LEADING ROLE FOR KEY REGISTERS

Kadaster: Ambitions and Goals

Programmes at European and national government level are signalling opportunities, setting policies and taking measures to capture the benefits of ICT. In tandem with societal demands, this will lead to government services via internet, key registers, web services and more. The author sketches the ambitions and goals of the Netherlands Cadastre (Kadaster) against a background of European policy, ICT developments and customer expectations. ICT offers many opportunities for improving the performance of government and business. Areas which may profit include education, safety, health care, international co-operation, economic efficiency (integrated value chains, business-process management, reduction in administrative overheads), prevention and detection of fraud, and accident and disaster management. ICT trends such as ubiquitous access, smart objects, open source, increased bandwidth; interoperability and data-exchange standards will result in new business models. New perspectives are opened up in the land-administration industry by options like increased location independence, high-quality online services based on immediate access to all required data, use of identified objects available for process control, integration within business chains and government organisations, and increased e-shopping. The Kadaster is researching how to merge innovative ICT possibilities with societal, government and business needs.

European Policy
At European level the priorities include completion of a Single European Information Space promoting an open and competitive internal market for information society and media, strengthening research into Innovation and Investment in ICT and achieving an Inclusive European Information Society.
Objectives have been set for improving the security and reliability of broadband services, for creating better and smarter use of ICT within the public domain and for improving interoperability. Another issue at European level is free access to data. The Infrastructure for Spatial Information within the European Community (INSPIRE) is a proposal that aims to create a system for access to and exchange of spatial information for environmental monitoring. Cadastral and topographic data is considered relevant environmental data and will thus be included in discussions on free access. The ambition of the Dutch government is in 2007 to make 65% of government services available via internet. Implementation measures include enhanced use of ICT, a strengthened ICT-infrastructure, and international co-operation.

ICT
Wireless communication, sensing technologies and GNSS have improved gathering and use of information on the web, resulting in a worldwide increase in use of digital geographic data. This has led in turn to renewed interest in applications employing geographic data, how objects relate spatially and new GIS possibilities such as Google Earth, maps.com and Microsoft Virtual Earth. There are fast-growing possibilities for online use of geographic data for all kinds of analysis, and the reliance of society upon such data is growing commensurately. To enable the use of data from multiple national and international data sources a worldwide structure must be developed for describing digital geographic data and services. This is the aim of the International Organisation for Standardisation (ISO), in close co-operation with other organisations such as the Open Geospatial Consortium (OGC). Using ISO standards, a national standard for the exchange of geodatasets based on a semantic model is being implemented. For cross-border access to geodata, a European metadata profile based on ISO standards is under development using rules of implementation defined by INSPIRE. The main areas for web-services development include business-process management, data acquisition, online use of data from multiple sources, and e-commerce applications. As a result of the eContent Programme, the Kadaster is now participating in the European Land Information System EULIS project.

Customers
Customers want online services of high quality, easy to use, permanently available, offering the latest and most accurate information, and secure. They prefer to provide government organisations with their personal data just once, and to have access to all private information concerning themselves and their neighbourhood, laws and regulations. This data should be available in an integrated way, geographically visualised. Commercial business and government organisations will benefit in the same way. Information required for spatial planning, policy evaluation, planning and control in areas like health care, traffic and homeland security may be made available as integrated from different sources. This opens up a variety of applications including online collection of data on public buildings, schools, hospitals, public forces and number of people within a disaster area.

Key Registers
Legislation is currently being prepared to confirm the designation of registers on population, cadastre (parcels and rights), key

company information, addresses, buildings and topography (TOP10NL). Introduction is being studied of a register of addresses and buildings, and TOP10NL is being implemented. The already existing population register and cadastre will comply with the legislation regarding these key registers. The Council of Ministers has decided to introduce an â€˜Addresses Key Registerâ€™ and â€˜Buildings Key Registerâ€™, which should be implemented by 2009. The most important candidates for future approval are the â€˜Large Scale Topographic Base Map of The Netherlandsâ€™ and â€˜Underground Data and Informationâ€™.

Multiple Use
The multiple use of land can take a variety of forms. It may be above ground: apartments, superficies, viaducts, transmission structures; at ground level: differing uses of land at different times; below ground: tunnels, roads, pipes, utility structures, or, over the course of time, time-sharing ownership constructions. Future Kadaster strategy will require evolution towards a 3D-system in both a legal and a geometric sense.

2006-2010
The strategic objectives specified by the Kadaster Policy Plan 2006-2010 include the following. (1) Securing continuity of public tasks and continually improving quality and efficiency, this also in compliance with European cadastre organisations, and (2) registering and/or disclosing all relevant geo- and land information, above and below ground level, in the Netherlands. The Kadaster will continue to invest its knowledge and information in improving and renewing public services in the Netherlands and Europe. Some operational objectives of the plan for the period 2006-2011 are elucidated in the text box. Improvements have been realised recently, such as electronic deed conveyance, extended availability of online services to 22/7, nation-wide registration of (naturalised) persons, nation-wide digitally accessible public registers, connection to the EULIS-portal, and extended use of GPS in surveying. Any long-term strategy should be justified by its capacity to serve user interests. How the demands of the client are recognised, weighted and interpreted in terms of action is an internal issue. It may not be expected of a client making a certain demand that he/she will know in advance the full and detailed consequences of the required development. This implies the organisation taking responsibility for assessment, as described in the examples below.

Legal Reality
Discussions are underway in the Netherlands on the legal nature of the land register and provision of truthful data. This is highly relevant in view of efforts on the part of the Kadaster to use the internet as a primary channel for information dissemination; non-professionals, in particular, will consult solely the land register and cadastral maps and not the public register, the content of which is already available online. As key registers, Land Register and Cadastre will also have a role to play and users will assume that the data they provide is correct. There is reason for serious consideration on the part of Kadaster concerning the extent to which it is able to guarantee information recorded in its registers as correct and fully in line with legal reality. This will involve a fundamental amendment of the Netherlands Civil Code and Cadastre Act. The issue involves improving the legal significance attached to the land register. All this has a substantial impact on society and decisions require comprehensive prior discussion and investigation.

Leading Role
The municipalities have been designated the authentic source for data regarding addresses and buildings. Experience gained with the Municipal Personal Records Database, the population register, which cannot yet be consulted online, indicates the role that Kadaster might play in rendering such data accessible at national level whilst municipalities continue to own the source. The justification offered by Kadaster for this suggestion is based on a core competence: management and maintenance of national databases with extremely high update frequency. The Kadaster strategy would be to play a leading role within the key-registers system (Figure 1). Kadaster would also need to review the extent to which supplementary, relevant data could be integrated within the scope of an information infrastructure. In this context the already existing

Cadastre on Line system could play the role of a â€˜landinformation portalâ€™ (land-information portal â€˜one-stop-shopâ€™). The Kadaster might consolidate its sound position by providing a series of topographic and geographic products possessing internal consistency and indispensable to third parties for spatial planning, land-use management and maintenance. For this the cadastral map, the Large Scale Topographic Base Map and Topographic Key Register will need to be rendered object-oriented and mutually consistently maintained based on dataset integration using ontology. Advanced detection of change, such as using satellite images and then processing observed change in all datasets (â€˜change propagationâ€™), will then become feasible. Kadaster management assumption of, for example, the â€˜National Road Databaseâ€™, indispensable to dynamic traffic management, would be compatible with this.

Strategic Objectives
Based on the above, the current strategic objectives might be reformulated as aiming for the best possible performance of current public duties, and promotion of innovation and knowledge for the adoption of a leading role in their evolution in response to societal developments. Strategic sub-objectives include:
- investigation of evolution towards a (more) positive land-registration system
- introduction of a 3D land reg-ister
- ambition to adopt role as centre for a range of key registers
- provision of more complete in-sight into private and public legal status of registered property
- achieving a substantial role in organising information needs of the property market chain
- provision of appropriately linked set of topographic and geographic datasets, object-oriented and mutually consistent with respect to change
- fulfilment of pivotal role in geometric infrastructure (x, y and z)
- acceptance of prominent EU partner role in harmonising registered-property law, land registration, and cadastres
- development of flexible land-planning instruments suitable for use in realising a variety of societal spatial objectives.

Concluding remarks
The future will be shaped by business strategies and ICT is the enabling factor that needs to be recognised in good time. In order to fulfil its ambitions the Kadaster must demonstrate leadership. Justification of the required investment is to be found in

the benefits to society of an efficient and effective Kadaster.

Textbox
Kadaster: Some Statistics
The Kadaster, established in 1832, has since 1994 been an independent Public Agency in the Netherlands. It currently employs some 2,100 people. Eight million parcels are presently registered. Key statistics for 2005 include the processing of 1.2 million deeds, delivery of responses to 19 million online requests for information, total turnover of e234 million, and IT expenditure of e56 million.

Operational Objectves
Secure continuity
â€¢ Comply with internal quality criteria: elapse time for processing of parcel subdivisions and quality of objectreferences
â€¢ Improve Topographic products, quality level as described in law

Continued improvement
â€¢ Realisation of nation-wide public registers
â€¢ Development of chip-based system for branding ships
â€¢ Area selections for cadastral and topographic information and digitally secured extracts via Kadaster-on-line
â€¢ One online interface to outside world: uniform access/MyKadaster
â€¢ Information supply via mobile equipment
â€¢ Further development of object-oriented product range TOPxxNL
â€¢ Customer satisfaction: extend online opening hours, improve billing information; adapt product RD to customer wishes
â€¢ Efficiency: 50% of all deeds delivered electronically; development of automated conveyance and processing of deeds

Renewal
3D Registration
â€¢ Establish cadastral registration of networks
â€¢ Investigate 3D requirements and possibilities
Centre for range of key registers
â€¢ Implement legal regulations with respect to key register Cadastre and Topography
â€¢ Connect mortgage subjects to municipal persons registration (key register for naturalised persons) and to key register of companies
â€¢ Position maps as source for geometry in buildings register and position Kadaster as nation-wide access point for buildings and addresses register
â€¢ Key register ships and aircraft

Optimise information supply to property market
â€¢ Establish consequences of law on public restrictions
â€¢ Start clean-up of easements registration
â€¢ Investigate feasibility of â€landinformationportalâ€™ (land-information portal)

Convert/adjust topographic and other spatial datasets
â€¢ Investigate feasibility of introducing object-orientation for large-scale topographic base-map
â€¢ Work out scale-less and seamless topographic registration
â€¢ Work on integration with other geographic registration systems: NWB, AHN, NAP

Prominent EU partner
â€¢ Implement EULIS
â€¢ Participate in INSPIRE specifications

https://www.gim-international.com/content/article/kadaster-ambitions-and-goals