

# Infrastructure Environment

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Order in the legal status of land will improve construction processes, reduce their implementation cycles, and will ensure a sooner return on the investment made. It will increase the GDP (by minimum 1%) every year, strengthen the state budget income, and will improve this country's attractiveness to investors. It is, therefore, vitally important for the state to redirect its attention and focus on the place and role of the cadastre in the state and on the adequate position of the Surveyor General in the national administration. The Surveyor General should report directly to the Prime Minister.

## 4D cadastre - a pillar of legal and spatial order in Poland, Part 2\*

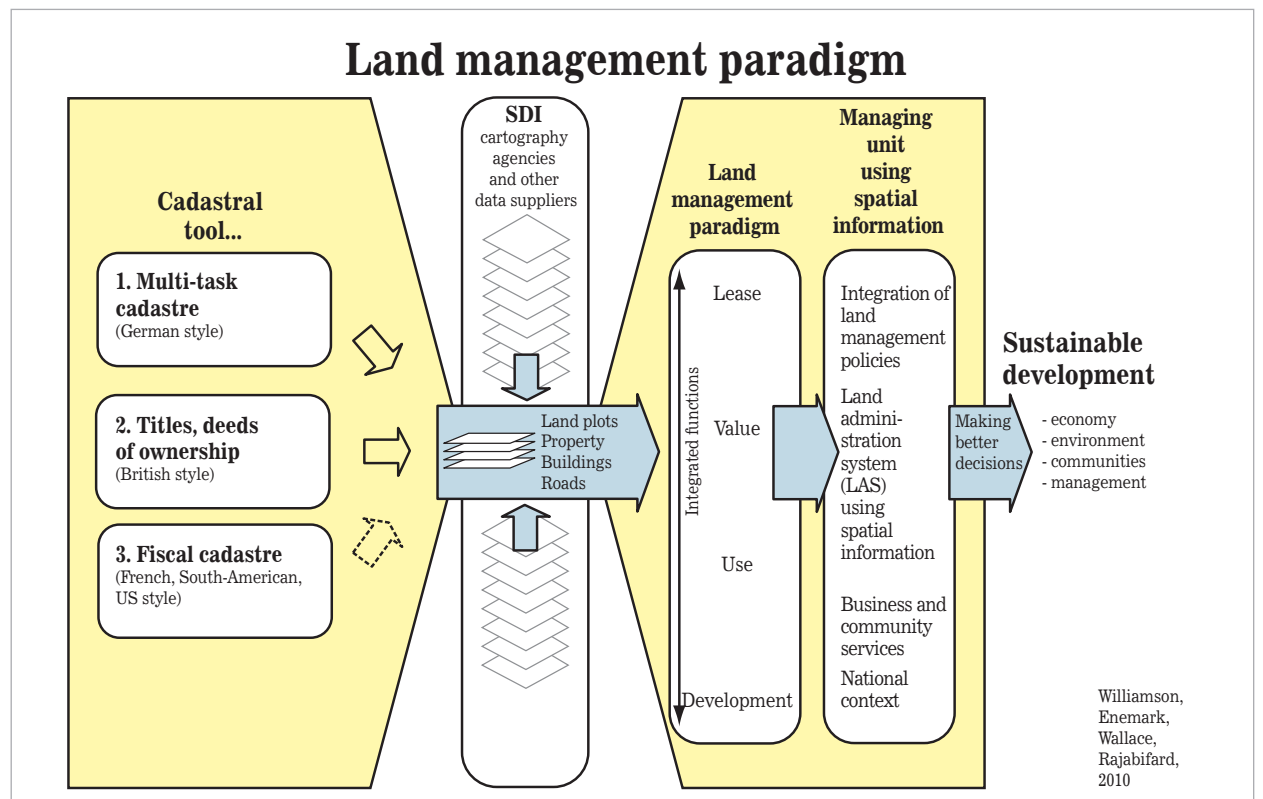
Although common opinion holds that cadastre does not exist in Poland, it by all means did exist in the past, continues to exist now, and will keep existing in future as both, a physical and legal fact. People are often not aware that what they actually use is cadastre.

Cadastre is the documentation that identifies real estate in perpetual books by referring to registry data and it reflects the legal status of the property.

Cadastre has always had four dimensions: the three dimensions of space plus time (x, y, z, and t) or, more precisely, it has always been three-dimensional (x, y, t) but distinguished itself from other systems by having time as its third dimension, while the fourth one (z) was developed later through multi-level registration of property (apartments, garages) and technical structures.

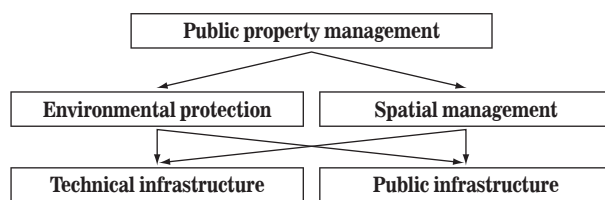
The current legal basis of Polish cadastre, although not complete, is provided by the (EU) Commission Regulation No. 102/2011 of February 4, 2011, but its core legal grounds was and continues to be the Perpetual Books and Mortgage Act of October 11, 1982 (the Journal of Laws 2013.707, integrated text as subsequently amended) and its previous versions supported by the Civil Code (earlier known as the Property Law) which defined property identification as unequivocal, acceptable to the interested parties, and reproducible.

Therefore, cadastre exists in the form of the total of legal events allowing the identification of property in perpetual books. It is a reference system underlying the INSPIRE Directive. The resource of the Polish cadastre has been highly evaluated by EU experts, though it does not appear as a public register.



### 1. Spatial responsibilities of public administration

The spatial responsibilities of public administration are involved in five groups of its tasks:



Public property management, i.e., money of course. Money generated from the State Treasury property and from the municipal property. Also the money from taxes, waste recycling, restrictions, and relieves.

The condition of the natural environment is an uncompromising management policy

line (from municipal up to the central level) whereby the spatial management policy is its main tool.

Each public administration body is responsible for implementing and developing the components of technical infrastructure (water supply, sewage, power, communication) and social infrastructure (education, health service, culture, protection of peace and order).

Every administration level has lots of tasks to do but each of those tasks and each group of tasks must be referred to the mosaic of spatial objects whose spatial structure is regulated by the (EU) Commission Regulation No. 1089/2010 – the fundamental cadastre regulation in the European Union and in Poland.

### 2. The role of cadastre as a reference system

The essence of cadastre as a reference system is the continuity of its coverage of the globe as a natural mosaic, not as, for instance, an artificial grid of meridians and parallels. Like no other system, cadastre is visually identifiable on the Earth's surface which is extremely important to environmental protection. This is why it has been chosen to be a reference system for all the environmental components of the INSPIRE Directive.

The Directive is binding as far as the policy line is concerned and it can be implemented, while the Regulation is binding directly in terms of its contents, it has the same force as the Polish Act and its implementation is out of question. Under the EU law, the Spatial Information Systems (SIP) are not

an imagery showing the tasks of administration. What they do is positioning those tasks in space (3d) and in time (the fourth dimension) and in relation to cadastral objects.

A presentation by President of the International Federation of Surveyors (FIG) at the 3rd International Cadastral Congress in Warsaw on November 23-25, 2011, gave us an opportunity to see how the EU-introduced system works at the level of municipalities, regions, states, and continents. The Congress was organized by the Association of Polish Surveyors (SGP) and the Main Office of Geodesy and Cartography (GUGiK) under the honorary patronage of the Polish President.

The Spatial Information Systems must necessarily rely on cadastral reference systems because only cadastral data are being updated on the current basis, that is, they are collected in four dimensions (property rights protection) and can be reliably used for conversion to other types of data and for measuring the property held, without losing 1/10th of the state area which actually happens in Poland today. The essence of the Spatial Information System based on cadastral reference system is illustrated by the diagram: Land management paradigm.

### The greatest mistake of Polish economic transition

In 1991, a Canadian company PGI-PHOTOSUR GEOMAT Inc. (SNC-Lavalin) which I used to represent in Poland, developed the overall parameters of introducing fiscal cadastre in Poland. Warsaw's suburb Praga-Południe, where I live, was chosen as the location of a pilot-scale project. The PGI company provided USD75,000, the Canadian Government offered another USD100,000, and the Praga-Południe district came up with USD12,000. A project report was submitted to Poland's Surveyor General who rejected it despite the fact that PGI had done it in over a dozen world countries and guaranteed they would get an EBRD loan for its implementation in Poland. As far as I am informed, there was political will to introduce cadastre in Poland at the time. Having received a finished report, the Praga-Południe Mayor addressed the then Finance Minister Andrzej Olechowski (March-June 1992) who instructed his Deputy Witold Modzelewski to commence preparations for its introduction. At the time when a committee worked on "preparing instructions," the district did not receive taxes from 30% of its area. Then, a single press conference in 1994 at which the Deputy Minister confused percents with promilles was enough to kill the idea until today. The failure to introduce cadastre at the right time causes billions-high losses to the national economy up till today.

### 3. Public administration's responsibilities in 4D

Public administration's responsibilities are integrally connected with space because administration, which means managing things at some area, must be recorded in some way, whereby the function of recording space is performed by geodesy, cartography, and photogrammetry (aerial and satellite imagery).

Public administration's tasks can be divided into five groups related to: management of public property, spatial management, environmental protection, public infrastructure, and technical infrastructure.

### 4. Tax obligation

Each of the above-mentioned tasks directly or indirectly translates into tax obligation that contributes to the municipal income or generates fees which add to that income too. The pressure on public registry data-based studies and simulations to calculate new charges intended to mitigate or reduce public debt will grow stronger with the growth of the public debt. This is why it is extremely important to have an inter-operational registry of public administration tasks based on a cadastral reference system. The person of the owner or other title holder, as well as the spatial range of the owner's control over the property, plays a key role here, first of all, because of the fact that labour is declining as a source of income. As a result, the importance of securing claims with property will keep growing and sorting out spatial and current registration of real estate data (4D) will become one of the top priority tasks of public administration.

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### Concept of information integration

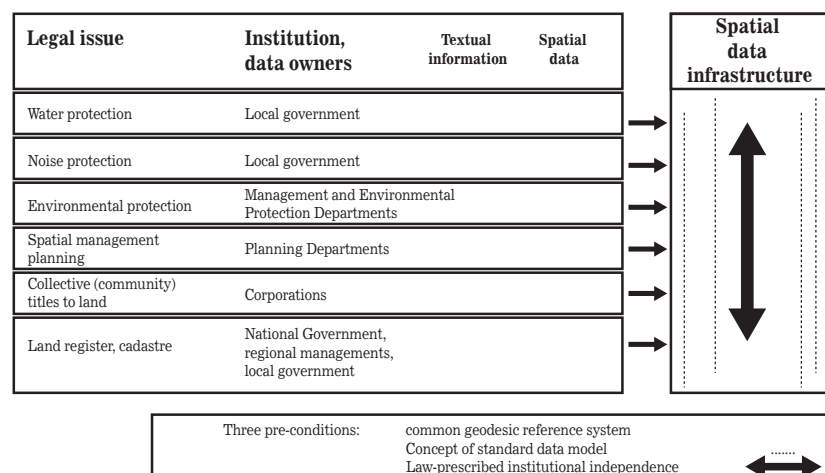


Fig. 2. Legal independence and sharing of spatial information using the concept of spatial data infrastructure. Daniel Steudler, Kuala Lumpur, February 16, 2012

Includes comments made by Eng. Edward Mecha, PhD.

\* Part 1, Insert dated December 31, 2013, INSPIRE – Infrastructure of Spatial Information in Europe.