

Designing SDI management structures

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Presentation

- Sets out the basic principles which should underlie all SDIs
- Considers some emerging trends
- Examines the multilevel structure of SDIs
- Discusses matters relating to SDI governance
- Describes some of the new organisational structures for SDI management
- Analyses the needs of spatially enabled government and society

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SDI principles - 1

- Data should be collected once and maintained at the level where this can be done most effectively
- It should be possible to combine seamlessly spatial data from different sources and share it between many users and applications
- Spatial data should be collected at one level of government and shared between all levels

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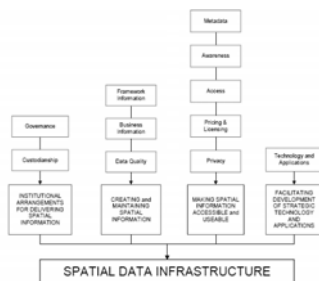
SDI principles - 2

- Spatial data needed for good governance should be available on conditions that are not restricting its extensive use
- It should be easy to discover which spatial data is available, to evaluate its fitness for purpose and to know which conditions apply for its use
- *Source: INfrastructure for SPatial InfoRmation in Europe (INSPIRE)*

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SDI elements



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Emerging trends

- From product to process
 - From data producers to data users
 - From database creation to data sharing
 - From centralised to decentralised structures
- From formulation to implementation
 - From single to multilevel participation
 - From coordination to governance
 - From existing to new organisational structures

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Emerging trends in Australia

- Victorian Geospatial Information Strategies 1997-2000 and 2000-2003
 - Laid down the foundations for the management and custodianship of the state's 8 fundamental data sets
- Victorian Spatial Information Strategy 2004-2007
 - Shifts the emphasis to a whole of industry approach
 - Focus on spatially enabled government
 - Introduces a new governance structure

Emerging trends in Victoria

	1993	1997 -	2000-	2004-
Product to process				
From data producers	*	*	*	*
To data users			*	*
From database creation	*	*		
To data sharing		*	*	*
From centralised structures	*	*		
To decentralised structures			*	*
Formulation to implementation				
From coordination	*	*	*	
To governance				*
From single level participation	*			
To multi level participation		*	*	*
From existing organisational structures	*	*		
To new organisational structures				*

The multi level structure of SDIs

- The top down vision
 - emphasises the need for standardisation and harmonisation
- The bottom up vision
 - emphasises the importance of diversity given the very different aspirations of the various stakeholders and the resources at their disposal.
- The challenge
 - to find ways of ensuring some S and H while taking account of the diversity of interests involved.
 - Requires a sustained mutual learning process for all

Likely SDI outcomes

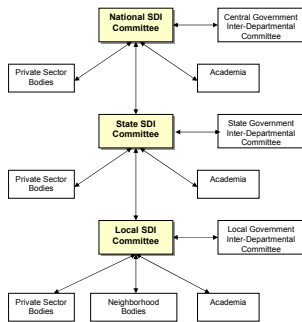
- Because of the number of stakeholders involved SDI outcomes will be more like a collage or a patchwork quilt rather than a uniform picture
- And appropriate SDI management structures must be developed that take this into account

A patchwork quilt or a collage?



The governance of SDIs

- Shift to more inclusive models of stakeholder governance
 - Geoconnections in Canada - a cooperative organisation involving all levels of government, the private sector and academia
- Problem of inclusiveness
 - Number of stakeholders involved in multi level implementation – more than 130,000 in the US and EU
 - Potential of hierarchical models



Hierarchical Relationships between National, State and Local Governments Bodies in SDI Implementation
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New governance structures

- Victorian Spatial Council set up Nov 2004
 - To provide a coordinated whole of industry approach to spatial information policy and development, management and utilisation in Victoria
 - To oversee implementation of VSIS 2004 -2007
- Membership
 - Independent chairman
 - 13 members – 3 state govt, 2 local govt, 1 federal govt, 2 academia, 2 professions 2 private sector
- Reports to Secretary of the Department of Sustainability and Environment
- Inter departmental matters within state government handled by Victorian Government Spatial Committee

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New organisational structures to facilitate SDI management

- Options include
 - Restructuring within existing state and local governmental structures
 - Creating new public bodies external to government structures
 - Consortiums of data producers
 - Joint ventures by key data users
 - Collaborative ventures by a wide range of data producers and users

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Restructuring within government structures

The screenshot shows the SLIP Collaboration Portal interface. It includes a navigation menu with links to Home, Communications and Promotions, Events, News, and SLIP Description. A search bar is located at the top right. The main content area features a headline: "SLIP provides fast and easy access to the state's land information and facilitates improvement of business processes." Below this, there is a section for "The Shared Land Information Platform" and a "LATEST NEWS" section with a sub-heading "SUCCESSFUL INFRASTRUCTURE INSTALLATIONS - MORE DATASETS NOW AVAILABLE".

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Western Australia's SLIP

- SLIP = Shared Land Information Platform
- Product of the Shared Corporate Services Reform project
 - Whole of government approach
- An enabling framework
 - Information sharing between 26 government agencies up to 6100 employees
- Builds upon established WALIS system
- Operational from May 1st 2006

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SLIP focus areas

- Emergency management
 - Lead – Fire and Emergency Services Auth.
- Electronic land development process
 - Lead - Dept of Planning and Infrastructure
- Natural Resource Management
 - Lead - Dept of Agriculture
- Register of interests
 - Lead – Department of Land Information

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Restructuring external to existing structures



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Service Nova Scotia

- Department of Service Nova Scotia and Municipal Relations set up in 2000
- Its mission
 - To provide Nova Scotians with seamless, easy access to numerous government services in a cost effective manner while maintaining the interests of the public and municipalities
- Its budget
 - 232m Canadian Dollars

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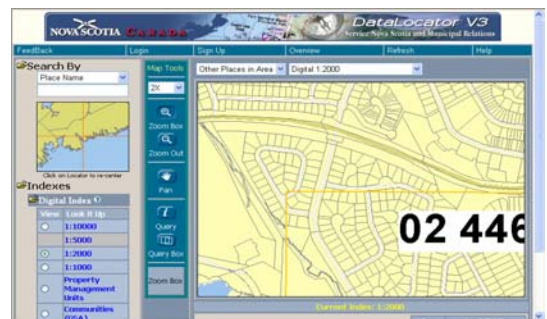
SNS Geographic information

- SNS maintains and distributes
 - NS topographic database
 - NS property records database
- GeoNOVA portal
 - Gateway for all geographic data holdings about Nova Scotia
 - Developed by Sierra Systems (Halifax)
 - Emphasis on making data and services easily accessible from the basic desktop

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SNS GeoNOVA Portal



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Joint ventures by data producers



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PSMA Australia

- Consortium set up in 1996 to create integrated digital base map for Census
- Success led to development of other products for Australia as a whole using data supplied by states and commonwealth governments
- PSMA became a government owned company in 2001
- Core business
 - facilitating the creation of and access to seamless national spatial datasets for government, industry and community use.

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Some PSMA products

- Administrative boundaries
 - Australian Bureau of Statistics, electoral boundaries, state and local government areas
- G-NAF
 - Geocoded national address file containing 12.6 physical addresses
- CadLite
 - 10.5 million land parcel polygons

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Cadlite – 10.5 m parcels



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Joint ventures by data users

GBKN
De Geografische Basiskaart Nederland (GBKN) is de meest gedetailleerde topografische basiskaart van Nederland. In bestaande gebieden is de schaal 1:500 of 1:1.000 en in landelijke gebieden 1:2.000. De kaart is voor heel Nederland beschikbaar en door een duidelijk omschreven technische inhoud en precieze vergelijkbaar en schaalbaar.

Inhoud dataset
De dataset bestaat uit lijnen die de begrenzingen aangeven van zichtbare natuurlijke en kunstmatige kenmerken van het terrein.

- harde topografie zoals gebouwen, bruggen, hoogspanningsmasten
- zachte topografie zoals begrenzingen van wegen, sloten, aanlegspalen begrenzing
- straatnamen en huisnummers

LRI classificatie: elementen zijn over het algemeen gecodeerd volgens de LRI-classificatie (Landmeetkundig Kartografisch Informatiesysteem). Hierbij is onderscheid gemaakt naar hoofdtypen, zoals bebouwing en verharding.

Structuur
De GBKN heeft 2 verschningsniveaus. Deze verschillen wat betreft inhoud en precisie van elkaar.

- Inhoudelijk niveau GBKN: topografisch samengeteld, door middel van luchtfoto's en bepaald na onderzoek in het veld. Statistische overname fouten: circa 3 decimeter in inhoudelijk aspect, maximaal 6 decimeter in beeldelijk aspect

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GBKN – Large scale base map of the Netherlands

- Public private partnership
 - Comprehensive digital 1:500/1:1000 map for urban and 1:2000 for rural areas completed 2001 for the whole of the Netherlands
 - 10 regional joint ventures and over 50 municipalities responsible for their areas
 - Joint venture
 - Utility companies 60%
 - Municipalities 20%
 - Cadastre 20%

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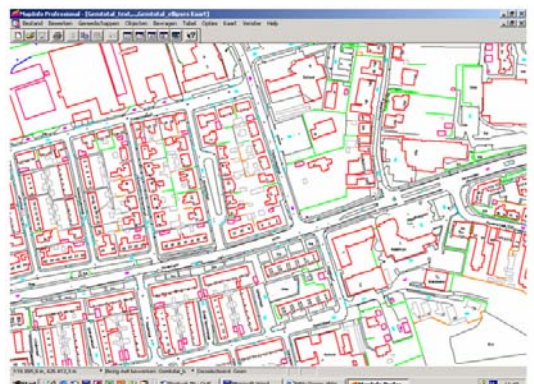
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GBKN data sets

- Hard topography
 - Buildings, constructions such as bridges and viaducts
- Soft topography
 - Waterways and features such as fences and hedges
- Semantic information
 - Street names, house numbers, names of waterways etc

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Collaborative ventures by a wide range of data producers and users

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Centre for Geoinformation - NRW

- State of North Rhine Westphalia in Germany started work on their GDI in 1999
- Centre for Geoinformation set up as a company (GmbH) in 2001
 - to stimulate the local geoinformation market
- A public private partnership
 - NRW itself together with SMES and leading software companies

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Examples of collaborative ventures

- Test bed projects
 - 8 NRW participants collaborated on Testbed 1.0 which demonstrated how different service providers can interoperate
- Cross border projects
 - NRW collaborating with the neighbouring Dutch and Belgian authorities
 - On going work in context of the EU INSPIRE initiative

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German Dutch Cross border GDI

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Toward a spatially enabled society

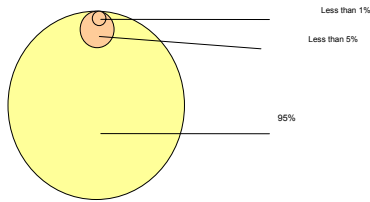
- Important shift in emphasis from
 - Highly skilled GIS professionals who now form the core of the industry to
 - General IT users and then to
 - Users who are often not aware that they are using geographic information technology on their desk tops, satellite navigation devices and mobile phones
- A challenge for SDI implementation

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The scale of the problem

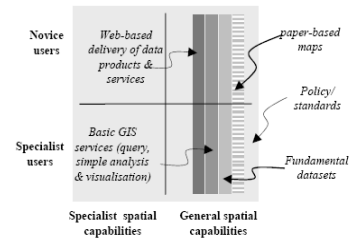
- Level of spatial data users and expertise



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The spatial information market



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New whole of industry services



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My message

- Networking is the key to successful SDI development
 - Between government and the private sector and academia
 - Between different levels of government
 - Between different organisations at the same level of government
 - Between different sections of the same governmental organisation

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My preferred scenario

- Preferred options - collaborative focus
 - Blend across organisations to address need without acquiring new technology more manageable than seeking out new technology solutions
- Least preferred options – internal focus
 - Rely on existing software less costly (and risky) than trying to maintain capacity to build applications from scratch

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Our task

- Task is to design management structures
 - That facilitate networking between all sectors and all levels of government
 - That promote data sharing by participants
 - That maximise the use that is made of data assets
- In other words
 - Creating SDIs that spatially enable both government and society

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