



Responsible Land Governance: Towards an Evidence Based Approach

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REGIA: CREATING NEW CONTEXT FOR BETTER GOVERNANCE

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Abstract

Implemented by the Centre of Registers, REGIA is based on the cadastral map, with possibility to built-in different registers data. Working in the service environment, the REGIA administrators can create and manage their own data layers, store and manage information or documents, create and provide services based on geo-referenced data. REGIA is easy to use, no additional software or hardware is required - it is enough to have a computer with Internet connection. All REGIA services are managed through the web browser. REGIA operates on the cloud principle: all information created by a user, data recorded, uploaded documents are accumulated and stored in the REGIA servers and are accessible from any computer. It is up to the administrator to decide whether his data layer is publicly visible and who is entitled to use it.

Key Words: Centre of Registers, Lithuania, REGIA



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REGIA: creating new context for better governance

REGIA (regia.lt/en) is a free GIS based cloud platform developed by the Lithuania's Centre of Registers - state-owned enterprise charged with handling main state's registers, and acting as an ICT centre of excellence for public sector. REGIA, which stands for Regional Geoinformation Environment Application, in its core is an interactive map loaded with multiple data layers, combining administrative data, data search and management tools, messaging, as well as other interaction functionalities, and an API providing application development and integration capabilities for third parties.

Principles woven into very fabric of the REGIA are those of voluntary participation, crowdsourcing, and open data. It is noteworthy that within two years after introduction of this platform all 60 municipalities and number of government institutions of Lithuania adopted REGIA.

In terms of technology REGIA is relatively simple, low cost solution that took approx. \$100,000 USD to develop. Yet it's not the technology or data itself that makes REGIA worth replicating in other countries, but rather the whole new contexts for decision making that are being created by combining multiple data layers together. The impact REGIA has made in Lithuania over the course of past few years transformed the ways in which municipalities as well as government institutions use to disclose information, engage in collaboration with residents and local communities, address decision making, organize problem mapping, manage day-to-day activities, and perform many other tasks.

While being primarily a public service platform, REGIA is capable of and expected to become a basis for business model developed by the third parties attracted by the sheer amount of useful data as well as ready-to-enlist users.

Basic data layers

Foundation of REGIA rests upon cadastral map of Lithuania and base layers of data of main state's registers, such as the Real Property Register, the Address Register, and the Register of Legal Entities. As a result users are provided with details on location and borders of land parcels, buildings built on that land, addresses of those properties, information on energy consumption class of the particular building. Information on businesses, institutions and NGOs is represented next to address of the building in which head offices of those legal entities have been registered. The Address register also provides REGIA with



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names and boundaries of streets, boroughs, settlements, cities and other administrative areas. And the License Register provides detailed information on operating licenses issued to businesses and residents performing licensed activities at designated addresses.

All registry data described above is considered official and reliable, linked directly with database of the particular state register.

Results of the mass valuation of property for taxation purposes are being represented within basic REGIA layers as well. These are the value zones, average market value and current taxed value of any given property. Real estate market data also reflects amount of transactions performed within selected value zone as well as average market price of residential property.

Municipal, government, utility data

Data layers of municipal data represent almost any aspect of municipal activities, such as zoning and other aspects of urban and rural planning, construction permits, public buildings, social housing, renovation, transportation and engineering infrastructure, waste management, recreation and tourism, investment attraction, management of municipal property, etc.

Number of government institutions use REGIA in order to publicize their agenda. Among them, the Fire and Rescue Department provides information on civil defense and fire safety, and the Department of Cultural Heritage has integrated its registries with REGIA.

Major Lithuania's utility companies chose to put their data into broader context of REGIA map in order to inform and interact with their current and potential clients. As a result, REGIA was enriched with accurate spacial data on electricity transmission network and distribution grid including both overhead and underground power lines. Transformers and transformer substations had been mapped as well. Same goes to national distributive gas pipeline network.

Institutions and businesses are free to decide whether to disclose their data layers or to keep it private. Yet most chose to commit to publicity. As to the date of this publication REGIA contained more than 160 data layers, majority of them created by local and central government institutions, and almost all of them public.



Data management, interoperability, mobility

Within REGIA back-office interface adequate set of mapping and data management tools is provided for institutional / business users. Mapping tools are not limited to measurement, adding and editing of linear, spot or polygon objects. REGIA also supports importing of geo-referenced data from files and databases. It allows to place a vast sets of spacial data onto the REGIA map and automatically align it within geographic coordinates.

Each object or designated area of REGIA map may be supplemented with additional textual and graphical information, separate attachment, or linked with URL.

REGIA back-office users are also equipped with analytical tools and data export capabilities.

Since introduction of REGIA mapping and messaging application for mobile devices data management became possible both within and out of office. Mobile REGIA app has been used by municipalities as back-office tool to map issues by on-the-field municipal employees.

Number of municipalities use mobile REGIA as a front-desk application enabling participatory mapping by populous. With mobile REGIA app residents may report any issue requiring local government's attention. Use of electronic signature makes those reports official, legally binding to a notifier, and obligatory to react to by municipality. Mobile app provides notifier with ability to monitor the progress of his/her report processing. At the same time back-office functionality of REGIA provides municipal employee or mayor with real time battle-map of issues-to-be-solved.

Last but not least REGIA is pre-programmed to send important notifications to residents and legal entities within designated area via mobile app, email and other means of communication.

Cases of application

Since its inception REGIA became a synonym of transparency. Whether it's a case of public deliberation of new detailed planning or issuing construction permits, or upcoming auction of municipal property, all this information now is equally accessible to anyone.

It's becoming a healthy habit for real estate developers and property buyers to check REGIA in order to evaluate an outlook for property in a particular area. Such outlook takes into account existing land use regime, restrictions, current and future transportation, public and engineering infrastructure, etc.



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Journalists are particularly happy with REGIA. A fusion of administrative data from different layers of information and institutions enabled number of journalist investigations resulting in exposure of illegal constructions within protected territories, such as regional parks and reservations.

Municipalities themselves discover new ways of decision-making based on spacial information rather than relying on text documents. For example, combining graphical information on intended-to-replace asbestos-containing building roofs with the layer of distribution of schools, hospitals and kindergartens, provides clear suggestions on how to prioritize asbestos removal activities.



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References:

1. Aleksienė, A. & Sabaliauskas, K. (2002). *Progress Toward Value-Based Taxation of Real Property in Lithuania (Land Lines Article)* (Land Lines: October 2002, Vol. 14, Nr. 4). Inventory ID LLA021004; English
2. Sabaliauskas, K., Ramanauskas, R., Bagdonavičius, A., Kasperavičius, R., Maksvytis, K. & Naimavičienė, J. (2016). *Information Systems for Property Administration in Lithuania (8014)*. Christchurch, New Zealand: FIG Working Week 2016, *Recovery from Disaster*.
3. Tupėnaitė, L., Naimavičienė, J., Bagdonavičius, A. & Sabaliauskas, K. (2015). *Management of Construction and Real Estate Under Conditions of Market Instability*. Vilnius: TU Press TECHNIKA.