

# Towards European Toponymy System



## EuroGeoNames EuroRegionalMap



Giedrė Beconytė, *SE “GIS-Centras”*  
Danutė Mardosienė, *National Land Service*  
Birutė Vilūnaitė, *SE “GIS-Centras”*

XIII seminar of UNGEGN Baltic Division  
1–2 October 2009, Vilnius

# Contents

- **Toponymy in European databases**
- **EuroGeoNames**
- **Toponymy in EuroRegionalMap**
- **Problems and Perspectives**



# Toponymy problem

- National and official languages
- Many forms (original, local, traditional...)
- Different alphabets
- Lack of national standards
- Lack of geographic reference
- Limited access to official toponymy data
- Inconsistent / wrong use of place names

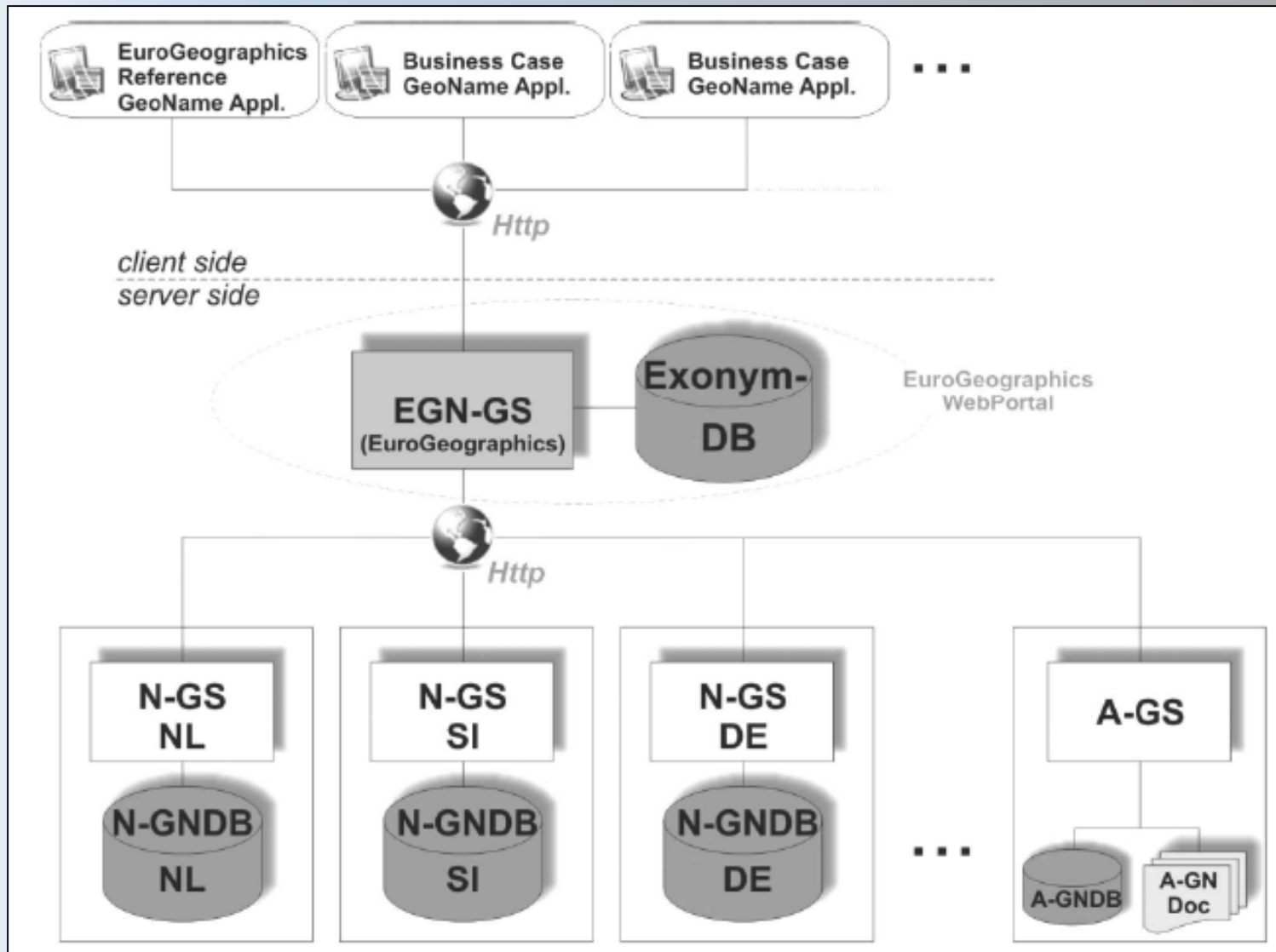


# EuroGeoNames (EGN)

<http://www.eurogeographics.org/eurogeonames>

- Started on 1st September 2006
- Successfully completed the **eContentplus funded** phase at the end of February 2009
- Implemented interoperable internet service that links to and provides access to the official, **multilingual geographical names data** held at the national level across Europe.

# Architecture



# Partnership

- Was coordinated by the Federal Agency for Cartography and Geodesy (BKG).
- **Partners** from the public (3 NMCAS from Austria, Slovenia and Germany), academic (Utrecht University, Edina National Data Centre) and the private sectors
- **Reference group** – 15 NMCAS, including Lithuania

## **Full ‘value chain’:**

data providers > technology partners > value added service applications.

# Value for the users

(Geographic) search using **all official European languages, including minority languages**

- Value added service providers - access through a Web GIS application
- Public users – online access via Reference Application

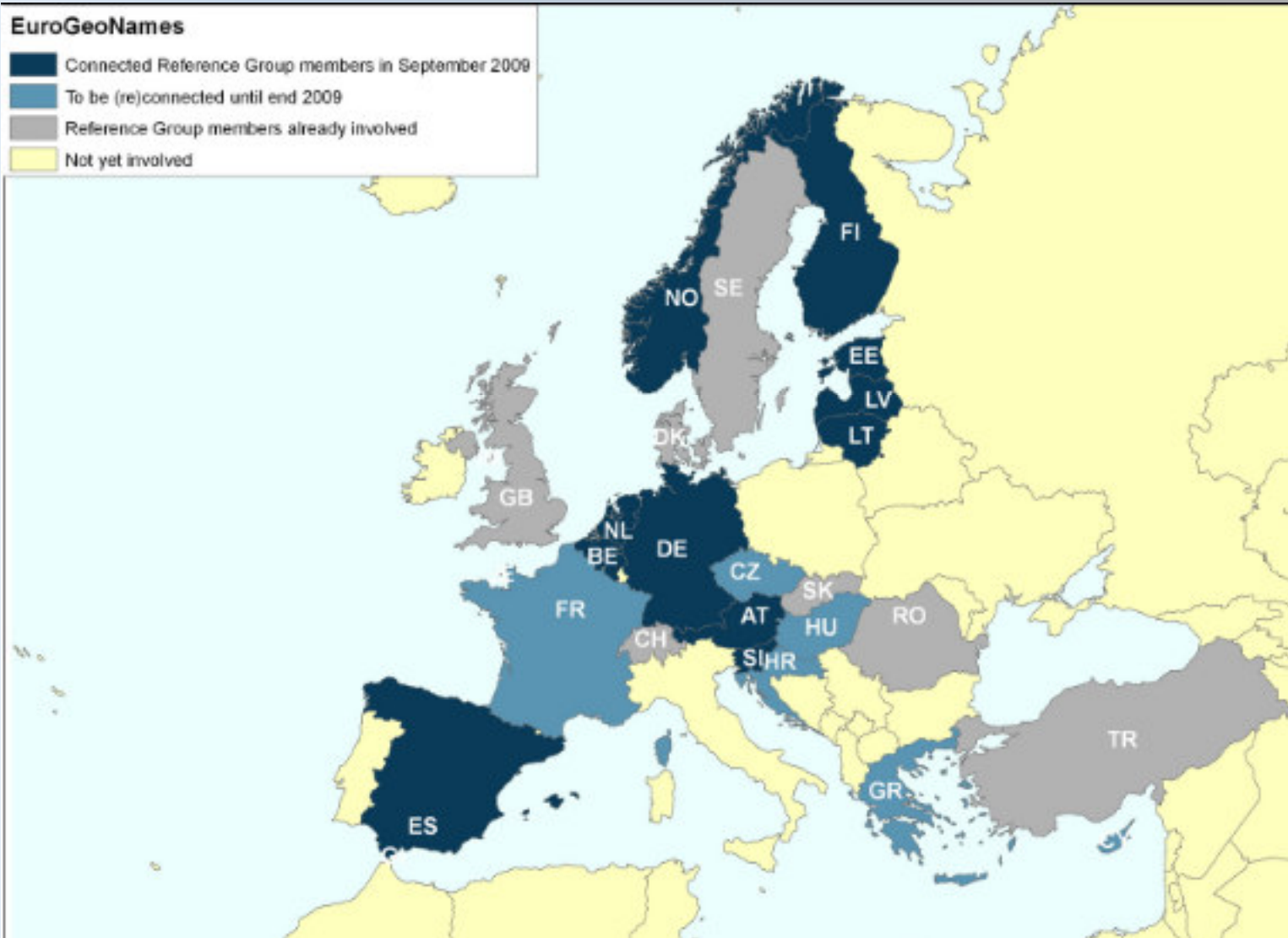
```
Request : Save the request
<?xml version="1.0" encoding="UTF-8"?><wfs:GetFeature
xmlns:wfs="http://www.opengis.net/wfs"
xmlns:gml="http://www.opengis.net/gml"
xmlns:ogc="http://www.opengis.net/ogc"
xmlns:egn="http://www.eurogeonames.eu/egn"

Response : Save the response
<?xml version="1.0" encoding="UTF-8"?>
<wfs:FeatureCollection numberOfFeatures='10'
xmlns:egn="http://www.eurogeonames.eu/egn"
xmlns:gml="http://www.opengis.net/gml"
xmlns:wfs="http://www.opengis.net/wfs"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xlink="http://www.w3.org/1999/xlink"
xsi:schemaLocation="http://www.eurogeonames.eu/egn
http://141.74.34.45:8080/egn-central-service/services?SERVICE=WFS&VERSION=1.1.0&
REQUEST=DescribeFeatureType&
TYPENAME=egn:LocationInstanceName&
NAMESPACE=xmlns (egn=http://www.eurogeonames.eu/egn)
```

WFS request and response



# Coverage

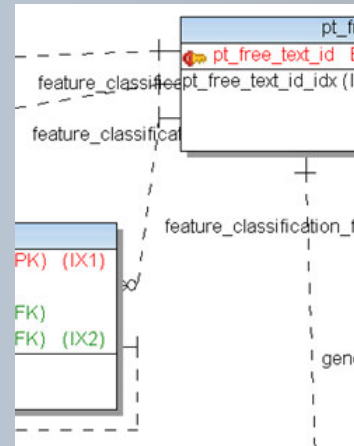


# Lithuanian contribution

- >30000 Lithuanian official place names with geographic reference
- Lithuanian exonyms
- Toponymy metadata
- Available Web service
- Reviewing, consulting, translations



OGC	ISO ID	Original language	IRIS/PIRPA*	Data type	root
placeName	1	O		Text	LT
language	3	C	X	Text	eng
characterSet	4	C		Class	J
MD_CharacterSetCode				Code	004
hierarchyLevel	6	C	X	Class	
MD_ScopeCode				Code	018
hierarchyLevelName	7	C		Text	ass
country	8	M	X	Class	
CI_ResponsibilityParty	374			Class	
individualName	375	C		Text	
organisationName	376	C		Text	Nat

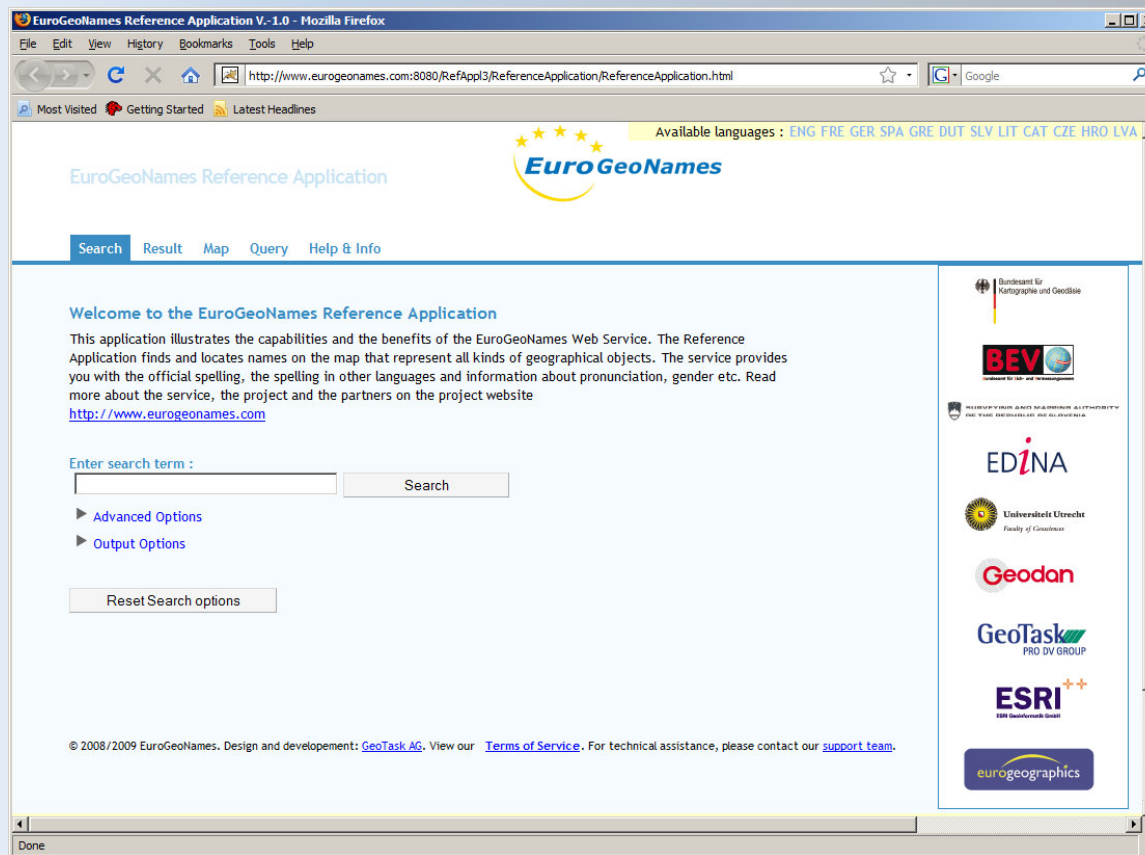


```
<?xml version="1.0" encoding="UTF-8" ?>
<wfs:WFS_Capabilities xmlns:wfs="http://www.opengis.net/wfs"
  xmlns:xlink="http://www.w3.org/1999/xlink"
  xsi:schemaLocation="http://www.opengis.net/wfs http://www.opengis.net/wfs/wfs.xsd" ?>
  <ows:ServiceIdentification xmlns:ows="http://www.opengis.net/ows" ?>
    <ows:ServiceType>WFS</ows:ServiceType>
    <ows:ServiceTypeVersion>1.0.0</ows:ServiceTypeVersion>
    <ows:Fees>None</ows:Fees>
    <ows:AccessConstraints>None</ows:AccessConstraints>
  </ows:ServiceIdentification>
  <ows:ServiceProvider xmlns:ows="http://www.opengis.net/ows" ?>
    <ows:ProviderName>GIS-Center</ows:ProviderName>
    <ows:ProviderSite xlink:href="http://www.gis-center.lt" ?>
    <ows:ServiceContact>
      <ows:IndividualName>
      <ows:OrganizationName>
    </ows:ServiceContact>
  </ows:ServiceProvider>
</wfs:WFS_Capabilities>
```

# Reference Application

[www.eurogeonames.com/RefApp](http://www.eurogeonames.com/RefApp)

Provides interface for searching geographic names online



2009:

ENG  
FRE  
GER  
SPA  
GRE  
DUT  
SLV  
LIT  
CAT  
CZE  
HRO  
LVA

# Search options: attributes

Enter search term :

▼ Advanced Options

**Advanced Search Criteria**

Search type:

Language:

Country:

*To select multiple items, hold the control button down while selecting*

Thematic Search  
Feature Classification

- Countries, administrative areas and other areas
- Populated places
- Non-residential structures and buildings
- Transport and telecommunication features
- Terrain features
- Hydrographic features
- Conservation areas
- Miscellaneous

# Search options: location

## Spatial Search

by spatial object UID

by bounding box





# Search results

Search Result **Map** Query Help & Info

EuroRegionalMap  
Satellite  
Map  
Hybrid  
Terrain

**Šakiai**

Country:	Lithuania (lt)
Feature type:	Populated places
Temporal extent:	2009-01-28T00:00:00
Latitude:	54.9570518863
Longitude:	23.8924271883
Administrator:	GIS-Centras
Last update date:	2009-01-28T00:00:00
Status:	standardized_exonym (English)
Language:	Lithuanian
Language Iso639:	lit

# Exonym database

[Berlin](#) 

Alternative Names :

Feature type :

Country :

Status :

Language :

[Βερλίνο](#) ; [Berlín](#) ; [Verolíno](#) ; [Berlijn](#) ; [Berlin](#) ; [Berliin](#) ; [Berline](#) ; [Berlynas](#) ; [Berlín](#) ; [Berliini](#) ; [Berlín](#)

Populated places

Germany

[Berlin](#) 

Feature type :

Country :

Status :

Language :


## Feature Information

### Verolíno

Country :



Feature type :

 Populated places

Temporal extent :

2009-08-11T12:28:01

Position :

52.526652826274855

13.433014200311236

Administrator :

Bundesamt für Kartographie und Geodäsie (BKG)

Last update date :

2009-09-21T12:28:10

Status :

other(English)

Language Iso639 :

gre

Alternative geographic identifier :

Βερλίνο;EU.3949 - Berlín;EU.57 -  
Berlijn;EU.276 - Berlín;EU.321 -  
Bertiin;EU.317 - Bertine;EU.2568 -  
Bertynas;EU.2531 - Berlín;EU.3201 -  
Bertiini;EU.102 - Berlín;EU.113 -  
Berlin;DE.BKGD2000000EE

Data Source :

Όνοματα Χωρην και Πρωτευουσων

Geographic identifier :

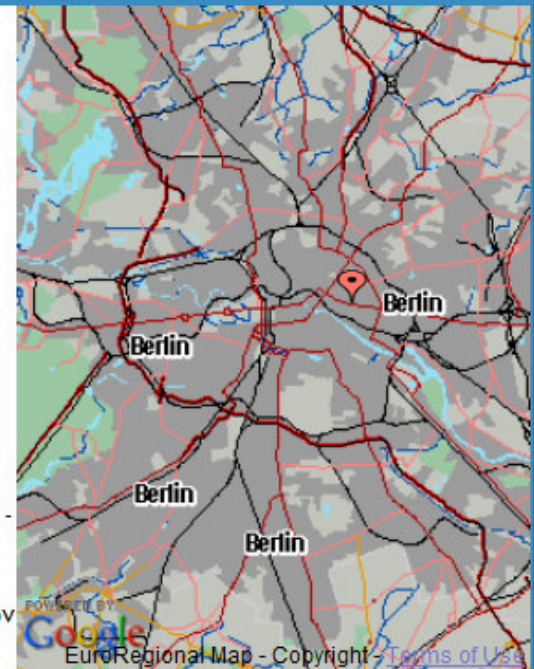
Verolíno;EU.56

Custodian :

EuroGeoNames variant names  
database

Relationship :

 [BoundingBox](#)



Close

 1 Of 1

The minimum properties of a language. The information depends on the number of result lists and displayed. Please see the Central Service Interface. Please



# EGN and INSPIRE

EGN is a **major contribution** to opening up public sector information within a wider European spatial (geographic) information infrastructure,

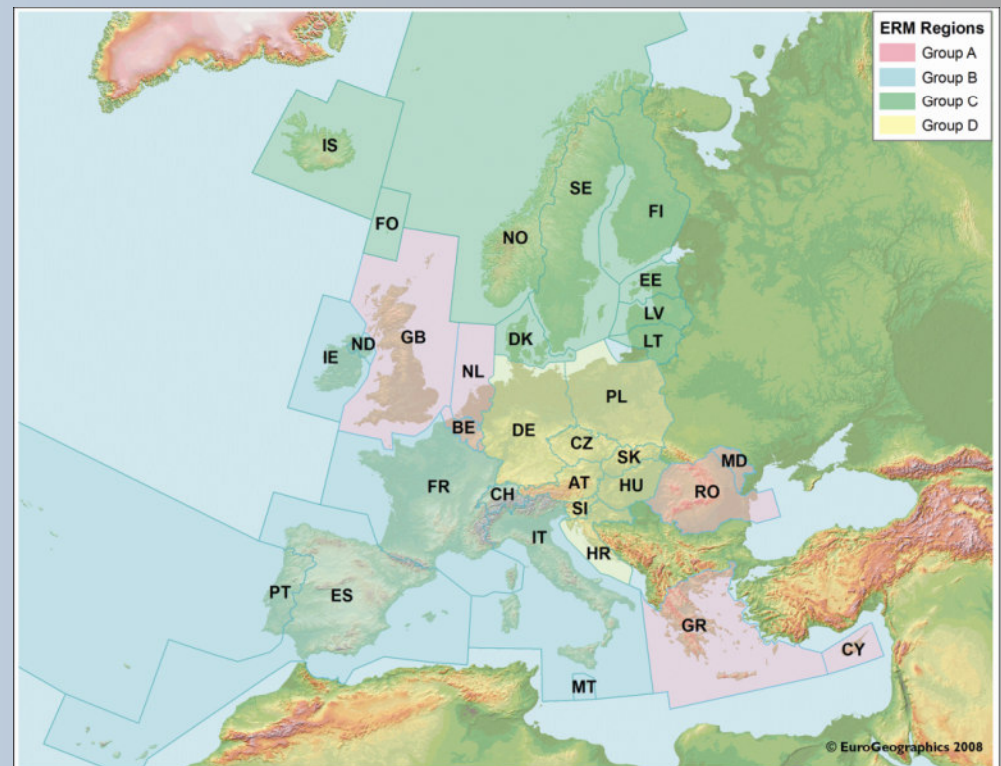
- Obeys INSPIRE implementation rules.



# EuroRegionalMap

pan European map database at medium scale

- Multi-functional topographic reference dataset
- Scale 1:250 000.
- Seamless and harmonized data



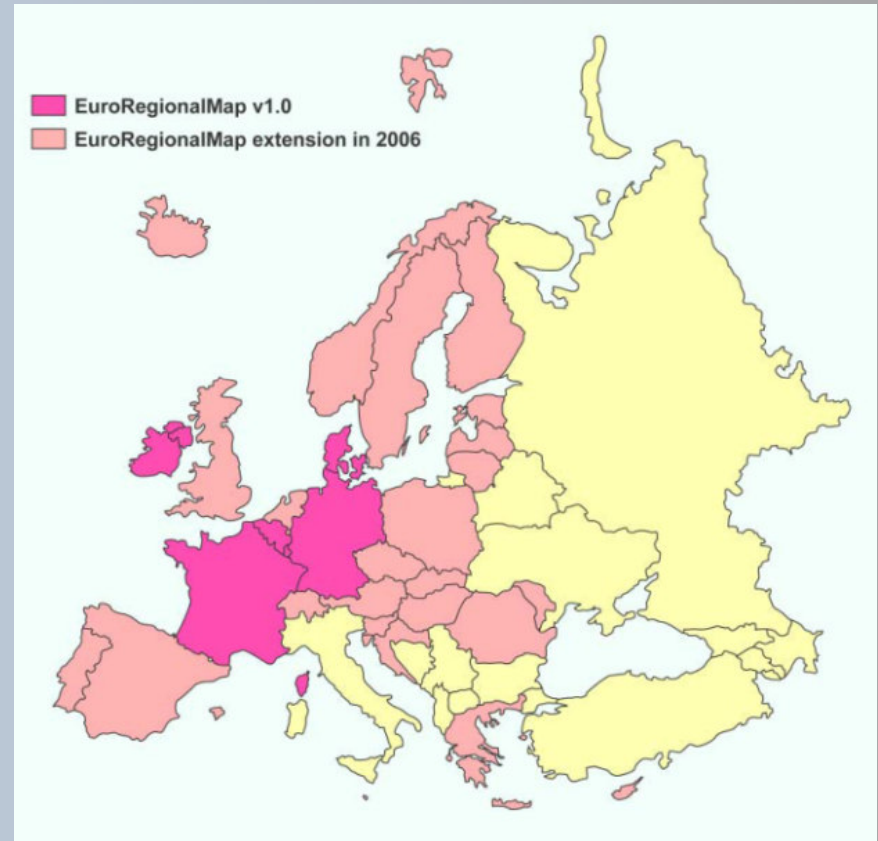
# ERM – cooperation

Produced in cooperation  
by National Mapping and  
Cadastral Agencies

Uses official national  
databases

## **32 countries:**

- 26 EU countries
- 4 EFTA countries
- Moldova, Croatia



# ERM – place names

All feature names are stored in attribute tables

Attribute fields:

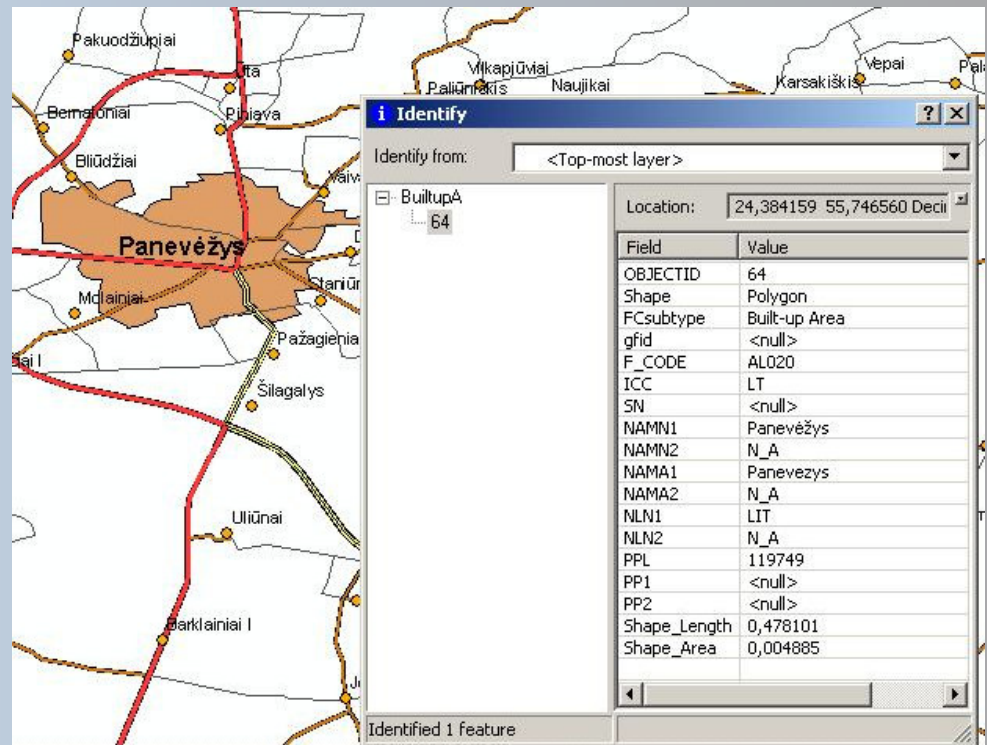
- NAMA1 names (*with national diacritics*)
- NAMN1 names (*without national diacritics*)

*Source:*

National database

GDB250LT

1:250000



# ERM – place names (1)

## Administrative boundaries

- PolbndA (areas) 624

## Hydrography

- rivers (lines) 13112
- rivers (areas) 19
- lakes, ponds 1416

## Transportation

- railway stations 237
- ferry stations 5
- international border crossing points 23
- airfields (points) 23
- airfields (polygons) 4
- roads 4070
- ferry lines 3

# ERM – place names (2)

## Populated places

- cities, towns (areas) 95
- settlements (points) 3629

## Miscellaneous (points of interest)

- power stations 18
- caves 3
- mines 62
- buildings 822

*(castles 6, hospitals 49, museums 8, police stations 49, churches 670, lighthouses 9, historic windmills 21)*

## Vegetation

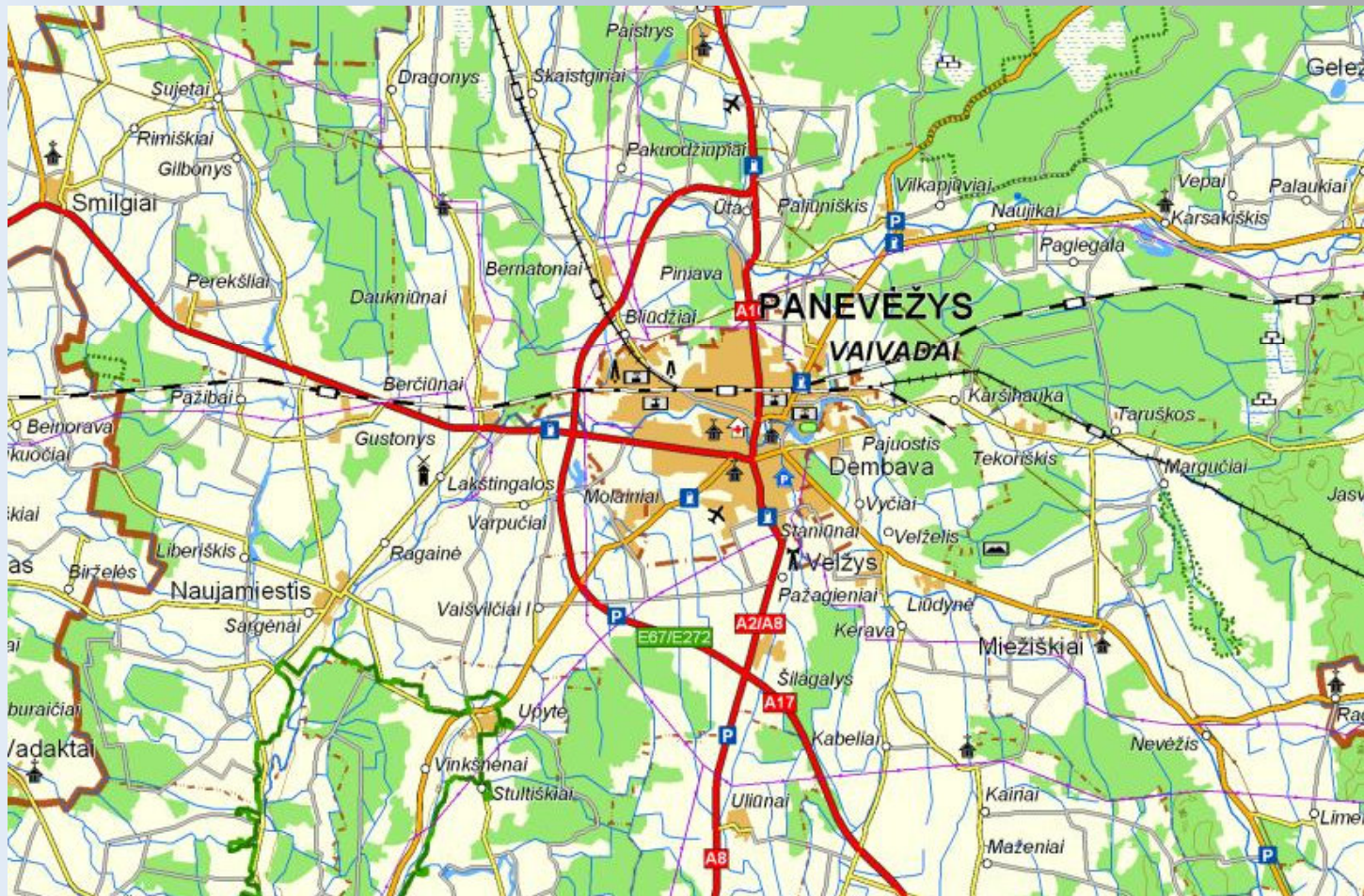
- forests 772

## Names

- geographic (physical) regions 17



# Lithuania in ERM



# Remaining problems

EGN does not encompass all European countries

EGN **will not** contribute to standardisation of exonym use at national level



EGN service is commercial

Other databases have their own structure and are not easily fed from EGN





# Really? 😊

Įveskite tekstą arba tinklalapio URL, arba [įkelkite dokumentą](#).

aš buvau Šakiuose

Vertimas: lietuvių » anglų

I was Šakiai

[paieška](#)

Įveskite tekstą arba tinklalapio URL, arba [įkelkite dokumentą](#).

Utena yra Lietuvoje

Vertimas: lietuvių » anglų

UT is in Lithuania

[paieška](#)

## Versti tekstą, tinklalapį arba dokumentą

Įveskite tekstą arba tinklalapio URL, arba [įkelkite dokumentą](#).

aš buvau Šakiuose, o jūs buvote Klaipėdoje

Vertimas: lietuvių » anglų

I was Wielkopolski, and you've been in Klaipeda



**Thank you**