

Open Access Data: why we want access to all data, but are hesitant to share our own data. The issue of trust revisited.

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Key words: Cadastre; Digitalisation; Data Governance; Data sharing

SUMMARY

Cadastrals and Land Registries have a long tradition in of providing access to data. Over the years also spatial information has increasingly become open. This has been driven by initiatives as INSPIRE and communities like Open Street Maps have contributed significantly to open up data. Recently the policies of the European Union have given a further boost to opening data with the Open Data Directive, Data Governance Act, the concept of Data Spaces, and at the same time take into consideration issues of sharing and control of data. Thereby the European Commission sets the scene how to work with data in a trustworthy setting.

Opening up data and is very helpful in dealing with major societal issues such as climate change, energy transition and safeguarding biodiversity. Dealing with these issues also requires an increased sharing of private, public, and personal data. At the same time society has become more critical in how to balance their personal data space with the data provision and use by digital platform and governments. The added value of using and sharing data is widely acknowledged, but at the same time parties require a transparent and level playing field. This necessitates an ongoing conversation how we maintain trust in using and sharing our data, and how we can trust the data itself.

In our paper we illustrate the impact and opportunities of using and sharing data. In The Netherlands the data domains of the real estate market (cadastrals), spatial data infrastructures, planning and the built environment are increasingly becoming linked data-ecosystems. This provides a boost to evidence-based policy and decision making, and at the same requires clear guidelines and rules for accessing, using, and sharing data.

We are reconsidering the organisation of our real estate transaction chain. In this paper we illustrate the steps we are taking in the Netherlands and relate them to the overarching European data policies and principles We compare our solutions with developments Flanders. Purpose in the end is to maintain trust in our land market and its data ecosystem considering personal data rights and benefits of a digitalized society.

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1. INTRODUCTION

The previous decades the European cadastres and land registries and other parties in the land market (real estate agents, notaries, financial institutions) have to a large extent digitized their working processes and have established digital connections between the various actors. In addition, cadastres have been increasingly integrated into the national (spatial) data infrastructures. We have arrived at a stage where we increasingly see and experience a data-ecosystem in which parties share data and integrate their working processes.

At the same time this requires a reconsideration on how and to what extent we make cadastre and land registry data findable, accessible, interoperable, and fit for re-use. In the Netherlands the cadastre and land registry data always have been open access data. The cadastral (index) map is even available as open data. This has resulted to a very transparent, well-functioning, efficient and highly trusted land market (including a transparent land taxation process).

At the same time people are more concerned about the protection of their personal data and want more control over their data (being informed of who has accessed their data and having control of sharing their data). At the same time people cherish the fact that information is accessible to them.

The European Union has embarked on an ambitious data strategy by making data more accessible. Data are considered essential for a thriving, just and sustainable economy. At the same time the European Commission is aware that these developments require a reconsideration of the checks and balances. Citizens or businesses should have a balanced position data-wise related to the big service providers and the public sector.

In this paper we will discuss how these developments concerning data can be accommodated in the data-ecosystems of land rights and the built environment in general in a manner that both accessibility to all parties in the market and trust can be guaranteed. We will specifically look how we address this issue in the Netherlands and will also compare it with the initiatives in our neighboring Flanders.

2. EUROPEAN DIGITAL POLICIES AND DATA STRATEGY

European policies are directed to putting people and their rights at the centre of the digital transformation (European Commission, 2022a). The European digital rights and principles are:

- *Putting people and their rights at the centre of the digital transformation*
Digital technologies should protect people's rights, support democracy, and ensure that all digital players act responsibly and safely.
- *Supporting solidarity and inclusion*
Technology should unite, not divide, people. Everyone should have access to the internet, to digital skills, to digital public services, and to fair working conditions.
- *Ensuring freedom of choice online*
People should benefit from a fair online environment, be safe from illegal and harmful content, and be empowered when they interact with new and evolving technologies like artificial intelligence.
- *Fostering participation in the digital public space*
Citizens should be able to engage in the democratic process at all levels, and have control over their own data.
- *Increasing safety, security and empowerment of individuals*
The digital environment should be safe and secure. All users, from childhood to old age, should be empowered and protected.
- *Promoting the sustainability of the digital future*
Digital devices should support sustainability and the green transition. People need to know about the environmental impact and energy consumption of their devices

These are overarching principles for all data policies.

The European Commission is well aware of the opportunities and of a well-functioning data- and information based society. This requires that clear guidelines and rules are in place for access to data, sharing of data and rights and responsibilities related to data. The commission is working on this by setting up a set of rules and regulations (European Commission, 2022b). Specifically this relates to:

- Data a Governance Act (regulation).
- Data Act (regulation).
- Open Data Directive which includes the set High Value Datasets that should be made accessible by API's.

It is important to note that in the proposal for high value datasets includes addresses, buildings and cadastral parcels.

In addition the Commission has initiated the update of the eIDAS regulation (European Commission, 2022c). eIDAS provides a clear legal framework for people, companies and public administrations to safely access services and carry out transactions (preventing unintended sharing of personal data). Furthermore, the Commission proposes a trusted and secure Digital Identity for all Europeans including European Digital Identity wallets. These facilities are meant to provide trust, transparency and interoperability for digital transactions.

The composition of all these EU-policies have a major impact on the digitalisation of society and data ecosystems in particular.

For various domains (e.g. the green deal or mobility) data ecosystems are in the making,

where the objective is to provide as much as possible a level playing field for all parties involved and where at the same time the use and sharing should be as easy and effective as possible and the rights and responsibilities of parties are respected and warranted. It is about finding a balance between providing maximum added value by providing access to data and maintaining the trust and control with the users in dealings with the public and private sector, while at the same time data security.

The land market as such has not been defined as a specific domain, but the digital rights and principles will apply to dealings in general, and thus certainly will have an impact on the land market data ecosystem as well.

3. TOWARDS A DATA ECOSYSTEM FOR REAL ESTATE TRANSACTIONS IN THE NETHERLANDS

Within the land market in the Netherlands, we are working to optimize our dealings to improve the process in land transactions (see Figure 1). In this project the Cadastre, Land Registry and Mapping Agency cooperates with the financial institutions, the real estate agents, and the Royal Dutch Association of Civil-law Notaries. Purpose is to improve the effectiveness of the value chain of land transactions and therewith facilitating ‘carefree dealings in real estate’. In Dutch the initiative is called ‘zorgeloos vastgoed’ (Zorgeloos vastgoed, 2022).

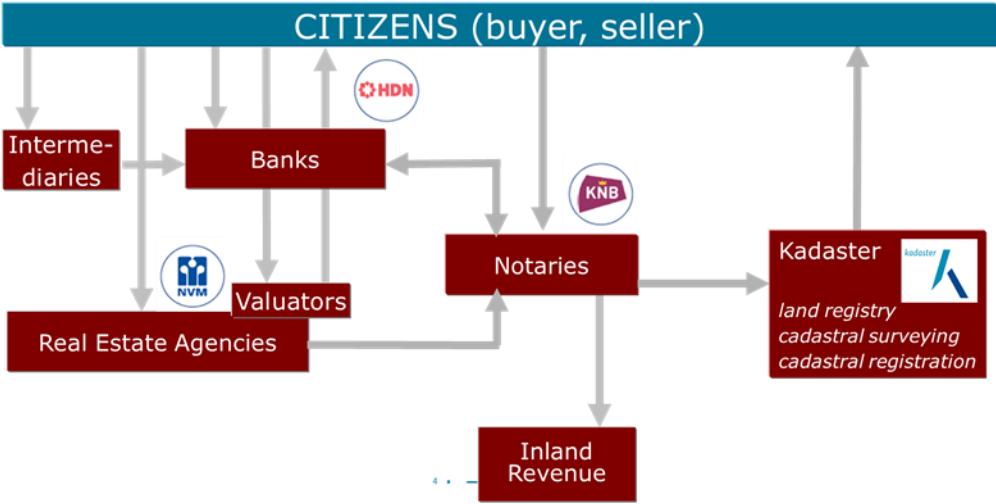


Figure 1: Real estate transaction chain in the Netherlands.

Driving force to start this initiative was the shared objective to provide more certainty at the start of the house-buying process for all parties in the transaction process. Essential for this is the provision and sharing of validated data. Although the professional parties are in the lead of this initiative the buyer and seller are pivotal parties in the design of this process.

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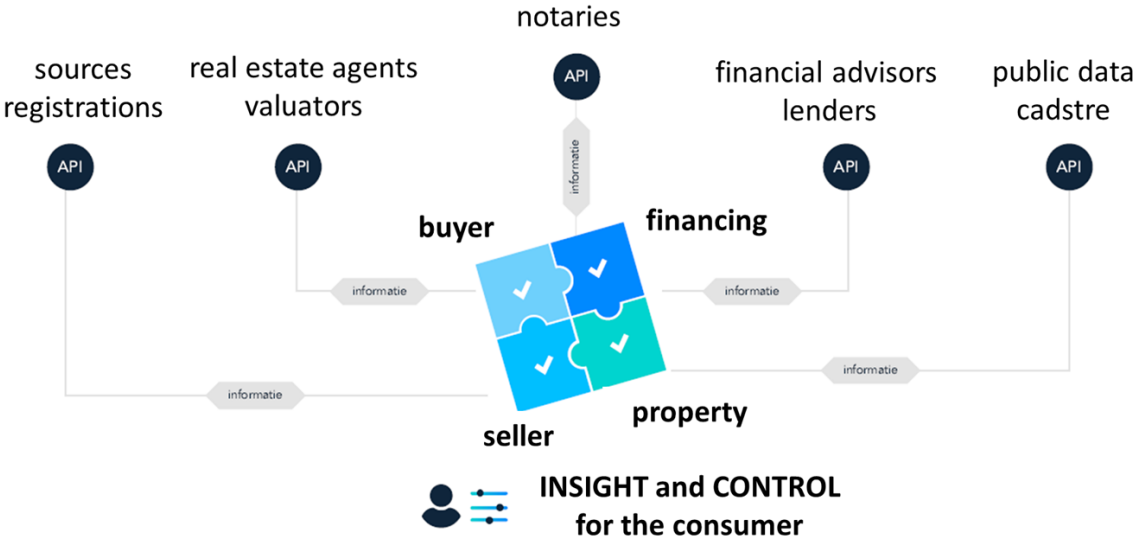
The actors in land transactions want more information up front in the process. Are the parties involved ‘legally fit’ (entitled), ‘financially fit’ and is the property ‘physically fit’? An example is the common case where a purchase agreement is concluded under the condition that a mortgage can be provided. If this condition is not fulfilled, the agreement unfortunately must be cancelled, sometimes weeks after reaching an agreement. Would a process where a financial institution can judge up-front if providing a mortgage is successful considering the financial fitness of a buyer and the state of the property not be a better alternative?

In the past we would have started this project with optimising and aligning our processes as shown in Figure 1 to achieve better interoperability. Putting data central and focussing on a ‘care-free’ transaction process (providing transparency, efficiency, and trust) we have chosen to start with defining a number of joint guiding principles closely related to data:

- *(Legal) security at an earlier stage:* By retrieving validated data directly from the source, we offer (legal) security at an earlier stage.
- *Insight and overview:* Citizens and chain partners have insight into information and process and know what is expected of them.
- *Control of data:* We enable the citizen and chain partners to actively control their data.
- *Interoperability:* The guiding principle is that the system of agreements is open to everyone and relies as much as possible on existing standards.
- *Security:* Information exchange only takes place at a high security level.

These guiding principles correspond to a large extent with European digital rights and principles described earlier.

This has resulted in the shared view that we need an information ecosystem. This system is not structured along the lines of the process as we use today, but instead based on the defined principles of the data-ecosystem (see Figure 2).



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Figure 2: Configuration of the data-ecosystem of the concept of ‘care free dealings in real estate’.

Central to the operationalisation of the concept the parties have established a so-called trust framework built on the guiding principles. The framework is a system of agreements through which the entire transaction chain, including the consumer, can work together seamlessly. By working with one language and one generic architecture, we make collaboration in the chain easier and more efficient.

The trust framework consists of the following elements:

1. The *Foundations* describe the goals, preconditions and basic agreements within the system, as well as a division into certain roles about the system. It includes an assessment framework with which the other building blocks of the system must comply.
2. The *Legal Framework* provides a (non-exhaustive) overview of the relevant legislation and regulations that relate to the agreement system and how they are applied within the trust framework.
3. The *Architecture* describes guiding principles and system functions that ensure that source holders, software suppliers, service providers and consumers can use the information services that are available via the agreement system.
4. The *Data catalogue* described the joint taxonomy and information models.
5. The *Governance* describes how the development, management and enforcement of the agreements system takes place, who is involved and how parties can participate.

Setting up a land transaction data ecosystem involves a lot of effort. Therefore, the partners have embarked on a step by step approach. Starting from the guiding principles the trust framework has been set up. The framework has been made subject of a public consultation. Furthermore, the parties have set up a taxonomy (Santema, 2021) so that operation is possible without worrying about semantic differences. Currently the first formal juridical step we are taking is to pilot the purchase agreement within the ecosystem. It is good to note that in setting up this ecosystem the actual work and interaction is very much done by the software providers of all the parties involved.

4. THE USE CASE IN FLANDERS

In our neighbouring Flanders the government has taken a somewhat different approach. They have chosen to set up a real estate information platform to simplify the gathering of public and cadastral information on real estate. This platform will be part of the recently established Flemish Data Utility Company (Digitaal Vlaanderen, 2022).

The purpose of the real estate platform is primarily focussed on bringing together authoritative public information with cadastral information. It will be a platform where the person requesting property information can simply request the necessary data in the context of

a sale or long-term lease. The platform will then collect all the data from the available, connected sources (central registers and municipalities).

A central element of the platform is the use of personal data vaults, in combination with a data lock, citizens can choose which data they share with which organizations for which period (see Figure 3).



Figure 3: General setup the Flemish information platform (Digitaal Vlaanderen, 2022).

Whereas the Dutch initiative on ‘care free dealing in real estate’ is primarily focused on the legal and financial aspects related to the real estate transactions, the Flemish platform is more oriented on making the public and cadastral information regarding the property available. This considerably eases and speeds up the sales process of real estate, by providing a shared and authoritative information base.

This is also apparent in the partnership providing this platform as in addition to the parties in the real estate sector the municipalities and Flemish government are among the founding members.

The Dutch and Flemish approaches have a lot in common, although they differ in their approach and implementation strategy. In both cases the consumer/citizens have insight and control over their data, data sharing is secure and transparent and public authoritative data sources are made available whenever possible.

5. OUTLOOK AND CONCLUDING REMARKS

Cadastrals and land registries have become part of a data ecosystem related to properties and the built environment. In the past decades more data have become available as either open data or open access data. This has strengthened the transparency for all stakeholders in the land market and built environment and has contributed to an efficiently operating real-estate

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market.

At the same time parties in the land market increasingly want control and insight in the use of their data when making transactions. Secure transactions are essential for trust in the system, and this requires clear rules for secure data sharing and access to data.

Our objective is to arrive at a situation where trust and transparency are established in the land market at the macro-level and transaction level (where personal and financial data are shared). This requires balancing of interests and a proper debate.

At the policy level the European Commission faces the same dilemma. At one hand the opening of data combined with proper and secure use and sharing data is essential to achieving welfare and increasingly well-being, where at the same time the rights of citizens and business must warranted in order to maintain trust in a digitalized society.

Also in the domain of cadastres and land registry we must find a proper balance between societal benefits and needs at one hand (e.g., the objectives of a transparent and well-functioning real estate market) and the wish for personal control and insight in the use and sharing of one's personal and financial data (e.g., when buying or selling a property). A special issue could be what guiding principles relate to object-related data. Trust is essential at the personal, object, local and macro-level.

The principles, policies and regulations set out by the European Commission provide a good basis for the discussion on this subject. As digitalization is permanently evolving this will not be a one-time discussion, but the an on-going journey to ensure trust in the system,

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BIOGRAPHICAL NOTES



Martin Salzmänn is the strategy lead with the Cadastre, Land Registry and Mapping Agency (Kadaster) of the Netherlands. He holds a Ph.D.-degree in technical sciences (geodetic engineering) from Delft University of Technology. In the past Martin has worked extensively in the fields of quality assurance of cadastral surveying and mapping, information strategies and marketing before moving into the realm of strategic planning and eGovernment. Martin is board member of Eurogeographics and of its coordinating team of the cadastre and land registry knowledge exchange network.

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