

# GIDEON – Key geo-information facility for the Netherlands

Approach and implementation strategy  
(2008 – 2011)

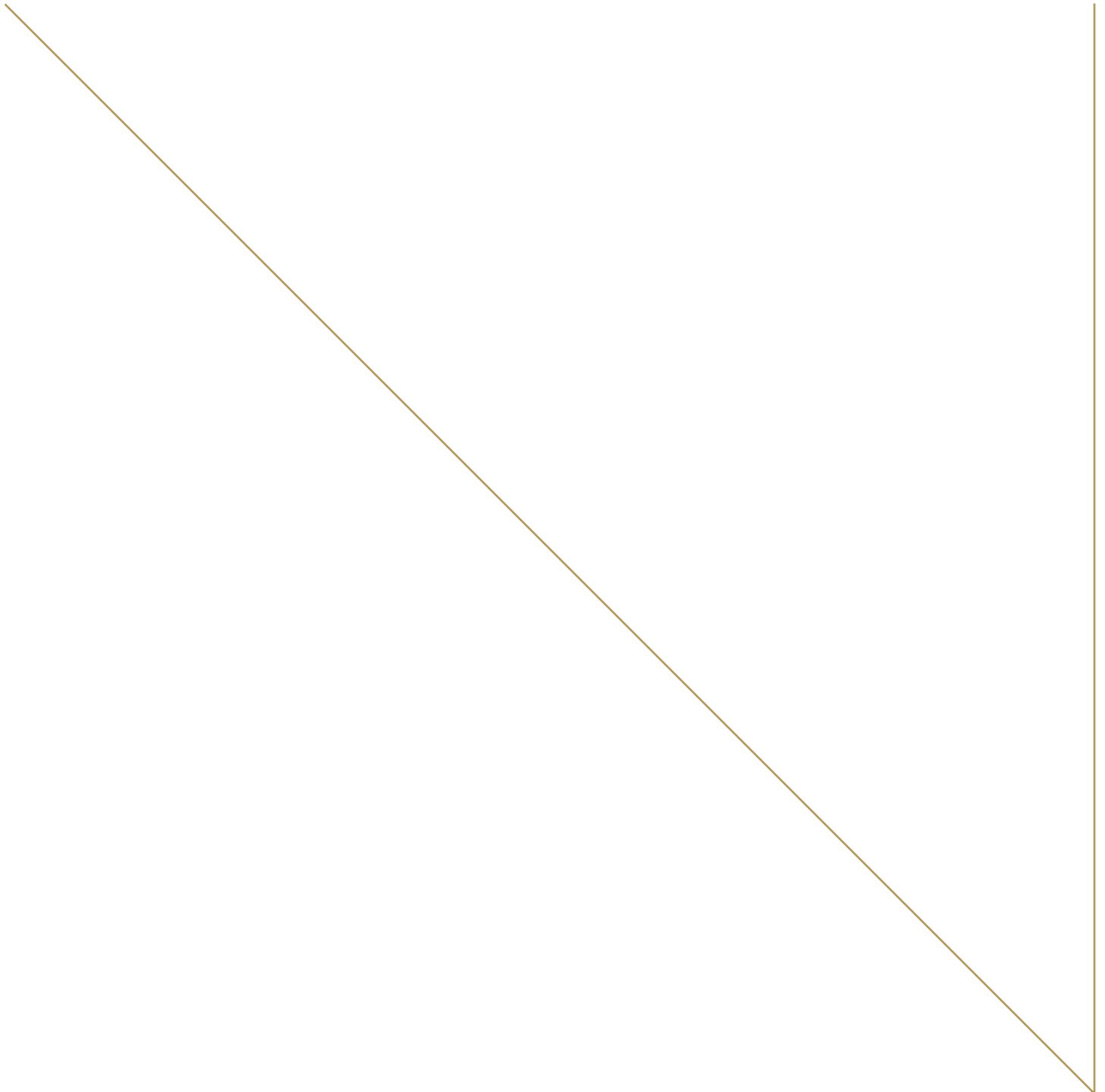


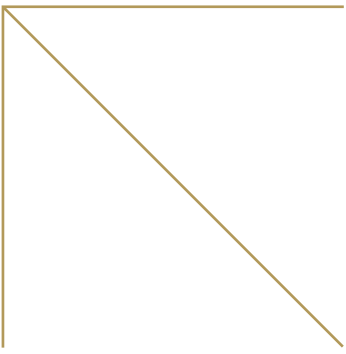




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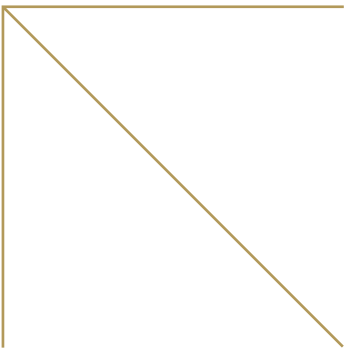


**Date**

April 2008

**GIDEON was created thanks to the cooperation and commitment of:**

- the Ministry of Housing, Spatial Planning and the Environment (VROM);
- the Ministry of the Interior and Kingdom Relations (BZK);
- the Ministry of Foreign Affairs;
- the Ministry of Defence;
- the Ministry of Agriculture, Nature and Food Quality (LNV), Government Service for Land and Water Use (DLG) and National Service for Implementation of Regulations (DR);
- the Ministry of Transport, Public Works and Water Management (V&W), Directorate-General for Public Works and Water Management (RWS);
- the Netherlands Bureau for Economic Policy Analysis (CPB);
- GeoBusiness Nederland;
- the Association of Provincial Authorities (IPO) and the provincial governments of North Brabant and South Holland;
- Kadaster;
- the Netherlands Environmental Assessment Agency (MNP);
- the Netherlands Agency for Aerospace Programmes (NIVR);
- the Netherlands Institute for Spatial Research (RPB);
- Geonovum;
- Space for Geo-Information (RGI);
- the Netherlands Organization for Applied Scientific Research (TNO);
- Alterra;
- the Association of Water Boards (UvW);
- Universities: TU Delft, Utrecht University, VU University Amsterdam and Wageningen University;
- the Association of Netherlands Municipalities (VNG) and the Municipality of Vlaardingen;
- Het Waterschapshuis.





## Foreword

Spatial data (or geo-information) has become increasingly important to society as a whole in recent years, and not least to industry, as the success of Google Earth and TomTom testifies. It is equally important to the public sector. Geo-information is indispensable in electronic applications in spatial planning, water management, environmental management, agriculture, energy supply, traffic and safety, to name but a few areas. Geo-information therefore has a prominent place among the government's key facilities for public services and for reducing the administrative burden for the public and businesses.

The Minister of Housing, Spatial Planning and the Environment (VROM) is the coordinating minister for geo-information in the Netherlands. The Ministry of Housing, Spatial Planning and the Environment has responded to this increasing importance in recent years by introducing the following policy measures:

- boosting innovation and knowledge development in the professional geo-field with a substantial subsidy to the Space for Geo-Information (RGI) programme;
- founding the GI Council, with strategic advisory duties;
- forming Geonovum, a new foundation of public sector parties, created with support from the Ministry of Housing, Spatial Planning and the Environment and others;
- arranging for formal consultation with industry, the geo-profession and the academic world in the Geo-meeting;
- defining the legal framework for, and implementing, various key registers.

Also relevant is the European INSPIRE Directive, which provides for harmonizing spatial information in and between EU member states. The rules for implementing INSPIRE compel the Netherlands over the next few years to set up a technical and organizational infrastructure, in which spatial data from public authorities – and on request also from industry – are accessible and interoperable.

The above activities and policies have helped increase commitment in the professional field, and have resulted in successful and ambitious projects with enthusiastic staff. However, while there is ample consultation and partnership, there is no uniform strategy as yet.

The next essential step in the Netherlands, therefore, is to produce a well-supported and consistent approach and

implementation strategy. Various parties have urged the Minister and the Ministry of Housing, Spatial Planning and the Environment to take this step.

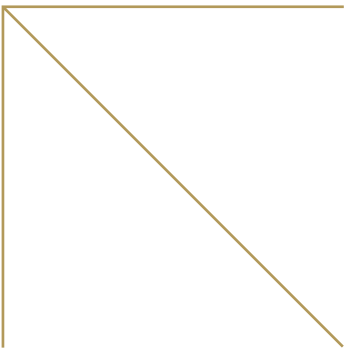
Pursuant to advice from the GI Council, the Geonovum and RGI foundations have devised this approach and strategy in consultation with parties in the Geo-meeting. The result is known as GIDEON. GIDEON implementation will produce a national facility for location-specific information. This report provides several examples of GIDEON's practical implications.

The GI Council endorses this approach and implementation strategy, and advises the Minister of Housing, Spatial Planning and the Environment to adopt the proposals into ministry policy. This recommendation recognizes the desirability of political support for this policy, and of active management of the process.

With the Minister's agreement, the GI Council will organize the above, with the support of the parties involved.

Chair of the GI Council

Drs P.J. Welling







## Summary

Within four years, through the continuous improvement of services, the Netherlands will have a key geo-information facility that all parties in society will use sustainably, successfully and intensively:

- the public and businesses will be able to retrieve and use all relevant geo-information about any location;
- businesses will be able to add economic value to all relevant government-provided geo-information;
- the government will use the information available for each location in its work processes and services;
- the government, businesses, universities and knowledge institutes will collaborate closely on the continuing development and enhancement of the key facility.

### **A national facility for location-specific information**

The government is engaged in a radical modernization exercise. The various key information provision facilities that are being created will enable the government to perform its duties more effectively and efficiently. The objective is to substantially improve the services, enforcement, policy preparation and other processes within the government, by intelligently combining multiple sources of data. The focus is on the citizen and the entrepreneur: everything must be made more customer-friendly.

For example, the government is hard at work introducing order into the management and use of personal data. The urgency of tackling location-specific data, which is often referred to as geo-information, in the same way, is increasing. This document sets out how the public sector parties responsible for managing and using spatial information of this kind intend to create the key geo-information facility for the Netherlands (GIDEON). The objective is to achieve optimum utilization of geo-information in the Netherlands.

### **For public authorities, the public and businesses.**

A properly functioning GIDEON is indispensable for solving social issues concerned with public safety, spatial planning, and the environment. It also helps crucially in achieving the objectives of the coalition agreement in reducing the administrative burden for businesses and improving government services to the public. Furthermore, widely available geo-information will boost innovation and contribute substantially to the expansion of the economy and employment. The size of the Dutch geo-information sector is already at least 2.5 billion euros, and employs several

tens of thousand of people. GIDEON will facilitate considerable growth in these numbers.

### **Under GI Council management, operational within four years**

This approach and implementation strategy was drawn up by Geonovum and RGI at the request of the GI Council, which was set up by the Ministry of Housing, Spatial Planning and the Environment (VROM). The Ministry of Housing, Spatial Planning and the Environment is managing GIDEON implementation, and reports to parliament. The GI Council has a coordinating role. There is also liaison on GIDEON with the Services and E-Government Policy Group.

### **Starting points**

The following starting points are assumed in the creation of GIDEON.

### **Organization in accordance with the 'record once, use many times' principle.**

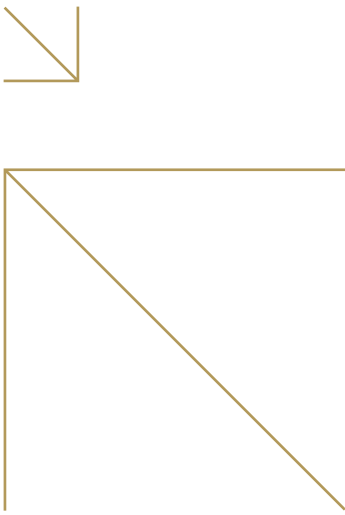
The central organizational principle for GIDEON is 'record once, use many times'. This principle will avoid duplicated effort and reduce administrative burden. The public authorities concerned will harmonize their conditions for delivery and use, so encouraging geo-information reuse by third parties.

### **An inextricable part of a greater whole**

GIDEON is being developed in the European context of the INSPIRE Directive, and fits seamlessly into the national information infrastructure, as set down in the Dutch Government Reference Architecture (NORA). Careful attention is also being given to ensuring liaison and collaboration with relevant projects and programmes in the e-services field.

### **Quality and sustainability**

Quality is a central factor in GIDEON. This is why there is a requirement for all data and services in GIDEON to be certified. GIDEON is to comply with the European metadata and harmonization rules given in the framework INSPIRE Directive, and with the conditions on providing information imposed by the Government Information (Public Access) Act and the European Public Sector Information Directive.



### **Translated into an implementation programme for the next four years**

The approach set out in this document has been translated into an implementation programme for the 2008 – 2011 period. This is not a question of a single sweeping master plan or blueprint, but of building stepwise on results achieved earlier: current initiatives will be strengthened where necessary, and knowledge or expertise will be augmented where they are lacking. The implementation details will be defined and executed by the geo-sector itself, but political and administrative control is essential if it is to succeed.

Various parties are working together on the execution of parts of GIDEON in seven implementation strategies. Jointly, these strategies will lead to the creation of a key geo-facility for the Netherlands.

The seven strategies are as follows:

1. to give geo-information an appropriately prominent place within e-services;
2. to encourage the use of the existing four key geo-registers, and to set up two new ones;
3. to embed the INSPIRE Directive into Dutch legislation and to implement the technical infrastructure;
4. to optimize supply by forming a government-wide geo-information facility, which is to include geo-data standardization, new infrastructure, and collaborative maintenance;
5. to encourage the use of geo-information in numerous government policy and implementation chains, such as safety, the sustainable living environment, mobility, and area development;
6. to create a favourable climate for adding economic value to available public authority geo-information;
7. to encourage collaboration in knowledge, innovation and education, for the permanent development and renewal of the key geo-information facility for the Netherlands.

For certain important components (INSPIRE, statutory key geo-registers, e-services) of the GIDEON implementation and execution programme, some of the necessary resources are already available within current budgets and financial frameworks. For other components of the GIDEON implementation process, both the costs and the associated

funding method are to be defined in detail by the various strategy owners and strategy partners, as part of their joint plans of action.

### **Cohesion in execution**

The success of the execution will depend on how well the cohesion, management and control can be arranged in practice. A commitment to cooperation on the part of all parties will be essential. The Minister of Housing, Spatial Planning and the Environment is the coordinating minister for geo-information, and as such is the directive client for GIDEON implementation. The GI Council acts as delegated directive client. All government parties involved are represented on this board. It is expected that elements of importance to GIDEON, such as the Addresses, Buildings, Cadastral and Topographical key geo-registers, the Large-Scale Standard Map and the ongoing introduction of digital spatial plans, will be given a place in this programme. There is also a direct relationship with the implementation of the National Urgency Programme. There will be liaison with industry in the half-yearly Geo-meeting, and in other forums.

### **Political and administrative embedding**

The GI Council recommends the Minister of Housing, Spatial Planning and the Environment to report annually to parliament on the progress of GIDEON implementation (preferably linked to, or part of, the annual e-services progress reports to parliament from the Ministry of the Interior and Kingdom Relations).

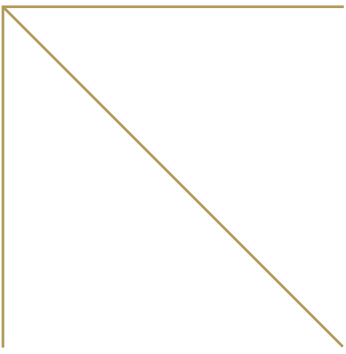
Photo: Figure 1. Combined weather and traffic information for congestion forecasting

**Example: road congestion forecasts**

We would think it odd if the weather man only ever told us what the weather is doing right now. However, that is what drivers have to put up with every day as they listen to the traffic reports in the morning rush hour: 'Slow moving traffic for seventeen kilometres on the A2 between Utrecht and Amsterdam.' Many commuters would prefer to have known an hour or so earlier. Forecasting how traffic jams will develop relies on both traffic data and weather forecasts. For instance, the capacity of a road in an average rainstorm will be from 5 to 15 % lower than when the surface is dry on a cloudy day. Because we can see these downpours coming on the weather radar, congestion forecasts could become a lot easier: by adding information about imminent weather to the current traffic situation. One day, you might receive a text message in the middle of breakfast: 'The queue on the A2 is dispersing. For a 9:15 departure, travelling time between the Oude Rijn intersection and Holendrecht will be twenty minutes.' Time for another cup of tea.

Source: RGI project Influence of weather on traffic (Combined)

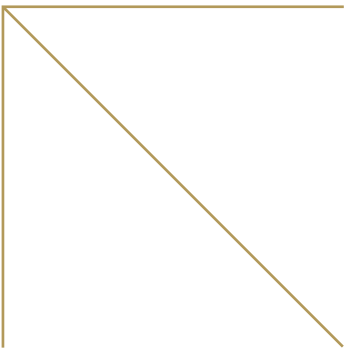






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# 1. Approach

## 1.1. Key geo-information facility for the Netherlands

Whether the subject is education, the care sector, public order and safety, spatial planning, or mobility, major social issues invariably involve people, places, or both. The government has made considerable progress in recent years on the organization of information about natural persons.

The government is now introducing order into its location-specific information in a similar way. The aspects involved include the road infrastructure status, spatial planning, soil structure and environmental quality. Location-specific information of this kind is often referred to as geo-information. The government has invested large sums in gathering geo-information in recent years. Nonetheless, insufficient use is being made of it, and its potential is not being utilized to the full. The information that is recorded is not always conveniently interoperable, and the various file formats and management procedures are not sufficiently compatible. This situation makes it difficult to combine data from multiple sources that refer to a single location. These shortcomings in the provision of geo-information also have an impact on industry. Since the availability of public geo-

information is not always well arranged, opportunities to develop new services and products are now often overlooked.

All public sector parties in the Netherlands with responsibility for gathering, managing, and using geo-information, are therefore to start collaborating on a joint key geo-information facility. This key facility will put the government in a position to improve services and organize them more efficiently, while tackling socially urgent issues and promoting the economic development of the geo-sector.

This document presents a broadly supported approach to a key geo-information facility for the Netherlands. The facility is to reach completion in accordance with a detailed implementation programme by the end of 2011.

## 1.2. The political and administrative significance of geo-information

The political and administrative significance of geo-information is increasing, as numerous examples illustrate. A brief summary is given below of the pillars of the coalition agreement for Prime Minister Balkenende's fourth government, as recorded in the document 'Working together, living together'.

### Pillar 1: An active international and European role

Geo-information is indispensable in solving international problems such as climate change and poverty. It is involved in the development of climate models, biodiversity monitoring, and visualizing production and consumption patterns.

### Pillar 2: An innovative, competitive and enterprising economy

The market for navigation systems has developed into a substantial industry in the space of just a couple of years. Knowledge institutes and industry should join together to use geo-information to develop countless new applications.

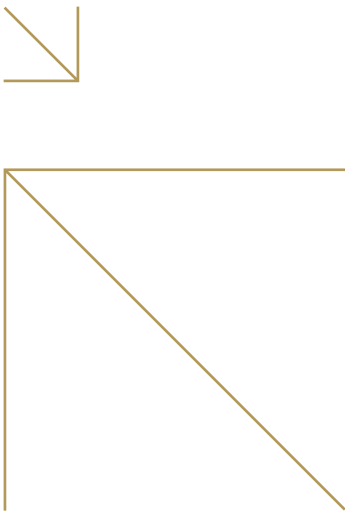
### Pillar 3: A sustainable living environment

Geo-information plays a major part in the sustainable spatial structure of the Netherlands. Geo-information helps clarify complex spatial planning and environmental issues.

'Consider an arbitrary plot of land in the Netherlands. If I needed to know about the cables beneath the surface, the birds that breed there, and the high tension lines that run overhead, I would be busy investigating the matter for many weeks. The simple reason is that this sort of information is not stored according to postcode.'

Elco Brinkman, Chairman of Bouwend Nederland.

Source: PM special (December 2007)



#### **Pillar 4: Social cohesion**

Geo-information illuminates the weaknesses and strengths of neighbourhoods. Geo-information can help provide a rapid early warning of social changes, allowing prompt intervention.

#### **Pillar 5: Safety, stability and respect**

'Geo saves lives,' according to Bauke Ybema, the head of the fire service alarm station in Haarlem. It is no longer socially acceptable not to use geo-information in response to disasters.

#### **Pillar 6: Government and the service-minded public sector**

Geo-information makes it possible to provide better, location-specific services. The government can work more efficiently by combining information intelligently.

### **1.3. The significance of geo-information for the economy and society**

In 2004, the United States Bureau of Labor put geotechnology alongside nanotechnology and biotechnology as likely to be the three most important employment growth sectors in the 21st century. The Netherlands is an important international player in the geo-sector, with companies such as TomTom and Teleatlas, and major engineering consultancies such as Fugro, Arcadis and Grontmij. A market analysis performed on behalf of the Ministry of Economic Affairs<sup>1</sup> estimated employment in 2001 at 46,000 FTEs, with an annual expansion of 17%, and an annual turnover of 2.77 billion euros, growing by 22% annually. Looking at trends since 2001, and the increased use of all manner of geo-products, such as navigation systems, Internet services and mobile telephone applications, this growth forecast is now expected to be exceeded by a wide margin, with no end to geo-sector growth in the coming period. The geo-sector is a fast-developing, innovative sector with ample opportunities and potential, both nationally and internationally. The government and industry therefore have a joint responsibility to create the most favourable climate possible for innovation and economic development of the geo-sector in the Netherlands. This challenge is being picked up jointly in GIDEON.

For the government, geo-information provides plenty of opportunities for improving communication and interaction with the public and businesses. GIDEON creates conditions to enable

citizens to use map images to analyse their own environment. The sources of the map images are held by various different source data owners, and are simple to layer on top of each other, based on location. Citizens then have immediate access to a wide variety of thematic data about their living environment, such as where the soil is contaminated, particulate concentrations, or the noise zones near their homes. Businesses too can approach the Business Service Point to retrieve and consult information from multiple sources. For example, a business might need to identify the restrictions that are in force for a specific location, or any permits they will need. In creating facilities of this kind nationwide, compatibility will be sought wherever possible with current e-services initiatives.

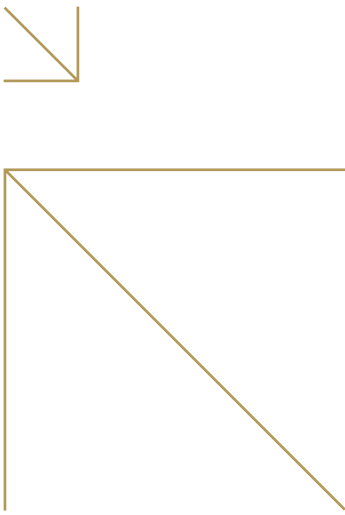
### **1.4. How far advanced is the Netherlands in terms of geo-institutions, geo-innovations and geo-data?**

The Netherlands has an excellent knowledge base and a wealth of high-quality geo-data suppliers and services. Nonetheless, our geo-information has several weaknesses. The Netherlands is currently eleventh on the list of the twenty-seven European member states, when ranked according to degree of compliance with the INSPIRE Directive. The most important reason for this mediocre position is the lack of clear national guidelines and coordination, and the consequent fragmentation of geo-data. The data are hard to find, the costs of use are relatively high, and the conditions for use vary greatly, and are often restrictive. The problems in the geo-sector were highlighted in the recently published study of chain cooperation in the sector<sup>2</sup>. The researchers conclude that there is no cohesive approach to providing geo-information, and cooperation in the geo-sector is flawed.

Within the government too, there is an awareness that the national provision of geo-information has room for improvement. In response to the above observations, the government

- <sup>1</sup> Marktanalyse Geomatica Nederland, een inventarisatie van de omvang en aard van de geomaticasector in Nederland (Market analysis of geomatics in the Netherlands, a survey of the size and nature of the geomatics sector in the Netherlands), Wageningen, Centrum voor Geo-informatie (2002).
- <sup>2</sup> Rapport INK-ketenevaluatie: Ketensamenwerking binnen de geo-informatie infrastructuur (INK chain evaluation report: chain cooperation within the spatial data infrastructure), Kadaster (2007).





founded the GI Council and Geonovum in 2006, thus providing an institutional basis for national coordination of policy on the provision of geo-information. Furthermore, great strides have been made in the 'Space for Geo-Information' (RGI) innovation programme, in eliminating the fragmentation of knowledge, encouraging innovation, and improving cooperation. In 2006, mindful of the broad public, political and administrative importance, the GI Council ordered the creation of a spatial data infrastructure for crisis management and disaster response. This thematic infrastructure is not only vital for the safety sector itself, but, in view of the demanding requirements on availability and reliability, is also an important pioneering project for the continued development of the national geo-information facility.

These initiatives have generated broad and strong support in the geo-professional field for the next step: the creation of an effective, firmly embedded, and intensively used key geo-information facility.

### 1.5. Cohesive approach to the key geo-information facility

#### Approach to the key geo-information facility for the Netherlands (GIDEON)

Within four years, through the continuous improvement of services, the Netherlands will have a key geo-information facility that all parties in society will use sustainably, successfully and intensively:

1. the public and businesses will be able to retrieve and use all relevant geo-information for any location;
2. businesses will be able to add economic value to all relevant government-provided geo-information;
3. the government will use the available information for each location in its work processes and services;
4. the government, businesses, universities and knowledge institutes will collaborate closely on the continuing development and enhancement of the key facility.

#### Note on 1: Geo-information is accessible to the public and businesses

The government is developing services to allow simple and convenient access to public geo-information. These services provide the public and businesses with direct access to public geo-information, making use of the National Geo-Register (NGR)

and other resources. Alignment will be sought with existing initiatives that contribute to improving services to the public and businesses, such as mijnoverheid.nl and the Business Service Point.

#### Note on 2: Businesses can set to work with geo-information

If economic value is to be added to public geo-information, the government will have to clarify the associated conditions for use. A national policy framework will be drawn up to stimulate economic activity in the geo-sector, related to data provision and geo-information reuse. The terms and conditions attached to public authority provision of geo-information will be simplified and harmonized as much as possible, to enable businesses to add value and better utilize geo-information's economic potential.

#### Note on 3: Integrated use of geo-information by the government

Soon it will be simple for public authorities to use each other's geo-information in their work processes and their services to the public and businesses. Appropriate geo-information standards will be produced, guidelines drawn up and observed, and policy developed, for gathering, managing and enriching data, and providing services. This approach will facilitate the integrated use of geo-information within and between public authorities. A demand-driven chain approach will encourage this integrated use in practice.

#### Note on 4: Continuous development and innovation

The key geo-information facility for the Netherlands is a dynamic entity that requires both permanent maintenance and continuous development and innovation. This implies constant cooperation between government, industry, knowledge institutes and universities, in retaining a sharp focus on and sufficient mass in geo-research, while ensuring innovation.

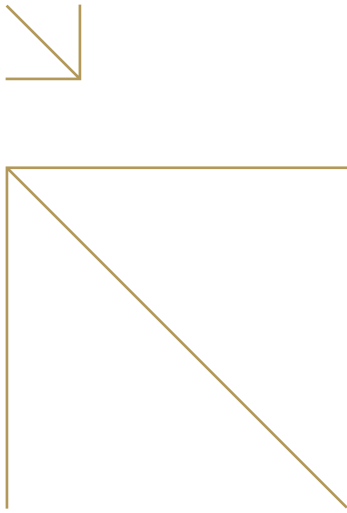
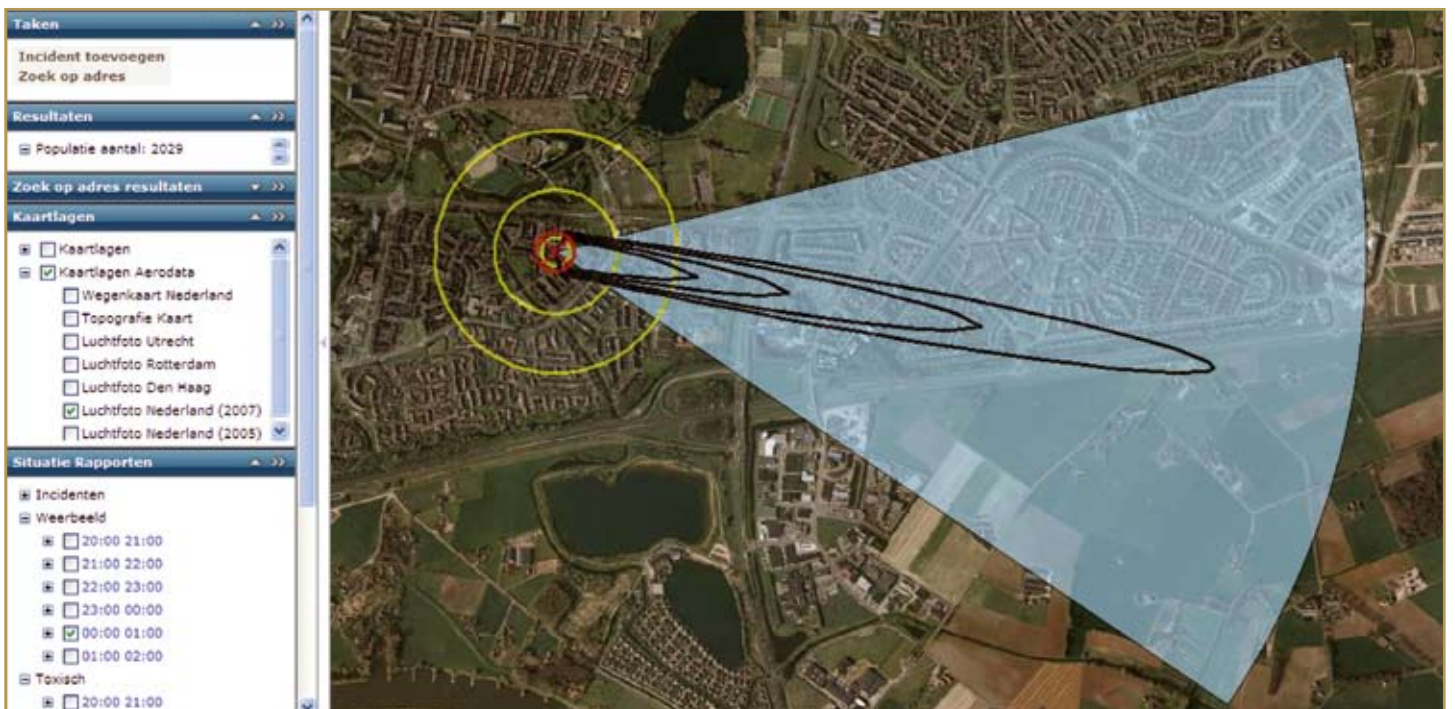


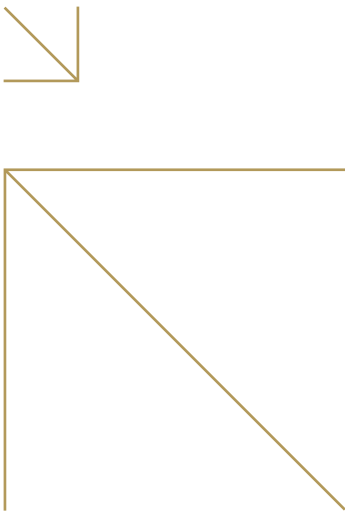
Photo: Figure 2. GIS viewer applied to disaster and crisis management

**Example. Sixteen million people... but where?**

How many people would be at risk if a fuel tank or firework factory were to explode? After an incident, population data are now raked together from many different places. But how reliable is the number of residents in a neighbourhood if all the students in a city like Utrecht are registered at a single address? A National Population Database would mean the police and fire service would no longer have to make guesses. You could just type in a date, and select a neighbourhood on a town plan, and within a few seconds a digital head counter would tell you the number of people present. The system would consult population figures held by Statistics Netherlands, count the patients in hospitals and pupils in schools, and keep a tally of pedestrians in shopping streets and passengers at train stations.

Source: RGI project National Population Database





### 1.6. Assumptions and principles

GIDEON ensures that geo-information is a natural part of the national information facility, and that it is given an appropriately prominent place in the structure of e-services, the set of key registers, and the National Urgency Programme (NUP).

GIDEON is accordingly an integral part of this national information facility. The entire public sector is bound to specific basic principles that are set down in the Dutch Government Reference Architecture (NORA). One of NORA's fundamental principles is that government agencies will use a service-oriented architecture for providing services to the public and businesses (e-services), as if they were a single entity.

The central organizational principle for GIDEON is: 'record once, use many times'. The ultimate aim is a shared, firmly embedded facility, providing geographical data and services of guaranteed availability and quality.

GIDEON's structure is formed in accordance with the principles set down in the European INSPIRE Framework Directive<sup>3</sup>. This directive is the legal basis for the joint provision of geo-information within the EU, and it came into force officially on 15 May 2007.

## 2. GIDEON status in 2011

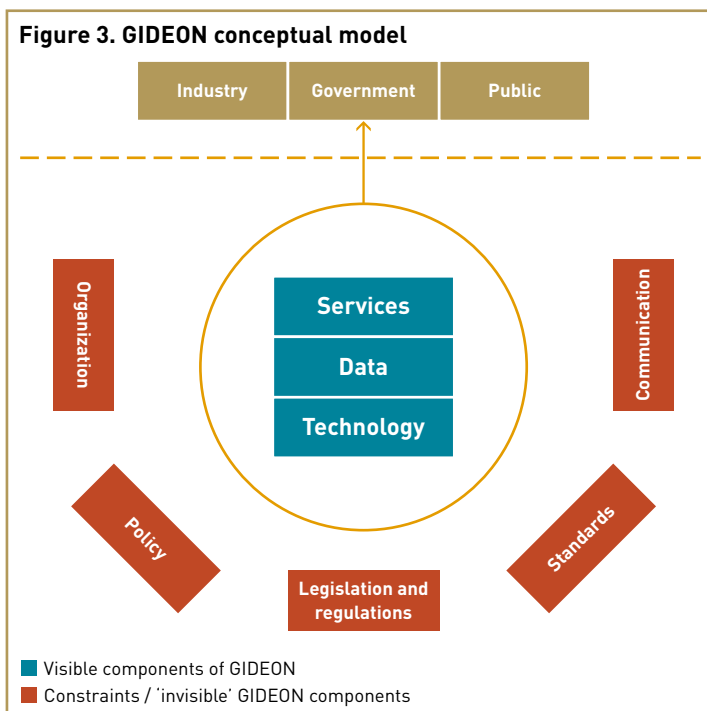
### 2.1. Introduction

In 2011, the Netherlands will have an advanced and up-to-date key geo-information facility for tackling spatial issues in society efficiently and effectively. GIDEON comprises a set of shared, generic components for processing, storing, transporting and using geo-information and geo-knowledge. The implementation of GIDEON requires a package of administrative, process-oriented, organizational and technological measures.

Figure 3 shows the GIDEON conceptual model. This model expressly includes organizational, policy-related and other constraints. A correct interpretation of these constraints will contribute substantially to GIDEON's success.

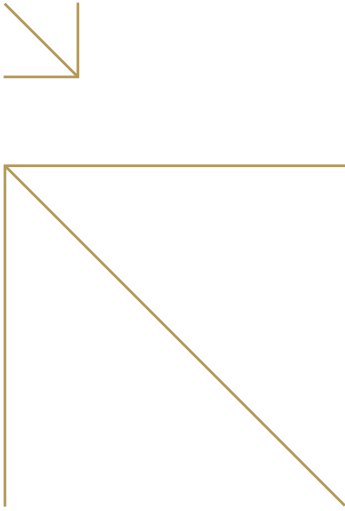
### 2.2. Services, data and technology

GIDEON consists of three visible components (Figure 4). The core is formed by the data, which are divided into the statutory key geo-registers and the thematic data. The data are used by the various parties to develop advanced services, with a distinction between government-provided public services and industry-provided services. The exchange and use of data and services is facilitated by state-of-the-art technology, consisting of the technology required within the government (extranet) and the technology for providing public access to the data and services (Internet).



**Figure 4. The visible components of GIDEON**

<b>Services</b>	Public (government)
	Market (businesses)
<b>Data</b>	Statutory key geo-registers
	Thematic data
<b>Technology</b>	Extranet (government)
	Internet (public)



### Data

The start of GIDEON is the availability of geo-information. Ultimately, everything revolves around these data. GIDEON distinguishes between the statutory key geo-registers and specific, thematic data (Figure 5).

#### Statutory key geo-registers

The four operational statutory national key geo-registers (Topographical, Cadastral, Addresses and Buildings) together with the two planned statutory key geo-registers (the Large-Scale Standard Map of the Netherlands (GBKN) and the Subsurface Key Register (BRON)) will form a harmonized and integrated whole that covers the entire country. These registers will be well managed, generally available and intensively used.

#### Thematic data

Thematic data are mainly used within a specific sector or chain, such as agriculture, nature and the environment, or transport. In the interests of effective use of these data, it is important that no problems occur when combining constituent data from multiple

sources, that the information is generally available, and that there are no obstacles to its use.

#### Services

In the application of geo-information, we distinguish between government-provided products and services for the public and businesses, and products and services developed by industry.

#### Public (government)

Geo-information services comprise facilities for information transfer, and processing resources and applications for users. The various government agencies set up these services and guarantee the accessibility of data through them. It must also be possible to develop integrated services based on geo-information and services from multiple government agencies.

The services will be made available through an integrated state-of-the-art national geo-register, thereby eliminating the need for physical carriers for delivery (Figure 6). This register must operate, and be perceived by the customer, as a single entity. The various users' applications are designed from the perspective

**Figure 5. Statutory key geo-registers and thematic data**

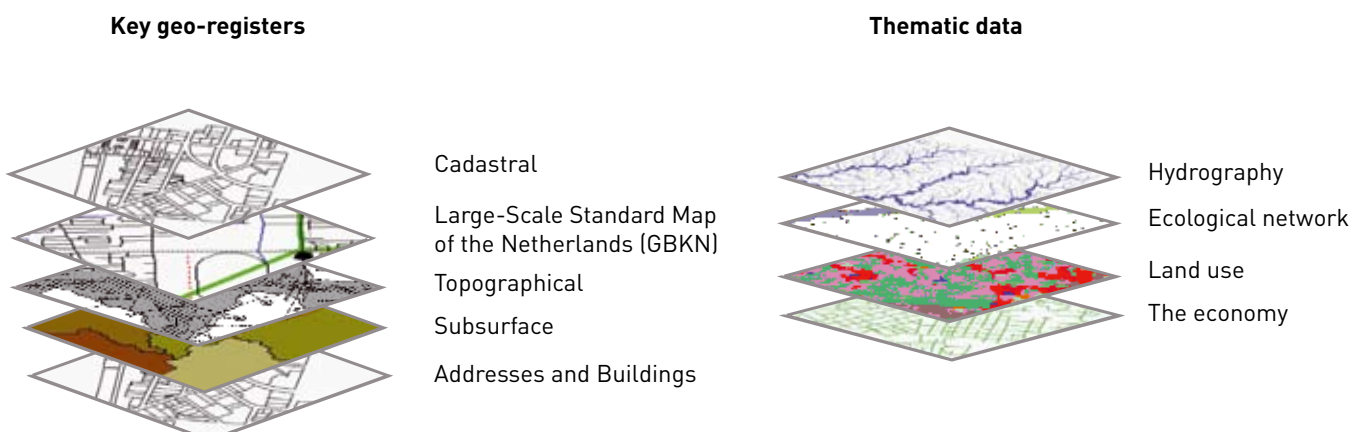
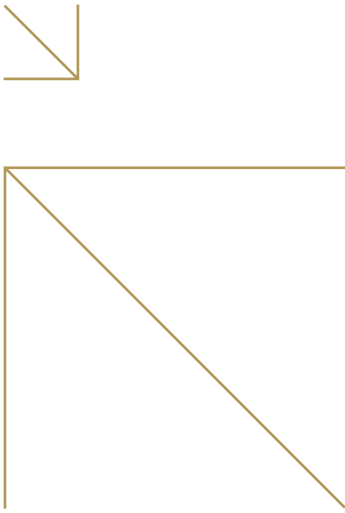


Figure 6. National geo-register specimen screen





of a specific task or sector, within the scope of the key geo-information facility. This register will have a prominent place in the total e-services framework and the *overheid.nl* website.

#### Market (businesses)

Industry is in a position to create added value and to exploit geo-information's economic potential more effectively. The government makes data available and sets up services for possible use in industry for adding value to government-based and other geo-information, and for developing advanced innovative products and services for the market.

#### Technology

GIDEON is intended to facilitate the reuse of geo-information, which demands a sound technical solution (Figure 7). An extranet will be set up to support information exchange between public authorities. Geo-information will be made available to third parties on the Internet.

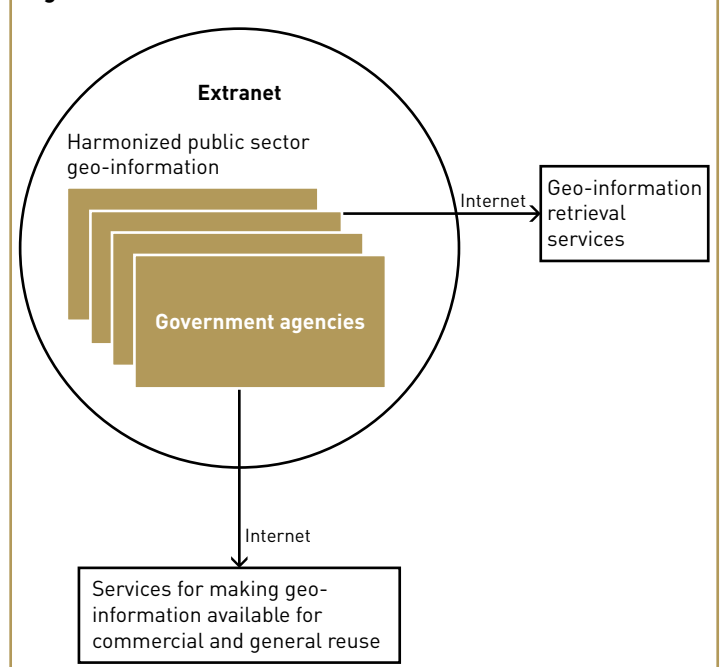
#### Extranet

The purpose of an extranet is to provide a secure way for different government agencies to share geo-information. The extranet will comply with the principles set down in the Dutch Government Reference Architecture (NORA). GIDEON will therefore be an integral component of the national information facility.

#### Internet

The Internet-based services to the public and businesses will likewise observe NORA principles. One of NORA's fundamental principles is that government agencies will use a service-oriented architecture for providing services to the public and businesses (e-services) as if they were a single entity. The national geo-register comprises up-to-date and high-quality descriptions of all available geo-information. Services will be configured within the national register to support the procurement of data from the source data owners.

**Figure 7. GIDEON Architecture**

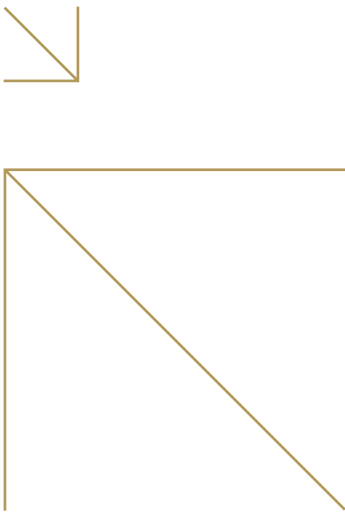


### 2.3. Preconditions

A high quality and firmly embedded GIDEON requires a policy, organizational, and legal framework. Furthermore, standards guaranteeing data interoperability must be agreed and observed. Careful attention must also be given to communication, with a view to making GIDEON a heavily used operational facility. This section discusses the details of these 'invisible' GIDEON components.

#### Organization

The Ministry of Housing, Spatial Planning and the Environment is managing the GIDEON implementation strategy. Through the GI Council, the Ministry of Housing, Spatial Planning and the Environment coordinates all involved parties, to ensure that the various GIDEON components are developed cohesively. The Ministry of Housing, Spatial Planning and the Environment is also responsible for annual GIDEON progress reports to parliament. All parties (universities, knowledge institutes, businesses and public authorities) have a duty to foster GIDEON. The Ministry of Economic Affairs and the RGI programme have the roles



of driving force and catalyst. The Ministry of Housing, Spatial Planning and the Environment is the lead ministry for the RGI programme. Firm embedding in the education system is also vital. The creation of added-value services and products is a responsibility of industry, for which the GI Council is creating boundary conditions. Geonovum has a central role as a knowledge centre in GIDEON implementation. On behalf of the GI Council, Geonovum facilitates the implementation of common components of the national geo-information facility. Compatibility requirements will be drawn up for the certification of GIDEON data and services.

Compliance with the general guidelines and principles is the responsibility of the various organizations that control the data and services to be made available.

### Policy

GIDEON policy is being incorporated within the public sector into policy for making government more efficient and responsive. The starting points are the e-services policy framework, the policy document on civil service reform (Nota Vernieuwing Rijksdienst) and the National Urgency Programme (NUP). The aim is to make geo-information an integral part of current and new initiatives for the continuous improvement and enhancement of public services and the provision of information within the public sector. Guidelines and generally applicable principles will be set down for GIDEON, regarding the provision of data, price policy, and terms and conditions of use for public sector geo-information and services. Government agencies ensure consistent application of the guidelines for use and distribution in their own geo-information services.

Finally – besides investment in advanced geo-information and geo-services – it is also vital to have a proactive strategy for knowledge development, education, and the staffing and equipping of professional and other geo-information users.

### Legislation and regulations

GIDEON is being developed in the context of national and international legislation and regulations. The four operational statutory national key geo-registers (Topographical, Cadastral, Addresses and Buildings, together with the associated legal provisions for their management and use) are important foundations of GIDEON. The same is true of the planned

statutory key geo-registers (the Large-Scale Standard Map of the Netherlands (GBKN) and the Subsurface Key Register (BRON)).

Important international legislation includes the INSPIRE Framework Directive, and associated European rules for metadata, data harmonization and the structure of services. These rules must be implemented on a national level. There are thirty-four themes to be harmonized pursuant to European directives, and they are therefore an important basis for GIDEON.

The conditions for the provision of information through GIDEON must comply with national and international legislation. In this connection, the Government Information (Public Access) Act, and the Personal Data Protection Act, set the direction on a national level, and compliance will be ensured with international principles pursuant to the European Public Sector Information Directive and, again, the INSPIRE Directive.

Finally in this connection, the new Spatial Planning Act is significant because of its obligation to create and publish all spatial plans in a digital, standardized form.

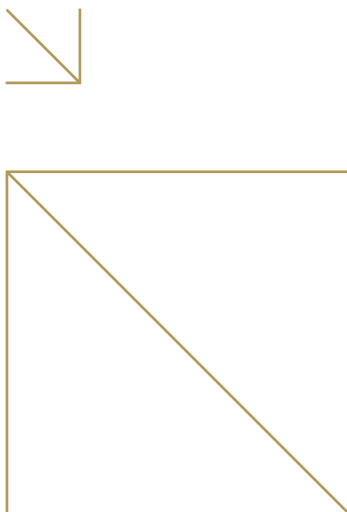
### Standards and interoperability

Interoperability is the quality that allows one system to perform effectively and correctly as part of another system. The concept of 'system' is used here in a general, broad sense. Examples of interoperability are the use of French or Russian rolling stock on the Dutch railways, an artificial kidney in a human body, or data from an external software package in an application.

Within the framework of GIDEON, interoperability actually revolves around the exchange of geo-information. Promoting interoperability within and between government agencies and with businesses and the public is achievable only if solid agreements are made, and these usually take the form of standards. A standard is a procedure or criterion the use of which has been agreed jointly by a group of people. The use of standards enables the exchange and reuse of data.

The framework of geo-standards specifies the standards required for interoperability within the geo-domain and the integration of the geo-domain in the wider sphere of





e-services<sup>4</sup>. Observance of NORA and INSPIRE is assumed in the geo-standards.

#### **Communication**

The intensity of geo-information use will depend on how aware people are of the potential of geo-information technology, how widely available and user-friendly the available services are, and what benefits are attached to using the services. In its knowledge centre role, Geonovum, together with the e-government knowledge centre (ICTU), will devise an active communication strategy to raise awareness of and promote the use of the key geo-information facility and the available services.

<sup>4</sup> Geo-standards framework for the Netherlands, version 2.0, Geonovum (2007).

## 3. The implementation

### 3.1. Introduction

GIDEON will provide a solid infrastructure to support wider and more effective use of geo-data's potential by the public sector, industry and society. This objective will require various administrative, process, organizational and technical measures. The range of geo-data on offer must be structured more effectively and efficiently, to ensure in the near future that it better meets the demands and needs of its users. This chapter sketches the kinds of services involved, and identifies the lines of strategic action along which GIDEON will proceed between now and 2011.

There is no comprehensive master plan or blueprint for GIDEON. The complexity of interests, the diversity of potential uses and the sheer number of involved parties are so great as to make that impossible (and even undesirable). GIDEON will be implemented by following a realistic approach, involving stepwise construction of the infrastructure, while learning lessons from results achieved along the way. However, this by no means implies that anything tentative or discretionary is involved. On the contrary, the final result outlined in the previous chapter is clear and firm.

The following assumptions and constraints characterize the commonsense approach we are aiming for.

- GIDEON implementation will build on any developments currently in progress that may contribute to the process. Compliance will be sought with both national and international (European) existing and relevant agreements and standards.
- Cooperation and coordination are key. We are aiming to identify the various roles and strengths (core qualities) of all the players in the geo-professional field, and to utilize them intelligently (each according to their value and their strength). Please see Appendix 2 for details.
- It is vital to ensure consistency and to forge appropriate links between parties at the right time (management).
- Alert and clear control from the start to the end of the administration phase.
- Development in realistic steps and in manageable phases (with feasible results, each of which can be made visible, without excessive demands on people's energy, or causing attention to drift).

- Maintaining a constant balance between SUPPLY (infrastructure) and DEMAND (application, use, need, services, and so on).

It is proposed to create GIDEON through seven implementation strategies:

1. integration of geo into e-services (Section 3.2);
2. statutory key geo-registers (Section 3.3);
3. INSPIRE implementation (Section 3.4);
4. supply optimization (Section 3.5);
5. chain cooperation (Section 3.6);
6. conditions for economic value creation (Section 3.7);
7. knowledge, innovation and education (Section 3.8).

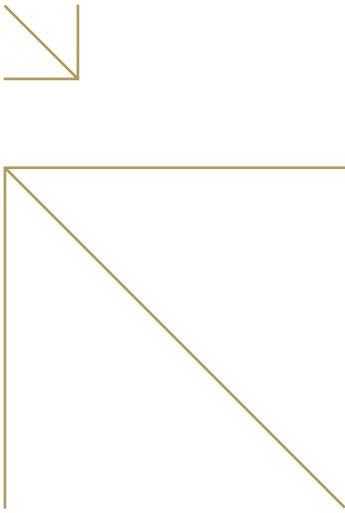
Some of these strategies have already been started outside GIDEON. GIDEON is compatible with these initiatives, and strengthens them where necessary.

Performing these strategies in mutual harmony, and monitoring progress, demand effective organization, control and management. This point is covered in Section 3.9 as a separate and binding implementation strategy.

Figure 8 (page 25) shows a diagram of the envisaged structure. The following sections present the main points of each strategy. The descriptions follow a consistent pattern:

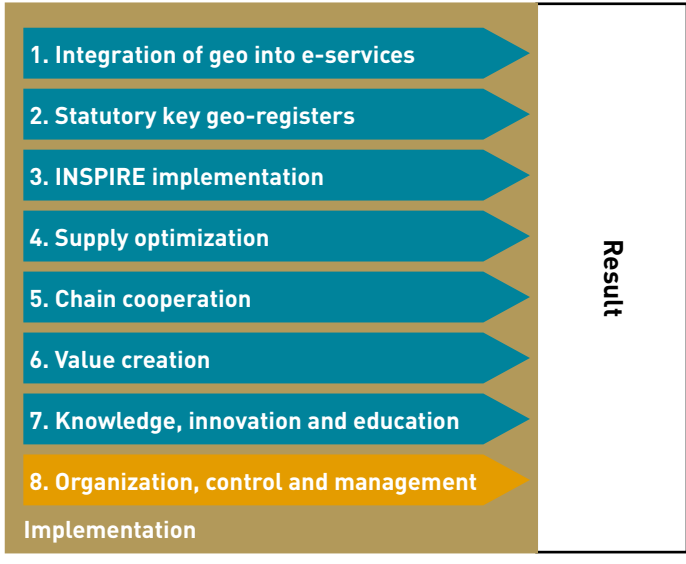
- objective;
- milestones;
- to be achieved by;
- specific steps in the short term;
- parties involved.

Note that not every strategy has yet been fully worked out in detail. An indication is given where appropriate in the strategies concerned of how the necessary detailed specification and strengthening will be handled in the short term, as part of the implementation process.

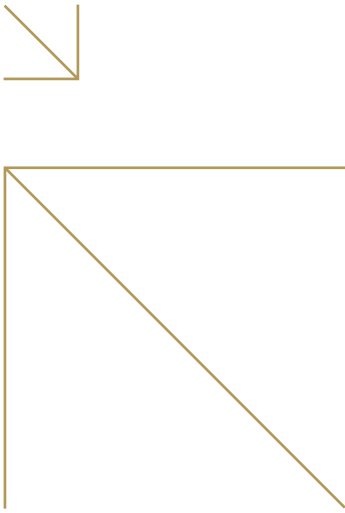


**Figure 8. Diagram of the envisaged structure.**

**Vision**



Finally, each strategy has a strategy owner. A strategy owner arranges the scheduling and organization of the process for the strategy concerned. Strategy owners take the necessary initiatives and seek active coordination and cooperation with involved parties and chain partners. The limits to how far a strategy owner can go are clearly set by the formal and other authorities established in the various chains and domains.



### 3.2. Integration of geo into e-services

In order to continue to improve services to the public and businesses, the government wishes to use the potential offered by the application of information and communication technology (ICT). The use of ICT for these purposes is referred to as 'electronic services', or 'e-services'. Countless initiatives, programmes and projects are now included under the e-services umbrella, most of them implemented in partnership between the national government, the Association of Netherlands Municipalities (VNG), the Association of Provincial Authorities (IPO) and the Association of Water Boards. GIDEON too will be emphatically positioned within the e-services framework.

#### Objective

- The use of geo-information must have an appropriately prominent place in e-services by 2011. Any obstacles to the optimum use of geo-information within e-services must be removed. Geo-information must be used broadly in the provision of services, enforcement, policy preparation and the supporting governmental operating processes.
- GIDEON must meet the needs of the public, businesses, and public authorities, and be an integral part of the overall infrastructure developed for e-services, including the salient consultative bodies.

#### Milestones

- A consistent, related set of key geo-registers.
- Use of geo-information in e-services to the public, businesses, and public authorities. Specific examples are the personal Internet page (mijnoverheid.nl), the single environmental licence (to be complete in 2009), the geographical search facility on overheid.nl, the Business Service Point, the Industry Service Point, and initiatives within the e-services framework.
- Harmonized conditions for the use of geo-information from public sector parties for all users, parties and stakeholders (e.g. through the proposed extension to the Government Information (Public Access) Act).
- Free availability of geo-information from and for public sector parties.

#### Vision

##### 1. Integration of geo into e-services

Strategy owner: Ministry of Housing, Spatial Planning and the Environment

Result

- Supply
- Demand

Implementation

#### To be achieved by:

- ensuring cohesion across the set of key geo-registers;
- coordination in various bodies, such as the Knowledge Centre Advisory Board and the Government Services Platform Steering Group;
- continuing the consultation between the GI Council and the Services and E-Government Policy Group on the application of geo-information;
- using i-teams to promote the application of geo-information in the e-services of other public authorities;
- having the national government make available as much geo-information as possible under uniform and accessible conditions;
- organizing long-term cooperation between provincial governments, municipalities and district water boards in making their geo-information available along the same lines;
- ensuring consistency between GIDEON and the National Urgency Programme (NUP).

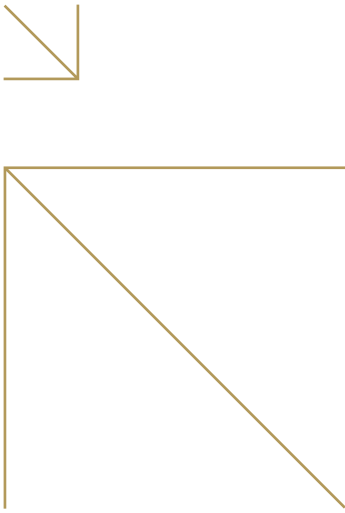


Photo bottom left: Figure 9. Specimen screen 1: mijnoverheid.nl with a link to the citizen's 'home environment'

Photo bottom right: Figure 10. Specimen screen 2: citizen has immediate access to all known spatial data about his home environment, from all public authorities.

**Specific steps in the short term**

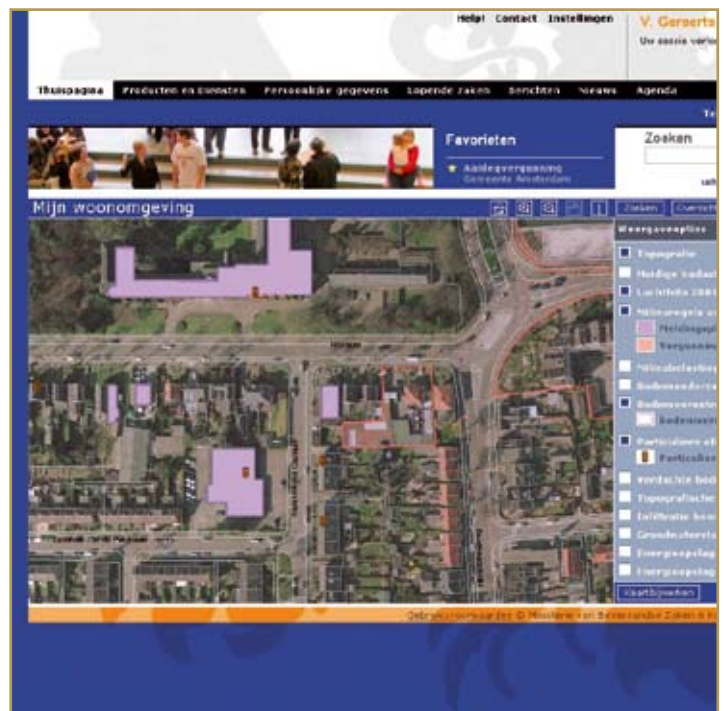
The Ministry of Housing, Spatial Planning and the Environment will make more detailed agreements with the Ministry of the Interior and Kingdom Relations and the Ministry of Economic Affairs about the approach, terms of reference, implementation and planning, and will report the outcome to the GI Council (before the end of 2008).

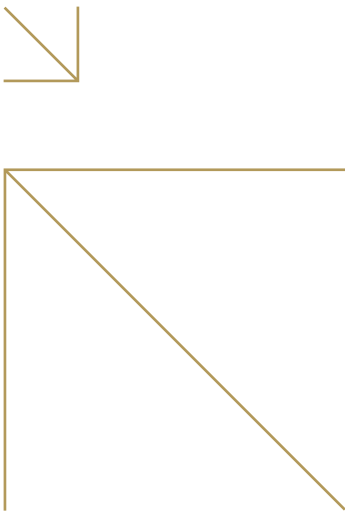
**Finance**

Covered financially largely by existing e-services programmes (Ministry of the Interior and Kingdom Relations) and the National Urgency Programme (NUP). Any additional funding that appears necessary will be arranged by drawing up business cases, on which further decisions will be based.

**Parties involved.**

The Ministry of Housing, Spatial Planning and the Environment is the coordinating ministry for geo-information in this strategy. The Ministry of Housing, Spatial Planning and the Environment will work closely on this aspect with the Ministry of the Interior and Kingdom Relations and the Ministry of Economic Affairs, which have responsibility for the e-services programme. There will also be liaison on the initiatives for this strategy with municipalities, provincial governments, district water boards, and market parties.





### 3.3. Statutory key geo-registers

By establishing a set of key registers, the government intends to improve services, reduce administrative burden, and organize its own operational processes more efficiently. This approach will make it possible to gather data once, and then use those data in multiple places within the government. The foundation for the set of registers has been laid in recent years. Ten key registers have now been designated, four of which are under the responsibility of the Ministry of Housing, Spatial Planning and the Environment. These geo-registers are the foundation of GIDEON.

The emphasis in the future will shift to encouraging use of the key registers. Easy access for all users and stakeholders and long-term funding are important points for attention.

Depending on the political decisions, a start may also be made in this period on the Large-Scale Standard Map of the Netherlands (GBKN) and the Subsurface Key Register (BRON).

#### Objective

- Complete integration of the statutory key geo-registers in GIDEON

#### Milestones

- Cadastral and Topographical: complete: end 2007, and compulsory use: 2009.
- Addresses and Buildings: roll-out: 2007 – 2009, and compulsory use: 2011.

#### To be achieved by:

- requiring compulsory use by the government of the key geo-registers, which is already covered by legislation;
- funding agreements with the involved parties for the Addresses and Buildings geo-key registers. It is being investigated whether part of the current tariff financing of the Cadastral and Topographical key registers can be replaced by central budgetary financing.

#### Specific steps in the short term

- Operational Cadastral, Topographical, Addresses and Buildings key geo-registers (2008).
- Information for users about the Cadastral, Topographical, Addresses and Buildings key geo-registers (2008).

#### Vision

### 2. Statutory key geo-registers

Strategy owner: Ministry of Housing, Spatial Planning and the Environment

Result

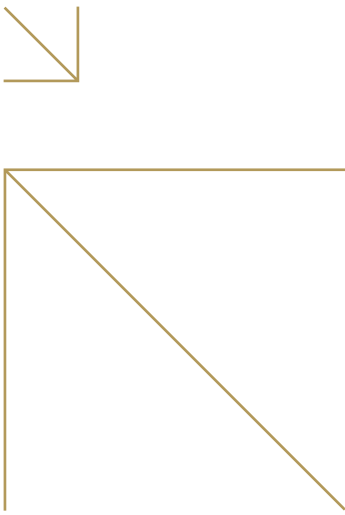
- Supply
- Demand

Implementation

- Final funding decisions for the Cadastral and Topographical key geo-registers (2008).
- Decision process for setting up the Large-Scale Standard Map of the Netherlands (GBKN) and the Subsurface Key Register (2008).
- Definition of terms and conditions of use and costs of the key geo-registers by non-public-sector bodies (2008).

#### Parties involved

The Ministry of Housing, Spatial Planning and the Environment is the ministry responsible for key geo-registers, and as such is the owner of this strategy. The Ministry of Housing, Spatial Planning and the Environment works closely on this aspect with Kadaster, TNO and Alterra, which are fundamental to the implementation, and liaises with the Ministry of the Interior and Kingdom Relations, the Association of Netherlands Municipalities (VNG), the Association of Provincial Authorities (IPO) and the Association of Water Boards.



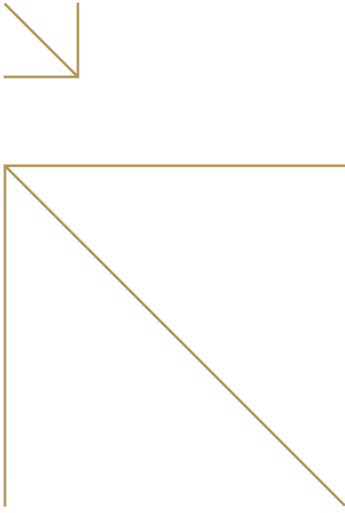
### Finance

The Ministry of Housing, Spatial Planning and the Environment has either reserved, or submitted budget proposals for, the following funds for the generic aspects of the Topographical, Cadastral, Addresses and Buildings key geo-registers, for the 2008-2011 period.

- Addresses and Buildings Key Register (BAG): 2008 - 2010: Investment costs € 24 mln. Available through Ministry of Housing, Spatial Planning and the Environment budget; from 2010: operating costs € 4 mln per year. Budgetary financing proposal through Ministry of Housing, Spatial Planning and the Environment budget (funds not yet available); Costs for municipalities through municipal budget.
- Cadastral: in accordance with current tariffs;
- Topographical: Operating expenses: information gathering costs 2009: € 15.5 mln; 2010: € 14.5 mln, and from 2011: € 13.5 mln per year. Budgetary financing proposal, Ministry of Housing, Spatial Planning and the Environment budget (not yet available); Provision expenses via tariffs

For the potential Large-Scale Standard Map of the Netherlands (GBKN) and Subsurface Key Registers:

- GBKN: Investment costs from 2009 to end 2011: € 19.2 mln. Proposal for cover from e-government investment boost, or general cover from Ministry of Housing, Spatial Planning and the Environment budget (not yet available). Operating expenses from 2009: € 18 mln per year: contributed by current public sector parties € 10.8 mln, plus € 7.2 mln national government contribution. Budgetary financing proposal, Ministry of Housing, Spatial Planning and the Environment budget (not yet available).
- BRON: costs are estimated at € 0.5 mln for investment and € 1.2 mln annual management charges. Planning still in progress.



### 3.4. INSPIRE implementation

The European INSPIRE Framework Directive (Infrastructure for Spatial Information in Europe) formally came into force at the start of 2007, and implementation is required within the member states. The aim of INSPIRE is geo-information standardization and harmonization within the member states, together with an associated technical infrastructure for access and exchange. National geo-portals have a central role in this technical infrastructure. These portals make the geo-information databases of source data owners accessible for cross-border use throughout the EU. All national portals are to be linked to a European portal.

#### Objective

- To incorporate the INSPIRE Directive into Dutch legislation by 2011, and create the technical infrastructure in consultation with the professional field. The implementation will maintain compatibility with the national key facilities.
- The Ministry of Housing, Spatial Planning and the Environment aims through INSPIRE implementation to enhance the range, quality, and availability of geo-information.

#### Milestones

- 2009: Completion of INSPIRE legislative process.
- 2010: Metadata available for Annexes I and II. Search, view and download services available.
- 2011: Operational INSPIRE portal linked to national geo-register.

#### To be achieved by:

- translating the INSPIRE Directive and associated implementing rules into national legislation;
- covering financial resources for the national, central services by the Ministry of Housing, Spatial Planning and the Environment. The costs of the introduction of INSPIRE for source data owners are for the expense of the source data owners.

#### Specific steps in the short term

- A planned, joint approach by the stakeholders through starting the INSPIRE programme and setting up the programme organization (2008).

#### Vision

### 3. INSPIRE implementation

Strategy owner: Ministry of Housing, Spatial Planning and the Environment

Result

- Supply
- Demand

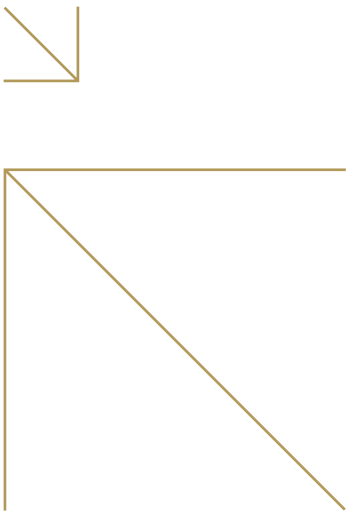
Implementation

- White paper with joint approach and interpretation of the INSPIRE Directive and its implementation in the Netherlands (2008).

#### Parties involved

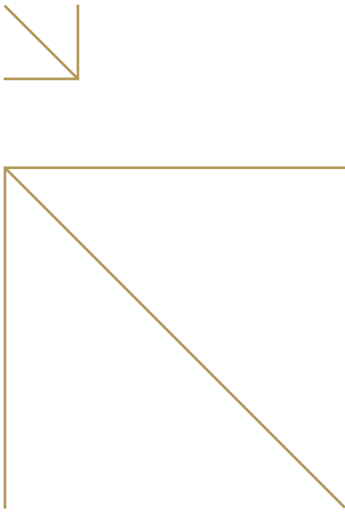
The Ministry of Housing, Spatial Planning and the Environment is the ministry responsible for implementing INSPIRE legislation in the Netherlands. The Ministry of Housing, Spatial Planning and the Environment has requested Geonovum to manage the implementation process. The legislative process concentrates on the source data owners of the data covered by INSPIRE. The most important source data owners for INSPIRE are Kadaster, the Ministry of Transport, Public Works and Water Management, the Ministry of Agriculture, Nature and Food Quality, the Ministry of Defence, TNO, Alterra, the Royal Netherlands Meteorological Institute (KNMI), Statistics Netherlands (CBS), provincial governments, municipalities and district water boards. Market parties may tie in with the facilities created within the INSPIRE framework.



**Finance**

The Ministry of Housing, Spatial Planning and the Environment has reserved the following funds for INSPIRE implementation: 2008: € 0.5 mln, 2009: € 0.7 mln, 2010: € 0.7 mln. The above costs cover the implementation of the national, central facilities only.

The assumption in financing the costs of implementing INSPIRE for source data owners is that these costs are for the expense of the source data owners themselves.



### 3.5. Supply optimization

Much high-quality geo-information is, and will continue to be, gathered within the public sector. This geo-information is used mainly for the primary process for which it was originally gathered. The yield to society could be enhanced greatly if this geo-information were used or reused outside the boundaries of its own domain. Better coordination of geo-data management can achieve higher quality at lower costs for all parties.

#### Objective

To coordinate all public sector geo-registers and privately owned source data such that the constituent data can be made available in digital form free of problems in locating, accessing and exchanging. Management of the registers and data concerned must also be efficient and cost effective. To this end, the current arrangements surrounding geo-information (who registers and manages what) will be examined to determine whether changes could be made to contribute to better services and greater efficiency. The establishment of a national geo-register will make an important contribution in this respect.

#### Milestones

- Standardization of all geo-information from all public sector parties (supplementary to the INSPIRE Directive, the set of key geo-registers and NORA) to make them suitable for use and reuse in the implementing bodies' processes. Where the geo-information source data owner is a market party, similar standardization is preferred, although that is clearly a responsibility of the private source data owners concerned.
- Joint facilities (national geo-register, services) for accessing this geo-information (including earth observation data). Other geo-information source data owners (from other implementing organizations, municipalities, district water boards, provincial governments and industry) may make their geo-information available through this infrastructure.
- A joint undertaking to manage this joint infrastructure and to support tenderers and customers.

#### To be achieved by

Implementation will occur along several parallel lines.

- At a national level, the Ministry of Housing, Spatial Planning and the Environment, the Ministry of Agriculture, Nature and Food Quality (LNV) Government Service for Land and

### Vision

#### 4. Supply optimization

Strategy owner: Ministry of Housing, Spatial Planning and the Environment, Association of Provincial Authorities (IPO), Association of Water Boards, Association of Netherlands Municipalities (VNG).

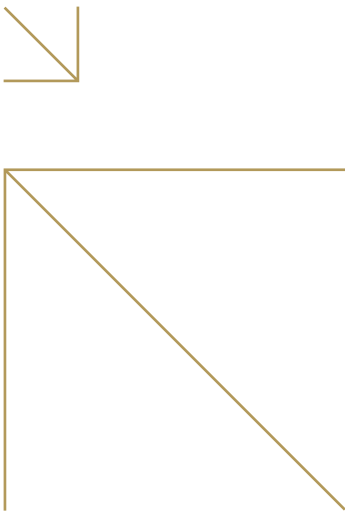
Result

- Supply
- Demand

#### Implementation

Water Use (DLG) and National Service for Implementation of Regulations (DR), the Directorate-General for Public Works and Water Management, Kadaster and Geonovum have taken the initiative for implementing the 'Public services on the map' project.

- The Association of Provincial Authorities (IPO) has stated its intention to put the other public sector layers (provincial governments and municipalities) 'on the map' with the same objectives. A noteworthy point is that this proposal is not restricted to the internal provincial geo-information facility. IPO specifically wishes to play an active, stimulating, coordinating and facilitative (knowledge-oriented) role in its dealings with municipalities.
- The associated project proposal will be completed by the end of the second quarter of 2008, and submitted to the GI Council.
- There will be further liaison with the Association of Netherlands Municipalities (VNG) concerning the National Urgency Programme and the related ambitions and opportunities.



- It is noted that the district water boards are also following a joint and active approach through 'Het Waterschapshuis', which was set up earlier.

#### **Specific steps in the short term**

- Creation of a business case for 'Public services on the map' as part of the application within the framework of the Civil Service Reform Programme (spring 2008).
- Creation of the first national geo-register version (end 2008);
- The geo-ambition of the Association of Provincial Authorities (IPO) towards provincial governments and municipalities is to be discussed in the GI Council (June 2008).
- The geo-ambition of the Association of Water Boards is to be discussed in the GI Council (June 2008).
- A survey of possible forms of effective cooperation between the public sector and market parties for optimizing the range of geo-information in general and the creation of the national geo-register in particular (June 2008).

#### **Parties involved**

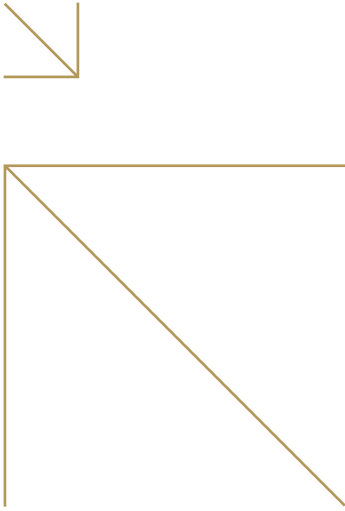
This strategy has three different owners at different administrative levels. At a national level, the Ministry of Housing, Spatial Planning and the Environment is the coordinating ministry for the 'Public services on the map' project, which also involves national government implementing bodies (Kadaster, the Directorate-General for Public Works and Water Management, the Government Service for Land and Water Use (DLG), the National Service for Implementation of Regulations (DR) and Geonovum). At a provincial level, the Association of Provincial Authorities (IPO) has taken the initiative to coordinate provincial governments and municipalities in optimizing the range on offer on regional and local levels, and the Association of Water Boards is also working on a similar initiative for the district water boards. Geonovum is monitoring the cohesion between these initiatives. There will be a quest on all levels for forms of partnership with market parties and private source data owners, and with other source data owners that have yet to be identified (e.g. the Dutch National Aerospace Laboratory (NLR), Alterra).

#### **Finance**

- A contribution for some of the funding for the 'Public services on the map' project will be requested from the Civil Service Reform Programme (PVR) investment budget. Besides a possible PVR contribution, the involved parties will also make

investments of their own. The costs of the 'Public services on the map' project are estimated at approx. € 20 mln for the 2008 – 2011 period.

- Costs and funding of the Association of Provincial Authorities (IPO) geo-ambition: will be incorporated within the framework of the proposal to be made by IPO to the GI Council in 2008.
- The National Urgency Programme (NUP) provides the framework and starting point for the municipalities.
- Costs and funding of Association of Water Boards ambition: will be incorporated within the framework of the proposal to be made by the Association of Water Boards to the GI Council in 2008.



### 3.6. Chain cooperation

A chain is a form of cooperation between parties that operate both independently of each other and jointly, in that they perform sequential operations oriented to a shared objective. The cooperation is intended to improve coordination of the activities of the chain partners, in order to increase public sector customer satisfaction and to improve public sector operations. The use of geo-information in several policy chains that have good potential will be actively encouraged. The choice of policy areas will be influenced by the pillars of the government coalition agreement.

#### Objective

The main focus in GIDEON implementation for the next few years will be on the following policy chains and social issues:

- disaster and crisis management;
- sustainable living environment;
- mobility;
- area development of urban areas and neighbourhoods;
- area development of rural areas.

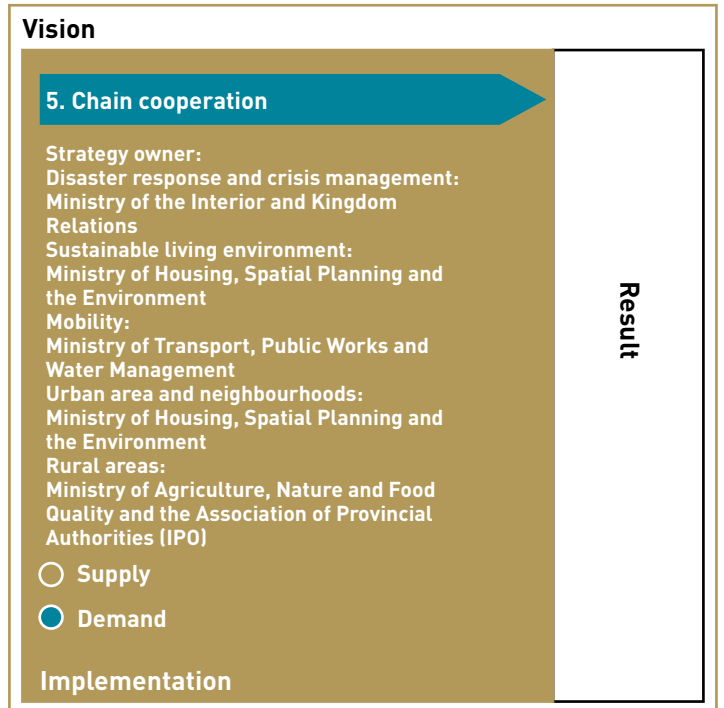
The aim is for these chains to acquire an up-to-date and harmonized set of geographical key data that is available to and usable by all parties in the chain. Another aim is to set up joint services to ensure that these data can be used in practice by the various parties in an integrated way.

#### Milestones

- A set of key data has been identified for each chain. A guarantee can be given of the availability and usefulness of the data.
- Development and management of joint geo-services in the various chains.

#### To be achieved by:

- setting up an effective form of cooperation for the policy chains mentioned above. The strategy owner initiates and coordinates the cooperation. A vital point is that there must be broad willingness among the parties in the chain to adapt work processes where necessary, both within and between organizations.



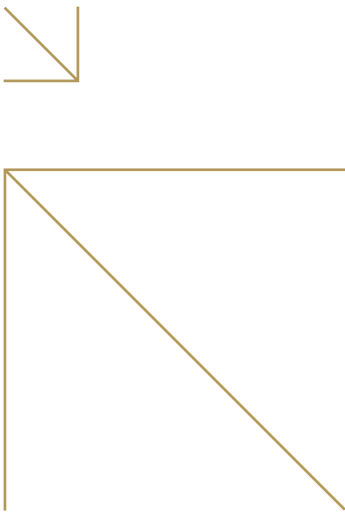
#### Specific steps in the short term

- The cooperating parties involved produce a plan of action for each chain. These plans of action are then to be submitted to the GI Council (before the end of 2008). For National Disaster Response and Crisis Management, the above has been largely fulfilled through a project executed on behalf of the GI Council (see Appendix 3 for additional information).

#### Parties involved

The strategy owner in each of the five chains takes the initiative to put cooperation on the agenda and make the necessary arrangements within the chain concerned. This cooperation envisages facilitating the comprehensive use of geo-information within the chain.

- Disaster and crisis management  
 The Minister of the Interior and Kingdom Relations is the coordinating minister for disaster and crisis management. The officials responsible for the safety domain are represented in various bodies (the Safety Advisory Board (VB), the Board of Regional Police Force Managers (KBB) and the



Strategic Safety Advisory Board (SVB)) and are responsible for determining the joint course. Other important parties within the chain are the other ministries, regional and local public authorities, research and knowledge institutes, market parties, and so on.

- **Sustainable living environment**  
The Ministry of Housing, Spatial Planning and the Environment is the coordinating ministry, and other important parties in the chain are the Ministry of Transport, Public Works and Water Management, the Ministry of Agriculture, Nature and Food Quality, the Netherlands Environment Assessment Agency (MNP)/Spatial Planning Bureau (RPB), the Association of Provincial Authorities (IPO), the Association of Netherlands Municipalities (VNG), TNO, Alterra, Kadaster, and market parties. The Ministry of Housing, Spatial Planning and the Environment will focus at first on the chain concerned with soil policy.
- **Mobility**  
The Ministry of Transport, Public Works and Water Management is the coordinating ministry, and other involved parties are the Association of Provincial Authorities (IPO), the Association of Netherlands Municipalities (VNG) and market parties.
- **Area development of urban areas and neighbourhoods**  
The Ministry of Housing, Spatial Planning and the Environment is the coordinating ministry, and will develop this chain together with the Ministry of Health, Welfare and Sport (VWS). Other parties involved in the chain include Statistics Netherlands (CBS), Kadaster, and market parties.
- **Area development of rural areas**  
The Ministry of Agriculture, Nature and Food Quality and the Association of Provincial Authorities (IPO) manage the chain for area development of rural areas. Other parties involved include the Ministry of Housing, Spatial Planning and the Environment, municipalities, Kadaster and market parties.

#### Finance

The funding will be worked out for each chain through a plan of action and associated business cases.

#### Safety:

'Geo-integration will soon give us a single information system in the alarm station.'

Ministry of the Interior and Kingdom Relations.

#### Mobility:

'Less congestion thanks to comprehensive road pricing and better traffic information'.

Ministry of Transport, Public Works and Water Management.

#### Problem neighbourhoods on the map:

'Geo-information is an indispensable instrument for Minister Vogelaar in identifying the problem neighbourhoods'.

Ministry of Housing, Spatial Planning and the Environment.

#### Sustainable living environment:

'In five years' time, all the spatial information needed for investment decisions in urban development, mobility, nature management and water management, will be used in integrated form'.

Jan Rotmans (URGENDA author).

#### Landscape clutter:

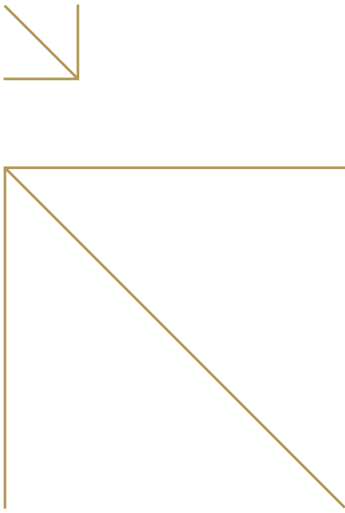
'Kadaster helps environment minister Jacqueline Cramer map out and tackle landscape clutter in the Netherlands'.

Kadaster.

#### Rural area:

'The basis for an attractive and sustainable rural area is in the joint utilization of geo-data'.

Ministry of Agriculture, Nature and Food Quality.



### 3.7. Conditions for economic value creation

Market parties must also be able to benefit from the measures taken within GIDEON. This aspect will receive specific attention. Conditions will be created with a view to enabling the geo-industry to create as much value as possible for itself, based on public sector geo-information. This is one of the crucial conditions for innovation and the utilization of economic growth potential, both in this country and abroad. Value creation by market parties is concerned, among other things, with chains centred around businesses and consumers (e.g. transport and logistics).

#### Objective

Bringing about the most favourable climate possible for value creation by the geo-industry. The highest priority areas for setting conditions are:

- a clear division of market and government roles;
- a widening of access to public sector geo-information.

#### Milestones

Adoption of guidelines for accessibility and costs of public sector geo-information.

#### To be achieved by:

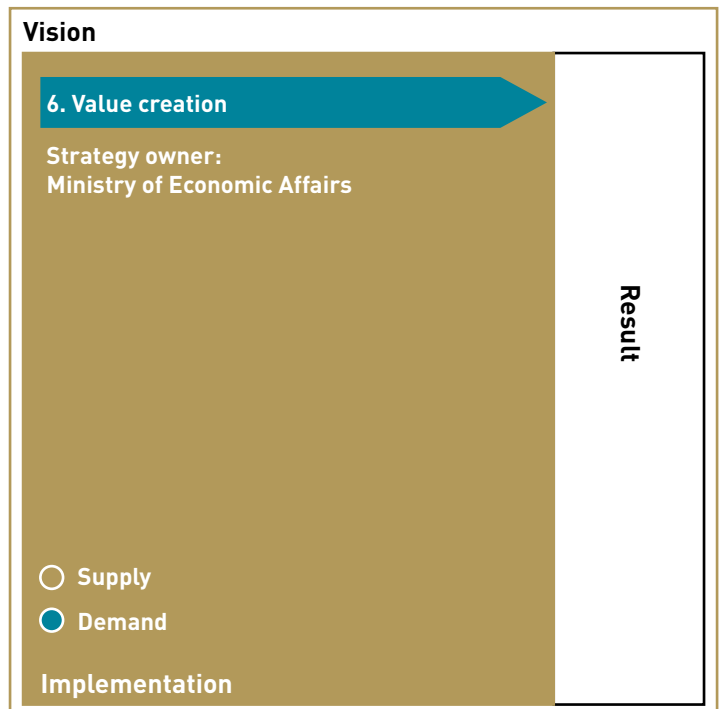
To be defined. Efforts will be required both from market parties (via GeoBusiness Nederland) and various public sector parties (in particular the Ministry of Economic Affairs, the Ministry of the Interior and Kingdom Relations, and the Ministry of Housing, Spatial Planning and the Environment).

#### Specific steps in the short term

- The adoption of guidelines for the division of market and government roles (2008).
- Better accessibility of geo-information through the proposed extension to the Government Information (Public Access) Act.
- Pilot project for an 'experimental site' for geo-businesses.
- Continued investigation of the options for creating a regional experimental site in Flevoland.

#### Parties involved

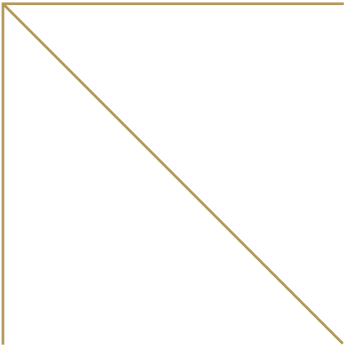
The Ministry of Economic Affairs is responsible for the division of roles between market and government. The Ministry of the Interior and Kingdom Relations is responsible for the policy



'Towards optimum availability of government information' and for the possible extension to the Government Information (Public Access) Act. These ministries will also assume responsibility for the geo-sector as such, in consultation and coordination with market parties.

#### Finance

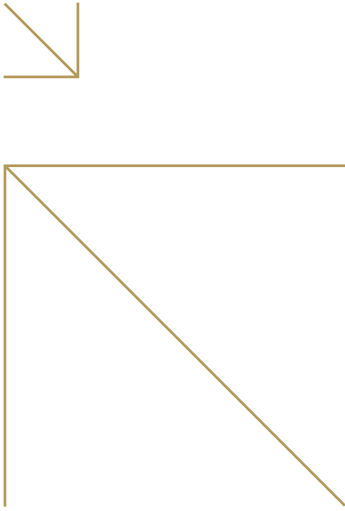
The funding will be worked out through a plan of action and associated business cases.



### **The Netherlands supports Galileo**

Dutch small and medium-sized business are particularly well placed to take an international lead in satellite navigation.

L.J. Brinkhorst, NRC Handelsblad, 1 October 2007



### 3.8. Knowledge, innovation and education

There are many ways in which the Netherlands' international competitive position in geo-information can be improved. A combination of innovation with the development and transfer of knowledge (education), is a necessary condition.

#### Objective

- The Netherlands in 2011 must be in the top five in the world in terms of knowledge development, knowledge transfer and innovation in geo-information.
- The competencies needed for developing, maintaining and using the geo-information infrastructure are embedded in the curricula of the geo-information education programmes (at upper secondary vocational, higher professional, and university levels).
- Optimum utilization of geo-information in the educational chain (from primary education, through secondary education, to all relevant programmes in professional and academic education).

#### Milestones

Until 2009, the RGI programme will be encouraging the improvement of, and innovation in, the geo-information infrastructure. The RGI knowledge consortium includes universities, businesses, knowledge institutes and public authorities (with more than 250 members). An international study conducted in 2007 revealed that the Netherlands has gained considerable ground in innovation in recent years. An advancing knowledge, innovation and education agenda will be maintained for the period after 2009.

#### To be achieved by:

Until 2009 the RGI programme will be the definitive instrument for stimulating knowledge, innovation and education. The RGI international mid-term review committee has recommended establishing a follow-on innovation programme<sup>5</sup>. A possibility that suggests itself is to extend the current programme for the period from 2009, or to set up a follow-on innovation programme.

#### Specific steps in the short term

- Deliver and embed interim and final RGI programme output (2008).
- Develop a knowledge, innovation and education agenda for the period 2009 and beyond.

#### Vision

### 7. Knowledge, innovation and education

**Strategy owner:**  
 Education and knowledge: Ministry of Education, Culture and Science;  
 Innovation: Ministry Of Economic Affairs

Result

- Supply
- Demand

Implementation

#### Parties involved.

The Ministry of Education, Culture & Science, the Ministry of Economic Affairs, the Ministry of Housing, Spatial Planning and the Environment, the Ministry of Transport, Public Works and Water Management, the Ministry of Agriculture, Nature and Food Quality, Kadaster, and the upper secondary vocational (MBO), higher professional (HBO) and university (WO) education sectors, knowledge institutes, GeoBusiness Nederland, Geonovum and others.

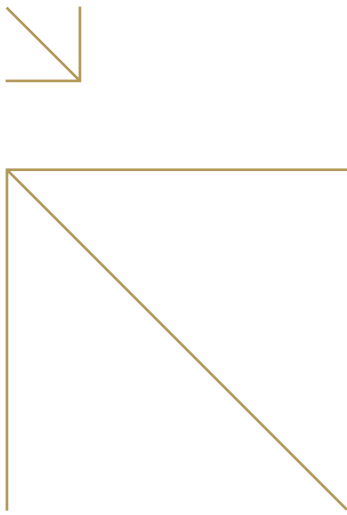
#### Finance

For the 2004 – 2009 period, € 20 mln was made available for the current programme from the BSIK knowledge infrastructure grant scheme. Another € 22 mln euros was invested from the geo-sector itself.

A plan of action and associated business case will be drawn up for the period after 2009.

<sup>5</sup> <http://www.rgi.nl/index.php?sid=126>





### 3.9. Organization, control and management

GIDEON implementation will demand effective control and clear responsibilities at all levels.

The main roles and responsibilities are outlined below.

The ultimate political and administrative responsibility for GIDEON implementation resides with the Minister of Housing, Spatial Planning and the Environment, and fits logically in the national geo-information coordination aspect of her portfolio.

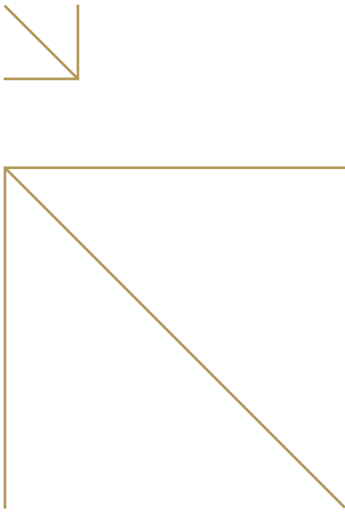
The Minister of Housing, Spatial Planning and the Environment is also the directive client for GIDEON implementation.

The GI Council then acts as a steering group (to create conditions for GIDEON implementation, to monitor progress and consistency in the implementation, and to ensure that the actual GIDEON implementation is adopted within the respective organizations and their constituencies, etc.). The GIDEON implementation and operational processes focus on the seven strategies described above in this chapter. Each strategy then implies effort on achieving systematic interaction between all involved parties. This is therefore of concern to the strategy owners, the strategy partners and all others involved.

A special role then is the trade-off and coordination between each of the seven implementation strategies on the one hand, and the monitoring process on the other. The Ministry of Housing, Spatial Planning and the Environment assumes responsibility for these aspects, and Geonovum will provide support as a knowledge centre. The matters relevant here are preparing and drawing up annual progress reports to parliament, maintaining contacts with the strategy owners, providing periodic status information to the GI Council, and contributing ideas about removing any obstacles to the implementation, etc..

#### Flevoland as possible experimental site for GIDEON implementation

Several cooperating parties in the Flevoland region recently suggested that they might establish a national experimental site in the geo field. This suggestion is to be investigated for feasibility and implementability.



### 3.10. Financing

Sections 3.2 – 3.8 briefly addressed the costs and type of financing for each implementation strategy. The following overall observations are made.

The resources necessary for some important components of the GIDEON implementation and operational programme are already available within current budgets and financial frameworks, or steps have already been taken to obtain them. Some of these important elements are:

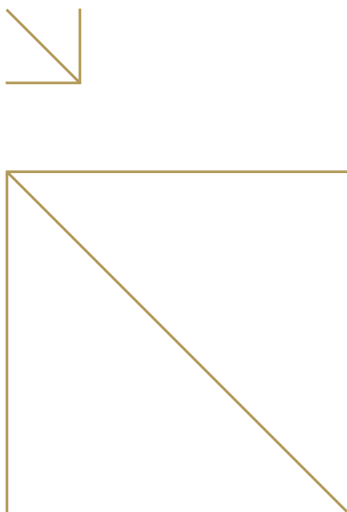
- the statutory key geo-registers; the Ministry of Housing, Spatial Planning and the Environment has prepared proposals for the Addresses and Buildings Key Register (BAG) and the information gathering costs of the Topographical Key Register.
- national INSPIRE implementation;
- numerous projects related to e-services;
- the National Urgency Programme (NUP). The Ministry of Housing, Spatial Planning and the Environment has submitted claims and prepared proposals for the Large-Scale Standard Map of the Netherlands (GBKN), as mentioned in the National Urgency Programme (NUP);
- cooperation and implementation in the disaster response & crisis management chain, which is already at an advanced stage.

The costs and the associated funding method for the other GIDEON implementation components are to be defined in detail by the various strategy holders and strategy partners, as part of the joint plans of action. 'Business case studies' that will later be linked to these plans of action will clarify the costs, revenues and the ultimate funding, as a basis for decisions.

In summary, an overall statement of the GIDEON implementation funding in the 2008 – 2011 period is presented below.

GIDEON strategies	Costs and funding method
1 Integration of geo into e-services	Cover is largely provided by existing budgets and e-services financial frameworks (Ministry of the Interior and Kingdom Relations, National Urgency Programme, and so on). Supplementary plans of action and associated business cases will be drawn up for any additional costs.
2 Statutory basic geo-registers	<p><b>Addresses and Buildings Key Register (BAG):</b> Investment costs € 24 mln (2008-2010). Available through Ministry of Housing, Spatial Planning and the Environment budget. Management expenses from 2010 approx. € 4 mln per year. Budgetary financing proposal through Ministry of Housing, Spatial Planning and the Environment budget (funds not yet available). Costs for municipalities through the municipal budgets</p> <p><b>Cadastral Key Register:</b> In accordance with current tariffs.</p> <p><b>Topographical Key Register:</b> Management expenses 2009 (€ 15.5 mln), 2010 (€ 14.5 mln) and from 2011 (€ 13.5 mln). Proposal for budgetary financing through Ministry of Housing, Spatial Planning and the Environment budget (funds not yet available). Provision expenses through tariffs.</p> <p><b>Large-Scale Standard Map of the Netherlands (GBKN):</b> Investment costs 2009 - 2011: € 19.2 mln. Proposal for cover from e-impuls or general cover. Management expenses from 2009: € 18 mln per year. Contribution through current public sector parties € 10.8 mln, plus € 7.2 mln national government contribution. Budgetary financing proposal of € 7.2 mln through Ministry of Housing, Spatial Planning and the Environment budget (funds not yet available).</p> <p><b>Subsurface Key Register (BRON):</b> BRON estimated at € 0.5 mln investment costs; € 1.2 mln annual management costs. Planning still in progress.</p>
3 INSPIRE implementation	Available from Ministry of Housing, Spatial Planning and the Environment budget for national, central services approx.: 2008: € 0.5 mln, 2009: € 0.7 mln, 2010: € 0.7 mln. Costs for adapting geo-databases by source data owners are for the account of the source data owners themselves.
4 Supply optimization	<p><b>National government:</b> an application has been submitted for the 'Public services on the map' project within the framework of the Civil Service Reform Programme (PVR) (approx. € 10 mln for the 2008 – 2011 period). Also investments from the participating parties (Ministry of Housing, Spatial Planning and the Environment, the Government Service for Land and Water Use (DLG), the National Service for Implementation of Regulations (DR), Directorate-General for Public Works and Water Management, Kadaster).</p> <p><b>Municipalities / Association of Netherlands Municipalities (VNG):</b> to be reviewed in relation to the agreements for the National Urgency Plan. Provincial governments / Association of Provincial Authorities (IPO: proposal to be worked out and submitted in 2008 to the GI Council (incl. financial section + proposed cover).</p> <p><b>District water boards / Association of Water Boards:</b> details of proposal to be worked out, and submitted in the short term to the GI Council (incl. financial section + proposed cover).</p>

GIDEON strategies	Costs and funding method
5 Chain cooperation	To be worked out for each chain through plans of action and associated business cases to be drawn up.
6 Conditions for value creation	To be worked out through a plan of action and associated business case to be drawn up.
7 Knowledge, innovation and education	<p>€ 20 mln euros of BSIK grants have been made available for the current programme for the 2004-2009 period.</p> <p>A further € 22 mln euros is to be invested by the network itself.</p> <p>A plan of action and associated business case will be drawn up for the period after 2009.</p>
Coordination, trade-off	To be worked out: also monitoring.
<b>Total</b>	Some funding has already been arranged within existing financial frameworks (i.e. e-services, key geo-registers and INSPIRE). Some components are part of the 2008 spring decision process. Other components will be worked out through plans of action and associated business cases.



### 3.11. Planning, deadlines and monitoring

One of the first steps in the GIDEON implementation process will be to work out plans in greater detail. The detailed plan will provide a clear picture of all milestones, while also providing a transparent view of how the various milestones and implementation strategies interrelate. The system of route planners, which was also used for e-services, will be followed wherever possible (e.g. by the Ministry of the Interior and Kingdom Relations). The RGI mid-term review committee's recommendation for periodic monitoring of the development of the key geo-information facility for the Netherlands will also be adopted.

Based on the route planners, the Minister of Housing, Spatial Planning and the Environment will later be able – preferably in combination with the periodic e-services progress reports – to report periodically on GIDEON implementation progress (e.g. once a year) to parliament. The Ministry of Housing, Spatial Planning and the Environment and the Ministry of the Interior and Kingdom Relations will liaise on the practical details.

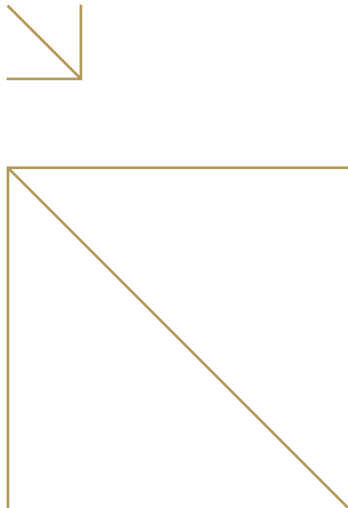
# Appendix 1

## GIDEON base geo-information set

The list shown here is divided into statutory key geo-registers and thematic data. The list of thematic data incorporates the INSPIRE themes and observes the seventy-seven information layers identified in the Ministry of the Interior and Kingdom Relations study 'Barriers away'. The GIDEON base set will be extended in future.

### Statutory key geo-registers

Key register	
Addresses	Municipalities
Buildings	Municipalities
Cadastral	Kadaster
Topographical	Kadaster
Large-Scale Standard Map of the Netherlands (GBKN)	National Partnership - Large-Scale Standard Map of the Netherlands
Subsurface	TNO/Alterra



## Thematic data

### INSPIRE themes

Theme number	Name
<b>Annex I</b>	
1.	Coordinate reference systems
2.	Geographical grid systems
3.	Geographical names
4.	Administrative units
5.	Addresses
6.	Cadastral parcels
7.	Transport networks
8.	Hydrography
9.	Protected sites
<b>Annex II</b>	
10	Elevation
11	Land cover
12	Orthoimagery
13	Geology
<b>Annex III</b>	
14	Statistical units
15	Buildings
16	Soil
17	Land use
18	Human health and safety
19	Utility and governmental services
20	Environmental monitoring facilities
21	Production and industrial facilities
22	Agricultural and aquaculture facilities
23	Population distribution – demography
24	Area management/restriction/regulation zones and reporting units
25	Natural risk zones
26	Atmospheric conditions
27	Meteorological geographical features
28	Oceanographic geographical features

Theme number	Name
29	Sea regions
30	Bio-geographical regions
31	Habitats and biotopes
32	Species distribution
33	Energy resources
34	Mineral resources

**Ministry of the Interior and Kingdom Relations study 'Barriers away' (Geonovum, October 2007):  
List of the first tranche of seventy-seven geo-databases**

	Source data owner	Geo-database description/name
1	Alterra	Soil map 1:50,000
2	Alterra	Soil map 1:250,000
3	Alterra	Soil type map 1:250,000
4	Alterra	Geomorphic map 1:50,0000
5	Alterra	LGN3
6	Alterra	LGN4
7	Alterra	LGN5
8	Alterra	LGN6
9	Alterra	BIS (Soil information system, soil boring)
10	Alterra	Forest map 2000
11	Alterra	HGN1900
12	Alterra	HGN1960
13	Alterra	HGN1990
14	Alterra	HGN2000
15	Alterra	T10SMART 2005
16	Alterra	T10SMART 2006
17	Alterra	TMK1850
18	Alterra	Bonne maps (topography 1865 – 1949)
19	Ministry of Defence/Hydrographic Service	Standard maps of sea area and harbours NL, large and small scale
20	Ministry of Defence/Hydrographic Service	Sea bed obstruction database
21	Ministry of Defence/Hydrographic Service	Maritime borders
22	Ministry of Defence/Hydrographic Service	Sea bed profile and sea area NL
23	Ministry of Defence/Hydrographic Service	Large-scale standard maps rivers



	Source data owner	Geo-database description/name
24	Kadaster	TOPgrenzen
25	Kadaster	TOP10vector
26	Kadaster	TOP10wegen
27	Kadaster	TOP25raster
28	Kadaster	TOP50vector
29	Kadaster	TOP250vector
30	KNMI	Stations observations and measurements
31	KNMI	Image data from radars, weather satellites, etc.
32	KNMI	Numerical model results for atmosphere and sea
33	Ministry of Agriculture, Nature and Food Quality	Aerial photographs 2006
34	Ministry of Agriculture, Nature and Food Quality	Ecological network
35	Ministry of Agriculture, Nature and Food Quality	GIAB (Geographical Information System for Farms)
36	Ministry of Agriculture, Nature and Food Quality	BRP (Parcels key register)
37	Ministry of Agriculture, Nature and Food Quality	POP (Rural Development Programme)
38	Ministry of Agriculture, Nature and Food Quality	LIN (Land use planning in the Netherlands)
39	Ministry of Agriculture, Nature and Food Quality	PRIS (Problem areas information systems)
40	Ministry of Agriculture, Nature and Food Quality	Spheres of influence ('eerstgegadigdenkaart' for natural resources managers)
41	Ministry of Agriculture, Nature and Food Quality	RIS & RISNN (Policy Document on Agriculture and Nature Conservation, limitations)
42	Ministry of Agriculture, Nature and Food Quality	Military areas
43	Ministry of Agriculture, Nature and Food Quality	PIPO (Parcel Identification Production Scale)
44	Ministry of Agriculture, Nature and Food Quality	National ecological target map
45	Ministry of Agriculture, Nature and Food Quality	Bird & habitat directives
46	National Aerospace Laboratory (NLR)	Satellite data
47	National Aerospace Laboratory (NLR)	(future) Aerial photo database
48	National Aerospace Laboratory (NLR)	Flight safety statistics
49	National Aerospace Laboratory (NLR)	Aircraft routes
50	National Aerospace Laboratory (NLR)	(air traffic) noise profiles
51	Provincial governments (IPO / IOG-GEO)	Industrial sites
52	Provincial governments (IPO / IOG-GEO)	Soil pollution
53	Provincial governments (IPO / IOG-GEO)	Cultural and historical map
54	Provincial governments (IPO / IOG-GEO)	Provincial ecological network

	Source data owner	Geo-database description/name
55	Provincial governments (IPO / IOG-GEO)	Regional plans
56	Directorate-General for Public Works and Water Management (RWS)	National Roads Database NWB
57	Directorate-General for Public Works and Water Management (RWS)	Current Elevation Database AHN
58	Directorate-General for Public Works and Water Management (RWS)	Large-scale standard map RWS (GBR)
59	Directorate-General for Public Works and Water Management (RWS)	Dyke ring areas
60	Directorate-General for Public Works and Water Management (RWS)	Roads districts
61	Directorate-General for Public Works and Water Management (RWS)	DTB 2000
62	Directorate-General for Public Works and Water Management (RWS)	RWS dyke ring lines
63	TNO	Borehole measurements, the Netherlands
64	TNO	Digital maps Geological Survey of the Netherlands 1:100,000
65	TNO	Digital maps Geological Survey of the Netherlands 1:500,000
66	TNO	Geological maps Limburg Province
67	TNO	The geological atlas of the deep subsurface of the Netherlands
68	TNO	Geological TESCH maps, the Netherlands 1:500,000
69	TNO	Earthquake data
70	TNO	Oil and gas maps, the Netherlands
71	TNO	Geological survey map of the Netherlands
72	TNO	Palaeographical maps
73	Association of Water Boards	Engineering structures
74	Association of Water Boards	Water
75	Association of Water Boards	Flood defences
76	Association of Water Boards	Water board boundaries
77	Statistics Netherlands (CBS)	Land cover database

## Appendix 2

# GIDEON actors/forces at play/roles/players

Many parties will be involved, and have an interest, in the further development of the key geo-information facility for the Netherlands. Each party will have its own role (and sometimes several parallel roles). And each role in turn implies several characteristic features.

If it is then possible to create a favourable synergy, chemistry, cadence and reciprocity between all these players and their roles, an effective and powerful interaction will result. The main players are as follows.

Player	Role	Role features
Minister of Housing, Spatial Planning and the Environment	<b>Administrative figurehead</b>	<b>Resolve</b> Inspiration
GI Council	<b>SDI owner / client</b> Facilitating Strategy, policy and context setting	<b>Uniting leadership</b> Awareness of environment Resolve
RGI	<b>Catalyst for innovation</b> Knowledge building SDI development Promoting partnership	<b>Creativity</b> Flexibility Capacity to unite
Geonovum	<b>Knowledge centre</b> Translate policy into implementation Facilitates national SDI	<b>Reliability</b> Sustainability Capacity to unite
Public authorities	<b>Implementing body of (statutory) duties</b> Services Geo-data user and supplier	<b>Service-minded</b> Reliability
Businesses	<b>Create added-value chains</b>	<b>Awareness of environment</b> Flexibility
Data producers	<b>Make geo-data accessible</b> Make geo-data integratable	<b>Integrity</b> Tenacity
Education	<b>Knowledge transfer</b> Dissemination of knowledge	<b>Persuasiveness</b> Communication
Research	<b>Knowledge development</b> Reflection	<b>Independence</b> Creativity Long-term scope
Users	<b>MAIN ROLE</b>	<b>Assertiveness</b>

## Appendix 3

# Geo-data infrastructure for crisis management and disaster response

The broad social, political and administrative importance of crisis management and disaster response led the GI Council in 2006 to start a separate pioneering project to structure a geo-data infrastructure (GDI) for this area. The output of the interdepartmental partnership in this project was a GDI specifically oriented to the field of safety. The GDI management has been placed under the Ministry of Agriculture, Nature and Food Quality (LNV). The GDI project is currently in the concluding stages, and agreements for management are being formalized by LNV, the users and the suppliers of source information. The GDI users are consulted through Raad MIV (in the regions) and IOCB (national and provincial crisis centres).

The GDI will be extended in the next few years into regional organizations for crisis management and disaster response, and the administrative and operational crisis centres therein. The expansion will be oriented to users' needs and the associated funding that can be released by the user parties. The needs of users in the safety field will be coordinated by Raad MIV as an advisory committee under the Safety Advisory Board (VB) and the Board of Regional Police Force Managers (KBB) (both together with the Ministry of the Interior and Kingdom Relations, represented in the Strategic Safety Advisory Board(SVB)).

The GDI for crisis management and disaster response project is not only of great importance to the safety sector itself, but must also be viewed as an important pioneering project for the further development of the National Spatial Data Infrastructure (national SDI). The GDI for crisis management and disaster response is also important for the implementation of GDIs for other application areas. The knowledge and experience gained in this project can be used immediately, and reused, for example, in the implementation of GDIs for spatial planning, education, mobility, rural area, and so on.

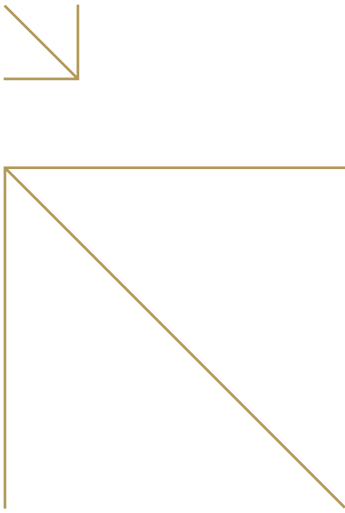
Finally, the GDI for crisis management and disaster response project has convincingly demonstrated that the successful development of infrastructure, and the support and momentum that this requires, demands a direct relationship between SUPPLY and DEMAND, and between users and suppliers.

## Appendix 4

# Abbreviations and acronyms

### List of GIDEON abbreviations

BAG	Addresses and Buildings Key Register
BRON	Subsurface Key Register
BZK	Ministry of the Interior and Kingdom Relations
CBS	Statistics Netherlands
EHS	Ecological network, or ecological corridor
EU	European Union
EZ	Ministry of Economic Affairs
GBKN	Large-Scale Standard Map of the Netherlands
GDI	Geo-Data Infrastructure
GDI R&C	Geo-data infrastructure for disaster response and crisis management
GI Council	The strategic advisory body for geo-information
GIDEON	Geographical information and services for e-government in the Netherlands
GIS	Geographical information system
HBO	Higher professional education
ICT	Information and communication technology
ICTU	Foundation for ICT execution
INSPIRE	Infrastructure for Spatial Information in Europe
IOCB	Interdepartmental crisis management consultative body
IPO	Association of Provincial Authorities
KBB	Board of Regional Police Force Managers
KNMI	Royal Netherlands Meteorological Institute
LNV	Ministry of Agriculture, Nature and Food Quality
MBO	Upper secondary vocational education
MNP/RPB	Netherlands Environmental Assessment Agency /Netherlands Institute for Spatial Research
NGR	National geo-register
NORA	Dutch government reference architecture
NUP	National urgency programme
OC&W	Ministry of Education, Culture and Science
PSI	Public Sector Information
PVR	Civil service reform programme
Raad MIV	Multidisciplinary council for safety information
RGI	Space for Geo-Information



BAG	Addresses and Buildings Key Register
SVB	Strategic safety advisory board
TNO	Netherlands Organization for Applied Scientific Research
VNG	Association of Netherlands Municipalities
UvW	Association of Water Boards
VB	Safety advisory board
V&W	Ministry of Transport, Public Works and Water Management
VROM	Ministry of Housing, Spatial Planning and the Environment
VWS	Ministry of Health, Welfare and Sport
WO	University education
WOB	Government Information (Public Access) Act





**Ministry of VROM →**

here the rural and urban environment as well as government buildings really matter.  
Where policies are developed, implemented and enforced.

**Knowing that, in a small country like the Netherlands, it pays to think big.**

