„BENEFITS FROM GEOCODING INFORMATION COLLECTED IN STATISTICAL SURVEYS”

POLAND

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GIS Technology

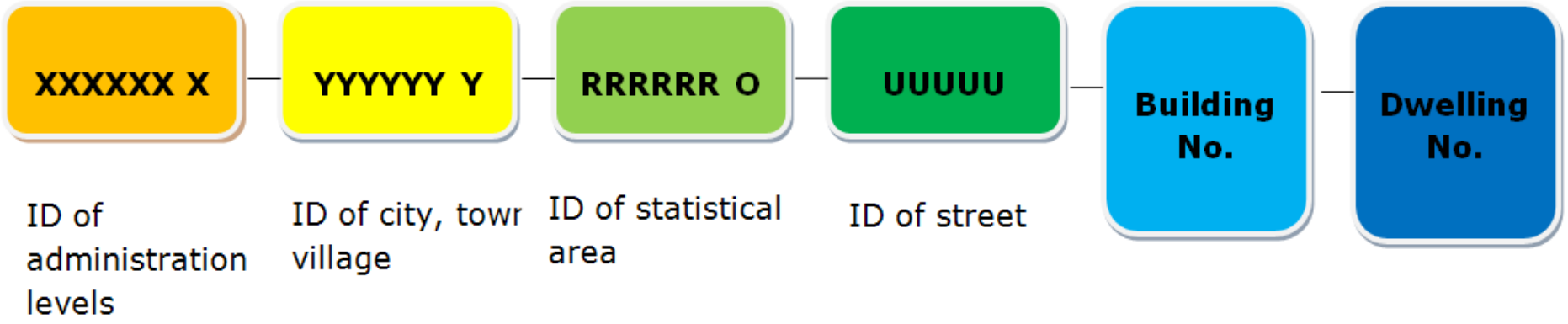
In 2010 Census Round a combination of data coming from administrative sources and registers containing spatial data was used for the first time.

BASE FOR X,Y - GEOCODING

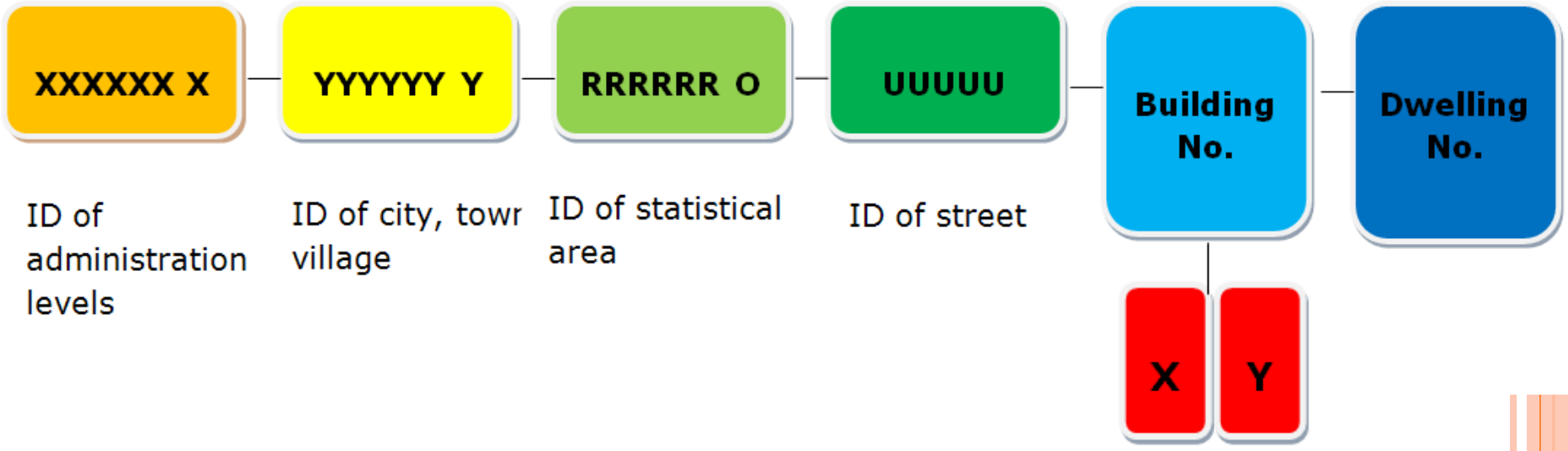
- Territorial Identification Registry *(System TERYT)* provides location data of all statistical units as the address-point of a related building

- Location of buildings is specified using geographical x,y coordinates, giving the exact location of each building and make possibility to linking microdata from several registers.

Address point identification system



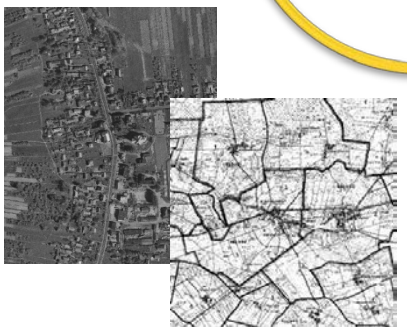
Spatial
address point Identification system

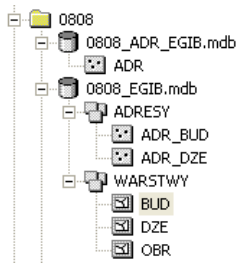


WORK SCHEDULE

- reference material collection

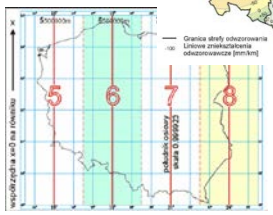
January 2009 – December 2009

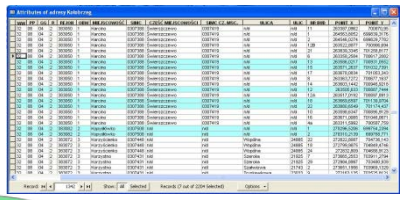




January 2010 – May 2010

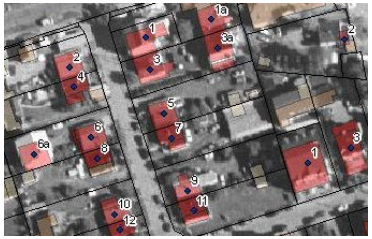
- reference material processing

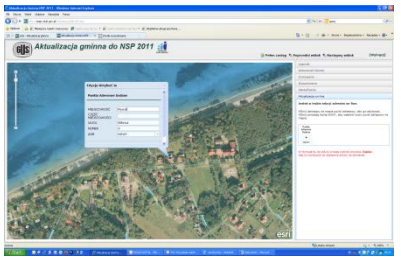




- address point update
- (gmina update, pre-census field check, census survey)

Censuses 2010 and 2011





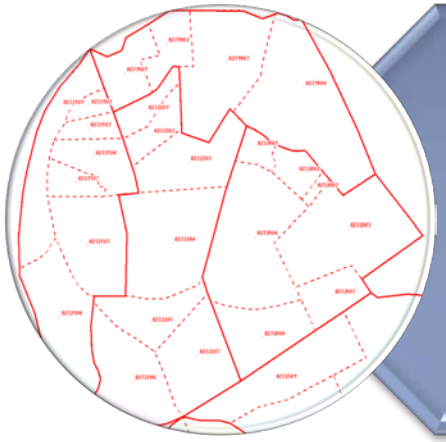
continuously since 2011

- address point database update

Spatial data compiled in the statistics today

Statistical adress points

- address points for residential buildings



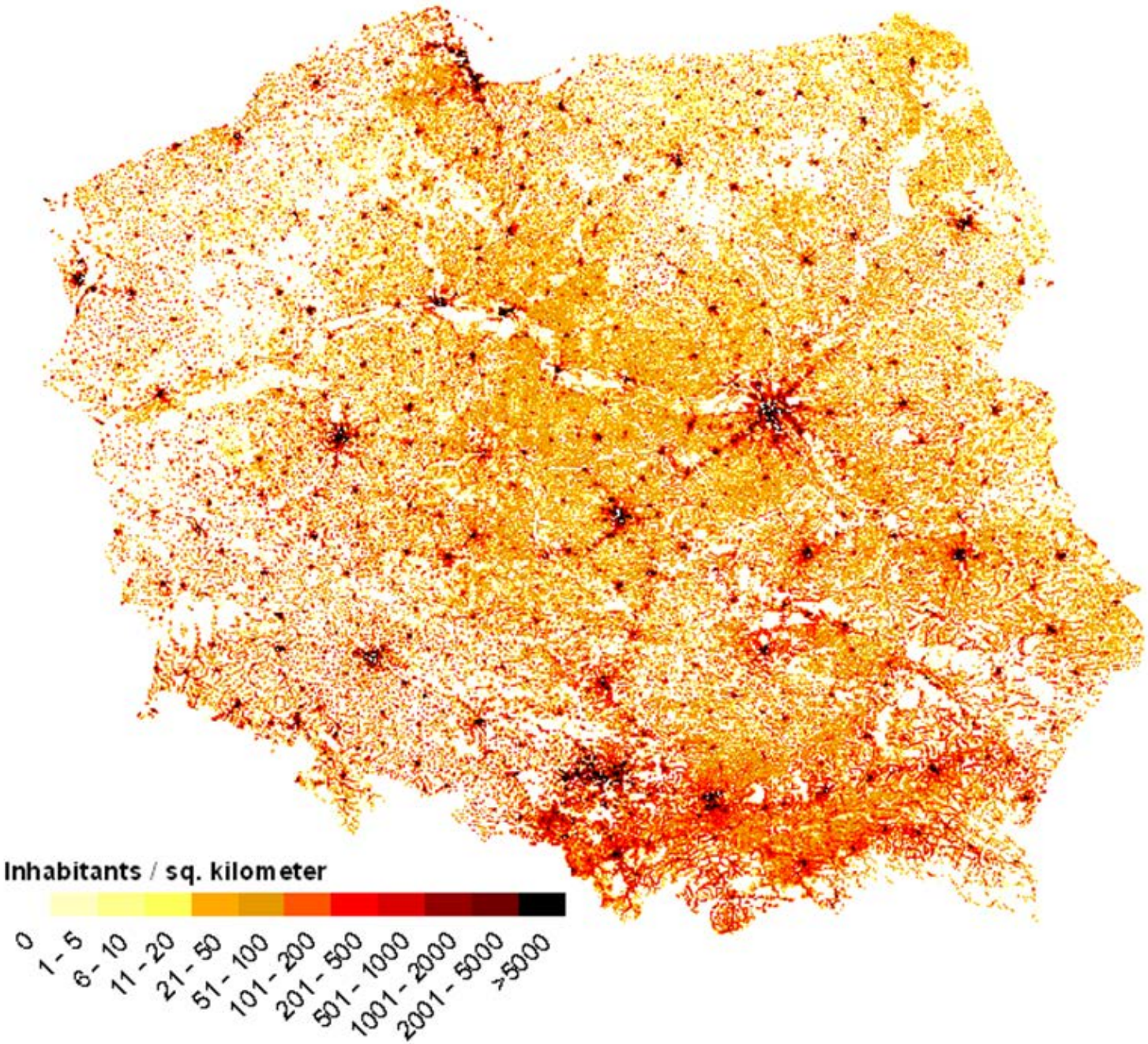
Statistical distribution boundaries

- statistical regions
- enumeration areas

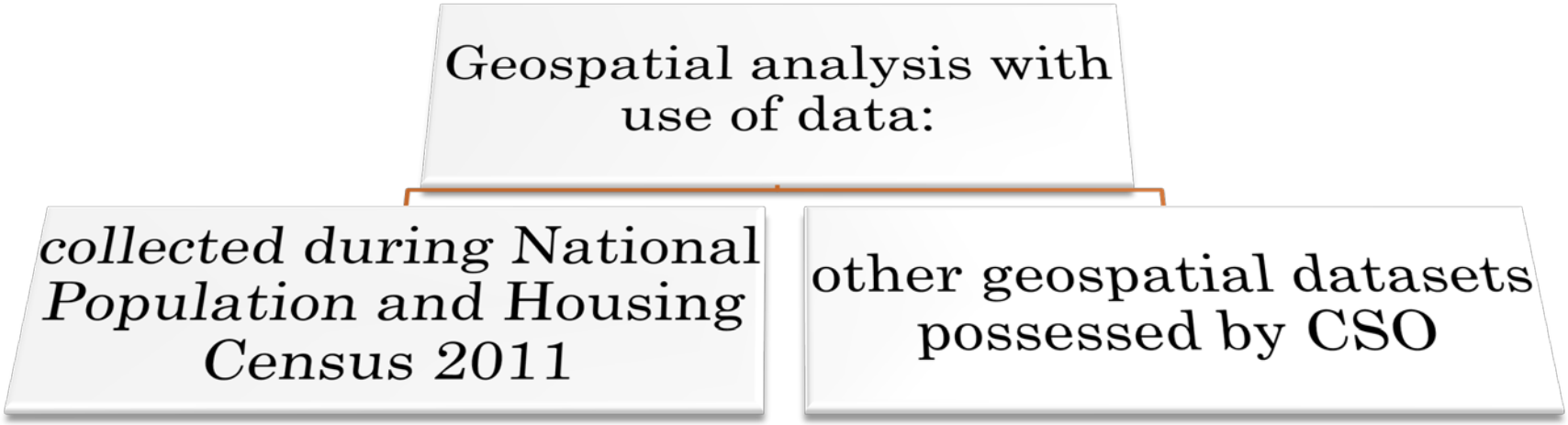
PROJECTS

- **GEOSTAT 1A**
- ***GEOSTAT 1B (on a voluntary basis)***
- **GEOSTAT 1C (**in progress)
- **„Merging statistics and geospatial information in Member States"**

GEOSTAT 1A


Poland Population Density Map 2006
Inhabitants / sq. kilometer
0
1 - 5
6 - 10
11 - 20
21 - 50
51 - 100
101 - 200
201 - 500
501 - 1000
1001 - 2000
2001 - 5000
>5000

GENERAL AND SPECIFIC OBJECTIVES



- For census purposes a **statistical address point database** with locations of all dwellings in Poland has been created.
- The database is to be expanded with **enterprises locations**.

GENERAL AND SPECIFIC OBJECTIVES

Creating **spatial address points database for enterprises** in the test area.

Analysis of **different methods of demographic data visualization** in various divisions, such as stat. regions, census enumeration areas, cadastral units, 1 km grid

Commuting survey 2011 (based on the Population and Housing Census) **result analysis**, using GIS tools.

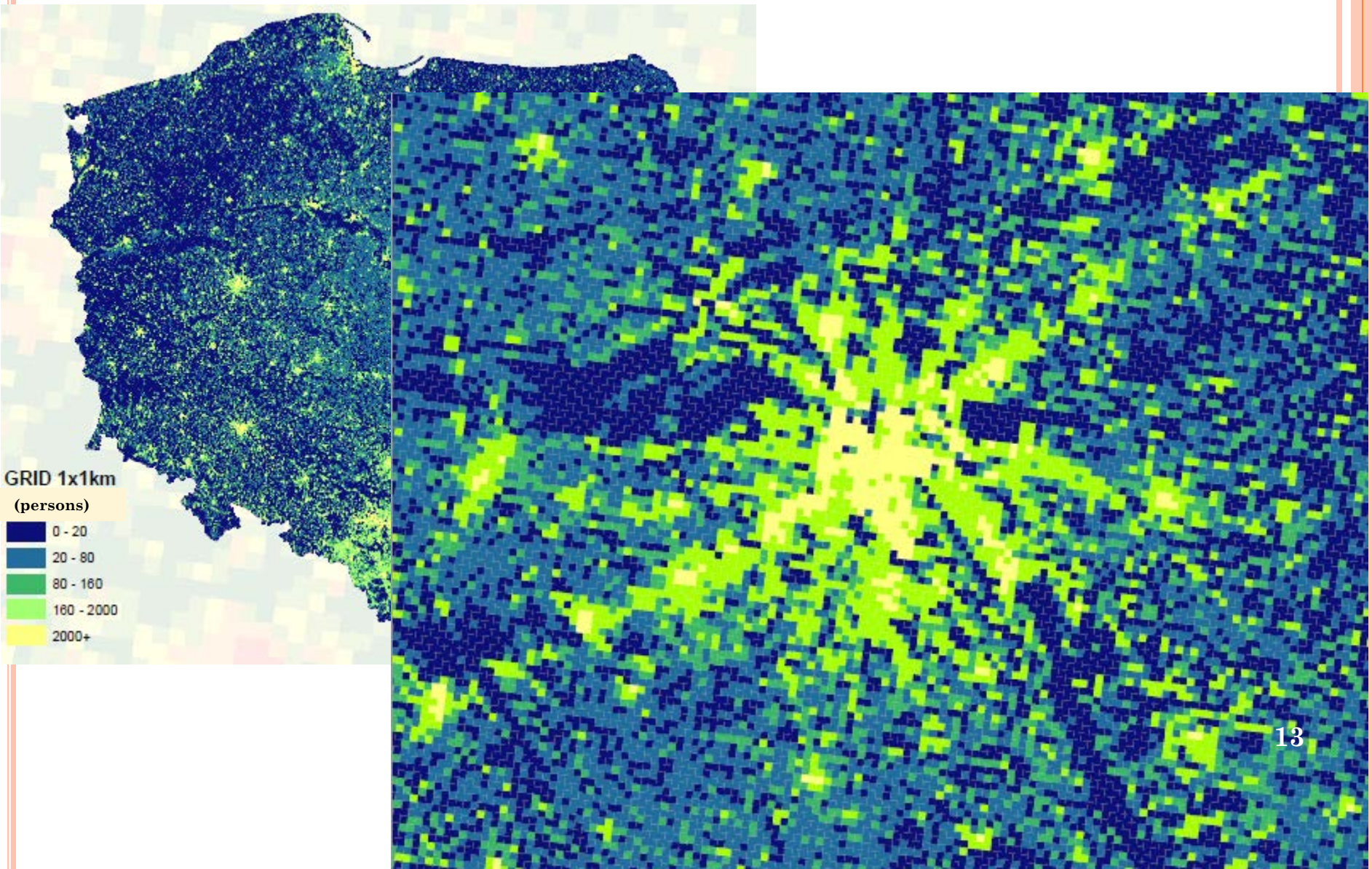
Analysis of **spatial data from Topographic Database usability** for creation of statistical indicators describing the **state of planning**. Defining methodology for visualizing these indicators on maps.

ACHIEVEMENTS

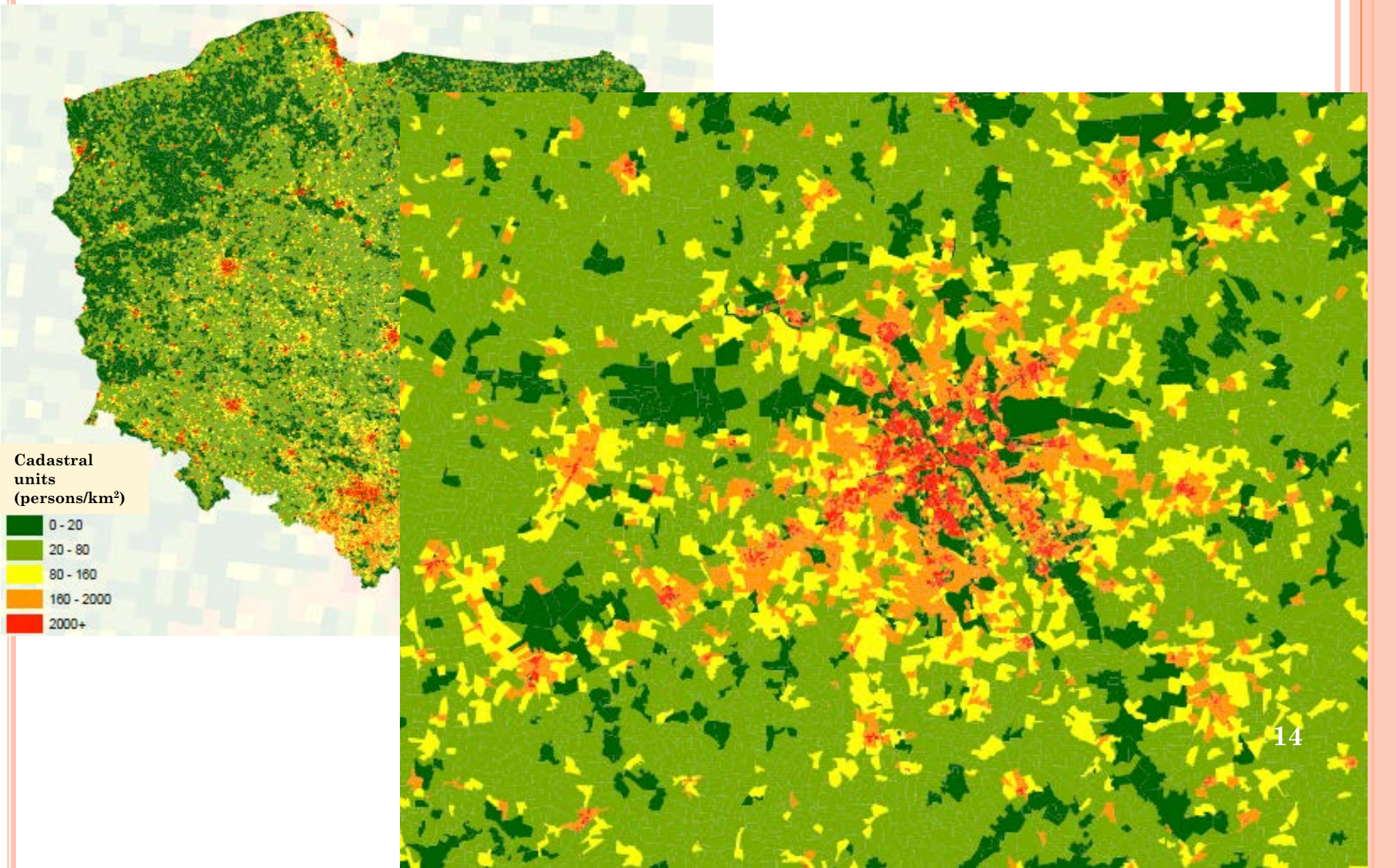
- Database with **enterprises coordinates** for 100% of the population for which it was possible to identify the address

- **perfect for the visualisation** of many phenomena related to the **place of work**

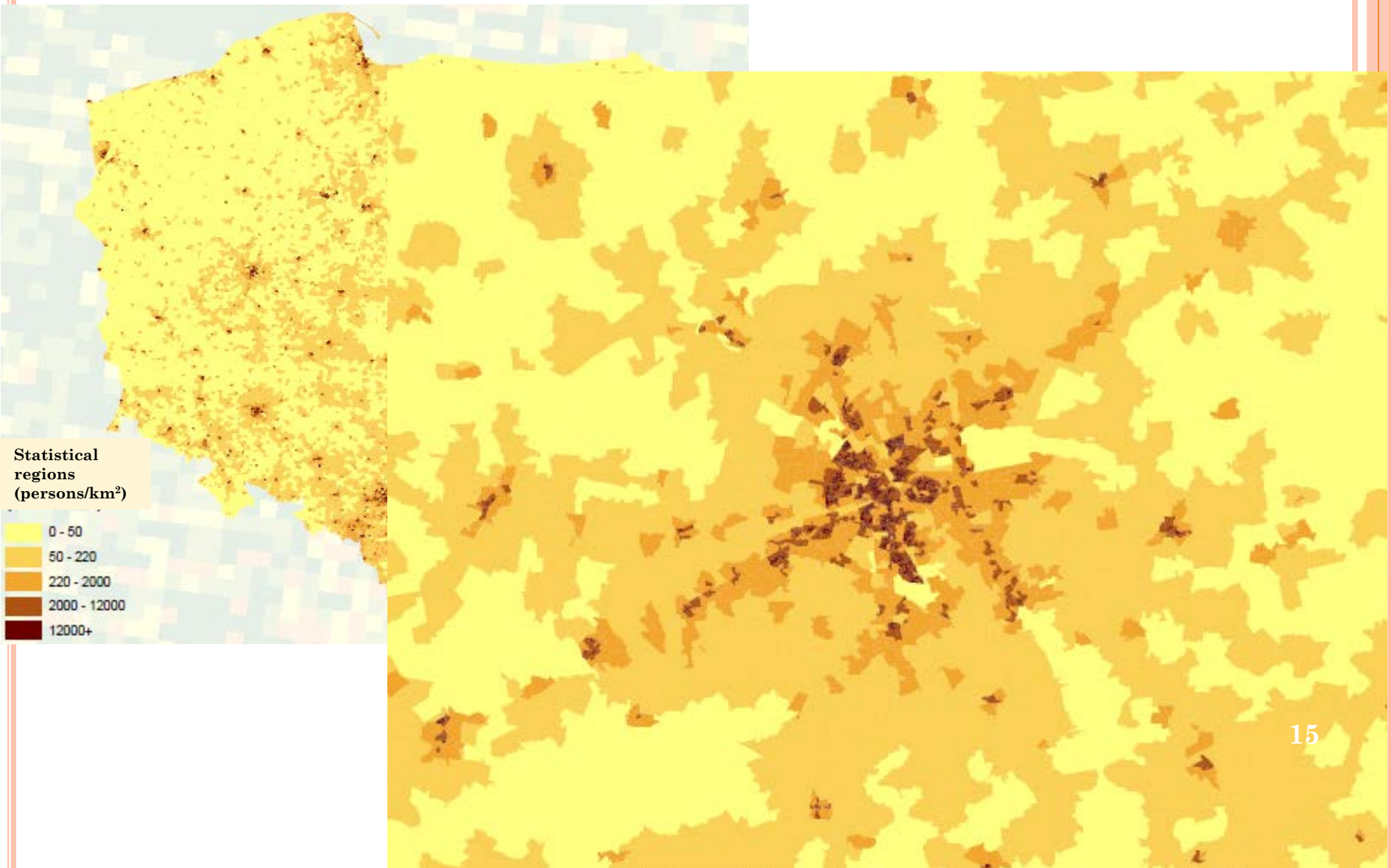
DEMOGRAPHIC DATA IN 1 KM GRID

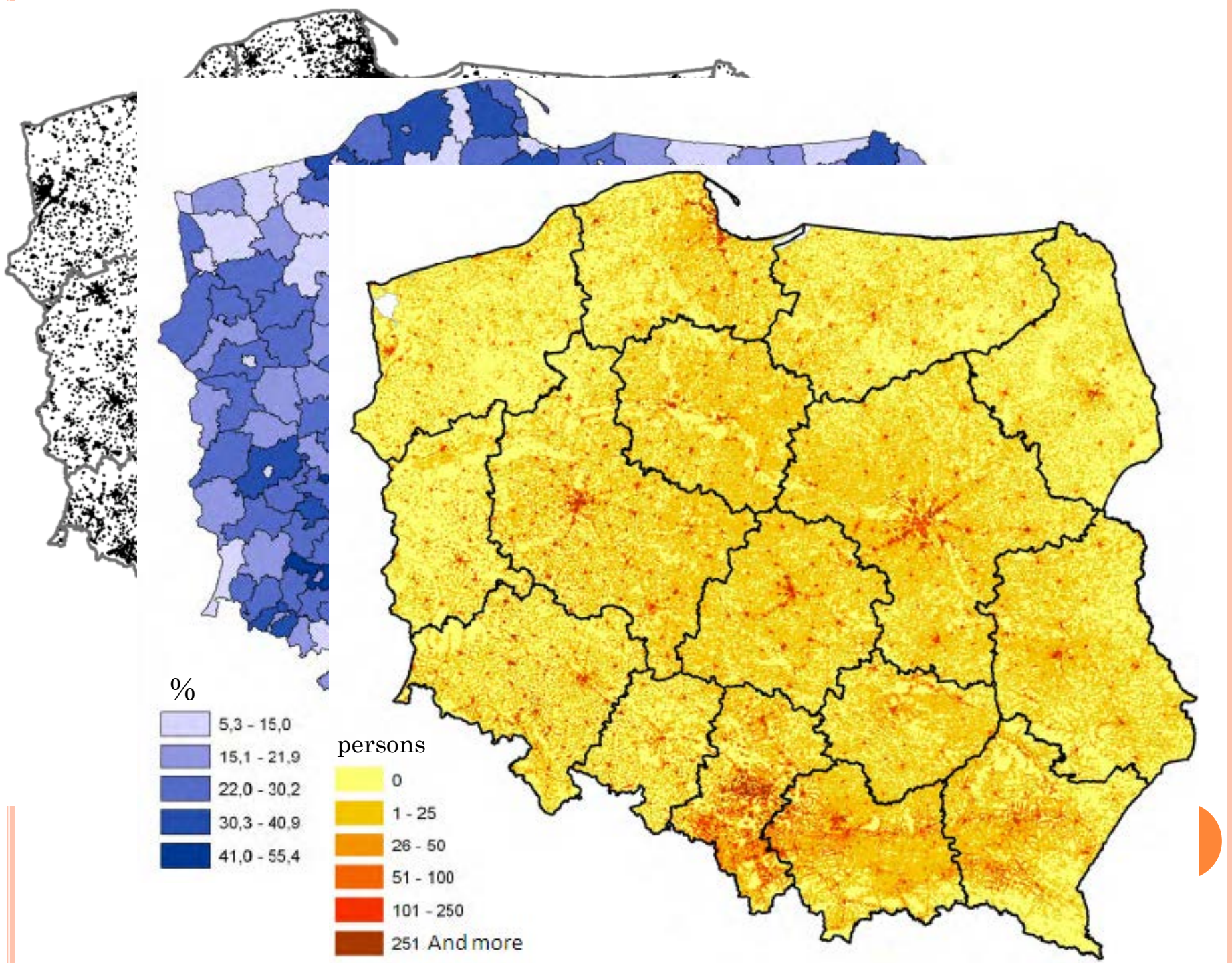


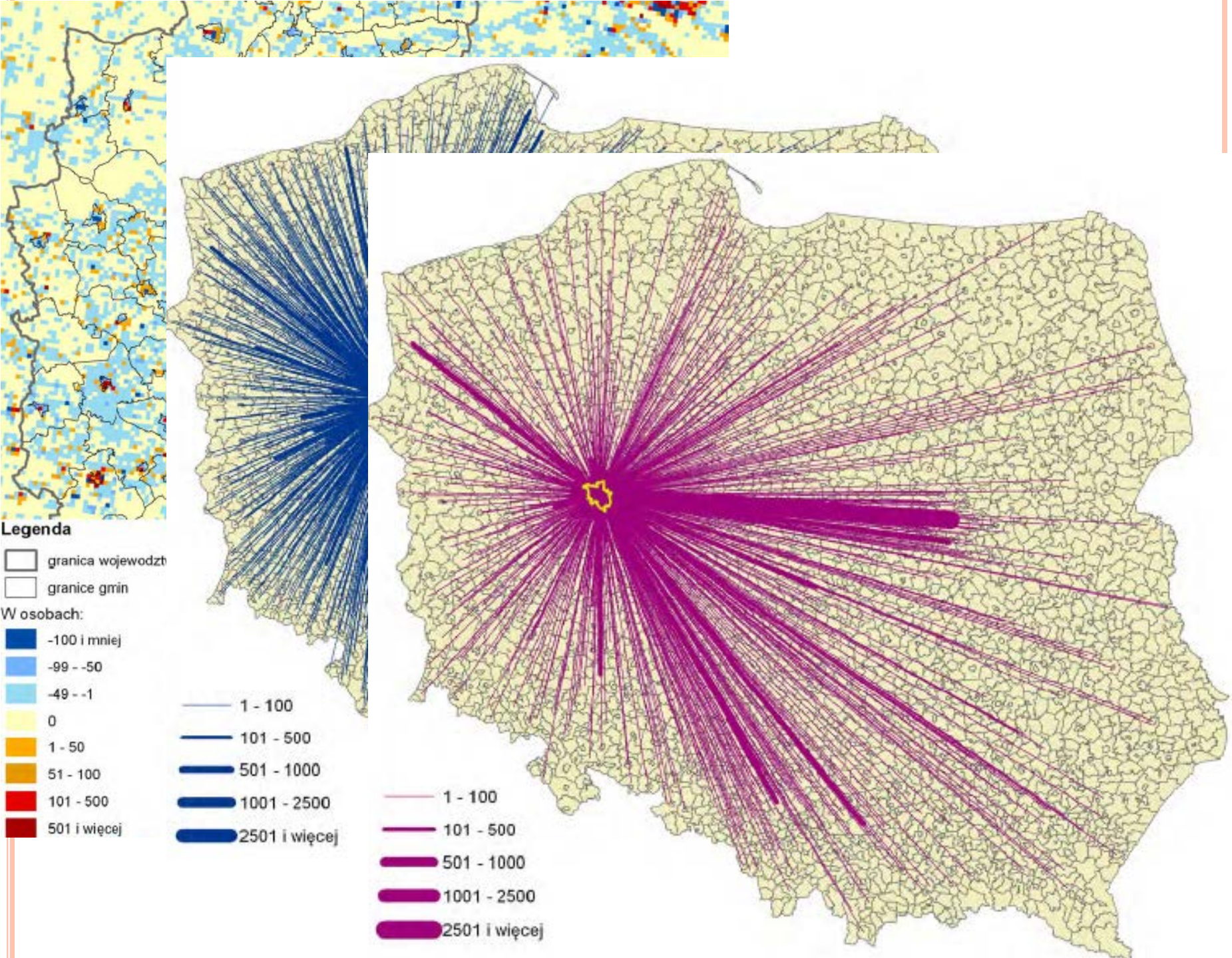
DEMOGRAPHIC DATA IN CADASTRAL UNITS



DEMOGRAPHIC DATA IN STATISTICAL REGIONS




%
5,3 - 15,0
15,1 - 21,9
22,0 - 30,2
30,3 - 40,9
41,0 - 55,4
persons
0
1 - 25
26 - 50
51 - 100
101 - 250
251 And more


Legenda
granica wojewodzt
granice gmin
W osobach:
-100 i mniej
-99 - -50
-49 - -1
0
1 - 50
51 - 100
101 - 500
501 i więcej
1 - 100
101 - 500
501 - 1000
1001 - 2500
2501 i więcej
1 - 100
101 - 500
501 - 1000
1001 - 2500
2501 i więcej

DEVELOPMENT RATE

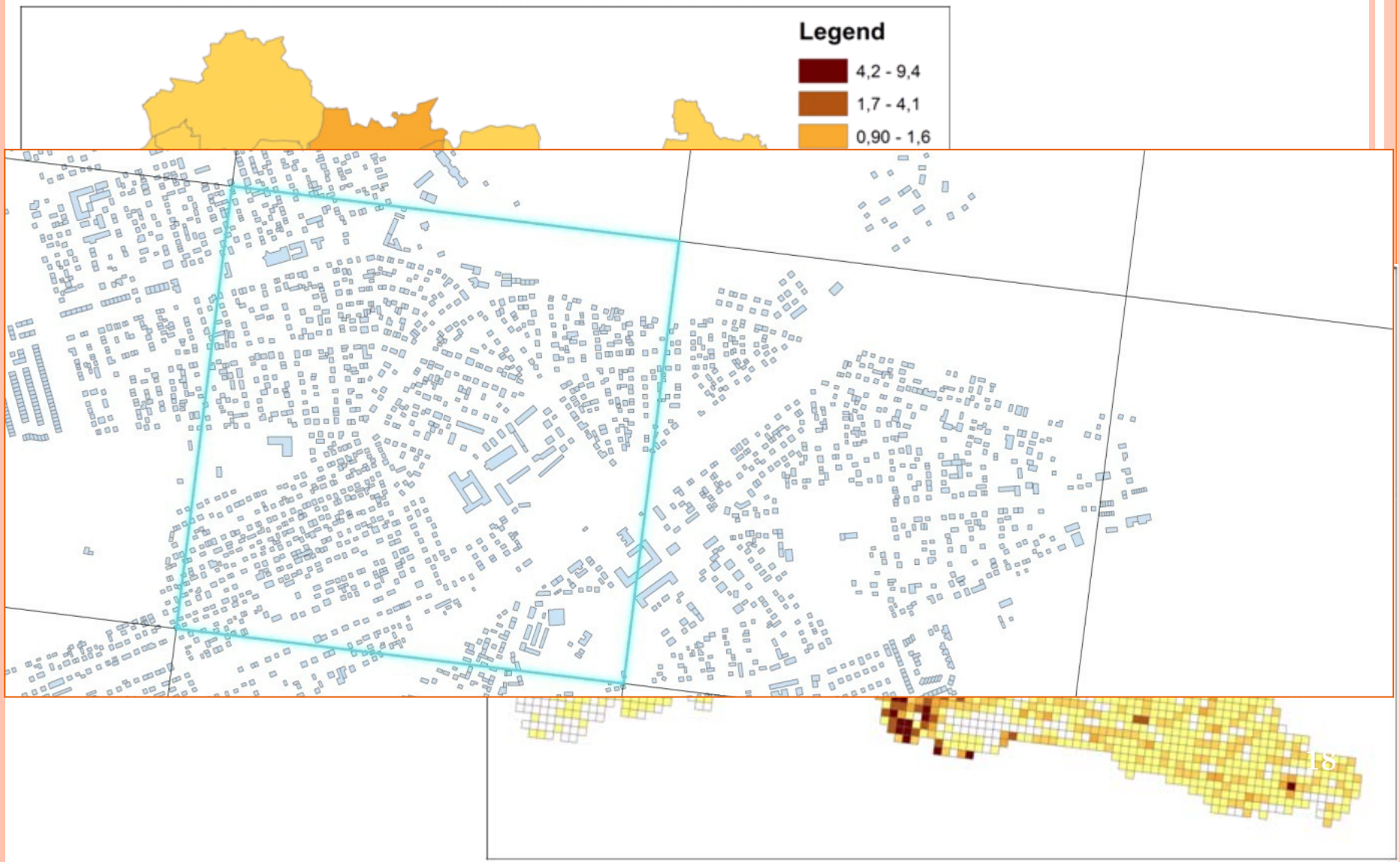


Figure 6 Value of the development rate in a 1x1 km grid [%]

Density of roads

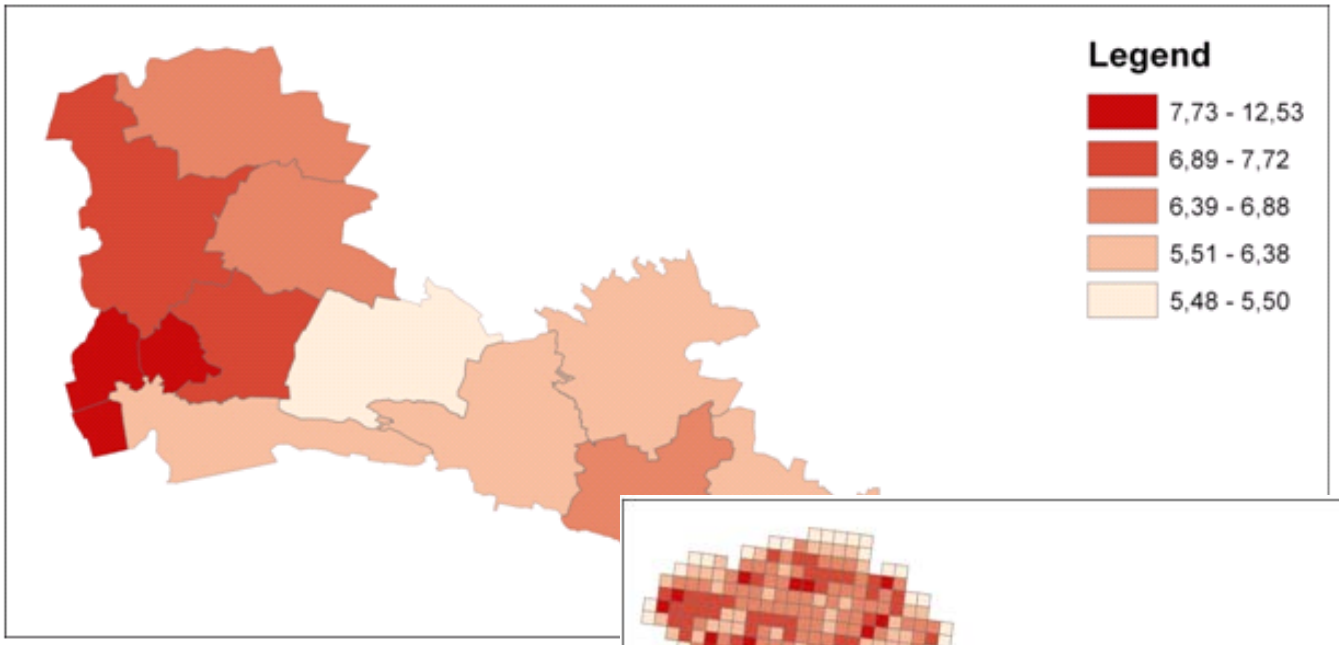


Figure 9 Density of roads

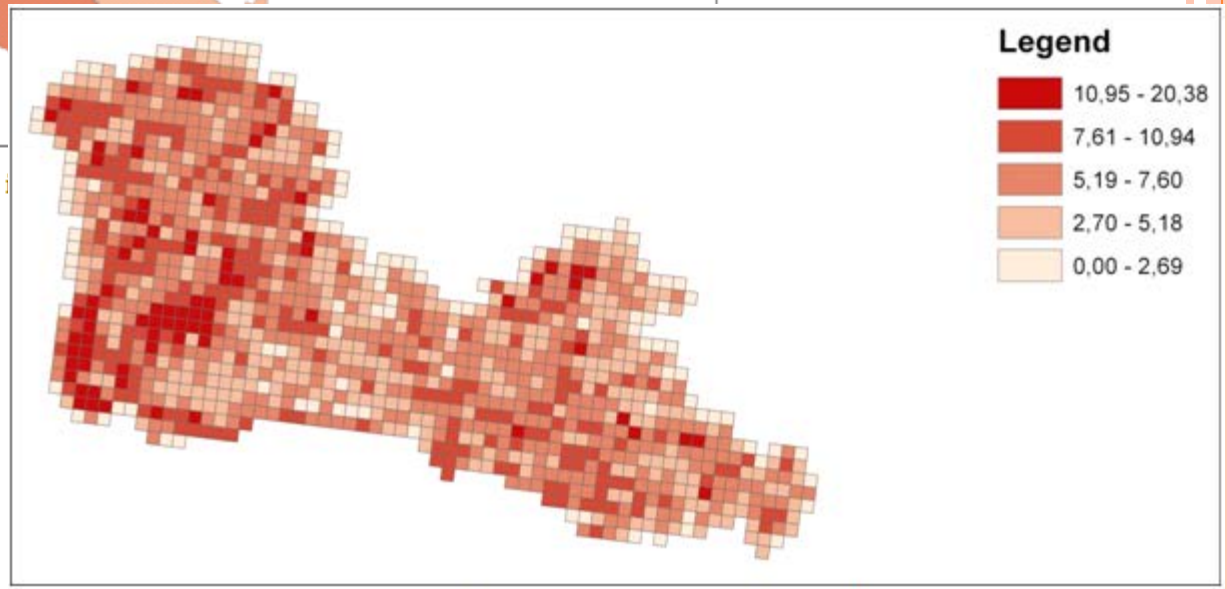


Figure 10 Road density in the grid [km/ km^2]

GEOSTATISTICS PORTAL

GEO.STAT.GOV.PL

START: JULY 2013

Agricultural Census 2010 results:

- Choropleth maps
- Cartodiagrams

Local Data Bank

GEOSTATISTICS PORTAL FUNCTIONALITY

Geovisualization of censuses results

- Agricultural Census 2010
- National Population and Housing Census 2011

Publication of spatial data produced within statistics

- statistical regions
- census enumeration areas

Publication of INSPIRE services for two spatial data themes

- statistical units
- population distribution (demography)

Advanced spatial analysis on microdata

- for authorized internal users (in the public statistics)

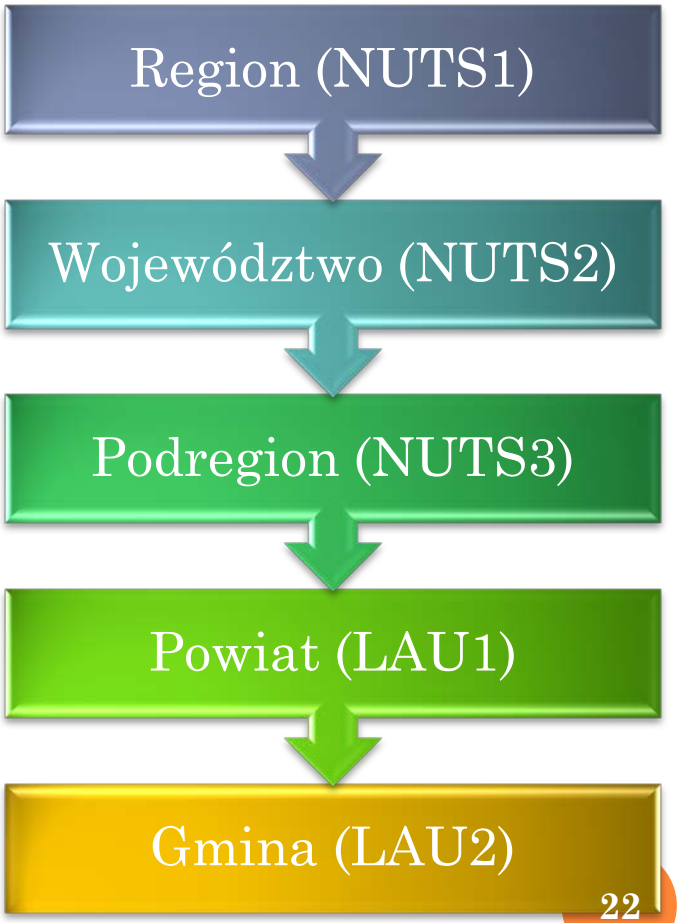
GEOVISUALIZATION OF CENSUSES RESULTS

Agricultural Census 2010

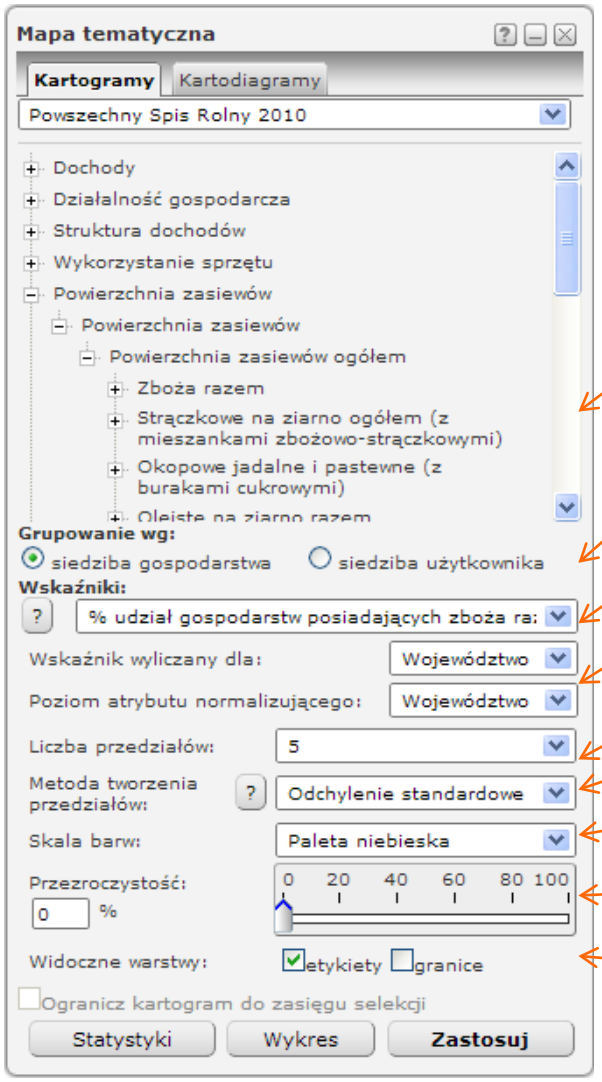
- Census data with spatial reference to:
  - location of the agricultural holding
  - location of its user

National Population and Housing Census 2011

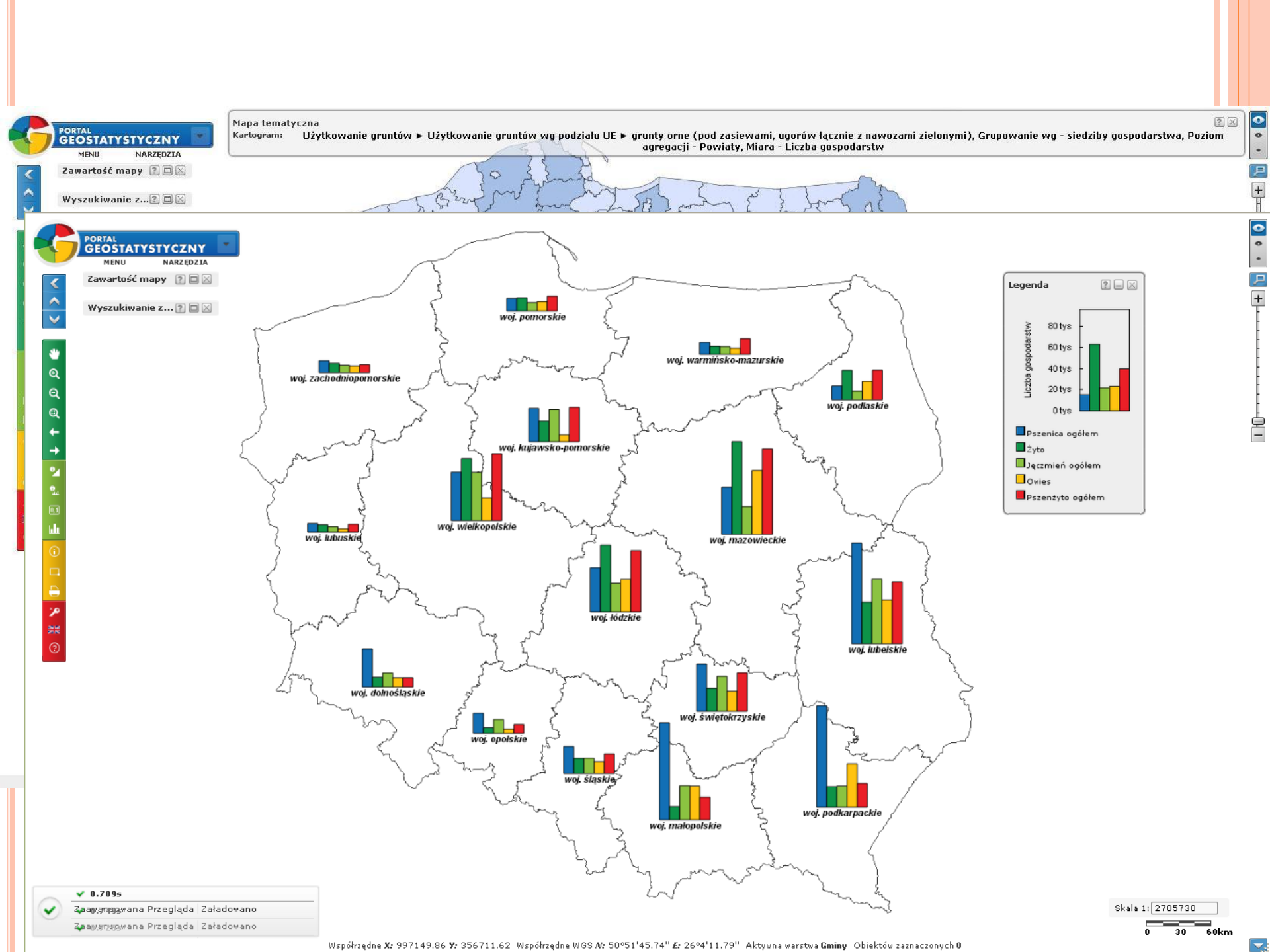
- Census data with spatial reference to:
  - Location of the dwelling



User defined parameters

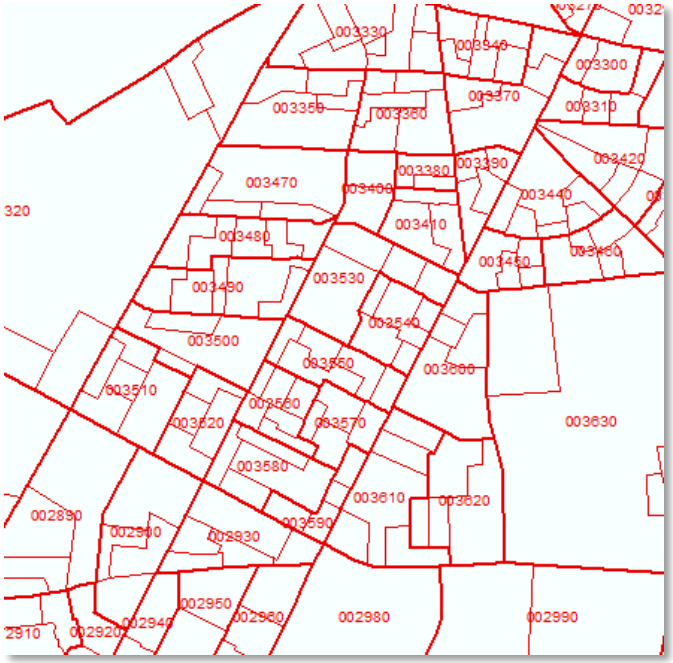


- THEMATIC PHENOMENA
- GROUPING
- INDICATORS
- AGGREGATION LEVEL
- NUMBER OF CLASSES
- CLASS CALCULATION METHOD
- COLOUR SCALE
- TRANSPARENCY
- VISIBLE LAYERS

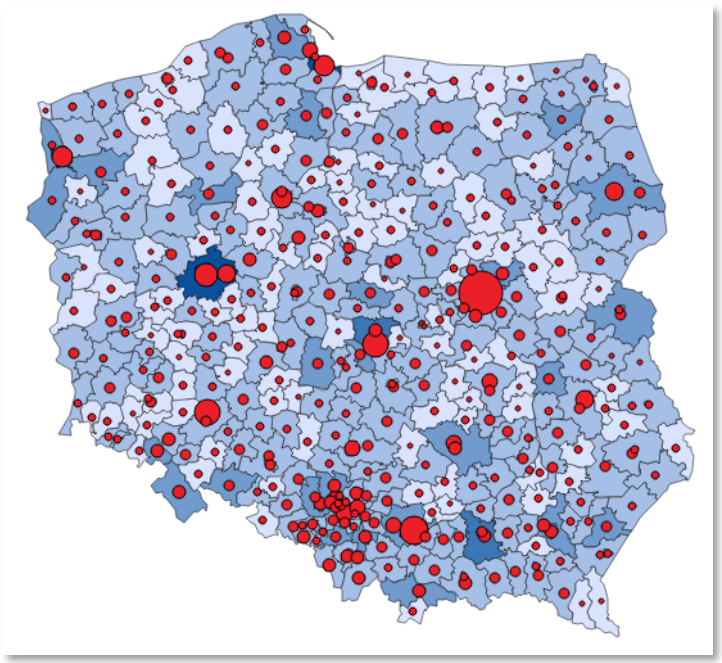

PORTAL GEOSTATYSTYCZNY
MENU
NARZĘDZIA
Zawartość mapy
Wyszukiwanie z...
Mapa tematyczna
Kartogram: Użytkowanie gruntów ► Użytkowanie gruntów wg podziału UE ► grunty orne (pod zasiewami, ugorów łącznie z nawozami zielonymi), Grupowanie wg - siedziby gospodarstwa, Poziom agregacji - Powiaty, Miara - Liczba gospodarstw
woj. pomorskie
woj. zachodniopomorskie
woj. warmińsko-mazurskie
woj. podlaskie
woj. kujawsko-pomorskie
woj. wielkopolskie
woj. lubuskie
woj. mazowieckie
woj. łódzkie
woj. lubelskie
woj. dolnośląskie
woj. opolskie
woj. świętokrzyskie
woj. śląskie
woj. małopolskie
woj. podkarpackie
Legenda
Liczba gospodarstw
80 tys
60 tys
40 tys
20 tys
0 tys
Pszenica ogółem
Żyto
Jęczmień ogółem
Owies
Pszenżyto ogółem
0.709s
Zaawansowana Przegląda
Załadowano
Skala 1: 2705730
0 30 60km
Współrzędne X: 997149.86 Y: 356711.62 Współrzędne WGS N: 50°51'45.74'' E: 26°4'11.79'' Aktywna warstwa Gminy Obiektów zaznaczonych 0

CSO IN INSPIRE

President of the CSO is a leading authority on two themes of spatial data in Annex III of the INSPIRE Directive:

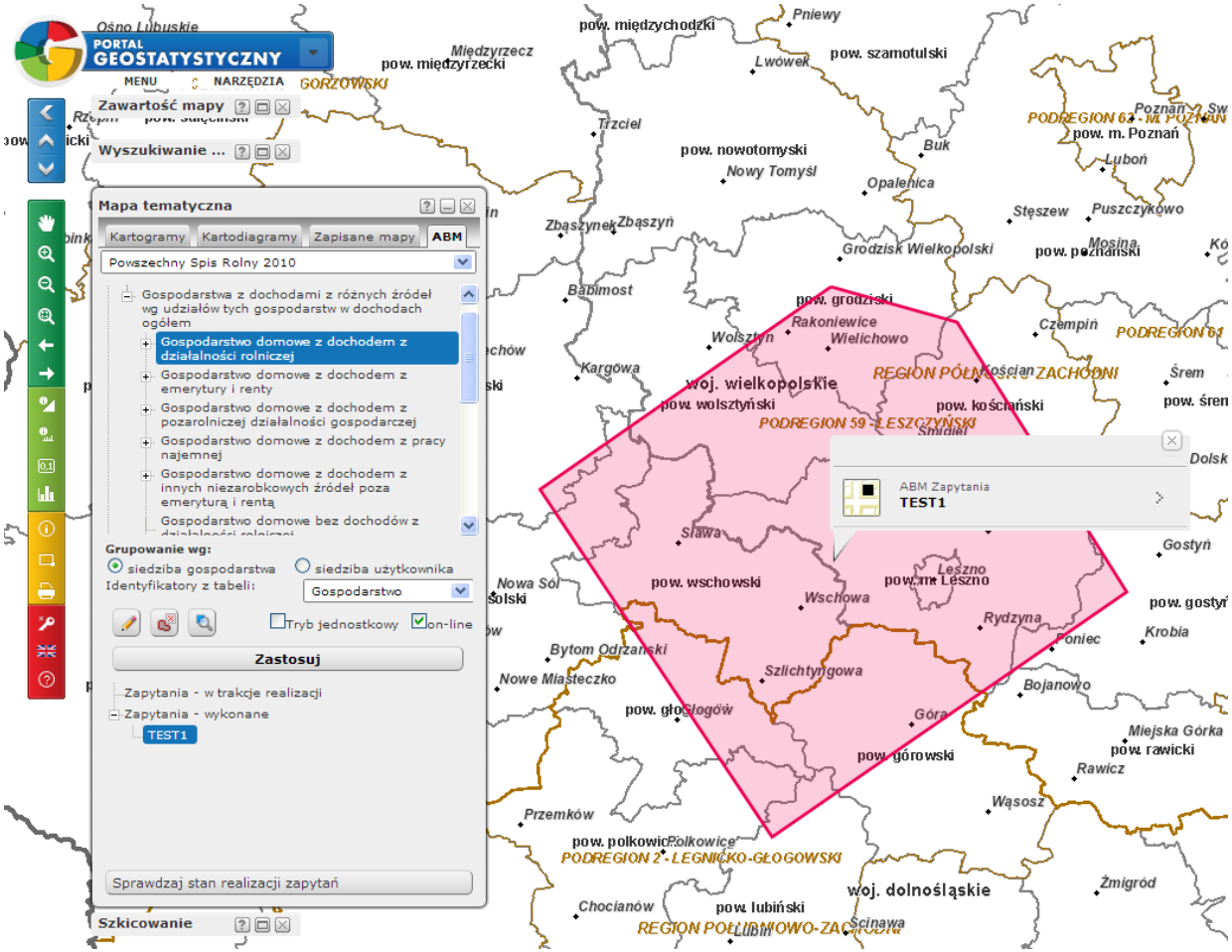


statistical units
SU



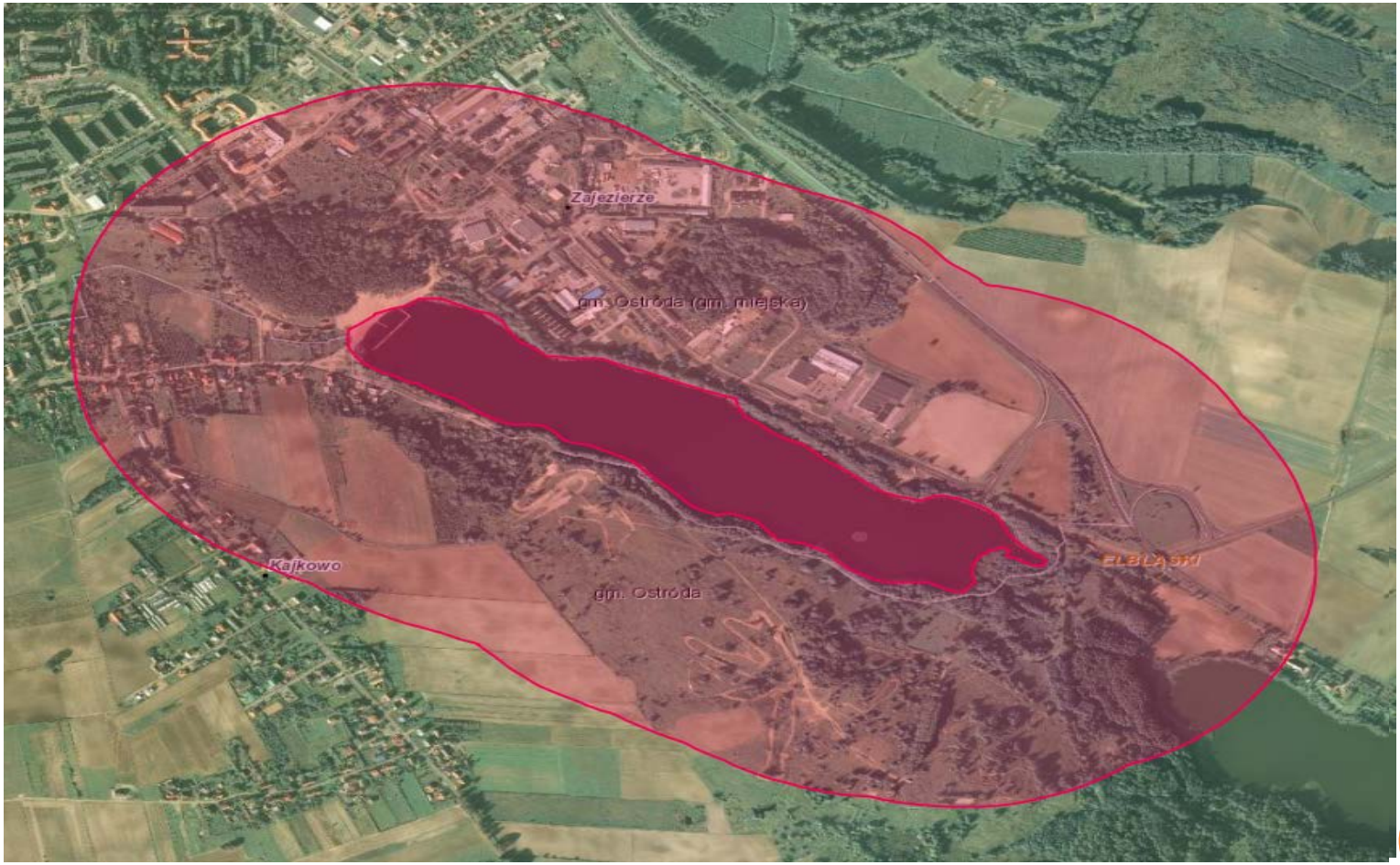
population distribution (demography)
PD

INDIVIDUAL DATA DYNAMIC INQUIRIES



Buffering the line

Buffering the polygon



Summing Up

- georeferencing statistics started in 2009
- georeferenced address data base for all residential addresses was established
- georeferenced database are manifold, both for data preparation as well as for the dissemination of results
- Geostatistics Portal
- European Projects - broadening horizons

Thank You For Your Attention

Amelia Wardzińska-Sharif
Programming and Coordination of Statistical Survey Department
Central Statistical Office of Poland
Q2014, 2-5 June 2014 Vienna