Developing a global, people-based definition of cities and settlements for statistics

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Regional & Urban Policy

Overview

- *Stakeholders*
- *Why do we need a global definition?*
- *Proposed solution*
- *Results from testing and benchmarking*
- *Outlook*

Who committed to develop a global definition?

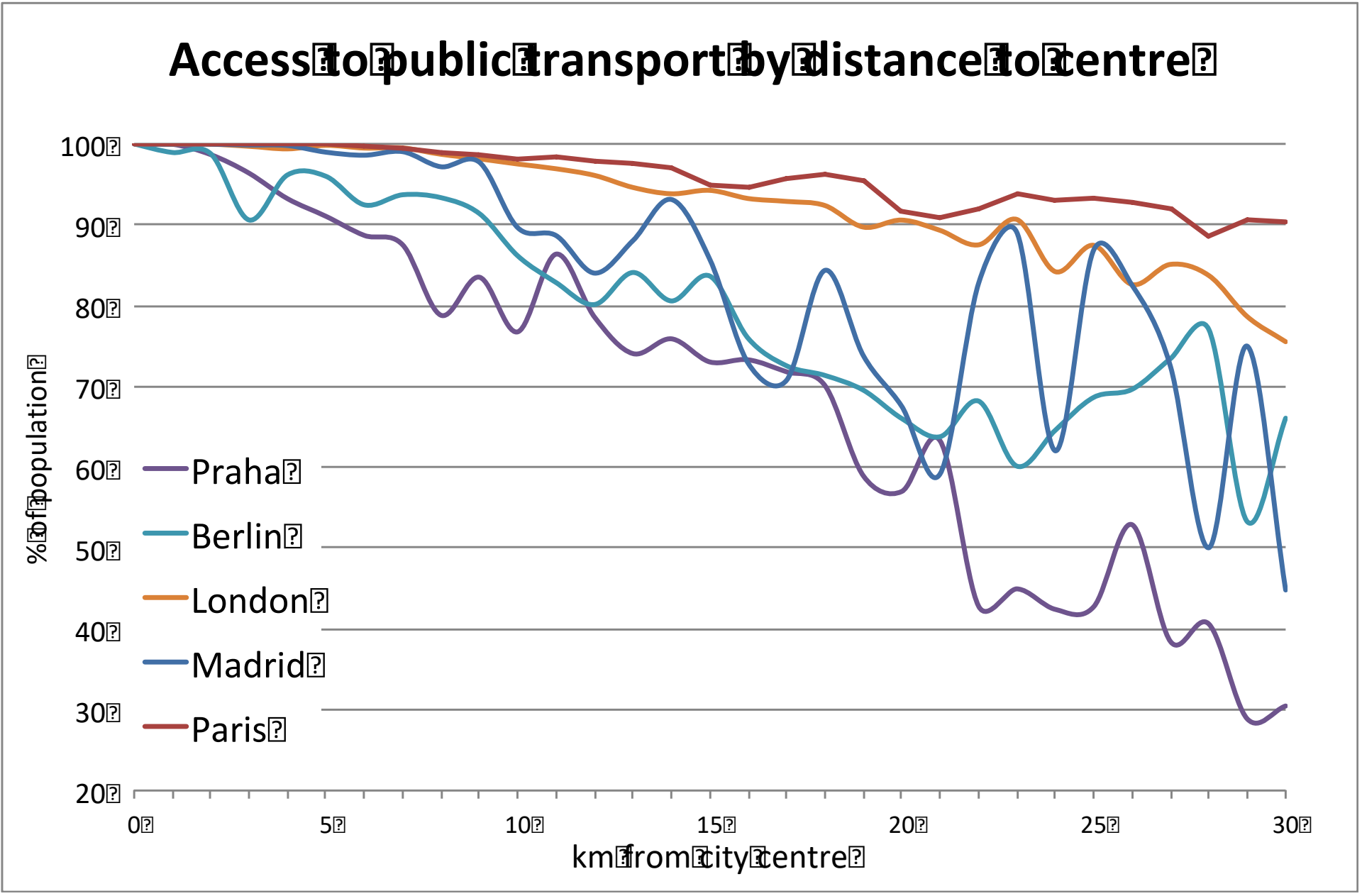
- *The European Union together with the OECD and the World Bank launched this commitment during Habitat III in Quito in 2016*
- *FAO has joined this commitment in 2017*
- *UN-Habitat has joined this commitment in 2018*
- ***Goal:** Have this definition approved for international statistical comparisons and SDG measurement by the UN Statistical Commission in 20202*
- *This will NOT replace national definitions.*
- *This definition will only be used for statistics*

Why is this needed?

- *The sustainable development goals include many indicators that should be measured in rural areas, urban areas or cities*
- *SDG 11 focusses cities*
- *Many of these indicators are highly sensitive to where the boundary is drawn.*
- *National definitions are too different to use for international comparisons*

SDG City goals but no city definition

	City Centre	Edge of the city
Open Space	Low	High
Air pollution	High	Low
Access to transport	High	Low
Built-up area per head	Low	High
Population change	Low (neg)	High
Built-up change	Low	High


Access to public transport by distance to centre
100
90
80
70
60
50
40
30
20
% of population
Praha
Berlin
London
Madrid
Paris
0
5
10
15
20
25
30
km from city centre

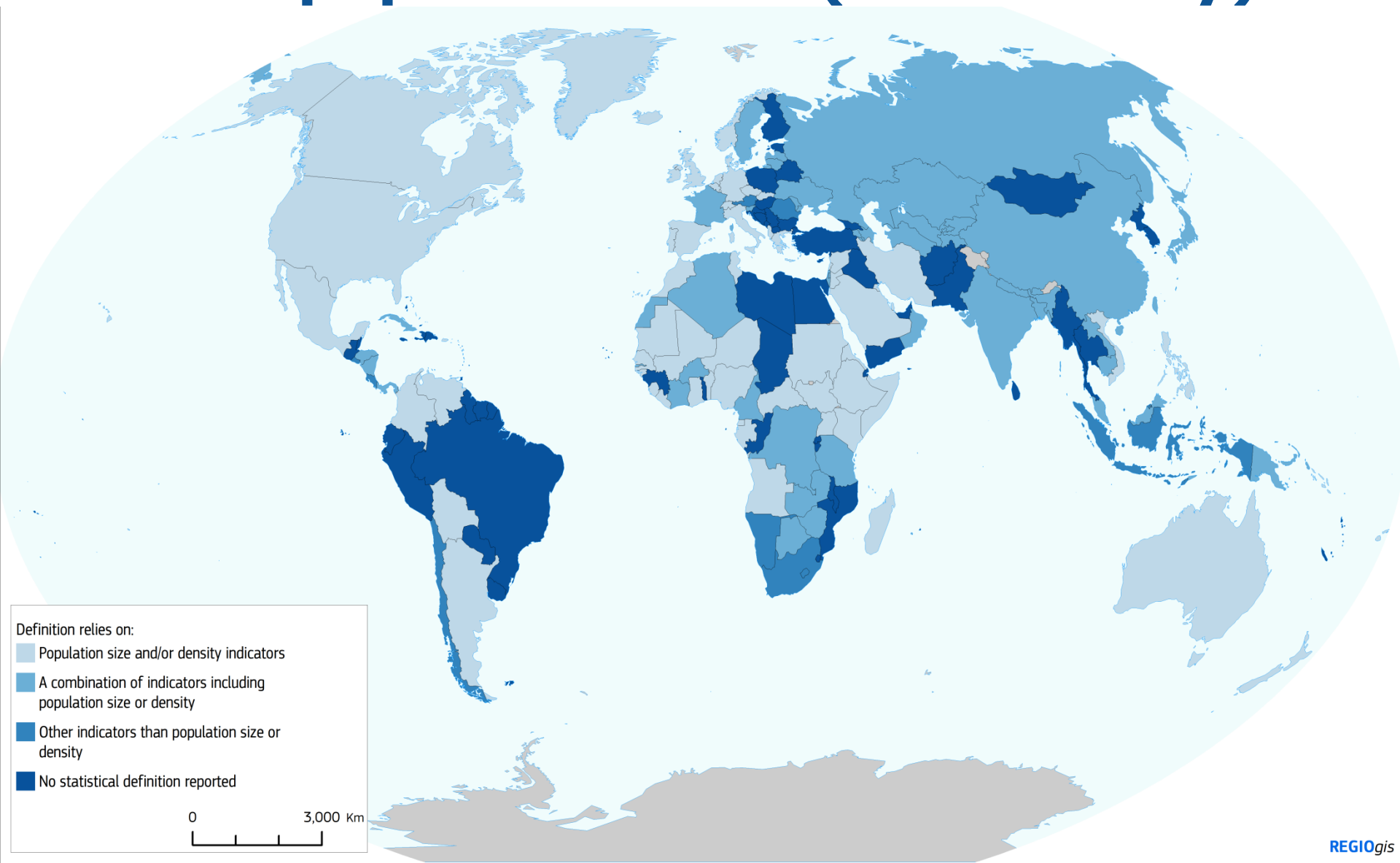

Where does your city stop?

So what's the situation?

National definitions vary and are often not statistical

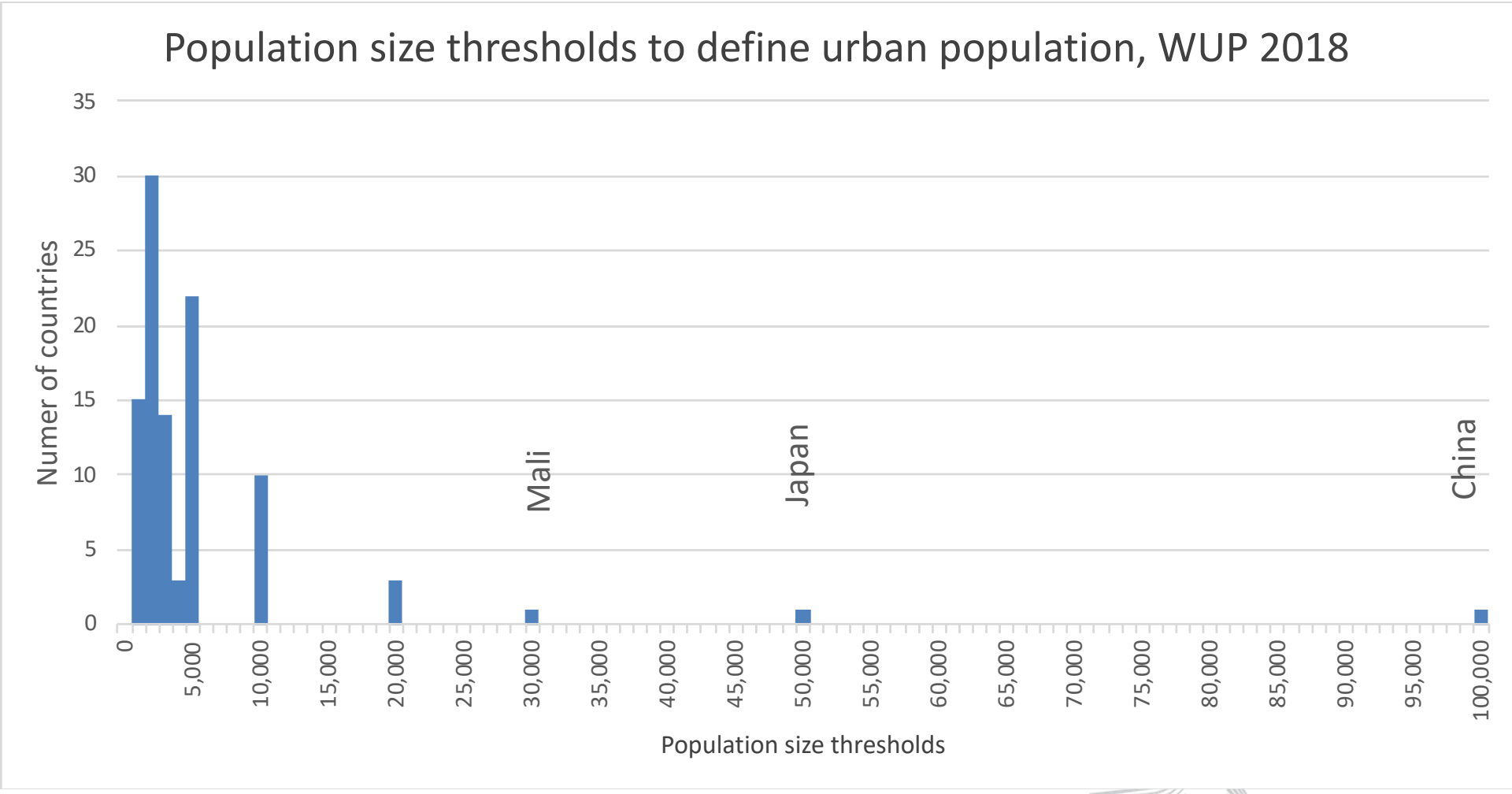
- *75 countries use population size or density, but thresholds and spatial units vary*
- *47 use a combination of population and other indicators*
- *10 use other indicators than population*
- *100 countries use administrative designations, i.e. not a statistical definition that can be replicated in other countries*

Only half the national definitions rely on population size (and density)



REGIOgis

85 countries out of 100 use a minimum population of 5,000 or less



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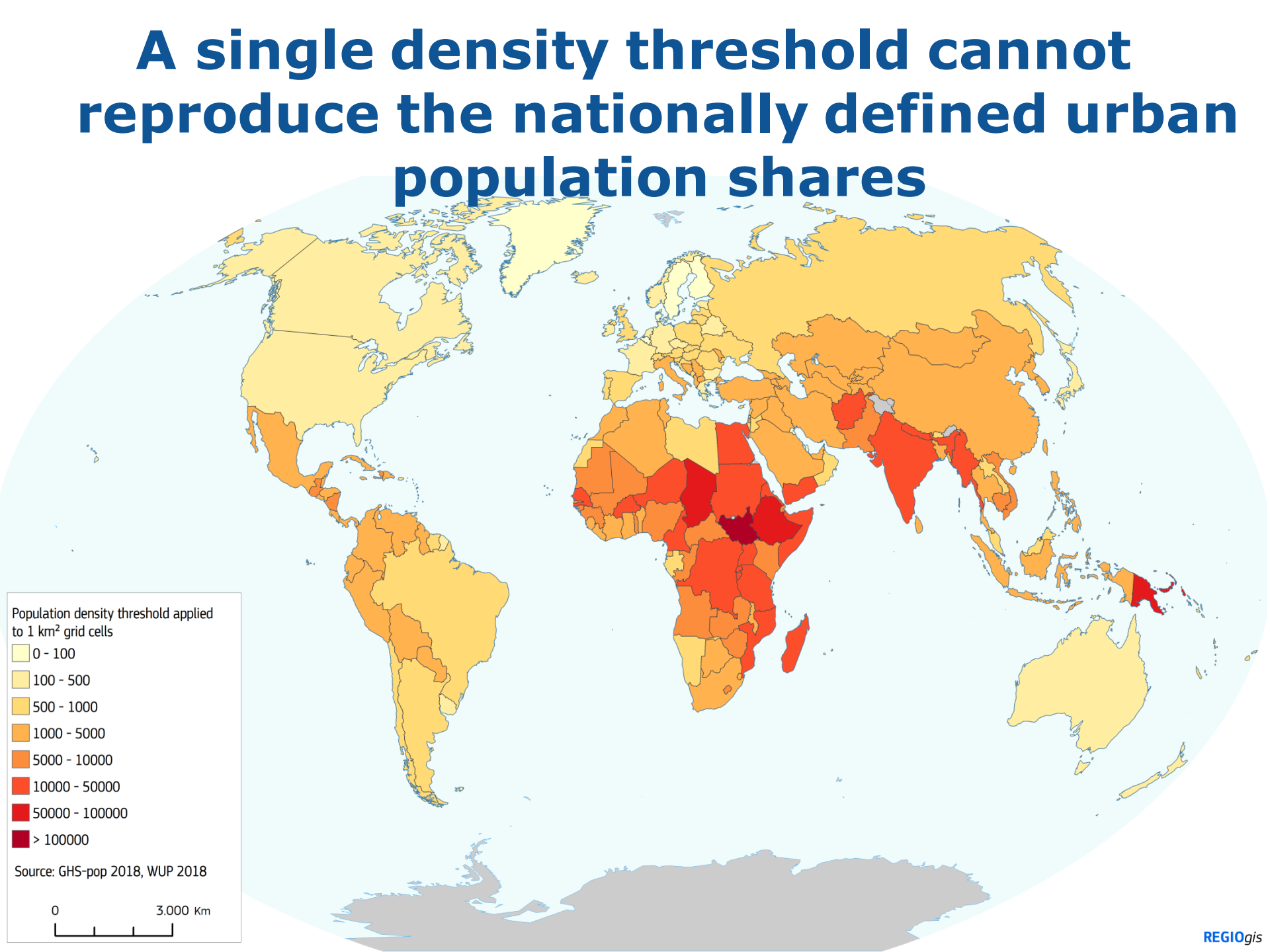
A single density threshold cannot reproduce the nationally defined urban population shares



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What indicators can be used globally to define rural areas?

- *Agricultural employment?* *Varies too much*
- *Infrastructure?* *No harmonised data*
- *Services?* *No harmonised data*
- *Poverty?* *Circular argument:*

  Rural cannot be defined by problems,

  because then no problems = no rural

- *Remoteness* *Can be captured as a separate dimension*

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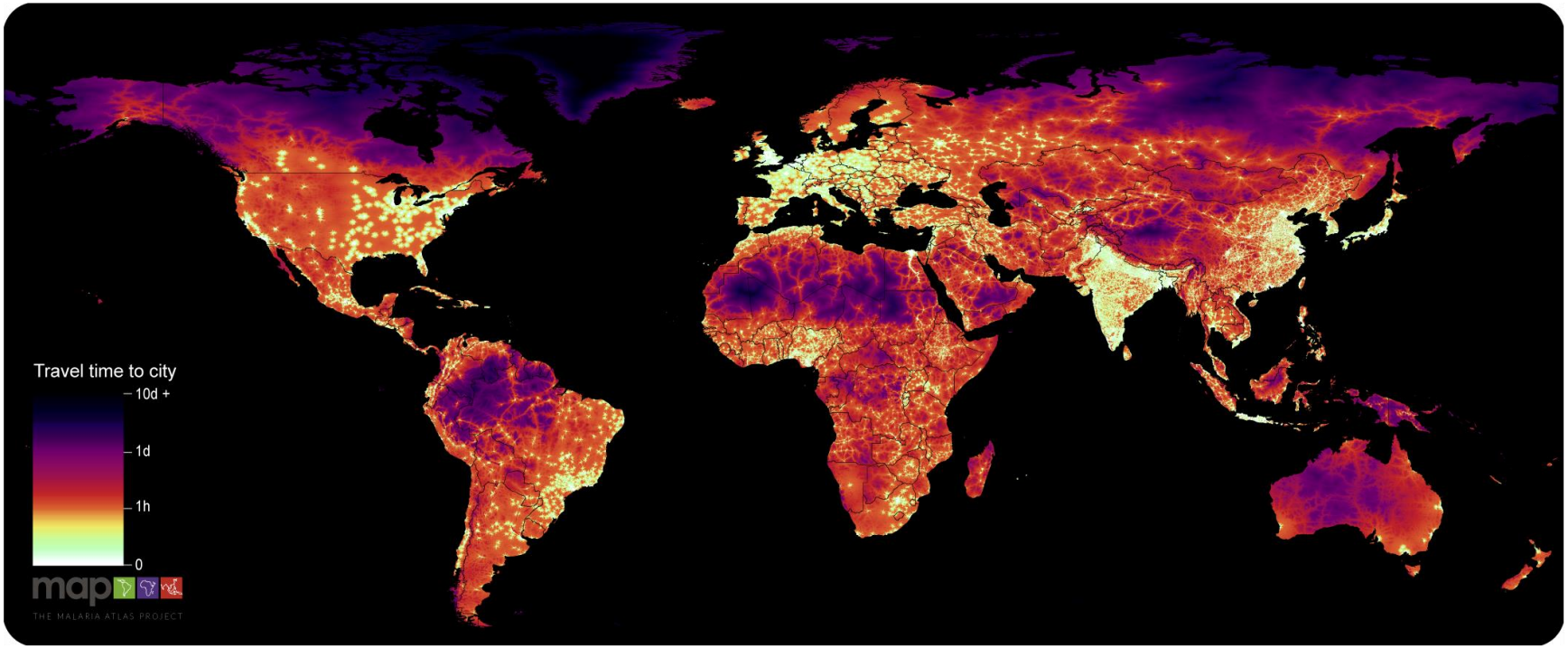
Access to cities - Remoteness



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Urban areas … *lost in translation?*

Big urban areas

- *High Density*
- *Big population*
- *Low shares of agricultural jobs*
- *Specialised services (higher education, hospital, government)*

Small urban areas

- *Medium density*
- *Medium population*
- *Medium share of agricultural jobs*
- *Some services (primary school, doctor)*

So what's the solution?

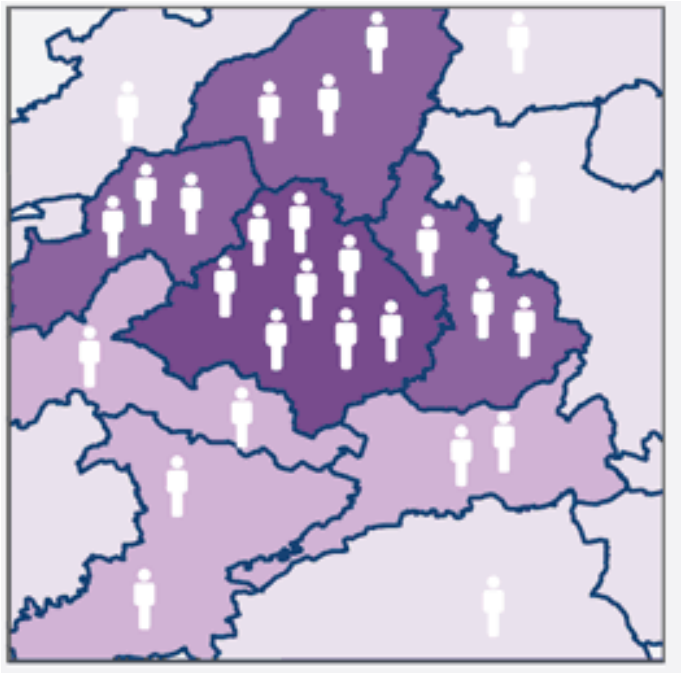
- *People based definition using a neutral geography*

Population grids: an emerging global standard for population statistics

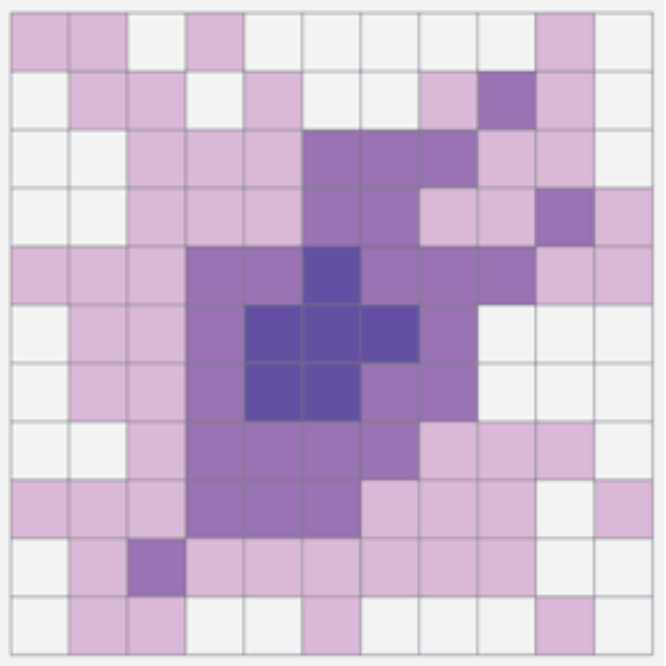
- *Overcomes key obstacle: the variable size and shape of administrative and statistical units*
- *Boundaries are fixed*
- *Consistent and high spatial resolution*
- *Based on geo-coded census*
- *More and more NSIs produce grids: Brazil, Egypt, EU Member States…*

Grid cells: same shape and size and boundaries do not change

Administrative or statistical units



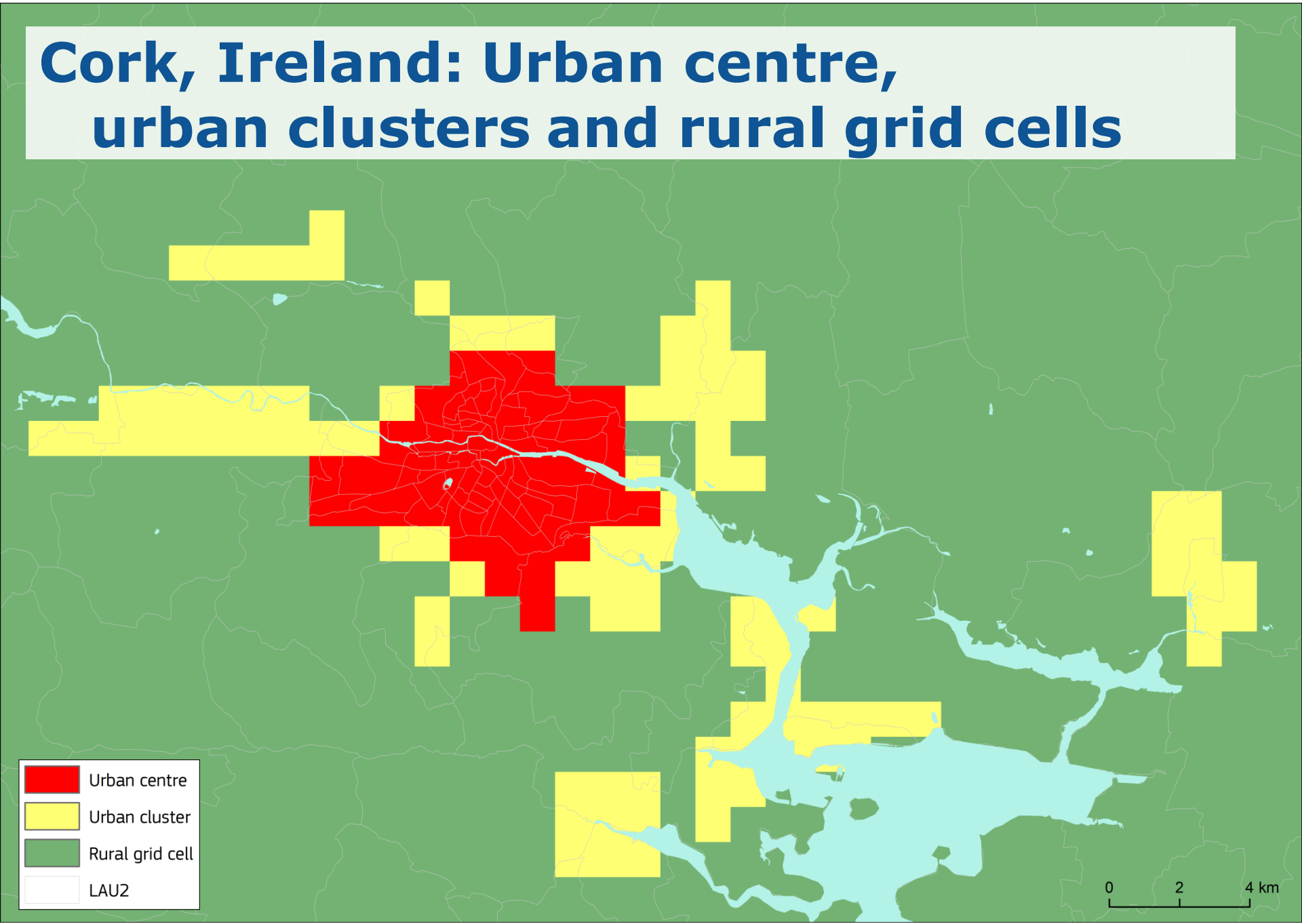
1km grid cells



Three types of grid cells

Urban centres	***Contiguous cells above 1,500 residents per km² and at least 50,000 people in the centre***
Urban Clusters	***Contiguous cells above 300 residents per km² and at least 5,000 people in the cluster***
Rural grid cells	***Cells below 300 residents per km² + other cells outside urban clusters***

Cork, Ireland: Urban centre, urban clusters and rural grid cells



Three types of municipalities

Cities	***> 50% pop. in urban centres***
Towns and suburbs	***> 50% pop. in urban clusters and not classified as city***
Rural area	***> 50% pop. in rural grid cells***

Urban areas = Cities + Towns and Suburbs

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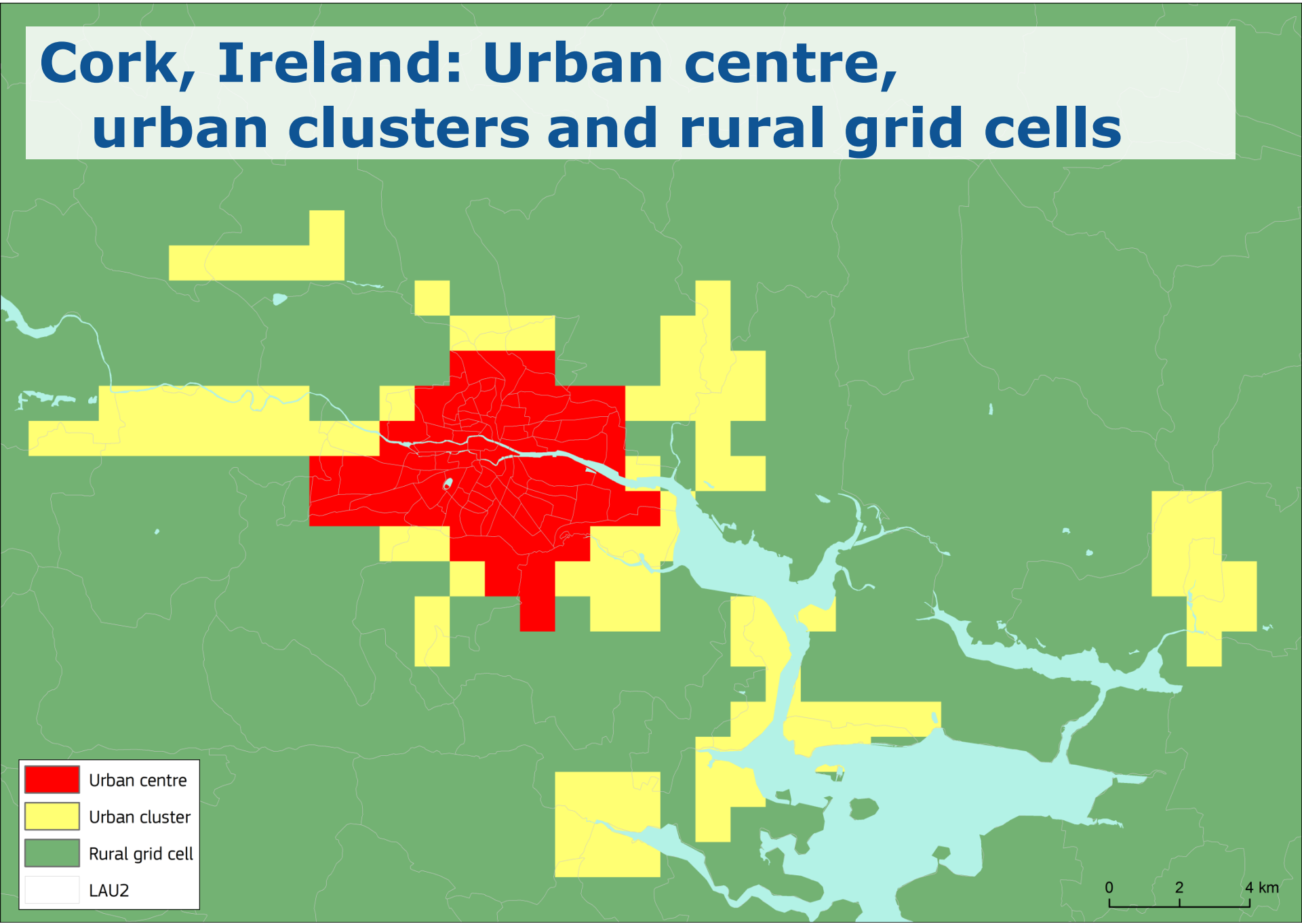
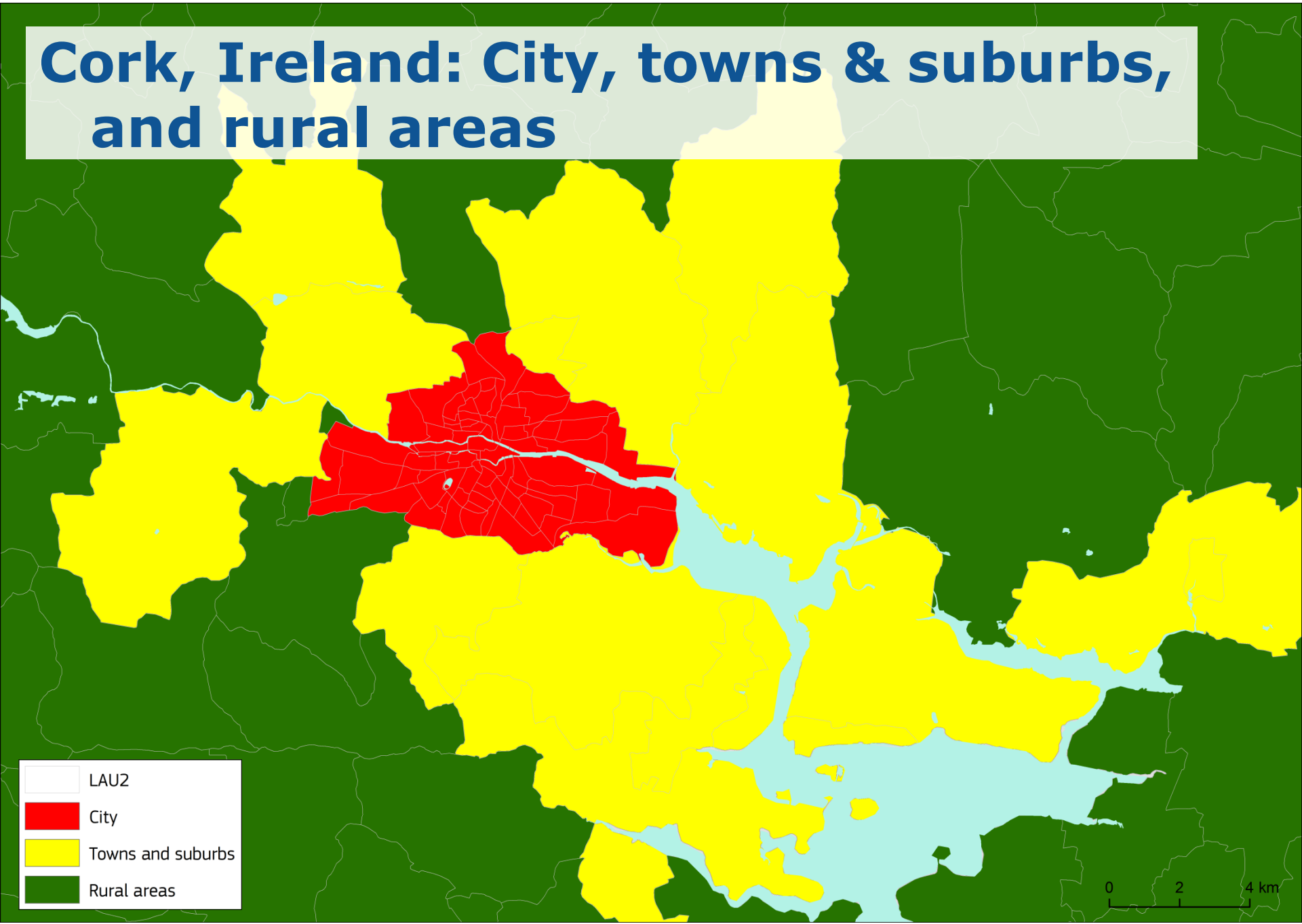


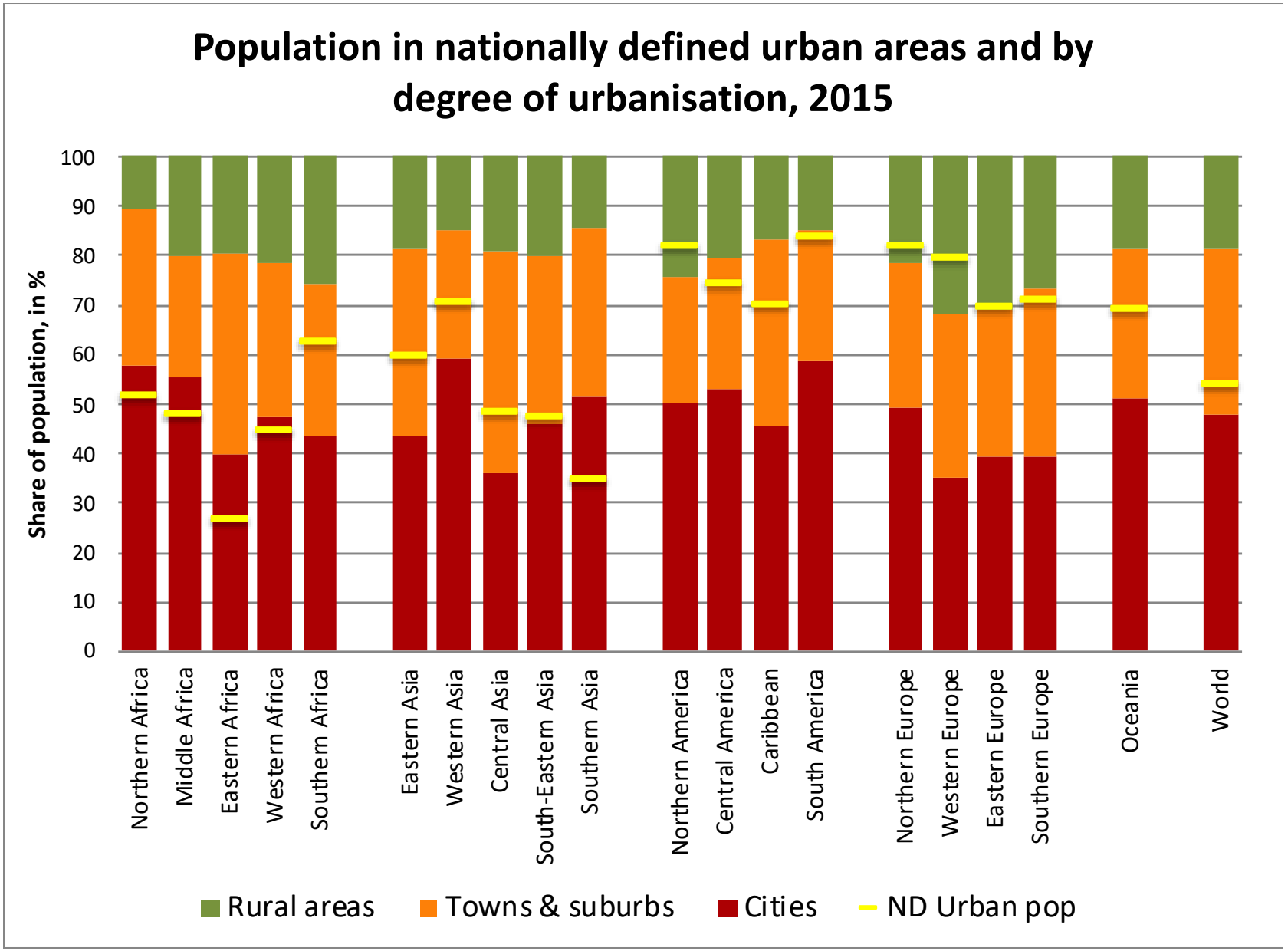
Cork, Ireland: City, towns & suburbs, and rural areas



Benchmarking

- *Comparison of Degree of Urbanisation to national Definitions*

Two different concepts of urban



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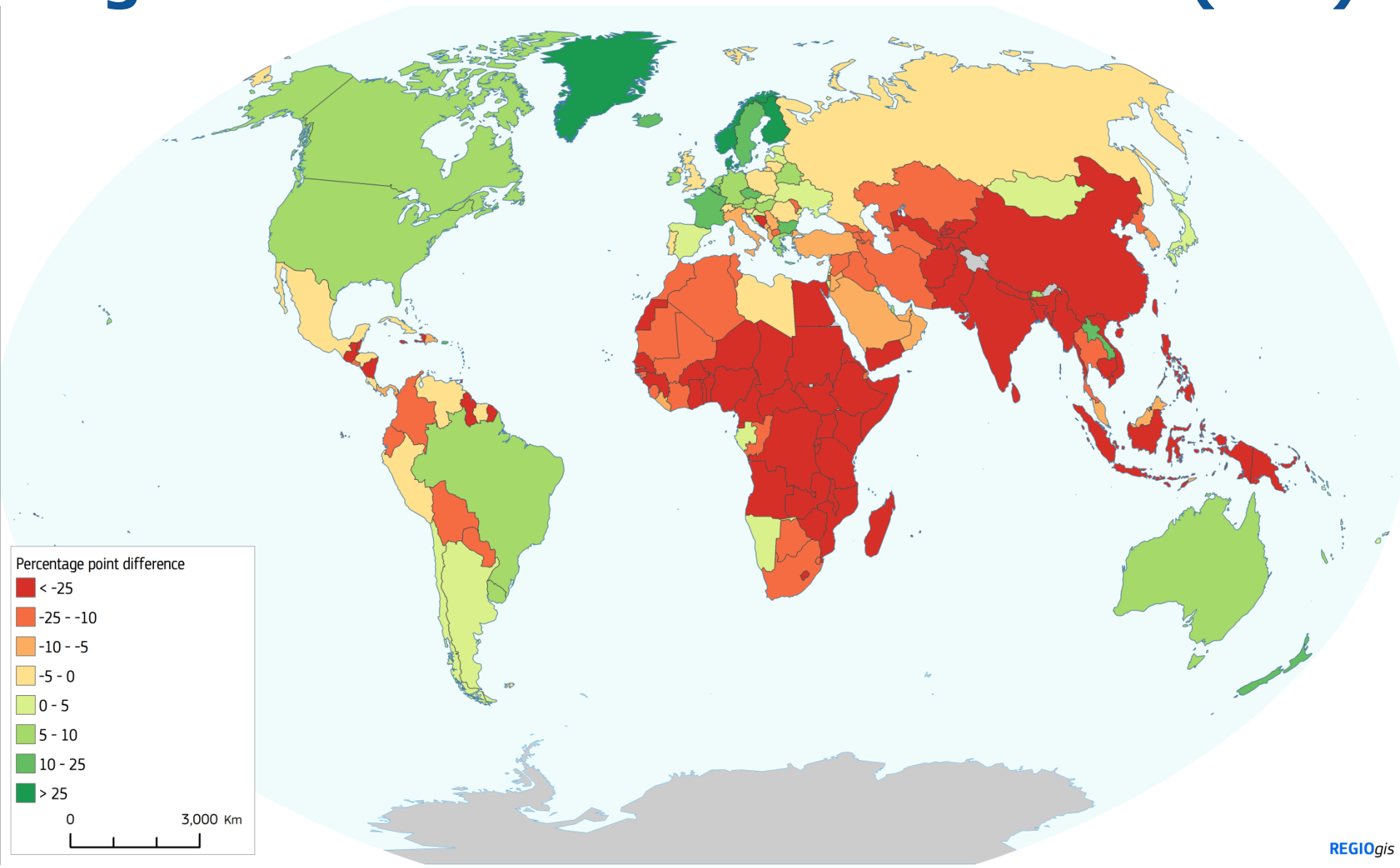
Europe & Americas

Africa & Asia

National definition more urban (green)
Degree of urbanisation more urban (red)



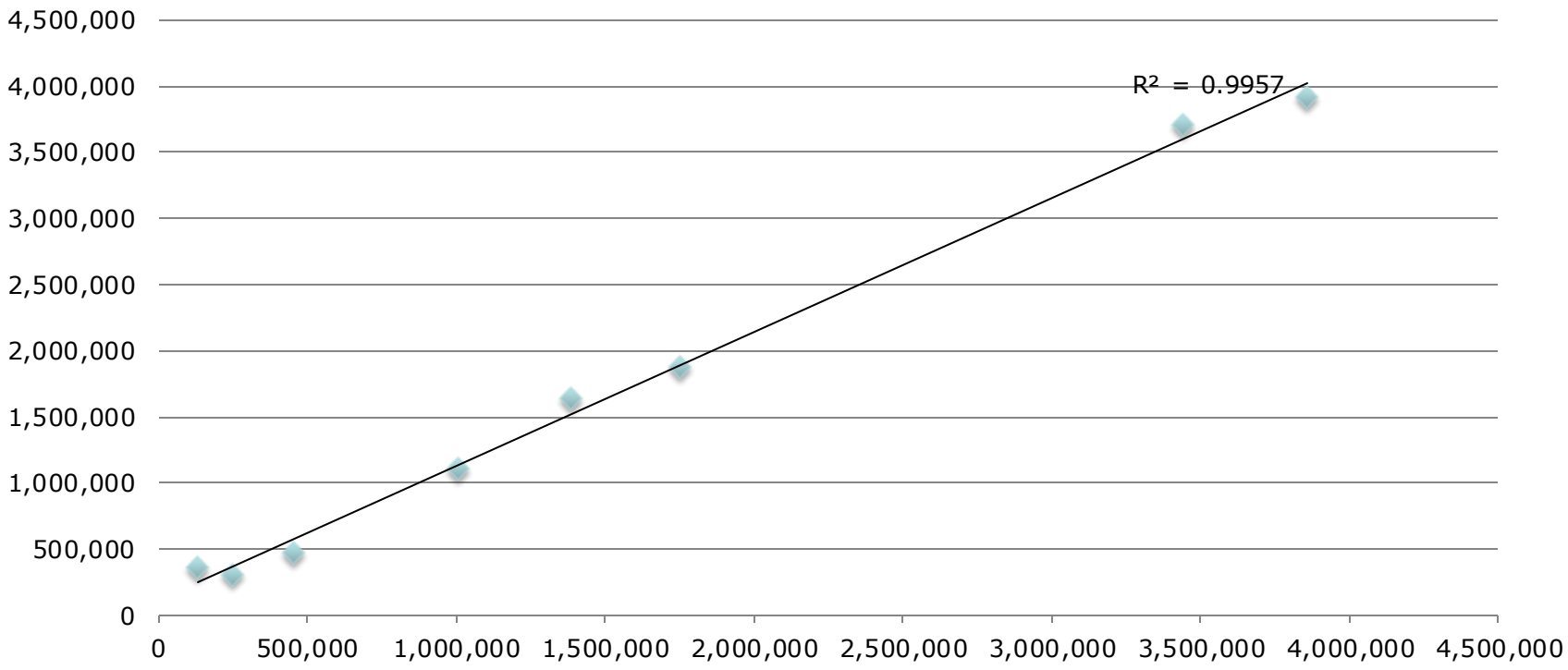
Pilot projects to compare definitions

- *Apply the definitions to administrative units (municipalities…)*
- *Appraise the result:*
  - **Too urban or too rural?**
  - **Too many or too few cities?**
- *Improve data (better population and/or remote sensing data)*
- *Find out if/how we can improve the definitions*

Pilot projects by EC, OECD and WB

- *Australia*
- *Brazil (completed)*
- *Colombia*
- *Egypt*
- *Haiti*
- *Indonesia*
- *India*
- *Jordan*
- *Malaysia*
- *Mozambique*
- *Pakistan*
- *South Africa (completed)*
- *Tunisia*
- *Turkey*
- *Uganda*
- *Ukraine*
- *USA*

Australian cities



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Brazil

- *We believe that this method offers a useful basis for statistical comparisons across national borders...*
- *… useful for generating Sustainable Development Goals' indicators, producing data for these three types of cluster or for individual municipalities …*

Survey by UN Statistical Division

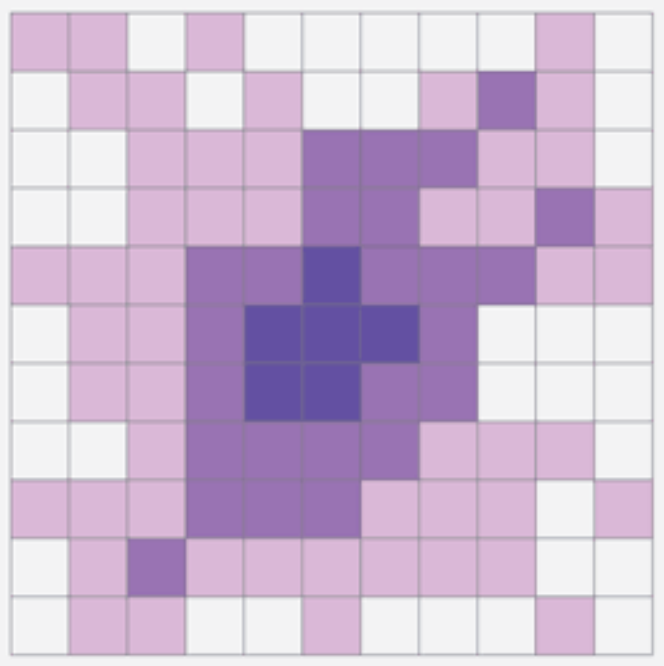
1. *Algeria*
2. *Argentina*
3. *Australia*
4. *Bolivia*
5. *China*
6. *Cuba*
7. *Ecuador*
8. *Ethiopia*
9. *Indonesia*
10. *Japan*
11. *Mexico*
12. *Mongolia*
13. *Namibia*
14. *New Zealand*
15. *Republic of Korea*
16. *Senegal*
17. *Thailand*
18. *USA*
19. *Venezuela*
20. *Zambia*

Responses to the UN survey

- *9 out of 12 NSIs: it captured their main cities.*
- *5 out of 8 NSIs the validity was good or satisfactory (1 poor and 2 unacceptable)*
- *9 out of 10 NSIs could produce data by degree of urbanisation*
- *9 out of 13 NSIs useful for international comparisons*
- *11 out of 12 NSIs useful for measuring the SDGs*
- *5 NSIs did not reply at all*
- *Some confusion about spatial units, density thresholds and the distinction between cities and towns*

What could be the contribution of the geospatial community?

- *Geocoding infrastructure for statistics based on geocoded address and building registers*
- *Essential for geo-coded census/population grid with high frequency (annual)*
- *More and more NSIs produce grids: Brazil, Egypt, EU Member States…*



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Next events & steps

- *Continue to work with pilot projects (and more are welcome)*
- *September International Association of Official Statistics, (Paris)*
- *Present the definition for information to the UN Statistical Commission March 2019*
- *August 2019, World Statistical Congress, Kuala Lumpur*
- *Present the definition for discussion and decision to the UN Statistical Commission March 2020*

Conclusions

- *National definitions of urban areas are so different as to make them unsuitable for international comparisons*
- *Degree of urbanisation overcomes one of the main statistical obstacles to define urban and rural in a comparable manner*

More information

- *https://ec.europa.eu/eurostat/cros/content/global-city-and-settlement-definition_en*
- *http://ghsl.jrc.ec.europa.eu/degurba.php*