

# Extension of property rights in the context of marking parcel lines in works related to cadastral parcel lines

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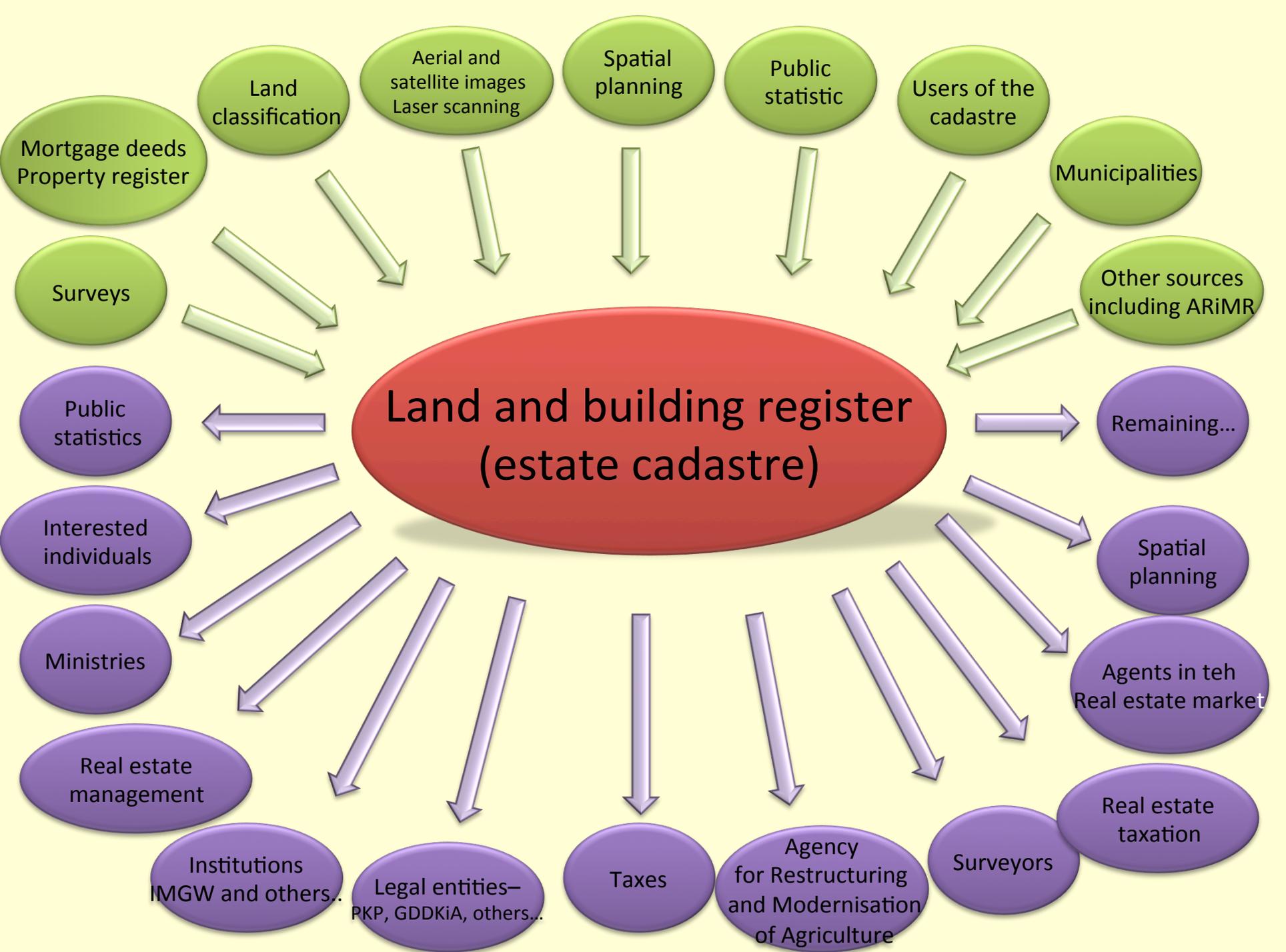
FIG Working Week 2017  
Surveying the world of tomorrow  
From digitalisation to augmented reality  
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Ludmiła Pietrzak  
Andrzej Hopfer  
POLAND

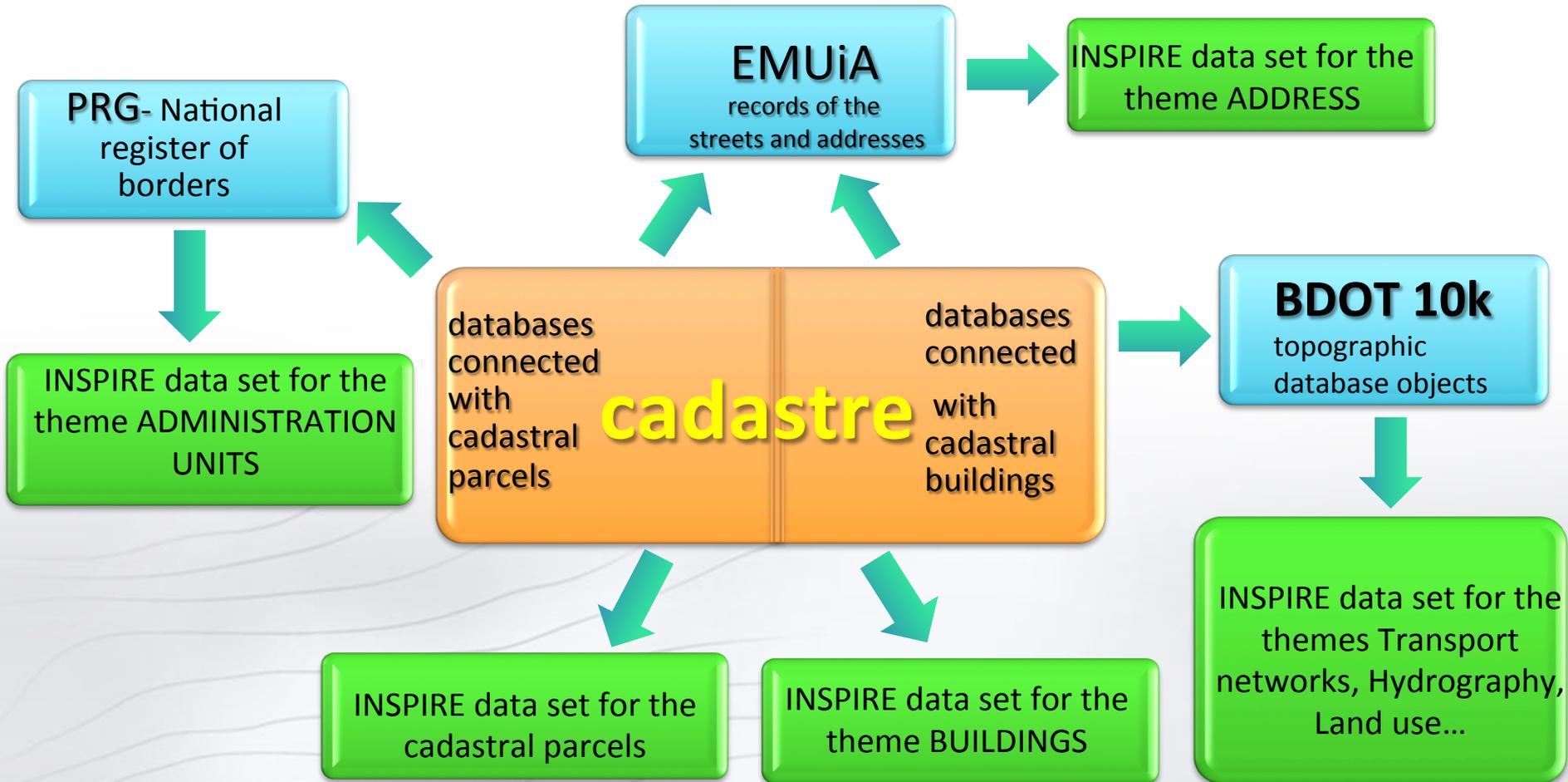


**Association of Polish Surveyors**





# The Role of Land and buildings register in the national spatial information infrastructure



# Interoperability of the cadastral databases

## Problems with interoperability

- objects are often **not integrated** in particular databases
- databases were created in **various time**, basing on **various source data, technical conditions, projects, demands** etc.,
- **spatial objects** (such as rivers, roads) **has changed their natural routes** with respect to periods when the cadastral documentation was developed,
- **objects were generalised at the database level**; their geometric descriptions were changed, what results in creation of an object which spatial description varies from the original.

# Cadastral Parcel and points in Poland National Interoperability Frameworks

**Cadastral parcels** (described by cadastral points) are the **basic spatial reference object** for public registers.

These objects have been legally defined in the **Law of Geodesy and Cartography**, being the basic legal act in the field of geodesy and cartography (**and in executive regulations**)

# Accuracy criteria of the cadastral databases

According to the law, geodetic topographic surveys are performed in such a way that **location of a topographic point**, considering the closest points of a horizontal network or **measurement** network is specified with the accuracy not lower than:

**0,10 m** – in reference to the closest **points of control points network** (first, second, third or measurement network)

The majority of objects of the cadastral documentation are included in the

**I group**, including terrain details, which are explicitly identifiable in the field, which preserve permanent shapes and locations, in particular:

- symbols and border points,
- **geodetic marks**,
- constructions and building installations,

But in the end **the accuracy of location of the cadastral points must be not worse than 0,30 m to the fundamental (first class control point network).**

Such a regulations makes a lot of misunderstandings

# Difficult border regulations



# Mark extension of the property right

- extension of the property right, determined by **coordinates of location of a boundary point** of a cadastral parcel
- understandable **for a computer system** which stores spatial objects.
- **owner intends to visualise extension** of the property right on the ground by physical marking - using a stable element, **mostly a boundary stone.**

# Old boundary mark in Poland

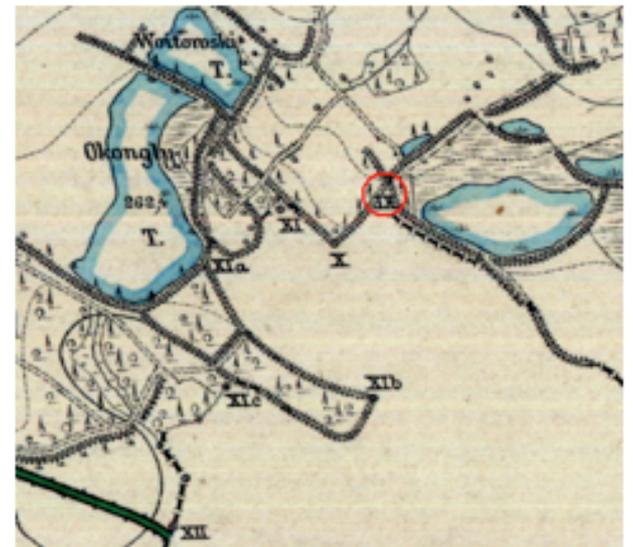


# Old boundary mark



Carved out in sandstone, a 1.5 metre-high border sign called the "main landmark" of the 19th century, which showed the border between Austria/the Austrian Empire (its section cutting across the Cieszyn Silesia) and the Kingdom of Prussia. Emblems of the bordering countries are placed at the top on the opposite sides: a crown—the emblem of Austria, and an eagle—the emblem of Prussia. Below the symbols is the number of this landmark: IX. This border stone is one of more than a dozen others surviving along the old border. The border was also marked with smaller signs and letters: Ö = Austria and P = Prussia.

A border bent north of a fish pond, 2.5 km north of the town Strumień in the Cieszyn county, Silesian Province. Co-ordinates: **N: 49°56'9.0" E: 18°45'4.6"**



# Old boundary mark

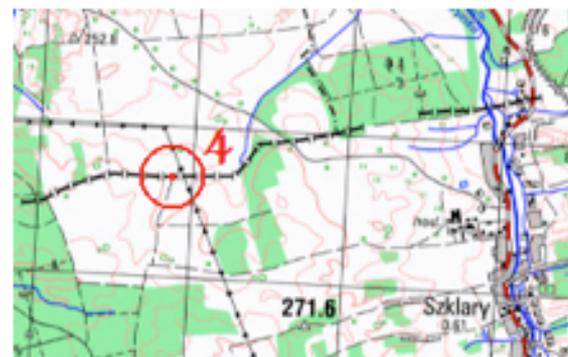


A granite pole measuring 2,15 x 0,36 x 0,50 m narrow at the top, placed as a border sign in the years 1290 -1320 on the border of the Duchy of Nysa-Otmuchów ruled by the bishops of Wrocław. The border was known as Border of St. John Vikas. The front side of the stone bears a carved inscription in Latin: TMI / SCI / IOHIS, which stands for TERMINI SANCTI IOHANIS (St. John's border). On the right side of the stone we can see a bishop's staff as an attribute of his power and on the left side—a tilted cross.

*[This is the fourth of six such landmarks making up a set of unique medieval objects once used to mark borders and surviving now in the area of the present administrative border between the Opolskie and Lower Silesian Provinces.*

Szklary, municipality of Kamiennik, Nysa county, Opolskie Province (by the road to the village of Wywonańce, Lower Silesian Province).

Localization: **N: 50°36'37.2" E: 17°8'41.5"**



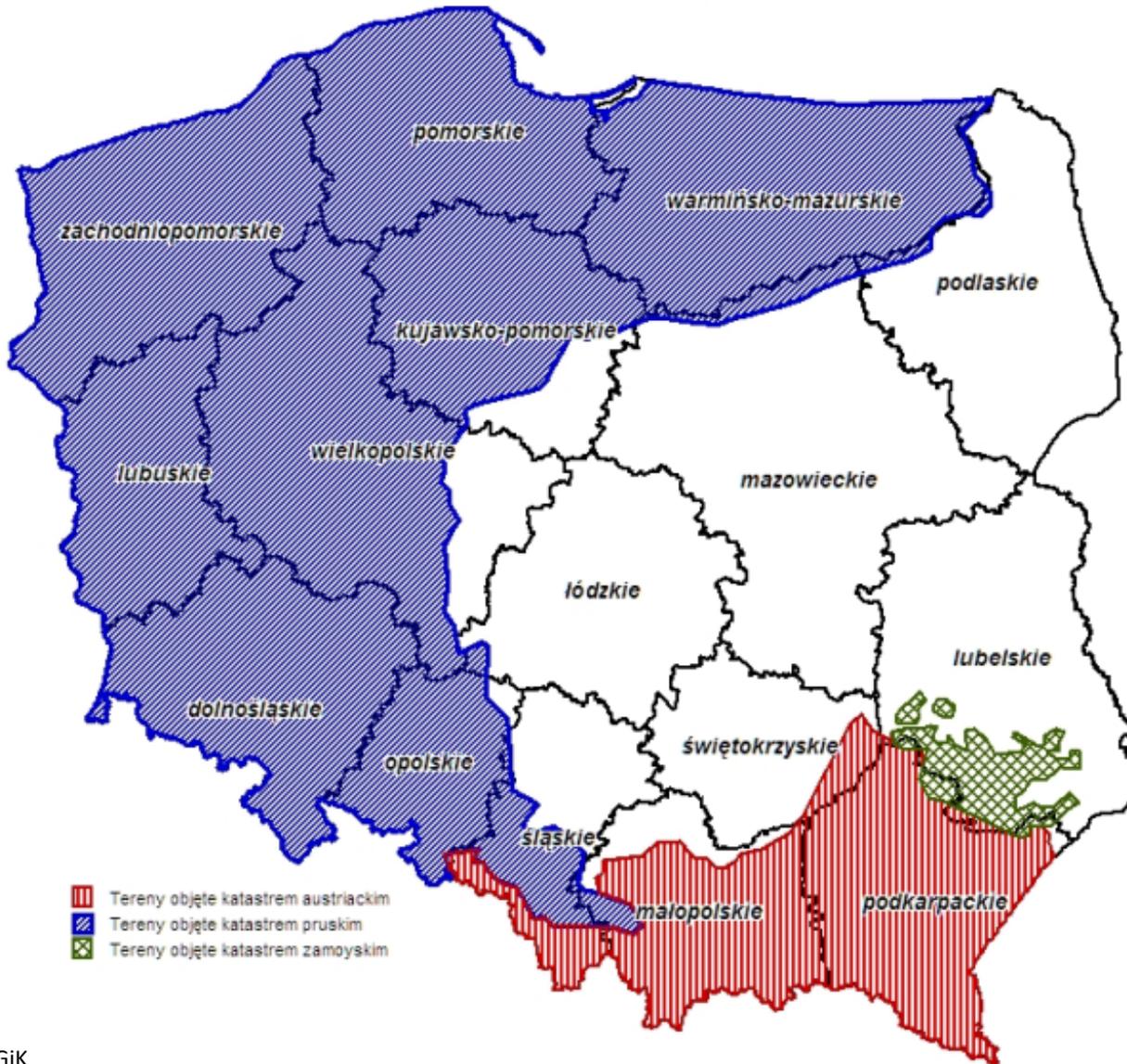
# Mark extension of the property right

- In many countries regulations related to the cadastre **allow for marking the boundary** according to a special procedure connected with surveying works concerning the boundaries;
- sometimes it is not allowed to mark the boundaries this way.

**In Poland it depends of the administrative procedure or surveying work**

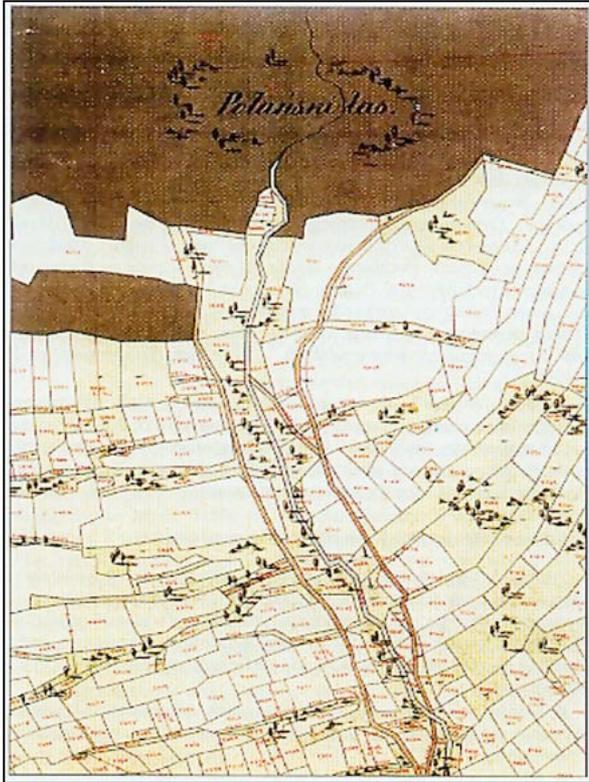
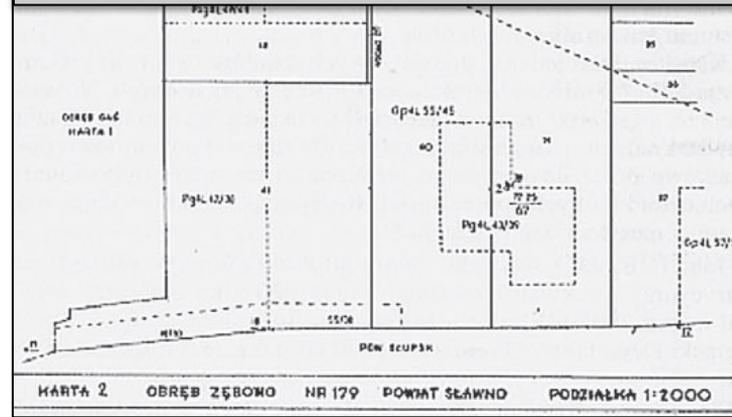
**should depend?**

# Cadastral maps in Poland after annexation



# Cadastral maps in Poland after annexation

Cadastral map after Prussian annexation



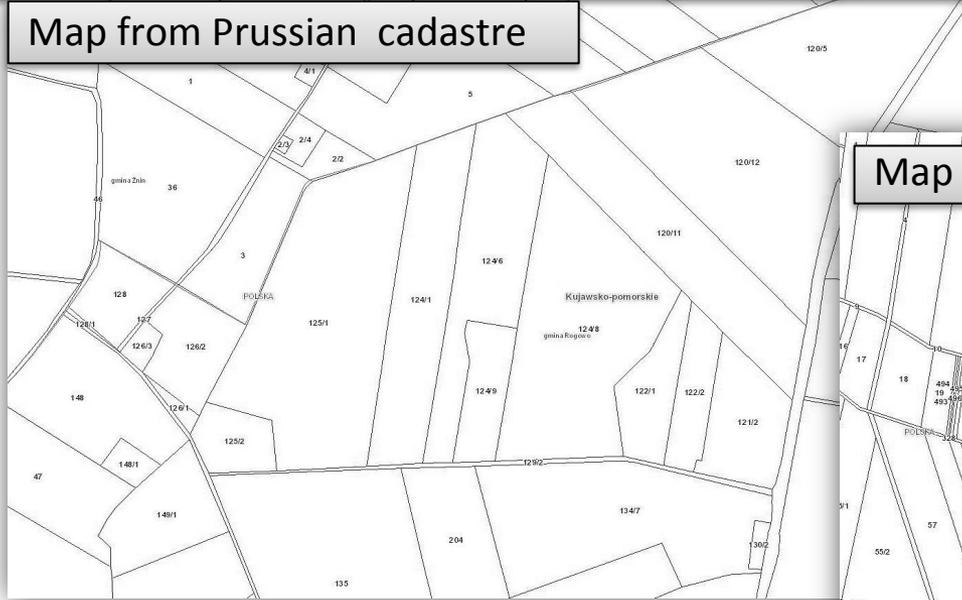
Cadastral map after Austrian annexation



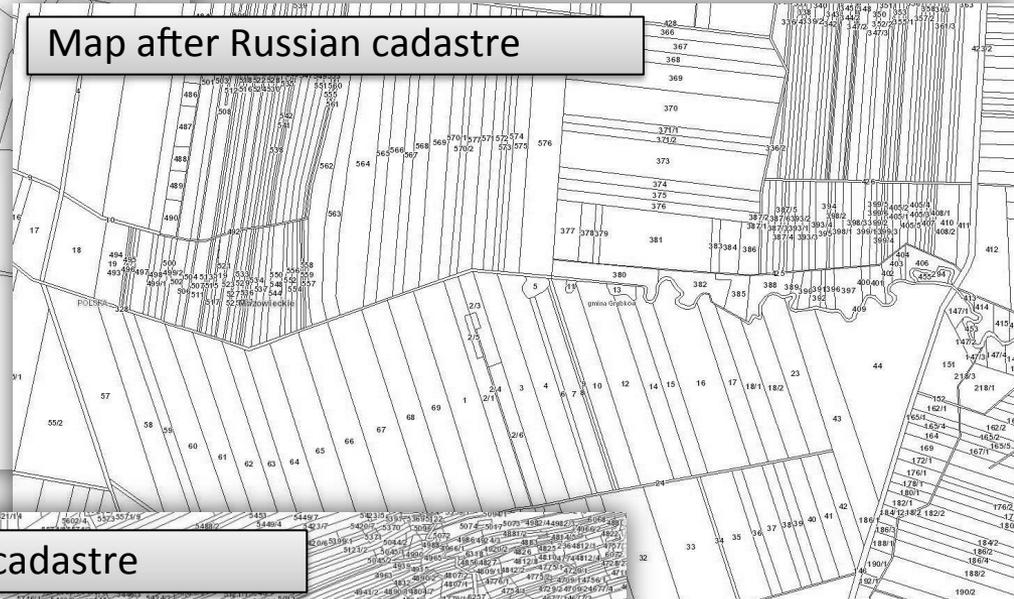
Cadastral map after russian annexation

# Boundary for marking

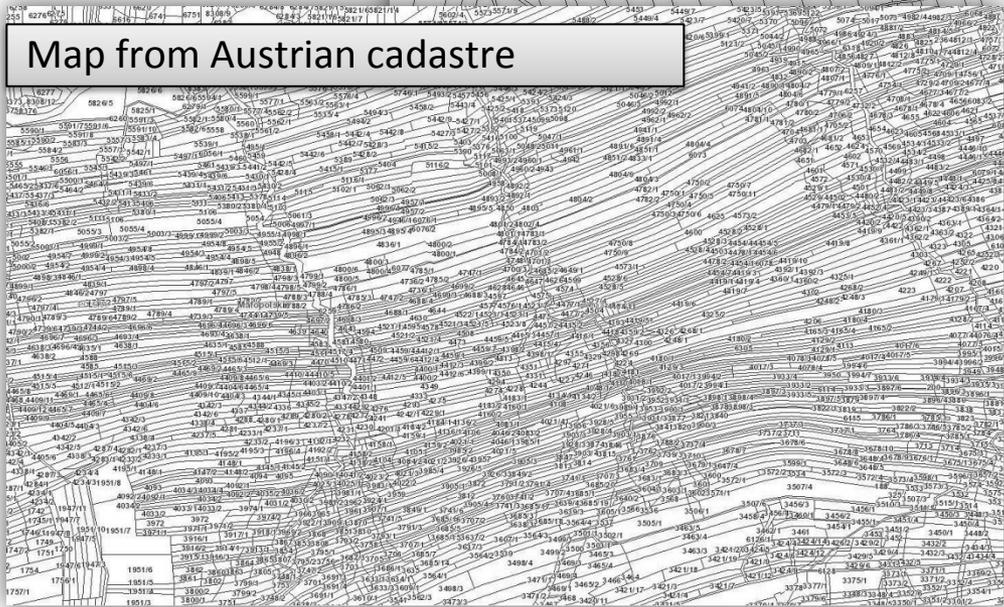
Map from Prussian cadastre



Map after Russian cadastre



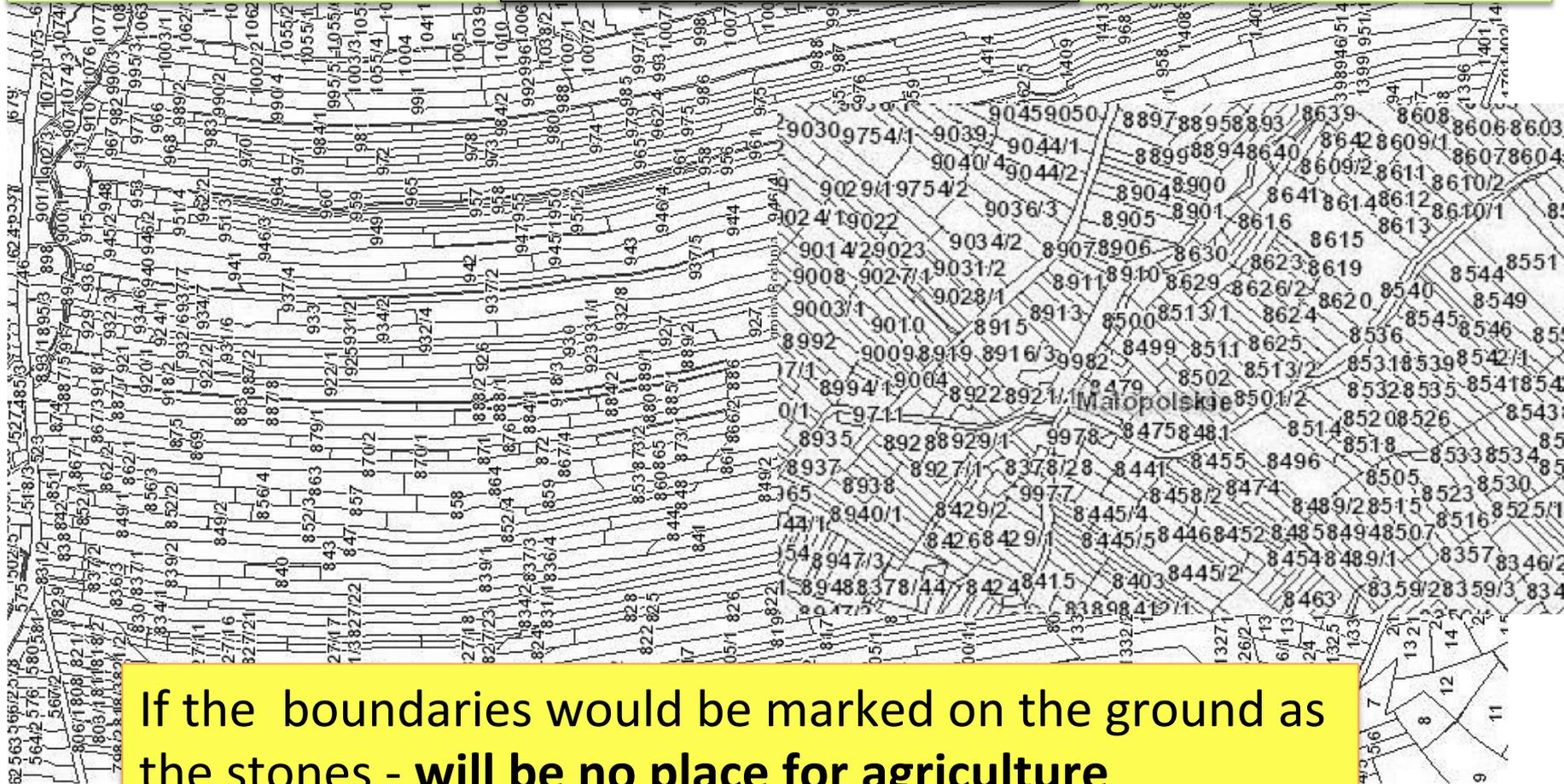
Map from Austrian cadastre



# Boundary for marking – austrian cadastre in Poland

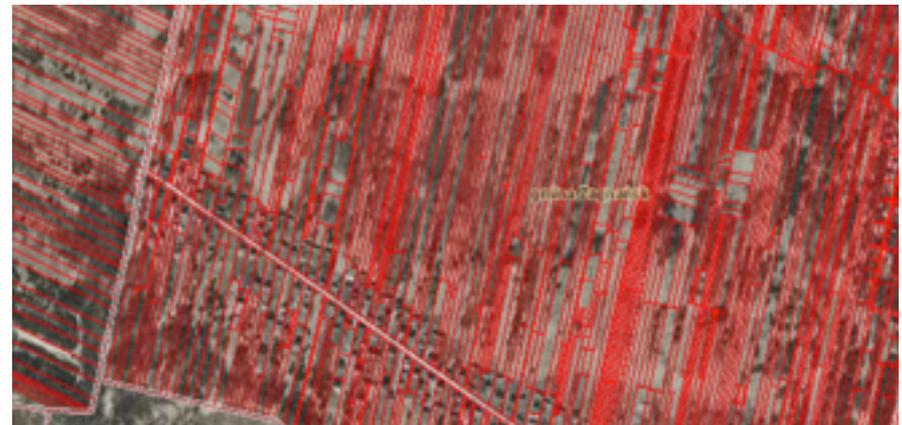
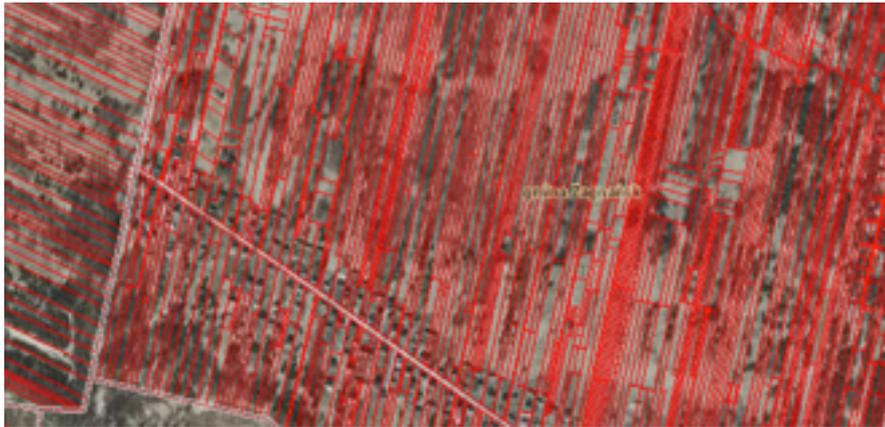
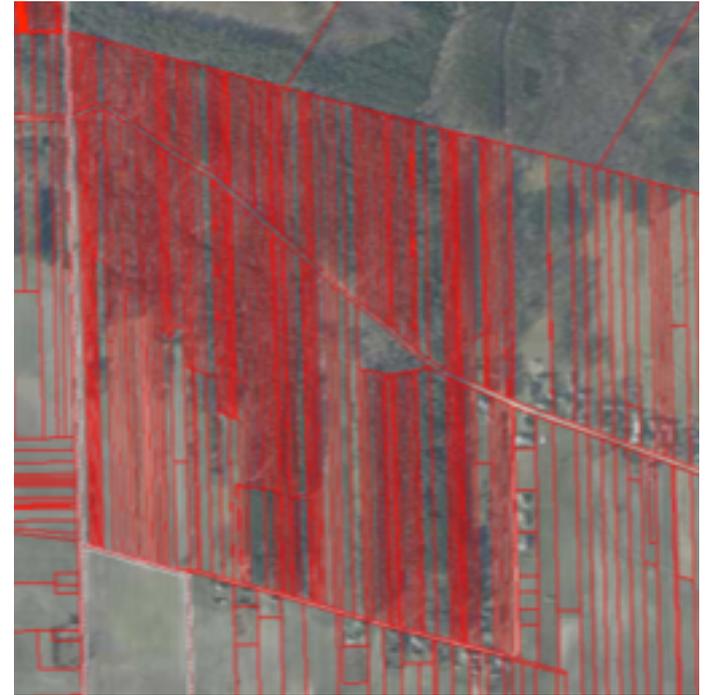
*distance about. 2,5 km, width about 15-20 m*

Map from Austrian cadastre



If the boundaries would be marked on the ground as the stones - will be no place for agriculture

# Boundary for marking – austrian cadastre in Poland



# Difficult border regulations makes problem



# Difficult border regulations makes problem



Silly Me -

<http://yourotherleftcomic.com/2013...>



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# Thank you for your attention

- 1: Dr Pietrzak **Ludmila** (Poland)  
[milka.pietrzak@gmail.com](mailto:milka.pietrzak@gmail.com)
- 2: Prof. Andrzej **Hopfer** (Poland)  
[hopfer\\_wycena@poczta.onet.pl](mailto:hopfer_wycena@poczta.onet.pl)