Hosted by:

Funded by the European Union

Organized by:

Africa-BB-Maps National Event

National broadband mapping systems in Nigeria

5—7 August 2025

Abuja, Nigeria

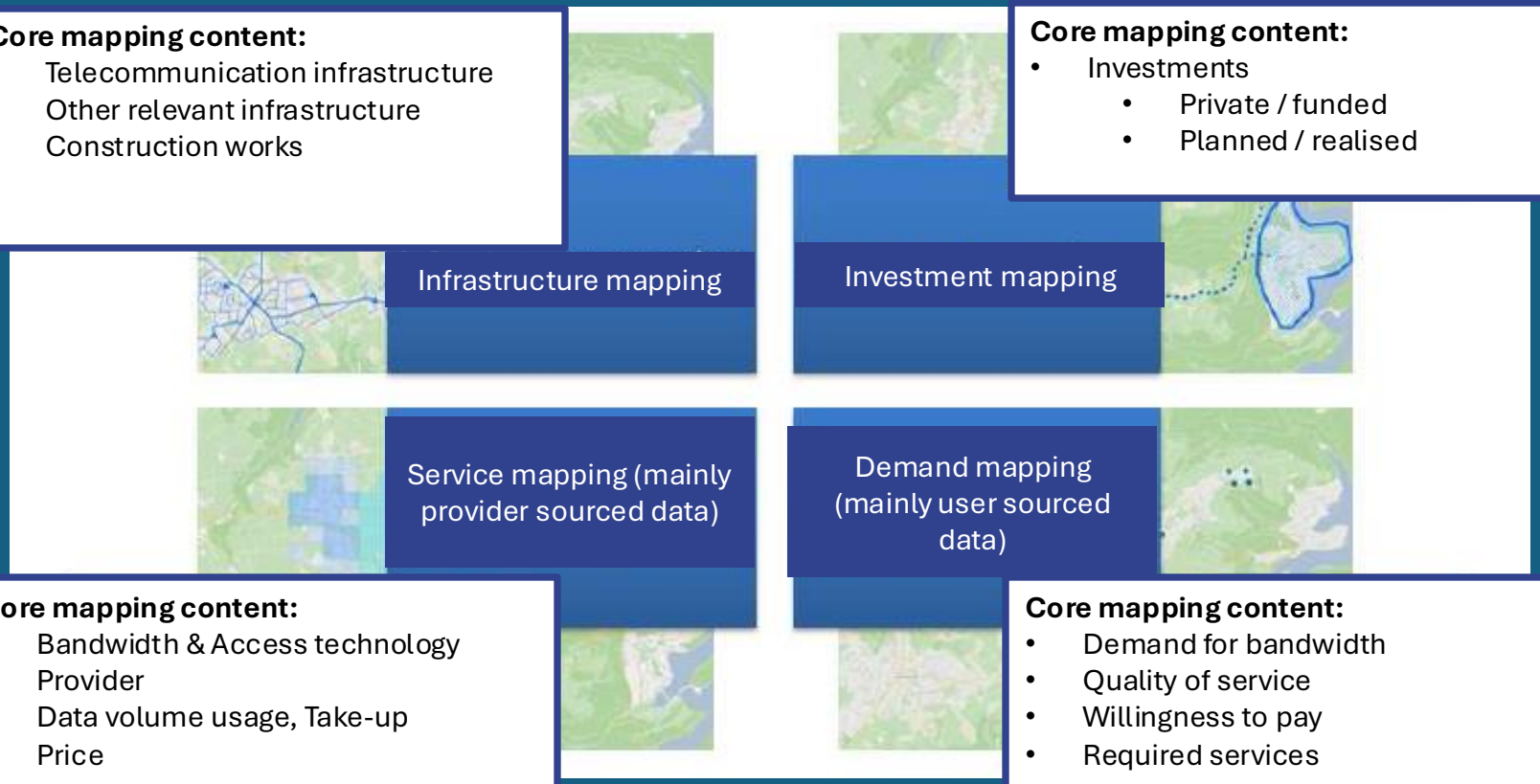
africabbmaps.itu.int/ng-kickoff/

Africa Broadband Maps

Categories of Broadband Mapping

Core mapping content:
- Telecommunication infrastructure
- Other relevant infrastructure
- Construction works

Core mapping content:
- Investments
  - Private / funded
  - Planned / realised



Core mapping content:
- Bandwidth & Access technology
- Provider
- Data volume usage, Take-up
- Price

Core mapping content:
- Demand for bandwidth
- Quality of service
- Willingness to pay
- Required services

Data structure - example

Nodes	
Node address - province	
Node address - commune	
Node address – unique identifier of commune (if possible)	
Node address – name of town	
Node address - unique identifier for town name (if possible)	
Node address - street name	
Node address - unique identifier of street (if possible)	
Node address - number of the building	
Node geometric center coordinates	Geographical coordinates: longitude and latitude in the WGS-84 coordinate system with an accuracy of 1 m
Building type or structure where the node is located	Location of node: • office building; • residential building; • industrial building; • service building; • public building; • sacred object; • power grid object; • tower; • mast; • container; • pole; • cable well
Possibility of sharing surface area in the facility where a node is located	Yes/No

Data structure - example

Technology for mediums	fiber optic: • 10 Mb / s Ethernet; • 100 Mb / s Fast Ethernet; • 1 Gigabit Ethernet; • 10 Gigabit Ethernet; • 40 Gigabit Ethernet; • 100 Gigabit Ethernet; • GPON; • EPON; • SDH; • PDH; • (EURO) DOCSIS 3.x; • (EURO) DOCSIS 2.x; • (EURO) DOCSIS 1.x coax, copper: • (EURO)DOCSIS 3.x; • (EURO)DOCSIS 2.x; • (EURO)DOCSIS 1.x 1; • 10 Mb/s Ethernet; • 100 Mb/s Fast Ethernet; • 1 Gigabit Ethernet; • 10 Gigabit Ethernet; • VDSL2; • VDSL; • ADSL2+; • ADSL2; radio: • radio link, • WiFi 2.4 and 5 GHz; • WiFi - 5 GHz; • WiFi - 2.4 GHz;

Data structure - example

Layers of the telecommunications node	**Layer:** • **backbone;** • **distribution;** • **access**
Transmission medium	Transmission medium: • fiber optic; • coax, copper;
Maximum bandwidth for a single interface download	
Maximum bandwidth for a single interface upload	
Number of interfaces	
Source of node funding	Source of funding: • commercial • state aid

Data details

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

Number of pairs

Utilization

Node A

Node B

Throughput

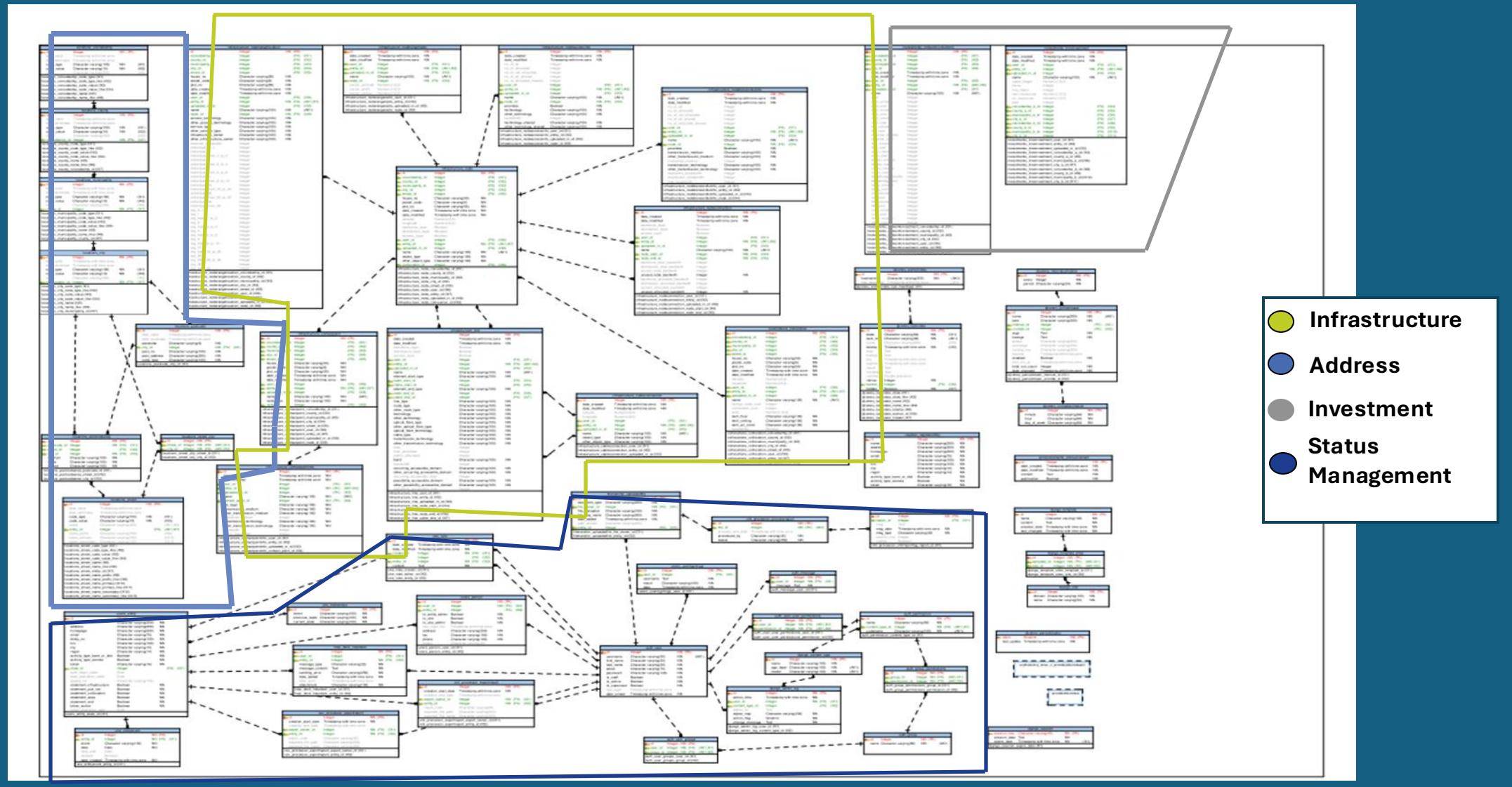
Logical Relation

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, airconditon etc.

Node C



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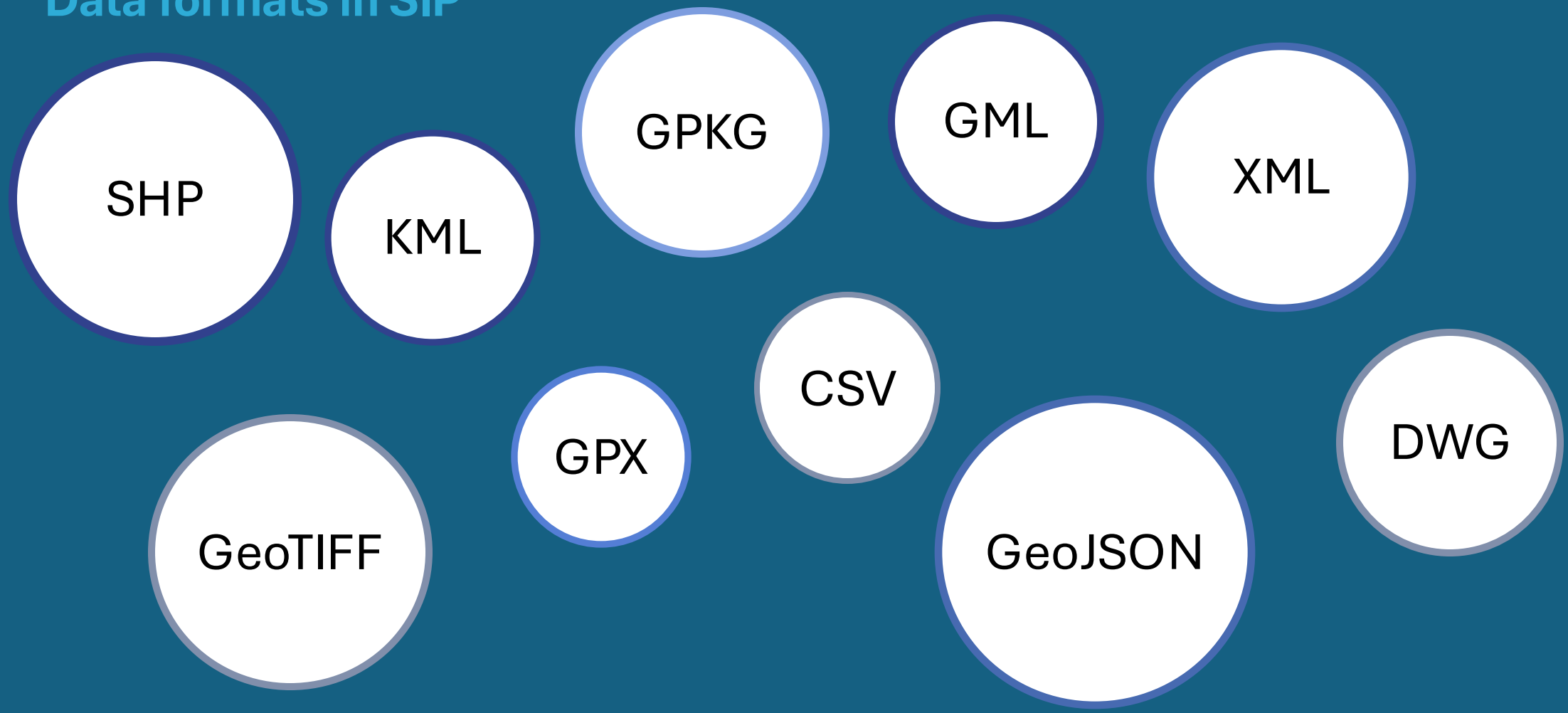
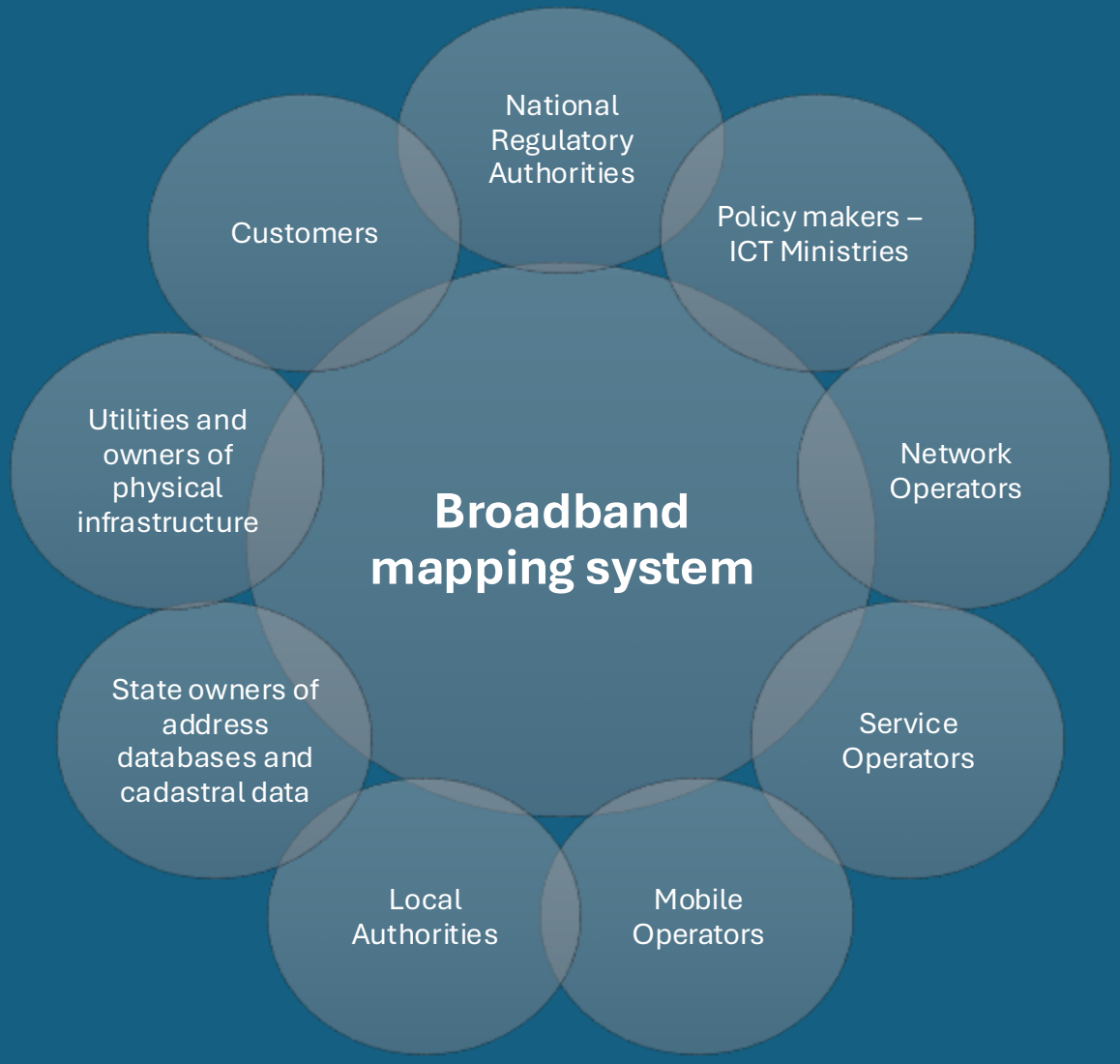
Data formats in SIP



Stakeholders

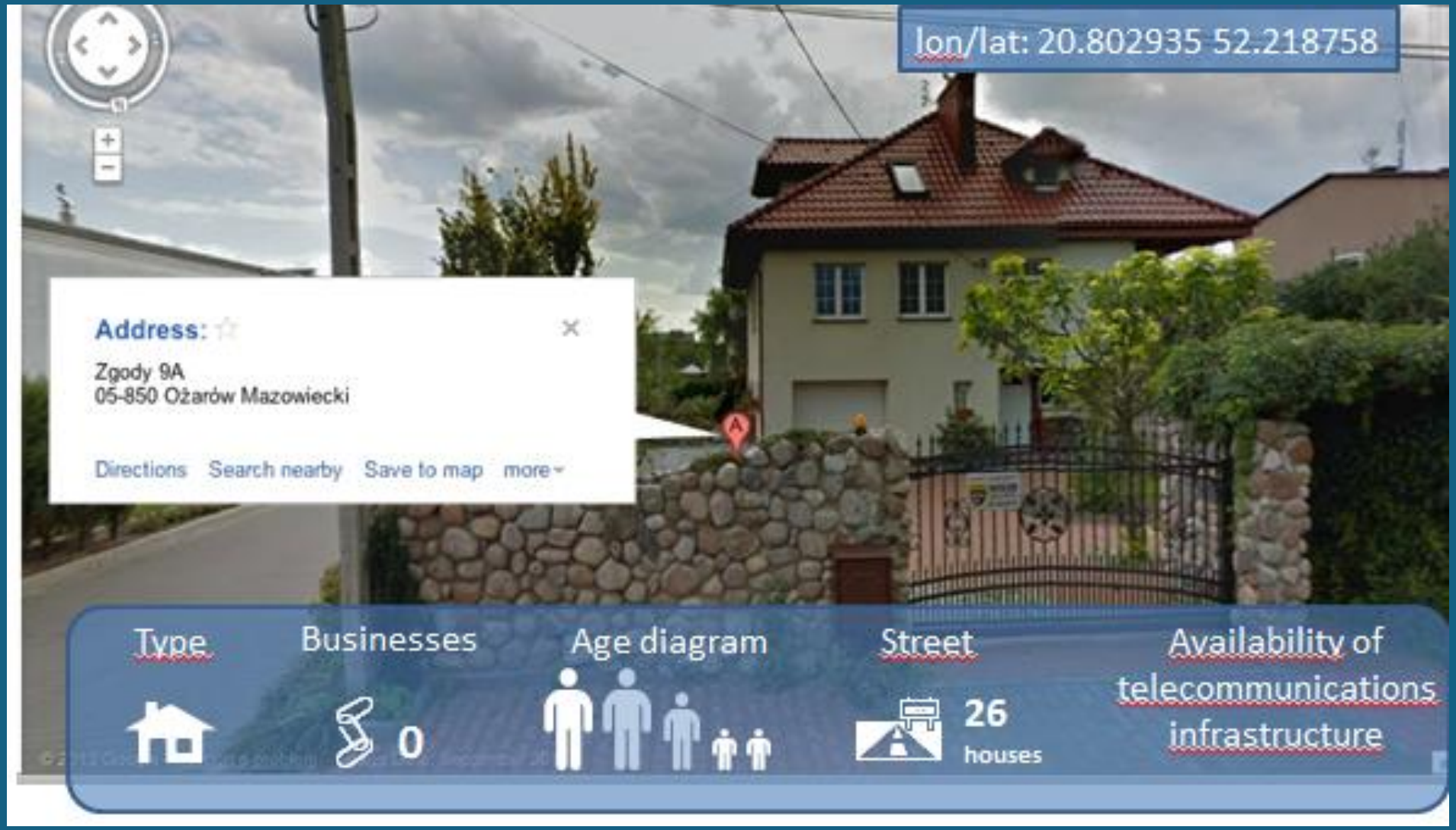


Databases - where to get information

TERYT - National Official Register of the Territorial Division	Central Statistical Office
PRG - Polish National Register of Boundaries	General Office of Geodesy and Cartography
BDOT10K - Topographic Database	
OSM - Open Street Map	Open Data platform (crowdsourcing)
PESEL - Universal Electronic System for Registration of the Population	Ministry of the Interior and Administration
Demographics Database	Commercial Supplier

Databases - where to get information

statistic data	Street, cities, buildings
address data	geographical coordinates
building characteristics	the categories of buildings (family building, business building etc.)
population information	information about the age structure in buildings
Additional Demographics Databases	Commercial Supplier
passive infrastructure	Geodesic Records of the Area Utilities Network


lon/lat: 20.802935 52.218758
Address:
Zgody 9A
05-850 Ożarów Mazowiecki
Directions
Search nearby
Save to map
more
Type
Businesses
0
Age diagram
Street
26
houses
Availability of telecommunications infrastructure

Data quality rules - examples

Too many interfaces on all layers of the network

Mismatch of node address and collocation data

Potential failure to show nodes on the route of the radio line

No lines despite there being connections

No indication of intermediate points along the cable route

No radio link indicated in the list of radio licenses was shown

Coordinates outside the district

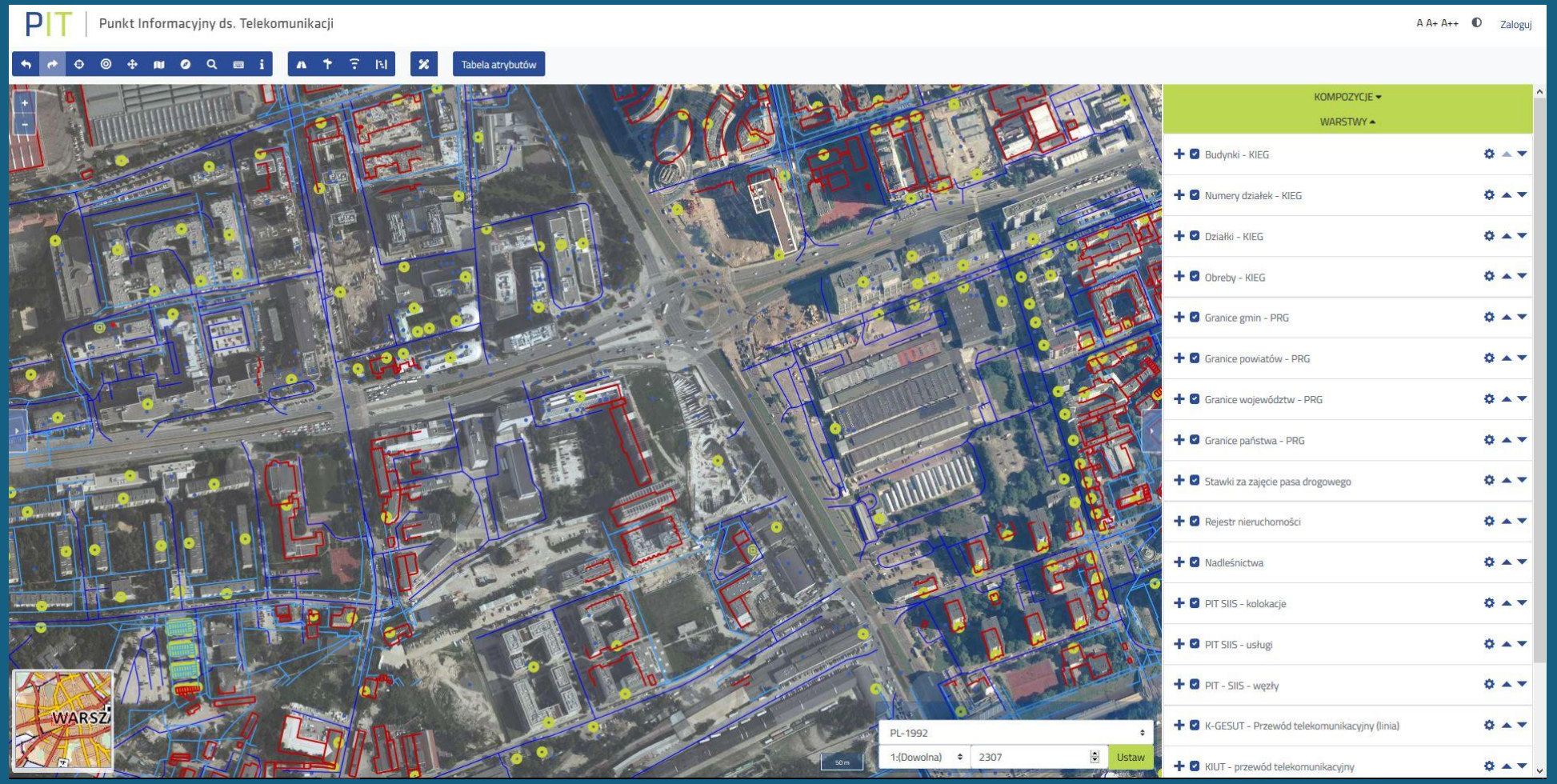
No intermediate points indicated on the cable route

WiFi interface in the skeleton layer

Non-compliance of data for radio lines in the licensed band with the list of radio licenses

Data quality rules - examples

Id	Rule name	Description	Tip
1.	The radius of the sector is outside the indicated range of the radio access technology	The radius value specified exceeds the accepted warning thresholds in the context of the maximum radius for the technology.	1. It is necessary to verify the radius values, which should be given in metres.
2.	Beginning and end of the cable line at the same point	The beginning and end of the line (address or geographic coordinates) indicate exactly the same point.	Verify the address or coordinates of the endings.
3.	WiFi interface in the backbone layer	A backbone layer was indicated for the WiFi interface – WiFi is not a backbone layer technology.	Check the network layers provided for this interface.
4.	Number of fibres in the indicated cable lines is not compliant with the standards	For fibre-optic lines, an odd number of fibres have been given or there are two pairs of cables with a known length of over 100 m.	1. The number of fibres in the cable must be even and greater than zero. 2. Patchcord (two-fibre cable) can have a maximum length of 100 m.



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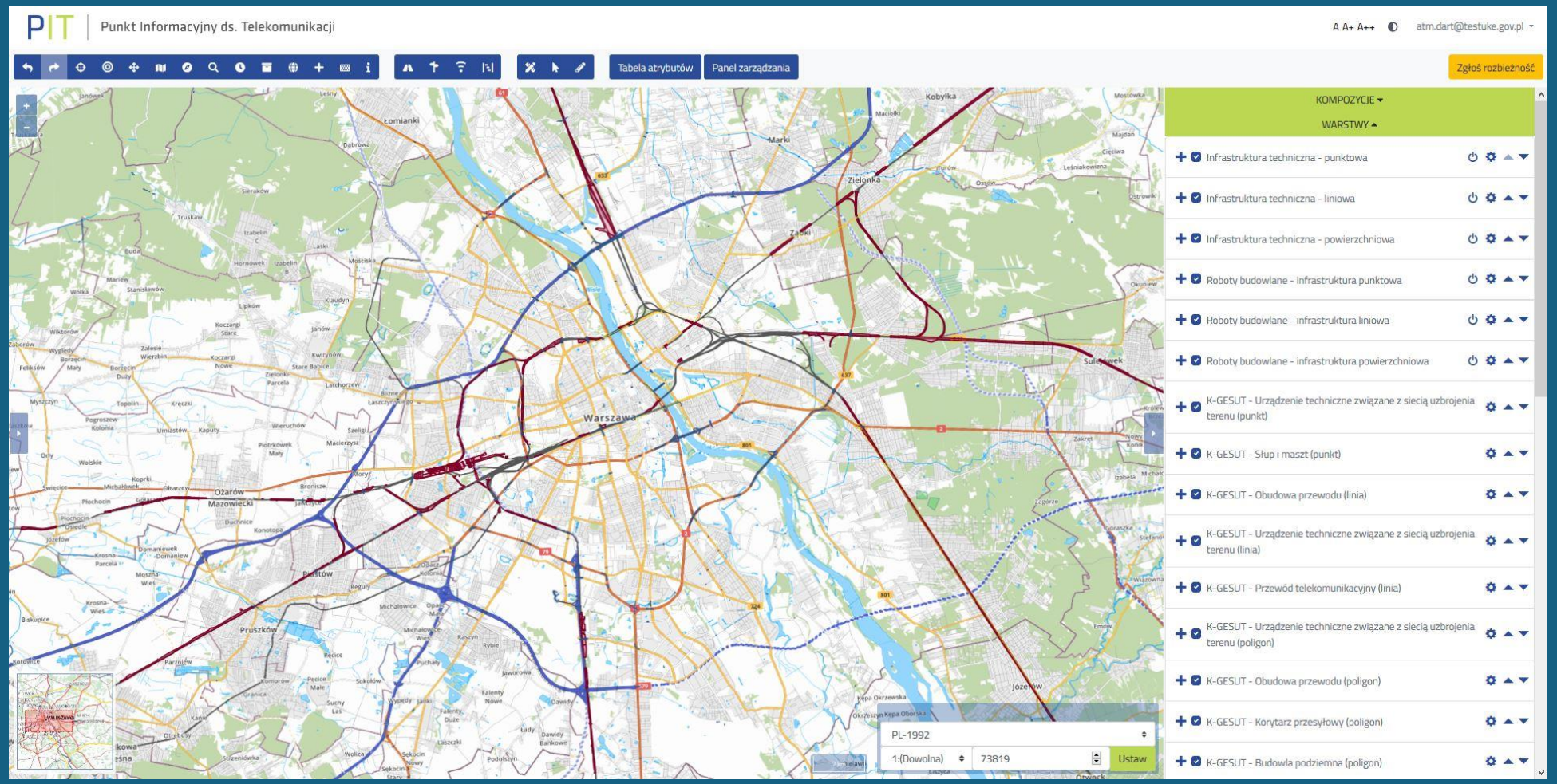
PIT
Punkt Informacyjny ds. Telekomunikacji
A A+ A++
atm.dart@testuke.gov.pl
Tabela atrybutów
Panel zarządzania
Zgłoś rozbieżność
KOMPOZYCJE
WARSTWY
Infrastruktura techniczna - punktowa
Infrastruktura techniczna - liniowa
Infrastruktura techniczna - powierzchniowa
Roboty budowlane - infrastruktura punktowa
Roboty budowlane - infrastruktura liniowa
Roboty budowlane - infrastruktura powierzchniowa
K-GESUT - Urządzenie techniczne związane z siecią uzbrojenia terenu (punkt)
K-GESUT - Słup i maszt (punkt)
K-GESUT - Obudowa przewodu (linia)
K-GESUT - Urządzenie techniczne związane z siecią uzbrojenia terenu (linia)
K-GESUT - Przewód telekomunikacyjny (linia)
K-GESUT - Urządzenie techniczne związane z siecią uzbrojenia terenu (poligon)
K-GESUT - Obudowa przewodu (poligon)
K-GESUT - Korytarz przesyłowy (poligon)
K-GESUT - Budowla podziemna (poligon)
PL-1992
1:(Dowolna)
73819
Ustaw
Warszawa
Łomianki
Marki
Zielonka
Ząbki
Kobyłka
Ożarów Mazowiecki
Pruszków
Piastów
Józefów

Critical infrastructure

exclude information

about critical infrastructure

collect information

about critical infrastructure (attribute: yes/no) and provide such information only in justified cases

collect information

about critical infrastructure and do not publish it

What went wrong

- **Operators did not see clear benefits** from participating – lack of incentives, unclear objectives.
- **Declarations made during the design phase were not followed through** – many agreed data formats are not being used.
- There was a lack of **a single, cohesive system** – solutions were fragmented across multiple institutions.
- We needed **one organization responsible** for the entire process: development, data management, and market communication.

Useful links

- **Broadband mapping in Polnad**

https://www.youtube.com/watch?v=FDSZWee8dDU

- **Inventory of infrastructure in Poland**

https://www.youtube.com/watch?v=0aAQlZJ4aOQ

- **Identifying “white spots” for Digital Poland Operational Programme**

https://www.youtube.com/watch?v=X4mUrqYu1rU

- **Single Information Point in Poland, Open Source Solutions Utiliized in Telecommunications Data Processing and Visualisation**

https://www.youtube.com/watch?v=vaS7EoD0CZk