



DUTCH KADASTER LEVERAGES SPATIAL DATA

INTERGRAPH® SOLUTION SUPPORTS SPATIAL DATA INFRASTRUCTURE, OTHER KEY INITIATIVES IN THE NETHERLANDS

Governments at the local, regional, and national levels require current, accurate geographic information to make better decisions in multiple areas. Geospatial data can help government organizations better manage:

- Border security, primarily at the national government level
- Emergency management, involving prevention planning, civil protection, monitoring, and analysis of natural disasters and large public events
- Infrastructure management for water and wastewater systems, transportation systems, city services (garbage, snow, parks), field equipment, and some utility systems
- Land information management, including cadastre, forestry, agriculture, natural resources, urban planning, environmental protection, and economic development
- Mapping and cartographic production, primarily at the regional and national government level
- Public services (e-government), including businesses and citizens purchasing government information, accessing government information, and requesting services

These areas are just a few examples of how decision makers can benefit from geographic information, coupled with the associated spatial data infrastructure (SDI) that supports information discovery, access, and use of this information in the decision-making process. The examples also clearly indicate the importance of collaboration between organizations,

particularly for the interoperability of spatial data and publication of spatial information.

This article highlights the Dutch Kadastre experience with Intergraph SDI technology.

The challenges

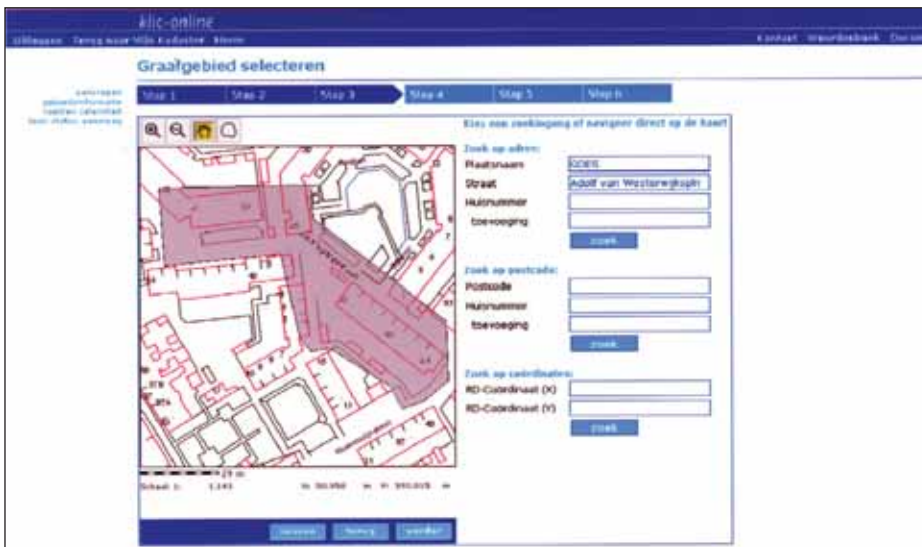
Every square inch of land is a valuable asset in the Netherlands. The western European country has a population of more than 16 million. However, the country itself is small, with a total area of 41,526 square kilometers (16,485 square miles). Thirty-five percent of its land is below sea level. Geospatial information plays a vital role in managing the Netherlands' more than eight million parcels of land. Dutch Kadaster is the national land registry and mapping agency for the country. Its activities include land surveying, registration, and consolidation; mapping; triangular reference networks; and information services. Our organization wanted to replace its outdated legacy information system and replace it with a state-of-the-art system to implement the new Dutch Land Consolidation Act (WILG). In addition, we wanted a system citizens could use to easily access geospatial data.

The Project Objectives

- With this new project our main objectives were the following:
- Provide citizens with easy access to visualized information and services.



Locating information using the Klic-Online system



The Klic-Online polygon tool

- Develop Web services to build a spatial data infrastructure (SDI) for the country.
- Implement a geospatial solution to manage the country's new land reallocation system.

The Solution

Kadaster has worked with Intergraph® since 2006 using the GeoMedia® and TerraShare® product suites to gather, store, and display large quantities of geospatial data, as well as aerial, satellite, and other imagery. While capturing and storing data is important, it is the extensive data query and exploitation tools that really empower organizations to improve processes and performance while maximizing their return on investment. We selected Intergraph as our partner for geospatial solutions after a European tendering process. Intergraph offered the best solution for Kadaster, both in functionality and cost-effectiveness. Kadaster uses Intergraph technology to help implement the WILG,

which involves trading pieces of land to consolidate property holdings. For example, the government can use geospatial data to help plan a railroad and find the best solutions for exchanging land holdings. The Intergraph system makes it easier for Kadaster to make decisions on value propositions and the exchange of land parcels.

Kadaster also plans to leverage the geospatial data through Web services and create a national geoportal, the first step toward a SDI for the country. Intergraph's open product platform allows Kadaster to share geospatial data with other governments, businesses, and the public. Following international standards, such as the Open Geospatial Consortium (OGC®) and the Infrastructure for Spatial Information in Europe (INSPIRE), Intergraph technology helps Kadaster respond to more than 20 million requests for information each year. Register data includes topography, parcels, buildings, addresses, companies, and people.

We provide an enormous amount of data and information to real estate agents, notaries, and different governmental agencies. More and more citizens also want to have this information directly. We need to provide good solutions to our citizens and customers because this helps us get in position to create a true, great spatial data infrastructure for our country. The key to a successful SDI is a collaborative environment where data is exchanged and interoperable among different organizations. Intergraph's SDI applications enable Kadaster to provide easy access to the combined data.

Beyond managing the complex land administration procedures of the Netherlands, Kadaster also provides consulting services to help fight poverty in other areas of the world. The agency uses Intergraph's Land Information Management solutions in more than 50 international land administration projects. Land ownership is an important facet of economic growth in developing nations. Land information management geospatial solutions can help countries plan a new highway, expand housing projects, and identify floodprone areas.

The Future

Kadaster realizes the value geospatial solutions provide. We plan to continue to integrate our total workflow with Intergraph's SDI application. The developing SDI will enable the Netherlands to exchange data with other countries. We focus on geospatial solutions for our customers. This is more than just GIS technology.

A complete geospatially integrated network would cross over into multiple areas, including public safety, water management, spatial planning, the environment, poverty reduction, and more. Kadaster envisions using geospatial information as a tool for a wide number of applications, such as remotely controlling farms, finding safe places to build, locating people in burning buildings, and discovering new bird migrations.

We see thrilling new trends and geospatial technologies, such as 3D visualization. Our customers expect us to give them all the information they need and for it to be presented in a visualized way. We are providing this with solutions from Intergraph.

Article by Arco Groothedde, executive board member, Dutch Kadaster.