USE OF AVAILABLE DATABASES AND THE WAY THEY ARE AGREGATED IN THE PROCESS OF INFRASTRUCTURE MAPPING

Joanna Antczak, Head of Unit
Department of Data Monitoring, UKE

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# Databases used by the Office of Electronic Communications

<table>
<thead>
<tr>
<th>Name</th>
<th>Operator</th>
<th>Scope</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIIS - Information System on Broadband Infrastructure</td>
<td>UKE – Office of Electronic Communications</td>
<td>Data about telecommunications infrastructure and planned investments in Poland</td>
</tr>
<tr>
<td>PRG - Polish National Register of Boundaries</td>
<td>GUGIK – General Office of Geodesy and Cartography</td>
<td>Data about boundaries and areas of territorial division units of Poland</td>
</tr>
<tr>
<td>BDOT10K - Topographic Database</td>
<td>GUGIK</td>
<td>List of all topographical objects</td>
</tr>
<tr>
<td>PESEL - Universal Electronic System for Registration of the Population</td>
<td>MSWiA – Ministry of the Interior and Administration</td>
<td>Database of national identification numbers. Contains data about every resident of Poland. Provides age diagram.</td>
</tr>
<tr>
<td>TERYT - National Official Register of the Territorial Division of the Country</td>
<td>GUS - Central Statistical Office</td>
<td>Systems of identifiers and names of units of territorial division and localities, statistical regions and census enumeration areas, identification of addresses of streets, real estates, etc.</td>
</tr>
<tr>
<td>Demographics Database</td>
<td>Commercial Supplier</td>
<td>Variables representing living population, building types, commercial activity</td>
</tr>
</tbody>
</table>
Information System on Broadband Infrastructure (SIIS) Database
Data about infrastructure and investments

Local Government Entities (JST)

Companies (PT)

Public Utility Enterprises (PUP)

National Institute of Telecommunications

UKE

SIIS

Report of territorial coverage in Poland:

Infrastructure

Investments

Buildings providing collocation service

Services

www.teleinfrastruktura.gov.pl
Network model implemented in regulation

Addresses supplied by access network

Uninventoried Lines

Lines (mainly FO)

Nodes

Access

Distribution

Backbone
Node A

Number of pairs

Throughput

Logical Relation

Node B

Junction e.g. splice for FO) (geographical coordination)

Utilization

Lease possibility
• YES / NO
• No. of pair to lease

Type of location:
• Building
• Cabinet
• Tower
• Mast
• …..

Collocation building
Ability to collocate, technical information like: power, aircondition etc.
Poradnik dla Samorządów część 1 – budowa sieci
PRG – Polish National Register of Boundaries

Provides geocoded data of administrative divisions on all levels (voivodeships, counties, municipalities, special districts etc).
BDOT10K – Topographic Database

BDOT10K catalogues all topographic data and buildings.

Catalogued list of all buildings in the country - crucial for the analysis conducted at UKE.
TERYT

The system distinguishes, with the use of separate identifiers:

1. System of identifiers and names of territorial division units - TERC
2. System of identifiers and localities names - SIMC
3. System of statistical regions and census enumeration areas - BREC
4. System for identification of street addresses, real estate, buildings and dwellings - NOBC
5. The central catalogue of streets - ULIC
PESEL contains a lot of information
• surname and names;
• date and place of birth;
• sex;
• citizenship;
• marital status;
and more.

Age can be used to compile data about age structure in specified areas.
Index of telecommunications services usage

Index built on questions regarding:

• mobile phone usage and type of service (pre-paid or post-paid, private or corporate) among household members;

• average expenditures of household members on mobile phones, fixed phones and internet;

• satisfaction with services of mobile and fixed phone operators;

• intention to buy a mobile phone
Analytical GIS tools

**FME** – a collection of tools for data transformation and data translation

**QGIS** - cross-platform free and open-source desktop geographic information system (GIS) application that provides data viewing, editing, and analysis capabilities

**MapInfo Professional** - allows users to visualize, analyze, edit, interpret, understand and output data to reveal relationships, patterns, and trends

**ArcGIS** - used for: creating and using maps, compiling geographic data and analyzing mapped information
Normalization (division to elements)
SOKOŁÓW PODL. | Ul. | WOLNOŚCI | 48(a)

Geocoding of addresses to coordinates
X=22,239E
Y=52,407N

Standardization
SOKOŁÓW PODLASKI
Ul.
WOLNOŚCI
48A

Enrichment
08-300
SOKOŁÓW PODLASKI
Ul.
WOLNOŚCI
48A

Deduplication (marking duplicates)
Aggregation of data

- Database of all data in Oracle Database
- GIS tools
- Geolocation data
- Expert system
- Knowledge base
AVAILABLE DATABASES - buildings

- Coordinates
- SIIS
  - Data regarding infrastructure available in the building
- PRG
- BDOT10k
  - Data about the building
    - STATUS (Existing...)
    - TYPE OF BUILDING (Residential...)

Building
What kind data do we have?

- Address
  - Category: Residential/Commercial/Infrastructure etc.
- Population
- Wealth
  - Availability of telecommunications infrastructure
- Location
  - Provided telecommunications services

Any level of aggregation!

- Building
- Street
- Post code
- Census area
- Territorial Unit for Statistics
- NTS-3 level
- Municipality, country...
Thank you for your attention

Joanna Antczak
Office of Electronic Communications

j.antczak@uke.gov.pl