



# **INSPIRE implementation – How was it done in Poland**

**Ewa Surma**

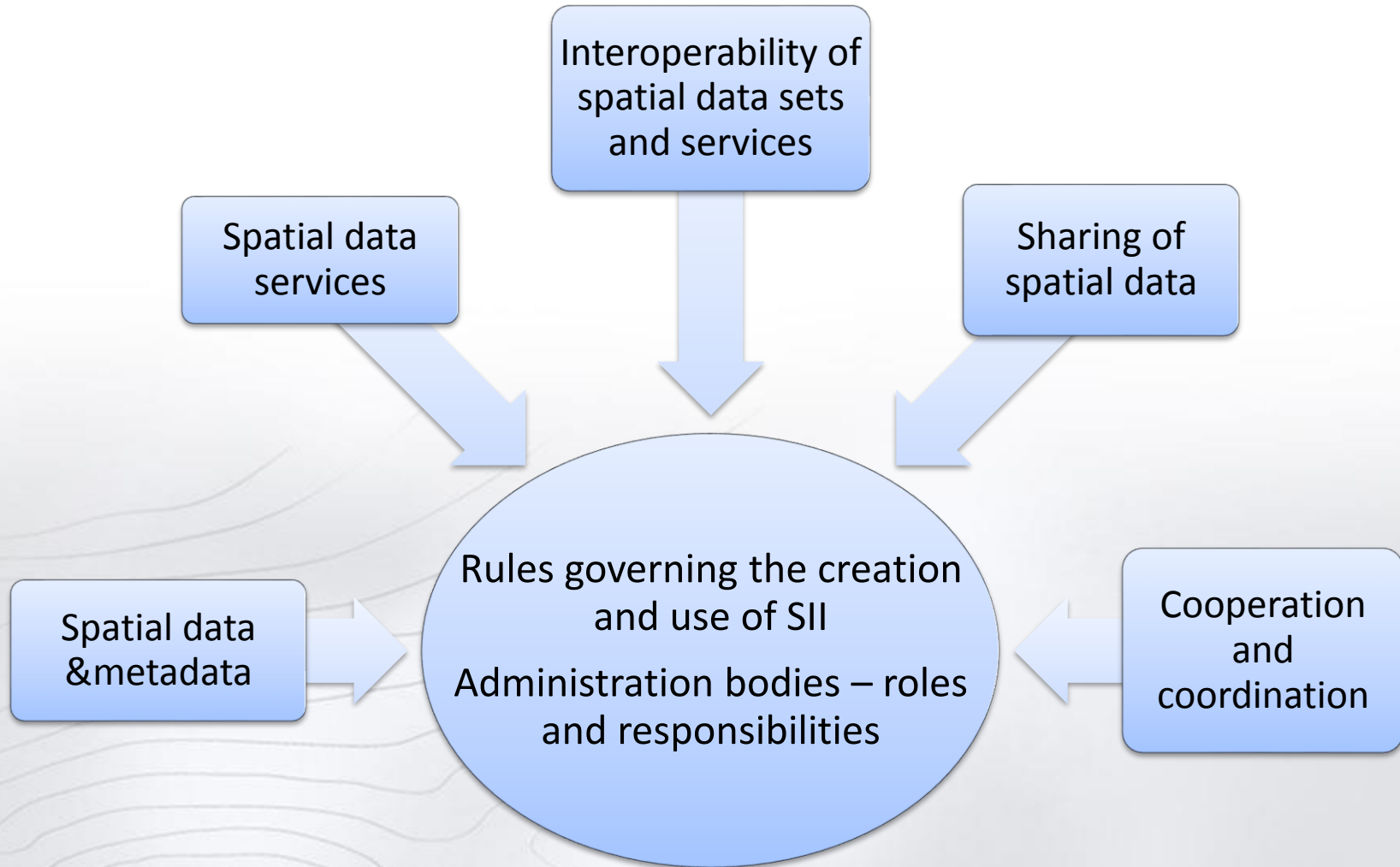
**Head Office of Geodesy and Cartography**

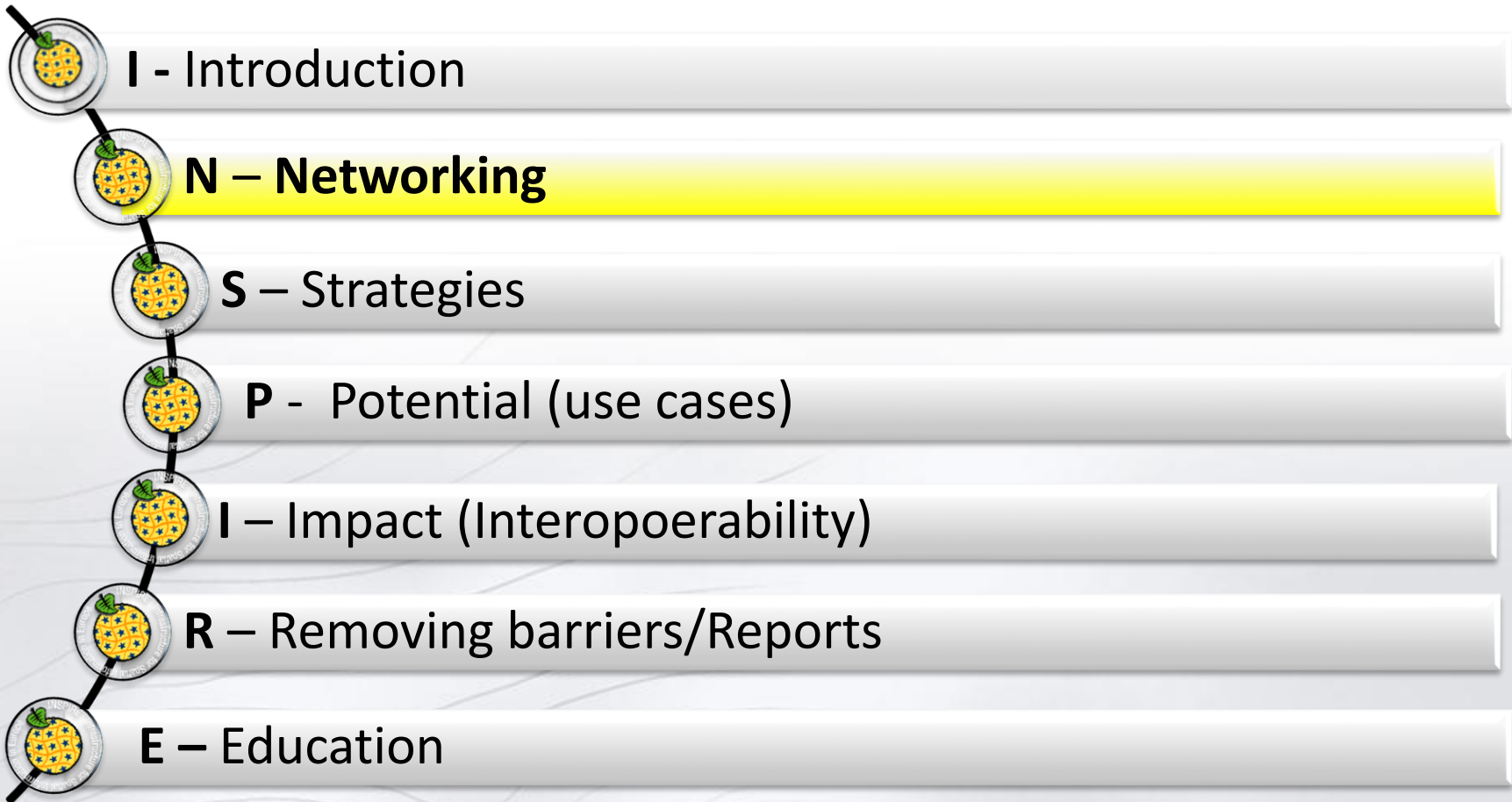
**22 February 2018, Kyiv**



-  **I - Introduction**
-  **N – Networking**
-  **S – Strategies**
-  **P - Potential (use cases)**
-  **I – Impact (Interoperability)**
-  **R – Removing barriers/Reports**
-  **E – Education**

# Introduction – SII law







## Three-level of coordination

### Level one

the coordinator for entire infrastructure - the minister responsible  
for digital affairs

Cooperation: Surveyor General of Poland, Council for Spatial Information Infrastructure

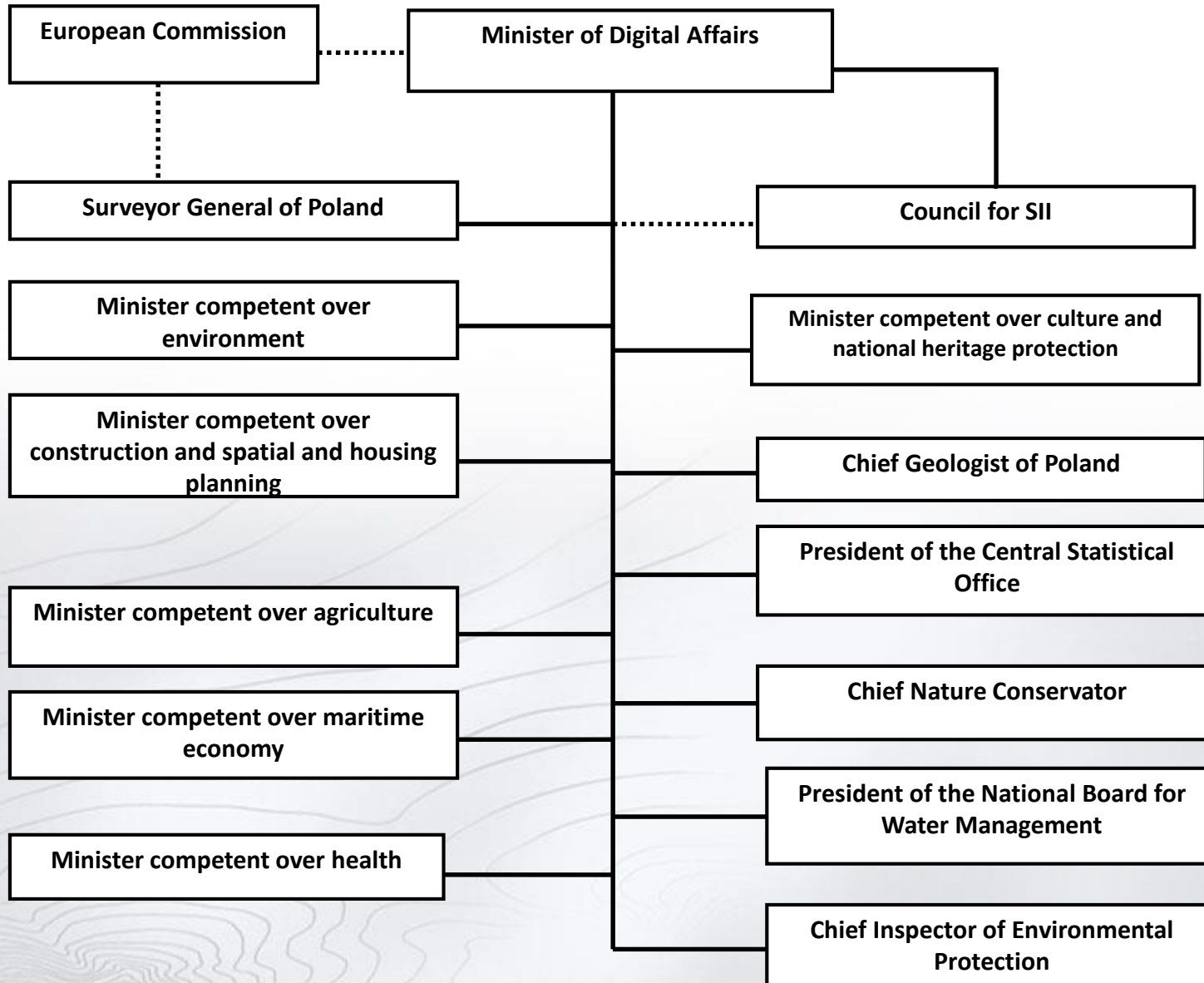
### Level two

leading public bodies in the 12 thematically defined parts of  
infrastructure

### Level three

other bodies that keep public registers, which  
contain spatial data included in the infrastructure.

# Networking

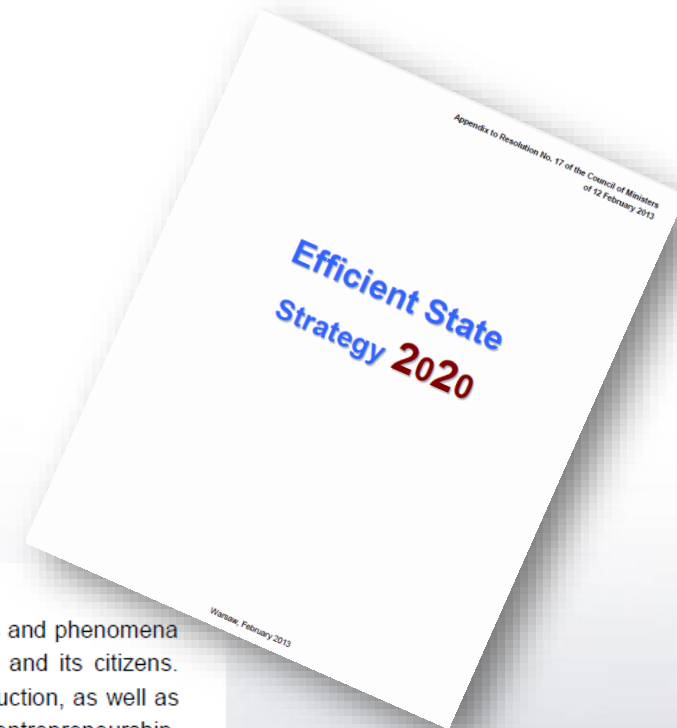








- Proper rank to spatial information
- Spatial information is „located” in different governmental strategies:
  - Efficient State
  - Integrated Computerisation of the State
  - Operational Programme - Digital Poland



### *3.2.3. Supporting the development of the use of spatial information using digital technology.*

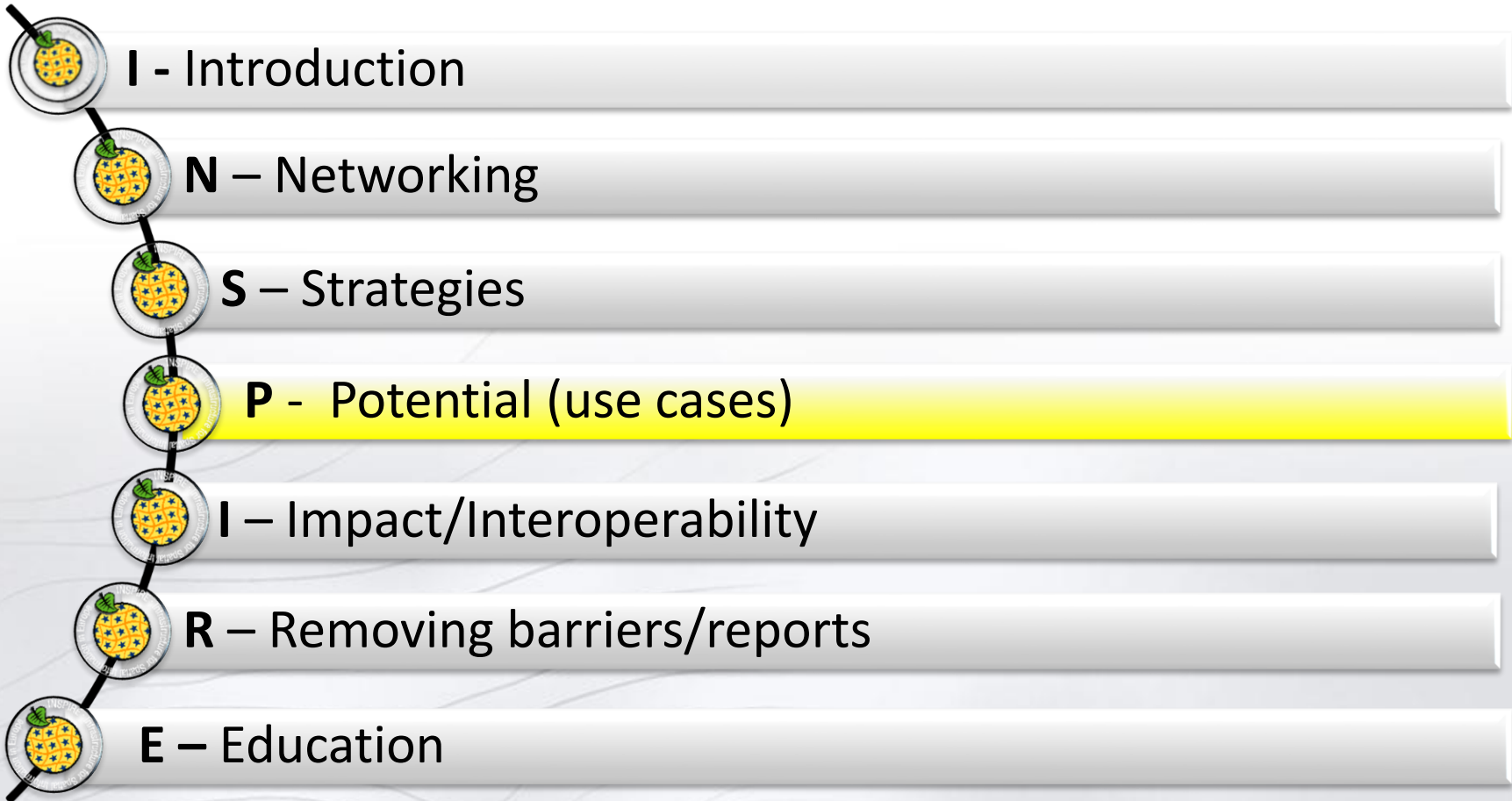
Access to current and accurate spatial information includes data on the geographical environment, objects and phenomena throughout space surrounding the man is essential to the proper functioning of the state, its economy and its citizens. Spatial information is used in almost all sectors of the economy – including in agriculture, forestry, construction, as well as public administration and private business activity. In order to build an information society, develop entrepreneurship, develop innovation and improve the competitiveness of businesses the market, and to ensure economic development of the state, widespread and easy access to spatial information in electronic form is essential. Harmonised data and services, under standardised rules, are provided by the government's geoportal.

The service [Geoportal.gov.pl](http://Geoportal.gov.pl)<sup>105</sup>, indicated in the report of the European Commission on e-government across the European Union as an example of best practice in access to public services via the Internet, provides affordable, high quality and interoperable services that contribute both to an increase in the need for using Internet by citizens, businesses, emergency services, groups of social exclusion and public administration, as well as to the development of digital literacy and an increase in effectiveness of actions (saved time of settling official matters, fewer paper documents, shorter service time in offices, lower costs of functioning of the state and local government) in those areas of life where direct relationship “the state-citizen” is necessary. Interoperable services are available in a range of spatial data in the state and in the spatial data INSPIRE.

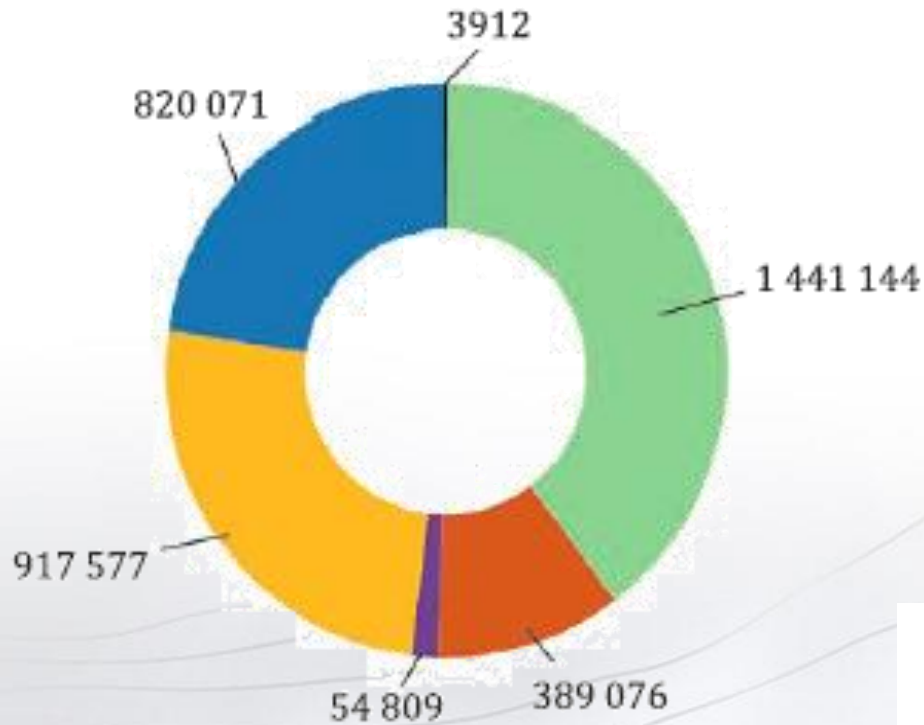
Interoperability of systems created by public administration bodies, including the provision of services, is crucial in the construction of e-government. The integration of systems and the use of services offered by the government's geoportal



# Potential –use cases



# Potential of geoinformation

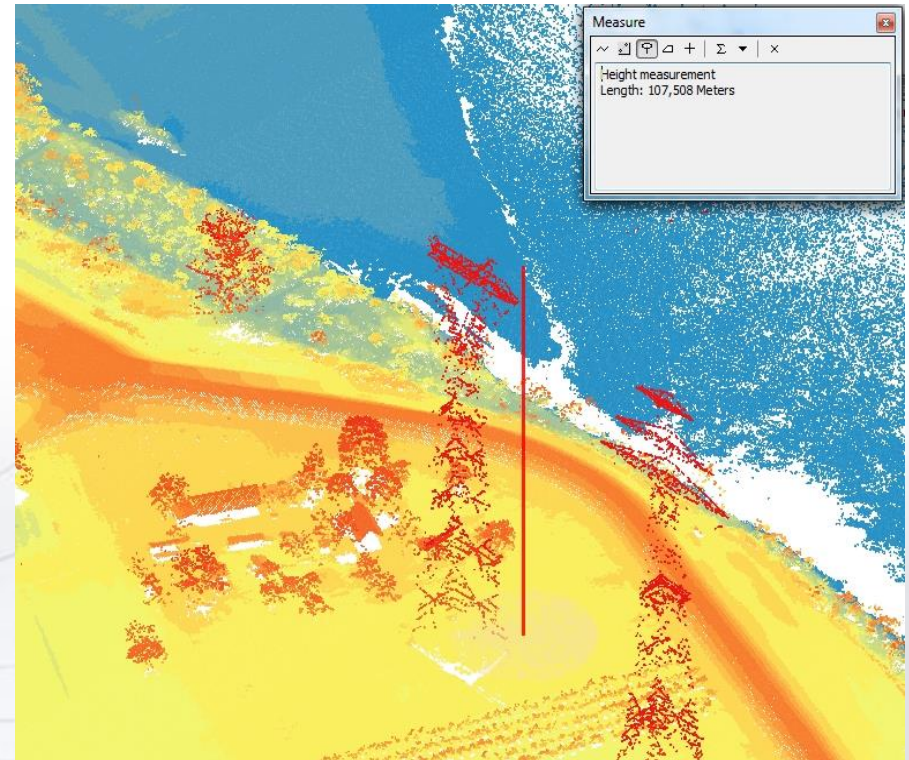


- Safety and crisis management
- Spatial economy
- Science
- Land Surveying and Cartography
- Environment
- Tourism and recreation

# Use cases



- Identification and verification of aviation obstacles,
- Widely available information on aviation obstacles (for pilots of different aircraft),
- Constantly updated and accurate information about traffic, obstacles,
- Increased security in the airspace,
- Reduce costs in the process of gathering information about obstacles.



Measuring the height of aviation obstacles (Source: Civil Aviation Authority)

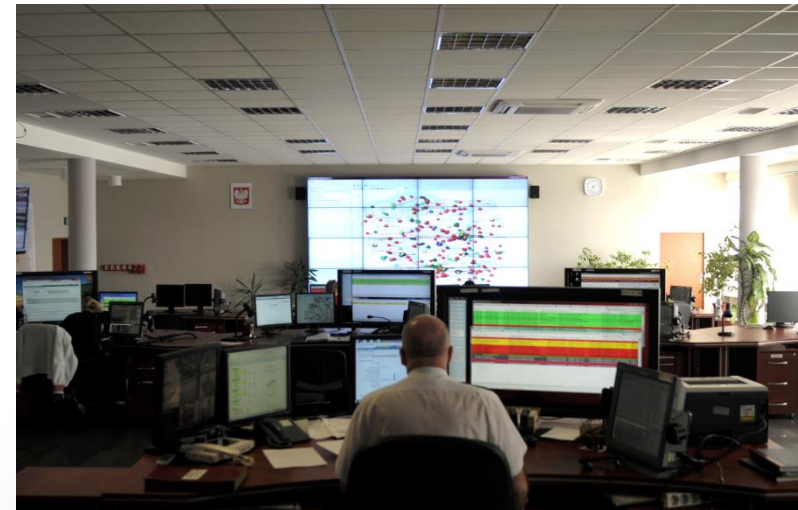




## Universal Map Module (UMM)

- Collection of software components enhancing functionality of Polish Emergency Services
- Implemented in:
  - Police
  - Regional Emergency Management Centres (112)
  - Ambulance Service
  - Fire Service

The module is using spatial data and emergency services operating data, enables the location of a particular event (accident) and the shortest possible route to that location.



# Potential – use cases



## National Map of Public Safety

Wyszukaj w Geoportal

POLICJA

Legenda

Zgłoszenia 9

0.05km  
Nieprawidłowe parkowanie  
Data zdarzenia: 2017-03-17

0.25km  
3 Grupa zgłoszeń

0.39km  
Nieprawidłowe parkowanie  
Data zdarzenia:

0.44km  
2 Grupa zgłoszeń

0.50km  
Nieprawidłowe parkowanie  
Data zdarzenia:

0.51km  
Żebractwo  
Data zdarzenia: 2017-02-27

Nieprawidłowe parkowanie  
Data zdarzenia: 2017-03-17  
Status: Nowe  
[Powiększ do](#)

Wola  
Mirów

Can be used to pinpoint the location of anything that may threaten public security or citizen safety



# Potential – use cases



## National Security Map - potentially dangerous situations



- Homeless people
- Unlisted swimming area
- Grouping area of adolescents endangered by demoralization
- Dangerous location on waters
- Unprotected railway pedestrian crossing
- Unprotected grade crossing
- Damaged road infrastructure
- Drowning
- Drugs abuse
- Homeless dog
- Collision with wild animal
- Traffic organisation problem



# Address dictionary service



Dictionary services provide reference dictionary data on the address system, ie dictionaries of towns, streets and addresses. These dictionaries are made available in two modes: on-line and off-line, differing in both the basic purpose of use and the way in which access to dictionary data is organized.



Returns address data in simple, flat structure

One record contains complete information about one address point

Supports SOAP, REST and HTML interfaces

Data returned in XML and JSON

Online documentation <http://www.geoportal.gov.pl/uslugi-slownikowe>

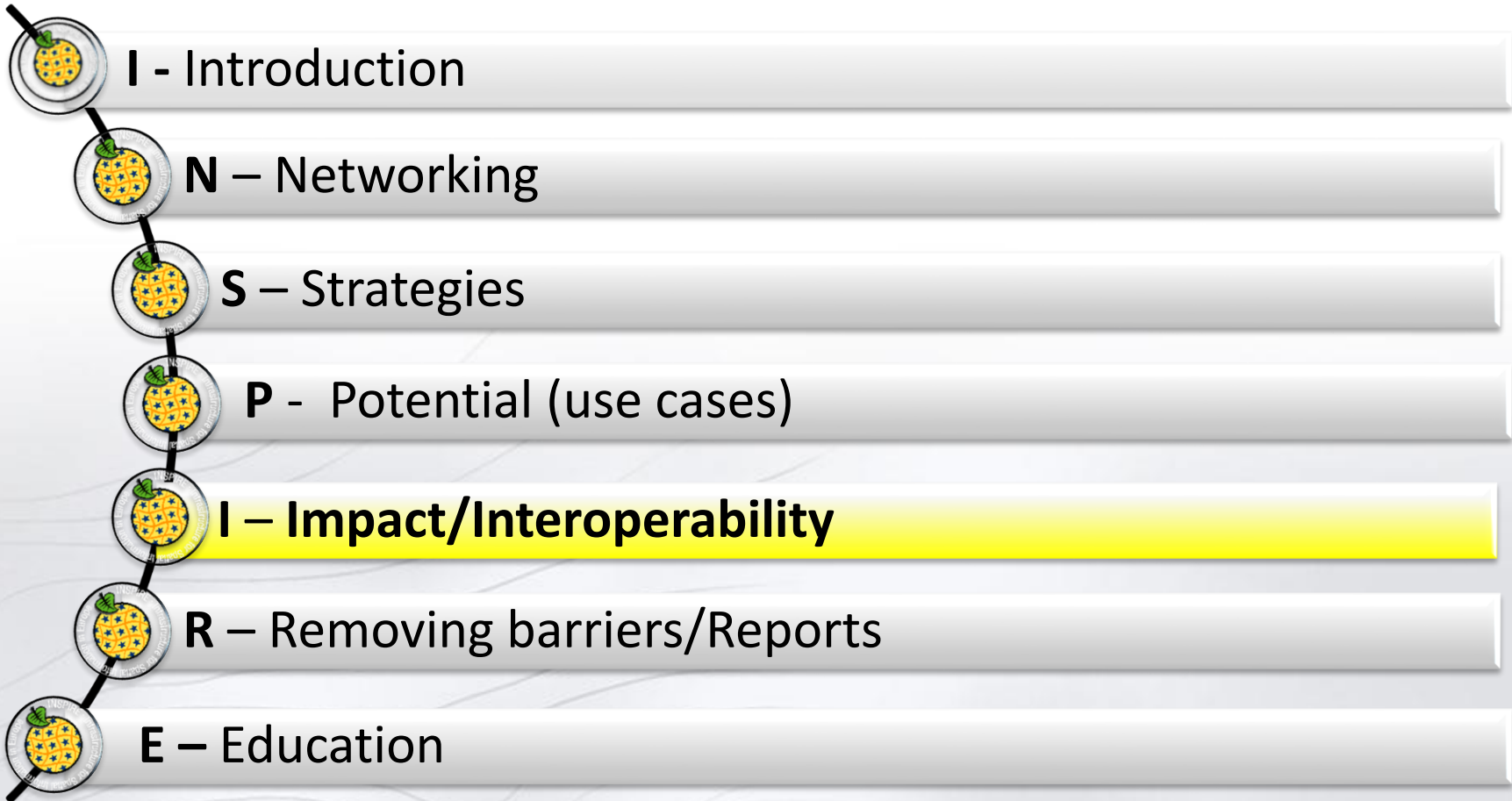




## Response example

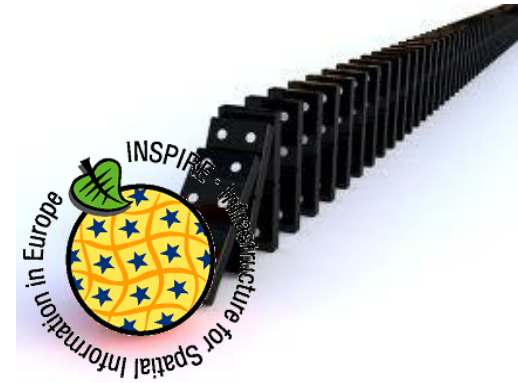
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  <sln:cyklZyciaOd>2015-12-30T00:00:00+01:00</sln:cyklZyciaOd>
  <sln:gmIIPId>0a4e6175-67cf-4cbc-9295-f90541149f7e</sln:gmIIPId>
  <sln:gmIIPPn>PL.PZGIK.200</sln:gmIIPPn>
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  <sln:gmIdTeryt>2605033</sln:gmIdTeryt>
  <sln:gmNazwa>Końskie</sln:gmNazwa>
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</sln:adres>
```





**Implementing rules to the geodetic and cartographic law - 14 enactments concerning the state geodetic and cartographic resources**



**Implementing rules assume:**

- **official reference character of geodetic and cartographic registers**
- **harmonization of the collections of state resource**
- **integration**
- **interoperability**
- **GML standards for exchanging data**

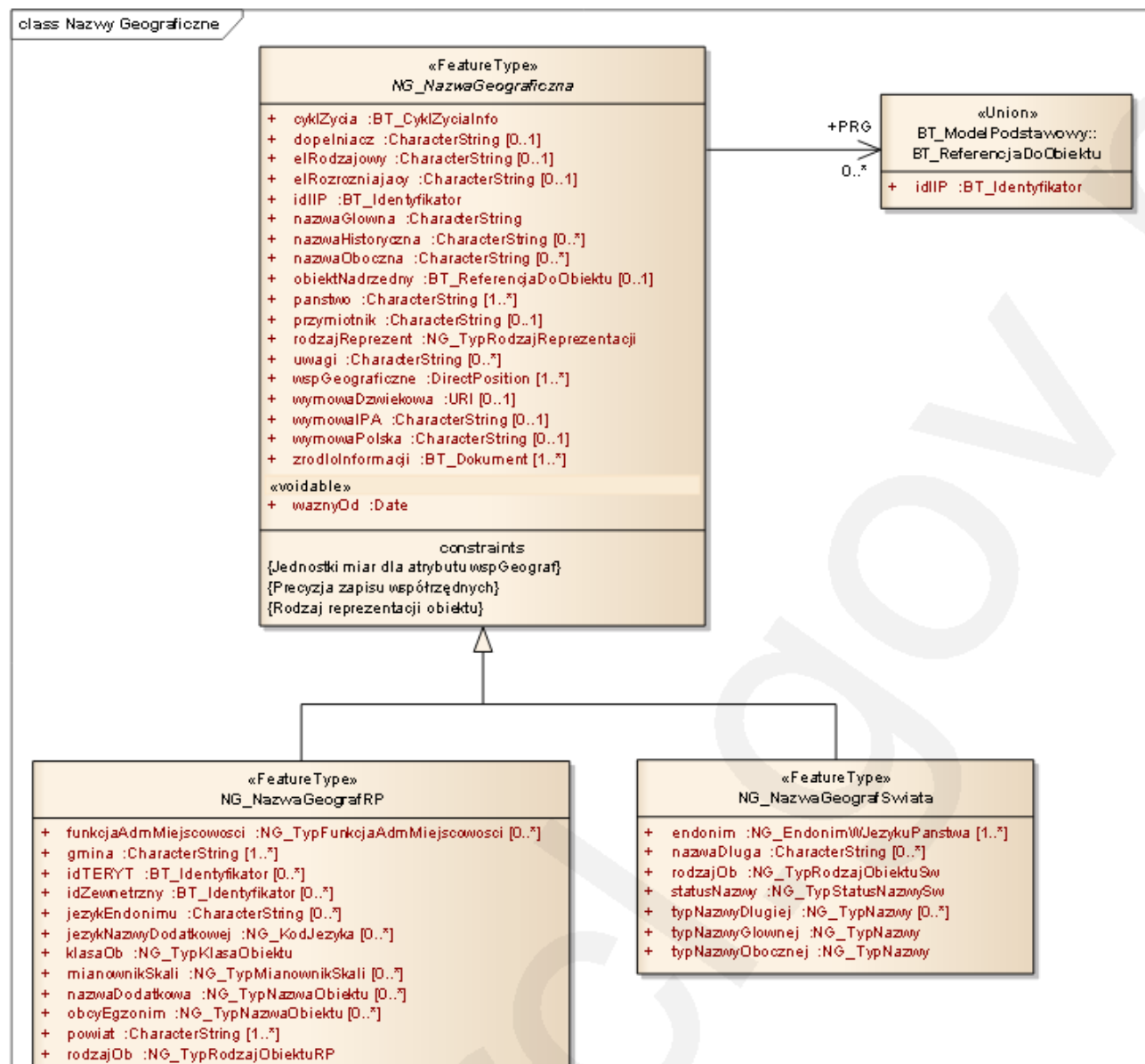






- BUILDINGS,  
CONSTRUCTIONS
- ROADS NETWORK
- WATER NETWORK
- LAND COVER
- LAND USE
- PROTECTED AREA
- UTILITIE NETWORK
- ADMINISTRATIVE  
BORDERS

# Application schema in UML





# GML – format for data exchange



## EGiB

```
<complexType name="BDZ_JezdniaType">
  <complexContent>
    <extension base="bdz:BDZ_ObjektBDOT500Type">
      <sequence>
        <element name="materialN" type="bdz:BDZ_RodzNawType"/>
        <element name="rodzajKomun" type="bdz:BDZ_RodzKomunType"/>
        <element name="poziom" type="bdz:BDZ_PoziomType"/>
        <element name="nazwa" type="bdz:BDZ_NazwaType"/>
      </sequence>
    </extension>
  </complexContent>
</complexType>
```

## GESUT

```
type="ges:GES_KorytarzPrzesylowyPropertyType">
  <annotation base="gml:AppInfo" appinfo="<appinfo>"/>
</complexType>
```

## BDOT500

```
<complexType name="BDZ_Kraweznik" type="bdz:BDZ_KraweznikType"
  substitutionGroup="bdz:BDZ_ObjektBDOT500">
  <complexContent>
    <extension base="bdz:BDZ_ObjektBDOT500Type">
      <sequence>
        <element name="nazwa" type="bdz:BDZ_NazwaType"/>
      </sequence>
    </extension>
  </complexContent>
</complexType>
```

## BDOT10K

```
<complexType name="BDZ_JezdniaType">
  <complexContent>
    <extension base="bdz:BDZ_ObjektBDOT10KType">
      <sequence>
        <element name="materialN" type="bdz:BDZ_RodzNawType"/>
        <element name="rodzajKomun" type="bdz:BDZ_RodzKomunType"/>
        <element name="poziom" type="bdz:BDZ_PoziomType"/>
        <element name="nazwa" type="bdz:BDZ_NazwaType"/>
      </sequence>
    </extension>
  </complexContent>
</complexType>
```

**GML format for exchanging data  
\*.gml**

```
<attributeGroup ref="gml:AssociationAttributeGroup"/>
<attributeGroup ref="gml:OwnershipAttributeGroup"/>
</complexType>
```

```
<complexType name="BDZ_NazwaType">
  <simpleContent base="string"/>
  <attribute name="gml:id" type="string" use="optional" value="<nilReason"/>
</complexType>
<complexType name="BDZ_GeometriaType">
  <simpleContent base="string"/>
  <attribute name="gml:id" type="string" use="optional" value="<nilReason"/>
</complexType>
type="gml:GeometricPrimitivePropertyType">
  <complexType name="BDZ_GeometriaType" substitutionGroup="gml:GeometricPrimitivePropertyType" base="gml:GeometricPrimitivePropertyType"/>
  <complexContent>
    <extension base="gml:GeometricPrimitivePropertyType">
      <sequence>
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        <element name="geometria" type="BDZ_GeometriaType"/>
      </sequence>
    </extension>
  </complexContent>
</complexType>
```

# National geodetic and cartographic resource on-line



Zaloguj się lub załóż konto

[geoportal.gov.pl](https://geoportal.gov.pl)

Portal PZGIK

Przejdź do mapy

 Zintegrowane Kopie BDOT10k	 Mapy topograficzne	 Mapy tematyczne i specjalne	 Rejestr podstawowych osnów geodezyjnych	 Fotogrametryczne zdjęcia lotnicze
 Ortofotomapy	 Numeryczne Modele Terenu	 ASG-EUPOS	 Zgłoszenia prac geodezyjnych i kartograficznych	 Dane bezpłatne
 Weryfikacja licencji				

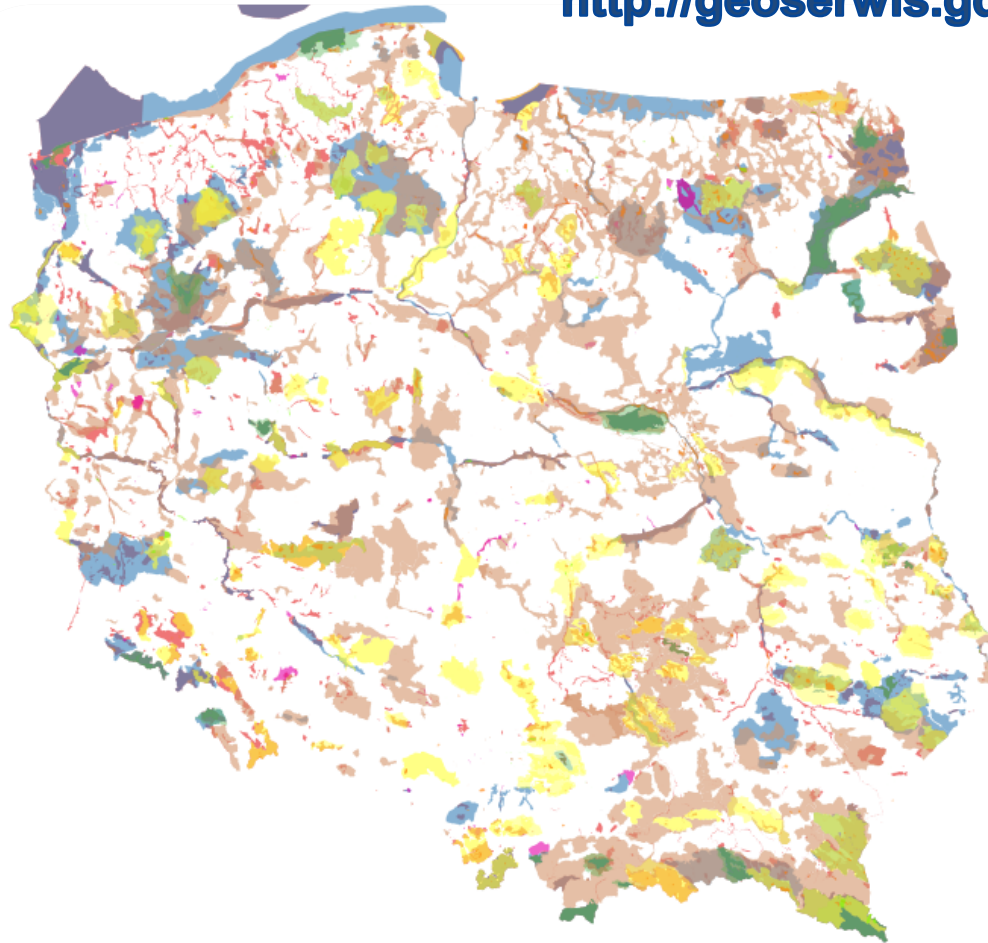
<https://pzigik.geoportal.gov.pl/imap/>

Dedicated online service was launched enabling clients to request and purchase data from the National Geodetic and Cartographic Resource (PZGIK). In addition to making requests, the portal also allows electronic payment and the downloading of purchased data and licenses. This is one of the most demanded and successful services for surveyors.

# Potential of Polish NSDI



<http://geoserwis.gdos.gov.pl/mapy/>



GENERALNA DYREKCJA OCHRONY ŚRODOWISKA

**Legenda**

- Ortofotomapa
  - Ortofotomapa GUGIK
- Obszary chronione
  - Pomniki Przyrody
  - Użytki Ekologiczne
  - Rezerваты \*
  - Parki Krajobrazowe \*
  - Parki Narodowe \*
  - Obszary Chronionego Krajobrazu \*
  - Zespoły Przyrodniczo-Krajobrazowe \*
  - Natura 2000 - obszary ptasie
  - Natura 2000 - obszary siedliskowe
  - Stanowiska Dokumentacyjne \*
- Procedowane zmiany granic Natura 2000
- Proponowane zmiany granic Natura 2000
- Inne dane środowiskowe
- Przejścia dla zwierząt
- Ośrodki rehabilitacji zwierząt
- Multimedia
- Dane o charakterze katastralnym
- Państwowy Rejestr Granic
- Państwowy Rejestr Nazw Geogr.

więcej... \* - dane w weryfikacji i aktualizacji

**Network services (WMS, WFS, CSW) 1,8mln  
- 2mln requests per day (!)**



# Potential of Polish NSDI



← → ↻ <https://mapy.zabytek.gov.pl/nid/>





Wyszukiwanie    Narzędzia    Źródła danych    Pomiar

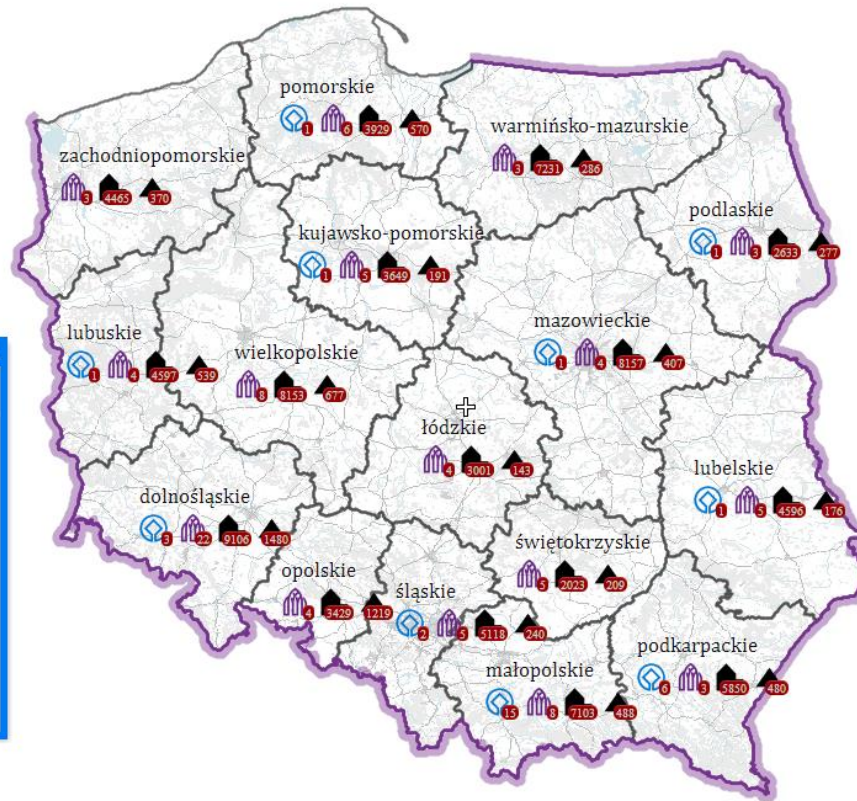
<https://mapy.zabytek.gov.pl/nid/>



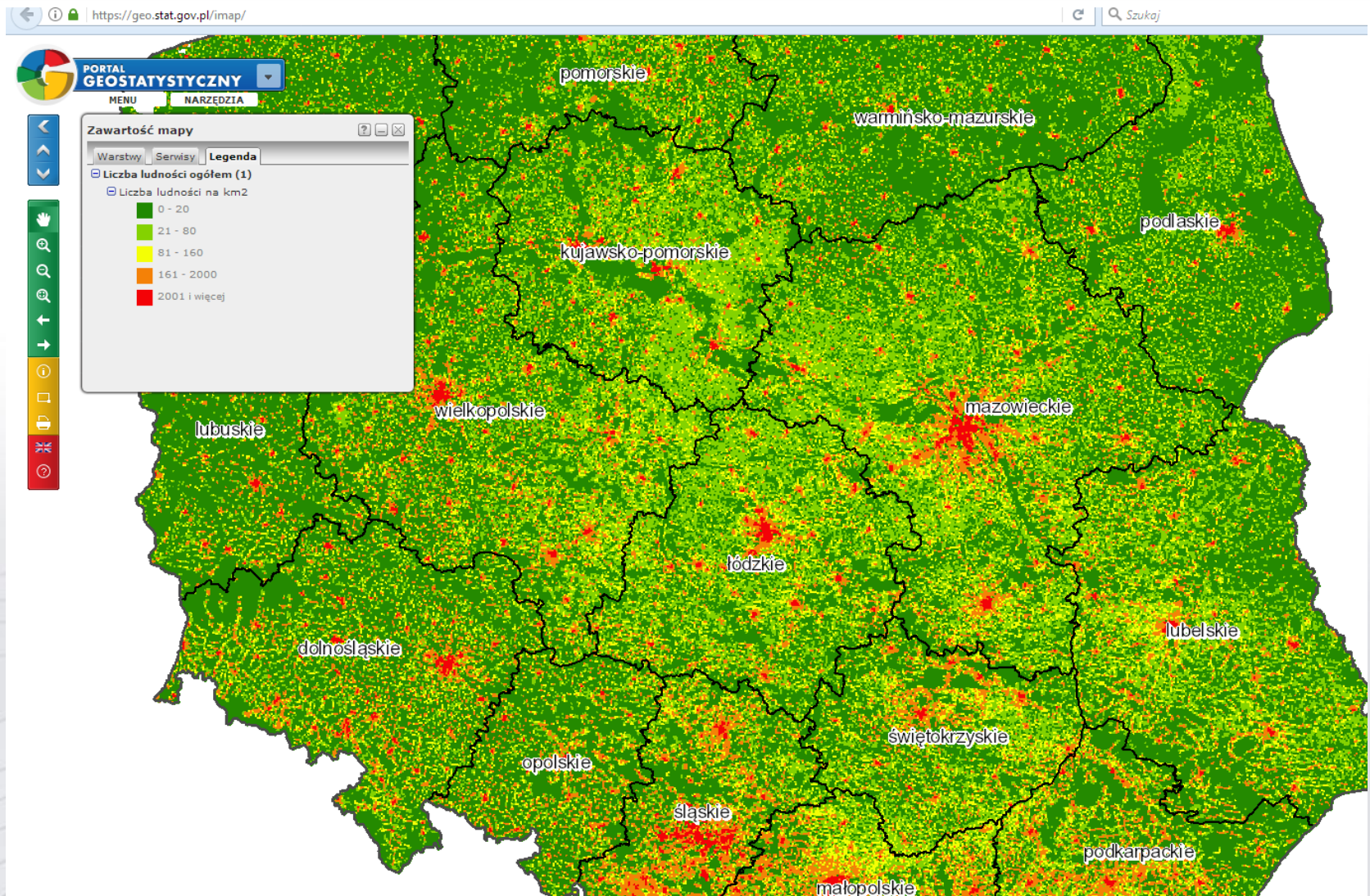
## National Heritage Board of Poland

**Zawartość mapy** ×

Legenda	Warstwy	Klasyfikacja
 <input checked="" type="checkbox"/>		Lista Światowego Dziedzictwa UNESCO (32)
 <input checked="" type="checkbox"/>		Pomnik Historii (92)
 <input checked="" type="checkbox"/>		Zabytki nieruchome (76204)
 <input checked="" type="checkbox"/>		Zabytki archeologiczne (7752)



# Potential of Polish NSDI





# Removing barriers





# Removing barriers



**Removing barriers with the access and use of data**

**Registers free of charge:**

- **National Register of Boundaries and Areas of territorial division units of the country;**
- **National Register of Geographic Names,**
- **NMT – Digital Terrain Model (100m),**
- **BDO250 - Database of general geographic objects**



**For educational and research purposes all data from geodetic and cartographic resource available for free**

**(above data sets are the source data sets for INSPIRE themes (Annex I and Annex II))**

# Removing barriers – towards open data policy



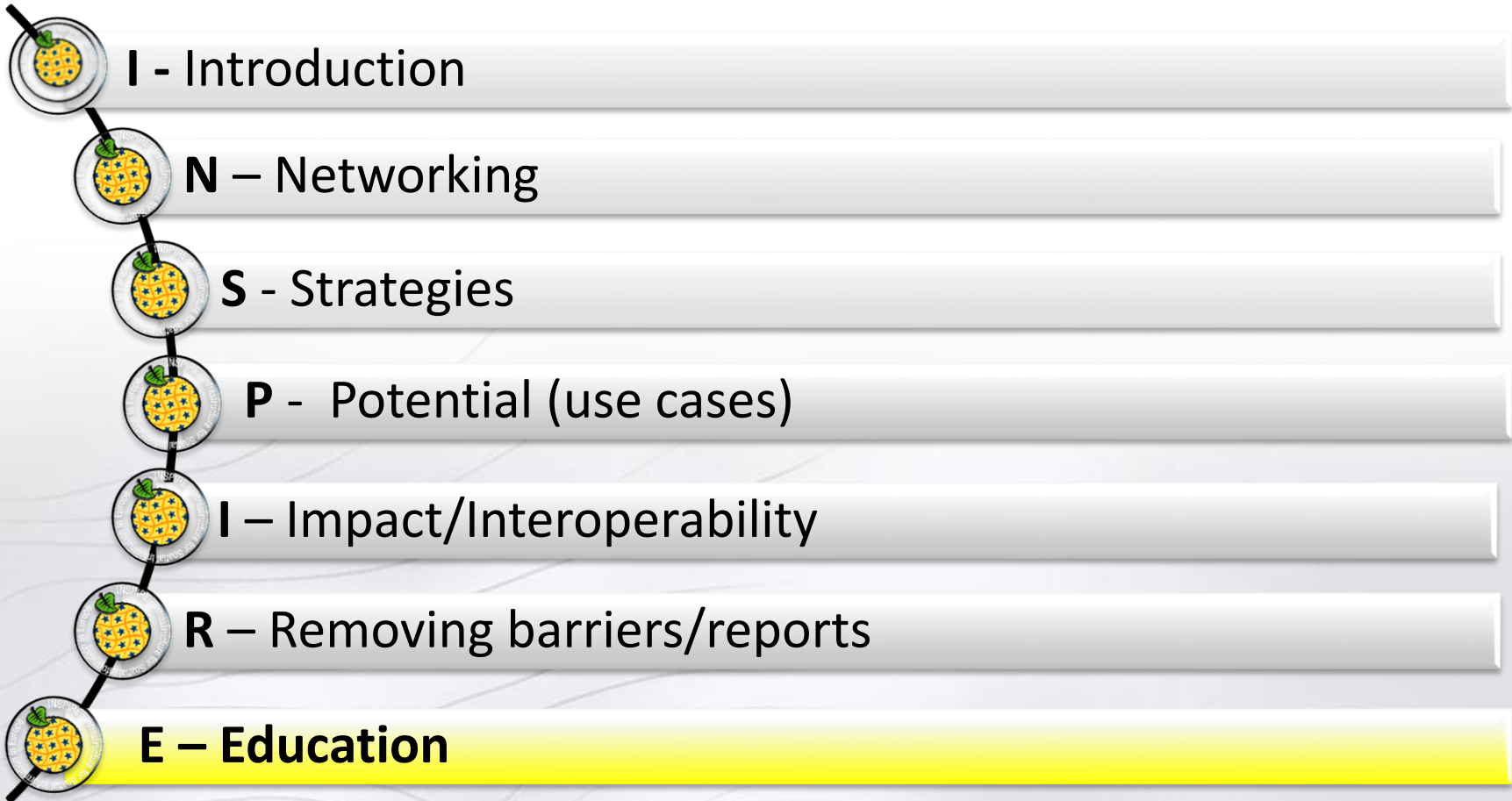
- The Program for Opening Public Data
- The first governmental document in Poland dedicated to opening of public data
- The program's preparation was preceded by the study of needs of shareholders that use the data for a variety of purposes: commercial, scientific, research, etc.
- Main aim is to improve quality and quantity of available data via single website - [danepubliczne.gov.pl](http://danepubliczne.gov.pl)

Choose a category of data that interests you

<p>Public Administration</p>	<p>Business and Economy</p>	<p>Budget and Public Finance</p>	<p>Education</p>
<p>Employment and Social Assistance</p>	<p>Agriculture</p>	<p>Society</p>	<p>Sports and Tourism</p>
<p>Environment</p>			



<b>Dataset</b>	<b>Number of requests (all types of services)</b>
Topographic Map (BDO)	488 809 208
Topographic Map (BDOT10k)	379 990 280
Scans of Topographic Map – Raster	359 380 040
Orthoimagery	316 435 126
Cadastral Parcels	211 013 617
Topographic Map (Vmap)	57 804 515
DTM – Relief	47 321 468
Thematic Maps	47 163 332





# Education



„At the national level, there is a need to increase communication, **education** and **training** measures necessary to implement INSPIRE [...]. *Mid term evaluation report on INSPIRE implementation, 2014*

„Leading bodies within their jurisdiction [...] are obliged to create and implement training [...]” Polish Act on SII

Education and trainings for public administration  
to support INSPIRE implementation and NSDI development 2009-2012

We still continue with this action and propose other trainings e.g. in 2016 we started project PO WER “Improving digital skills of e-government - training programs and publications for users of spatial information infrastructure”



# SUMMARY



## AWARENESS

Awareness of spatial information



Cooperation and coordination



Data Quality



Support education





Thank you for your attention !

[ewa.surma@gugik.gov.pl](mailto:ewa.surma@gugik.gov.pl)