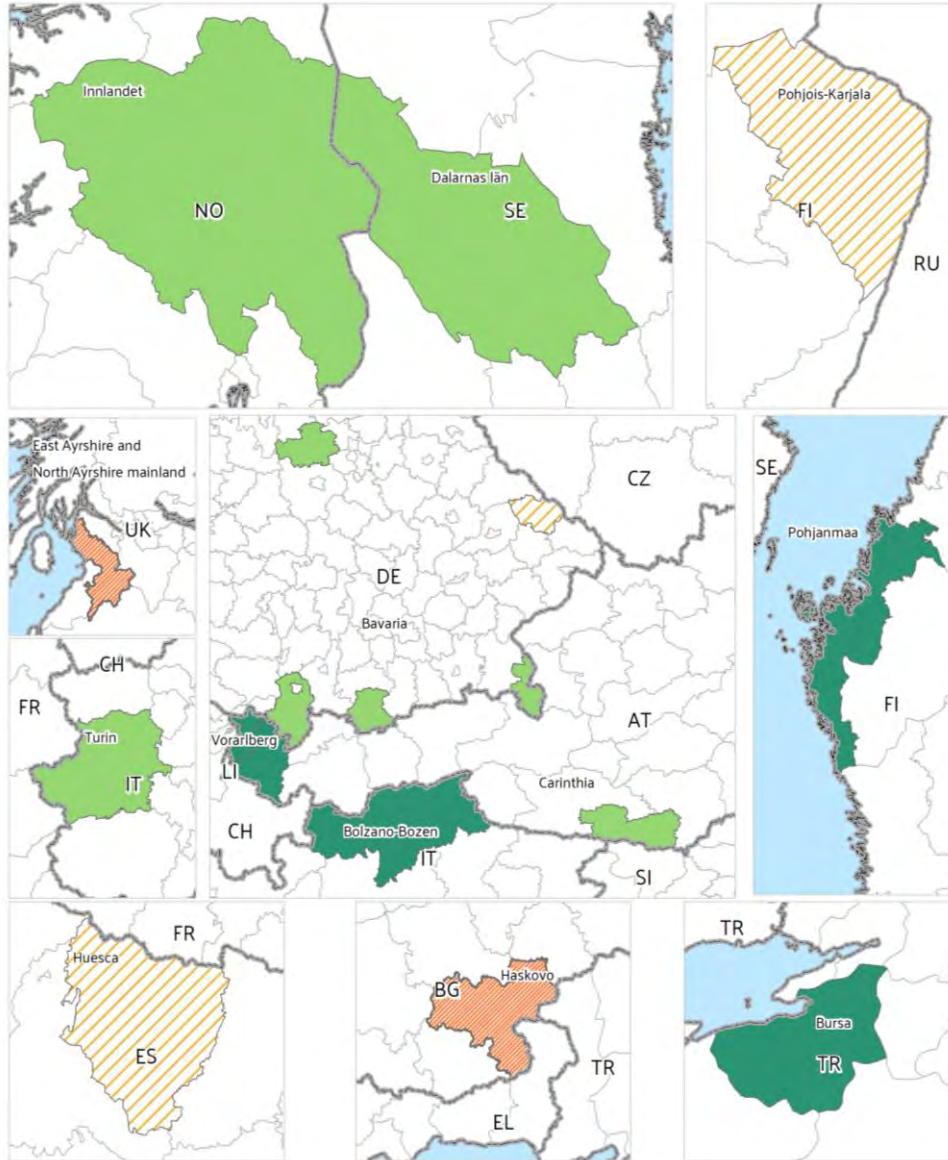
Population development through migration, 2008-2017 in MATILDE regions

	Nationals	Foreigners	Total
Type A Growth through migration gains Cumulative migration balance, 2008-2017 (Inhabitants) 	+	+	+
Type B Growth: Migration gains by foreigners outweigh national migration gains	-	+	+
Type C Growing region, no data for Typology	n.d.	n.d.	+
Type D Shrinkage through migration losses	-	-	-

0 50 100 200 km

Sources: Country and NUTS 3 boundaries: Eurostat/GISCO 2016. Migration data: National statistical offices; © Eurostat, Population change-Demographic balance and crude rates at regional level (NUTS 3), demo_r_gind3.
 * Estimated data for Vorarlberg
 Cartography: Laner P, 2020
 Eurac Research, Institute for Regional Development

Map 40. Population development, 2008-2018 in MATILDE regions



Population development, 2008-2018 in MATILDE regions

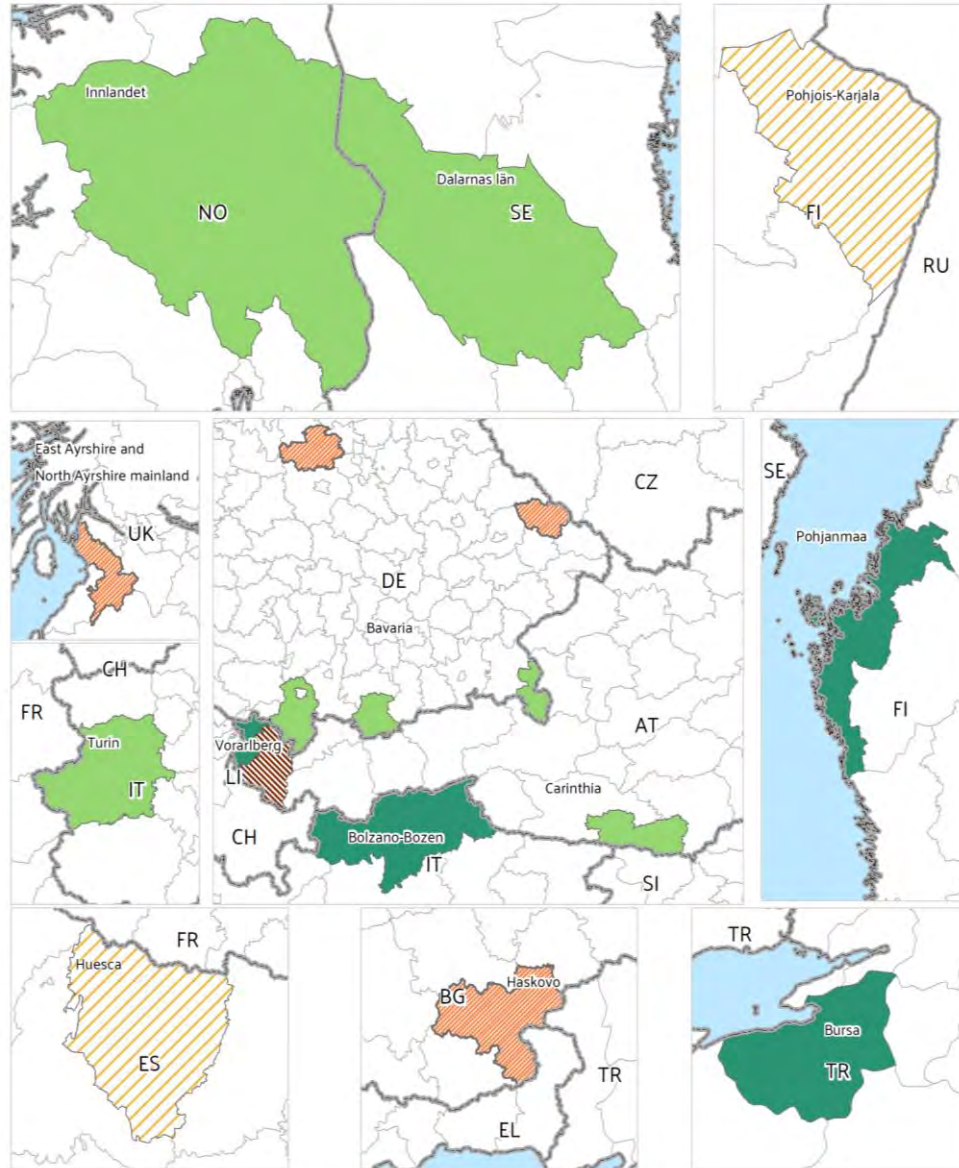
	Natural change	Net migration	Total pop. change
Type 1 Growth through migration gains and birth surpluses	+	+	
Type 2 Growth: Migration gains exceed death surpluses	-	+	
Type 3 Decrease: Mortality surplus absorbs migration gains	-	+	
Type 4 Migration losses absorb birth surplus	+	-	
Type 5 Shrinkage through migration losses and death surpluses	-	-	

0 50 100 200 km











Sources: Country and NUTS 3 boundaries: Eurostat/GISCO 2016.
Population data: © Eurostat, Population change-Demographic balance and crude rates at regional level (NUTS 3), demo_r_gind3. Data for Bursa 2008 estimated. Data for UK completed with data from national statistical offices.

Cartography: Laner P., 2020
Eurac Research, Institute for Regional Development

Map 41. Population development, 2008-2012 in MATILDE regions



Population development, 2008-2012 in MATILDE regions

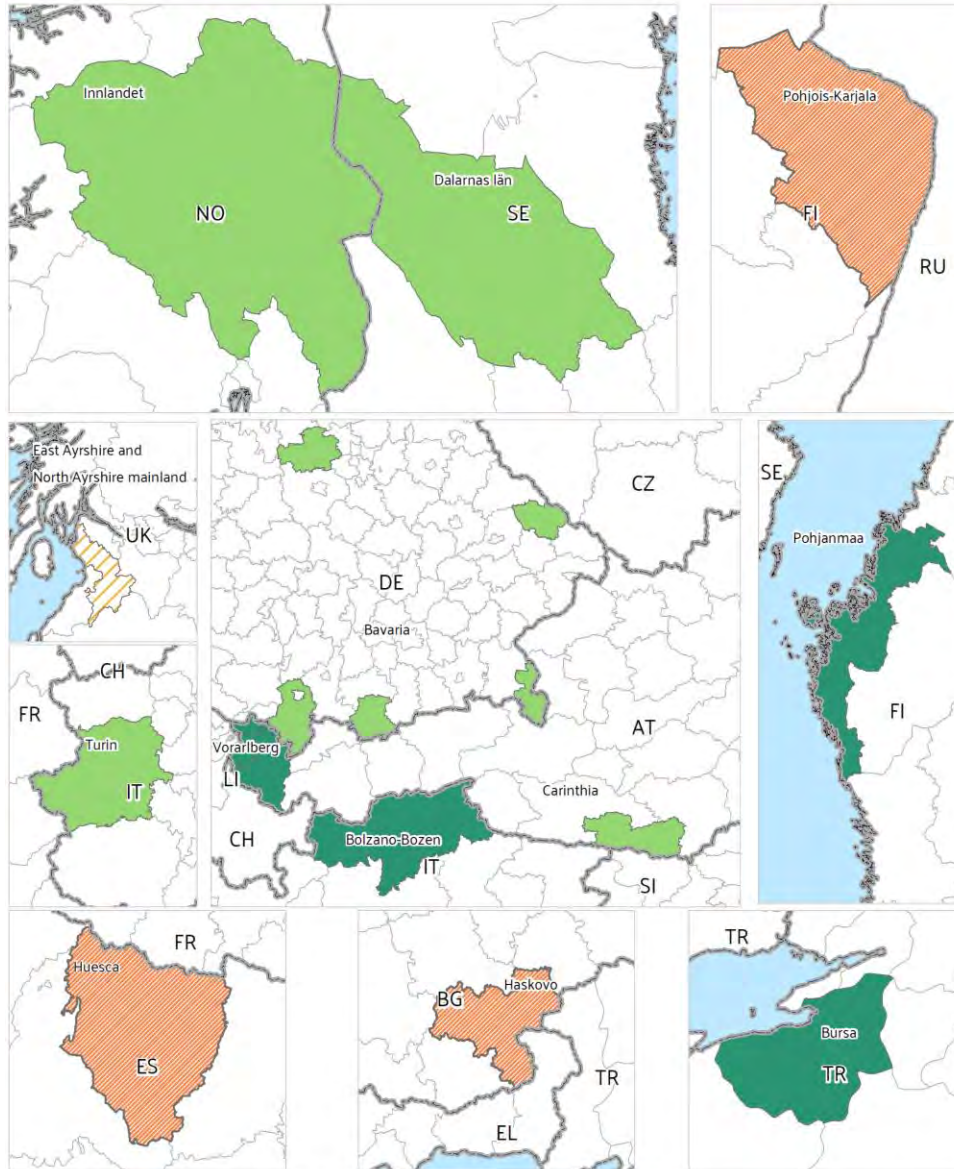
	Natural change	Net migration	Total pop. change
 Type 1 Growth through migration gains and birth surpluses	+	+	
 Type 2 Growth: Migration gains exceed death surpluses	-	+	
 Type 3 Decrease: Mortality surplus absorbs migration gains	-	+	
 Type 4 Migration losses absorb birth surplus	+	-	
 Type 5 Shrinkage through migration losses and death surpluses	-	-	

0 50 100 200 km

Sources: Country and NUTS 3 boundaries: Eurostat/GISCO 2016.
Population data: © Eurostat, Population change-Demographic balance and crude rates at regional level (NUTS 3), demo_r_gind3. Data for Bursa 2008 estimated. Data for UK completed with data from national statistical offices.

Cartography: Laner P., 2020
Eurac Research, Institute for Regional Development

Map 42. Population development, 2013-2018 in MATILDE regions



Population development, 2013-2018 in MATILDE regions

Type	Description	Natural change	Net migration	Total pop. change
Type 1	Growth through migration gains and birth surpluses	+	+	+
Type 2	Growth: Migration gains exceed death surpluses	-	+	+
Type 3	Decrease: Mortality surplus absorbs migration gains	-	+	-
Type 4	Migration losses absorb birth surplus	+	-	-
Type 5	Shrinkage through migration losses and death surpluses	-	-	-

0 50 100 200 km

Sources: Country and NUTS 3 boundaries: Eurostat/GISCO 2016.
Population data: © Eurostat, Population change-Demographic balance and crude rates at regional level (NUTS 3), demo_r_gind3. Data for Bursa 2008 estimated. Data for UK completed with data from national statistical offices.

Cartography: Laner P., 2020
Eurac Research, Institute for Regional Development

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