

**First Forum  
Seoul, Republic of Korea, 24-26 October 2011**

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**SDI-Challenges  
European perspective \***

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\* Submitted by: Mr. Jarmo Ratia, Director General, National Land Survey of Finland

**THE HIGH LEVEL FORUM ON  
GLOBAL GEOSPATIAL INFORMATION MANAGEMENT  
Seoul, Republic of Korea, 24-26 October 2011**

**Session 1: Challenges in geospatial policy formation and institutional arrangements**

# **SDI-Challenges European perspective**

**Jarmo Ratia  
Director General  
National Land Survey of Finland**

# INSPIRE

## INfrastructure for SPatial InfoRmation in Europe



- INSPIRE is European Union (EU) framework directive which came into force in May 2007.
- INSPIRE is founded on common European environmental policy.
- The goal is to establish European Spatial Data Infrastructure (ESDI) based on harmonized national SDI's in Member States (MS).
- The directive is adopted to MS's national laws.
- INSPIRE will be implemented according detailed technical implementing rules prepared by expert drafting teams.



- [Home](#)
- [Discovery](#)
- [Viewer](#)
- [Metadata Editor](#)
- [Metadata Validator](#)

### Technical

- [INSPIRE SOAP primer for INSPIRE Discovery and View Services providing simple examples of the proposed INSPIRE SOAP framework and additional clarifications](#)
- [INSPIRE View Service Technical Guidance \(Version 2.0\)](#)
- [Proposals for the documentation of the communication of the view and discovery service using the Web Service Description Language](#)
- [Technical Report: INSPIRE NETWORK SERVICES SOAP Framework](#)
- [Technical Report: SOAP HTTP Binding Status - Survey on OGC and ORCHESTRA Specifications Relevant for the INSPIRE Network Services](#)

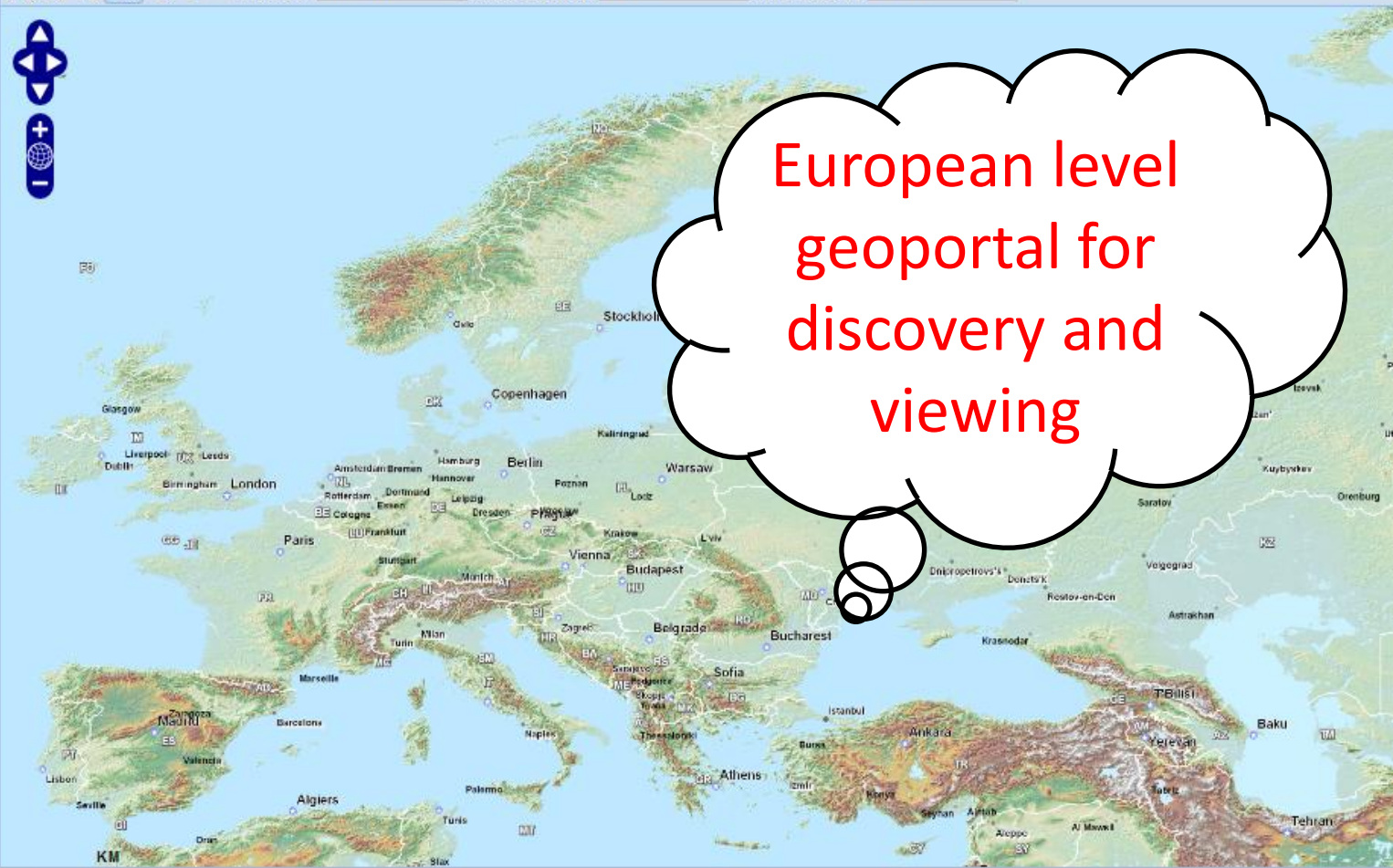
Map



Projection WGS84

Cursor Longitude 29.947

Cursor Latitude 73.384



European level  
geoportal for  
discovery and  
viewing

INSPIRE  
Website



INSPIRE  
Registry

### More functions

Add Layers

[Find Layers](#)

[Select a Service](#)

[World Generic Map Service with EuroGlob...](#)

# INSPIRE Principles



- Spatial data should be collected once and maintained at the level where this can be done most effectively
- It must be possible to combine seamlessly spatial data from different sources across the EU and share it between many users and applications
- It must be possible for spatial data collected at one level of administration to be shared between all the different levels of administration
- 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 conditions for its use



**Keyword**

- [Advice](#)
- [Authorisation](#)
- [COGIS](#) ↔
- [Coordinating agency](#)
- [Coordination](#)
- [Data supply and costs](#)
- [Downloads](#)
- [Discovery Services](#)
- [e-geo.ch](#) ↔
- [Full text search](#)
- [geocat.ch](#) ↔
- [Geodata](#)
- [Geoinformation Act](#)
- [Geoservices](#)
- [Index](#)
- [INSPIRE](#)
- [Maps](#)
- [Organisation](#)
- [Portrayal services](#)
- [Thematic geoportals](#)

geo.admin.ch: the geoportal of the Swiss Confederation

**geo.admin.ch: the geoportal**

The federal geodata portal is a publicly accessible portal for geodata and services. Geographical information consists of geodata and place names. It describes the characteristics of a country or place names.

**Current**



[Zone plans for emergency protection](#) ↔



[Dufour Map](#) ↔



[Hiking trails VECTOR25](#) ↔

**National  
Geoportals for  
promoting  
national SDI's**



Search / catalogue



Obtain data

Short description of  
geo.admin.ch



[Flyer geo.admin.ch](#)

Published at: 12.08.2010 |

# SDI Challenges

- Political consent
  - Information society, electrical services, eGovernment
- Data policy restrictions
  - Pricing, copyright (IPR), accesing rights, licensing policy
- Technical incompatibility in existing SDI's
  - Incompatible data products, incompatible information systems, lack of interoperabilty, redundancy
- Technical standards are still immature
  - Entrepreunal spirit in implementation, different versions of standards, global solutions (like Google, Bing, Nokia...) tend to pass by
- Lack of coordination in governance
  - Between levels in administration, between countries (across borders)
- Lack of data (or poor quality of the data)

Sélections disponibles

Profil personnalisé

Catalogue : 84 couches

- Onisep - Sites universitaires
- Lignes électriques
- Cartographie de la couverture DSL en PACA
- RÉSEAUX DE TRANSPORT
  - Routes
  - Réseau ferroviaire
  - Aérodomes
  - Réseaux de Transports urbains et scolaires d'Agglopoie Provence
- SOURCES D'ÉNERGIE
- HYDROGRAPHIE
  - Réseau Hydrographique
  - Réseau de la société du

Ma sélection : 5 couches

- Monuments nationaux
- Altitude
  - Opacité 30%
- Réseau Hydrographique
  - Opacité 100%
- Routes
  - Opacité 100%
- Photographies Aériennes
  - Opacité 100%



However, excellent datasets are already freely available for viewing !



# EuroGeographics



- Not-for-profit organisation of 54 European mapping, land registry and cadastral agencies
- Activities focus on underpinning the ESDI with definitive reference data sets
- Engages European decision-makers with important initiatives, policies and projects
- Exchanges best practises to meet the users' needs
- Harmonises national datasets into a portfolio of integrated pan-European spatial products

## About us



EuroGeographics is a not-for-profit organisation formed in 2001 as the membership association and representative body of the European national mapping, land registry and cadastral agencies.

## Our members



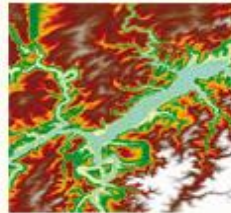
Excellent cooperation with European countries!

## Knowledge Exchange Networks



Our experts are at the cutting edge of developments in:  
[Business interoperability](#)  
[Cadastry/land registry](#)  
[Policy](#)  
[Quality](#)  
[INSPIRE](#)

## Products & Services



Our European network currently consists of four European geographic data providers and two web services.

[More latest news](#)

## European Initiatives



As a European association we work closely with the European Commission and Parliament to support and deliver their policy and service initiatives.

## News & Events



The latest news, events and press releases.

## Events

**24**  
OCT [United Nations Forum on Global Geographic Information Management](#)

**26**  
OCT [119th EuroSDR meeting](#)

**26**  
OCT [2011 ESRI European User Conference](#)

[More events](#)

# ELF = European Location Framework



- Public sector reference data for others to rely on
- Cooperate and collaborate
- One reference at European level
- One reference at national scale, based on NMCA's distributed INSPIRE services and common standards
- Data provider's Toolbox
- Data policy and licensing works for everybody!

# Developing the European Spatial Data Infrastructure

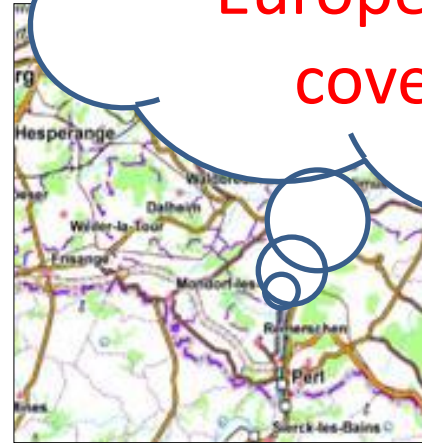
Eurogeographics' products meet the demand with European wide coverage!



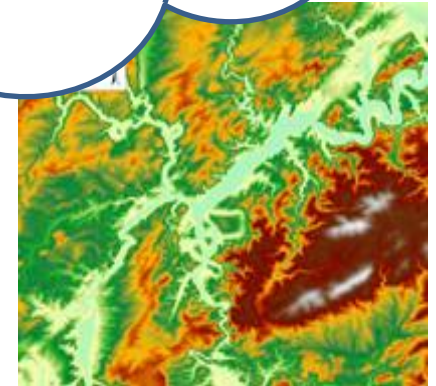
**EuroBoundaryMap**



**EuroGlobalMap**



**EuroRegionalMap**



**EuroDEM**

# INSPIRE Cooperation

Inspire encourages experts in cooperation

- Each EU Member State has own national implementation strategy
- Discussion of stakeholders roles
- Consequencies to data products and production
- Cooperation between organisations within country to fulfill national obligations
- Implementation of services interfaces
- Development of the national geoportals



**Newest members**



**Log in**

Username

Password

Remember me

[Register](#) | [Lost password](#)

**NEWSFLASH:** We have migrated our server. In case our users encounter any issues with the functionality of the forum, they can contact us to notify us.



Welcome to the INSPIRE Forum

**INSPIRE Forum:  
Connecting people and sharing knowledge**

- an open space for the exchange of information, best practice, news, opinions on issues relating to INSPIRE
- a meeting place to get to know professionals working in different countries and thematic areas
- a learning space where you can download tutorials, workshops, presentations and learn about and participate in upcoming workshops and conferences

**Why Register?**

Of course, you are very welcome simply to visit the INSPIRE Forum, but there are a number of reasons why you might like to register.

As a registered user, you will be able to:

- Start or join discussions in the various INSPIRE Forum Groups.
- Announce your events

es de  
 as dos  
 consulta  
 um INSPIRE  
 INSPIRE PT 4 days ago



News: [INSPIRE-GMES: una brochure informativa](#)  
 Massimo Zotti 8 days ago



News: [Geospatial World Forum 2012: call for abstracts](#)  
 Karen Fullerton 10 days ago



News: [DG ENV: 3 year GIS Contact position open](#)  
 INSPIRE Forum 16 days ago

**Recent discussions**

Group [Italian INSPIRE Interest Group](#)

**Latest blog posts**



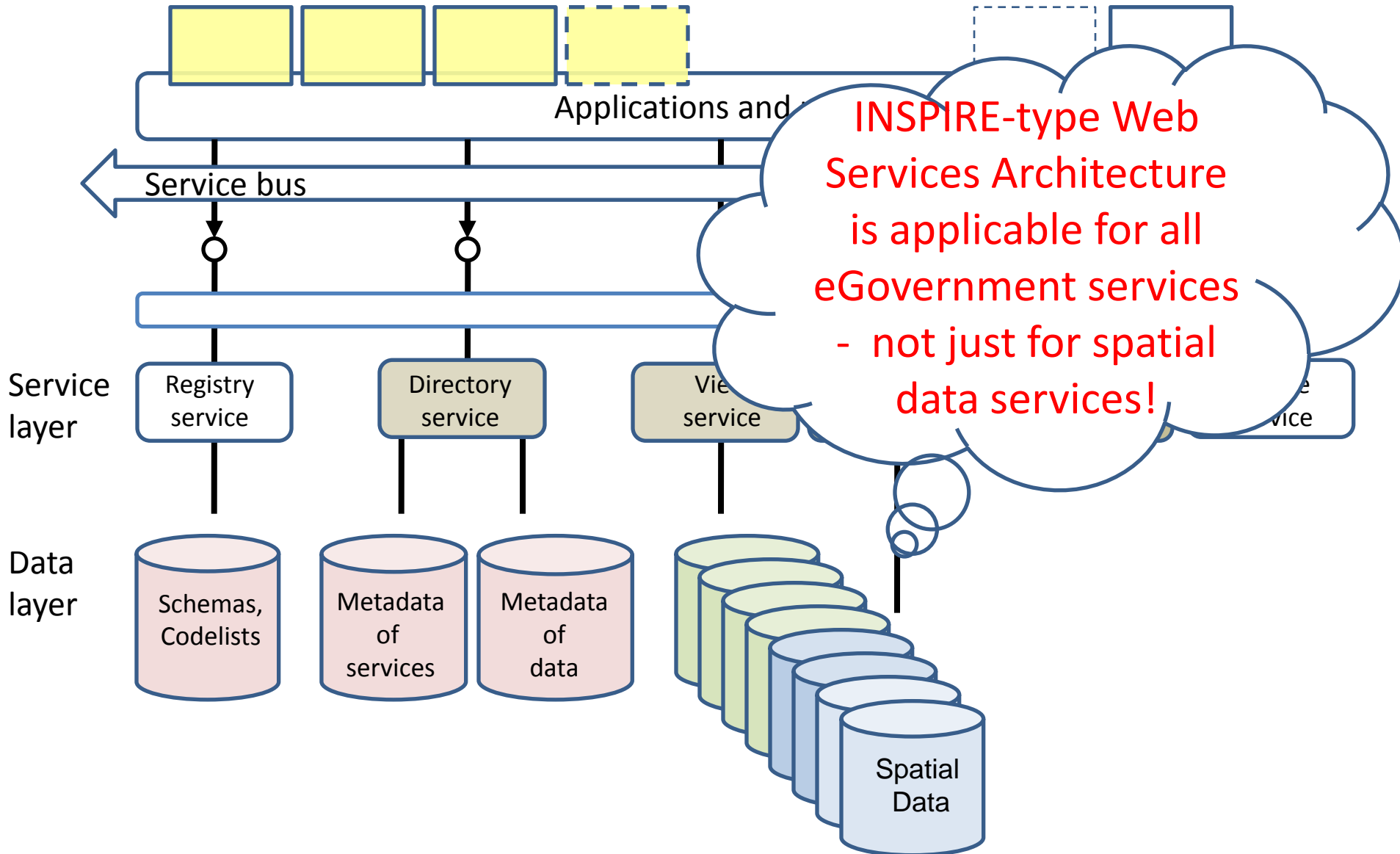
Blog: [Consultation on the](#)

# INSPIRE architecture

## Common architecture to build on

- Harmonises services in EU Member States
- Holistic stack of international standards
- Interoperability of systems
- Business-to-business (B2B) interfaces
- Easy access to original data sources
- Basis for new e-services to citizens

# INSPIRE Architecture





# Inspire deadlines

Inspire gives timetables to do the homework

- Regulative process
- Administrative recommendations
- Education
- Metadata supply
- Implementation of service interfaces
- Monitoring and reporting

MAP LAYERS

Theme ▾

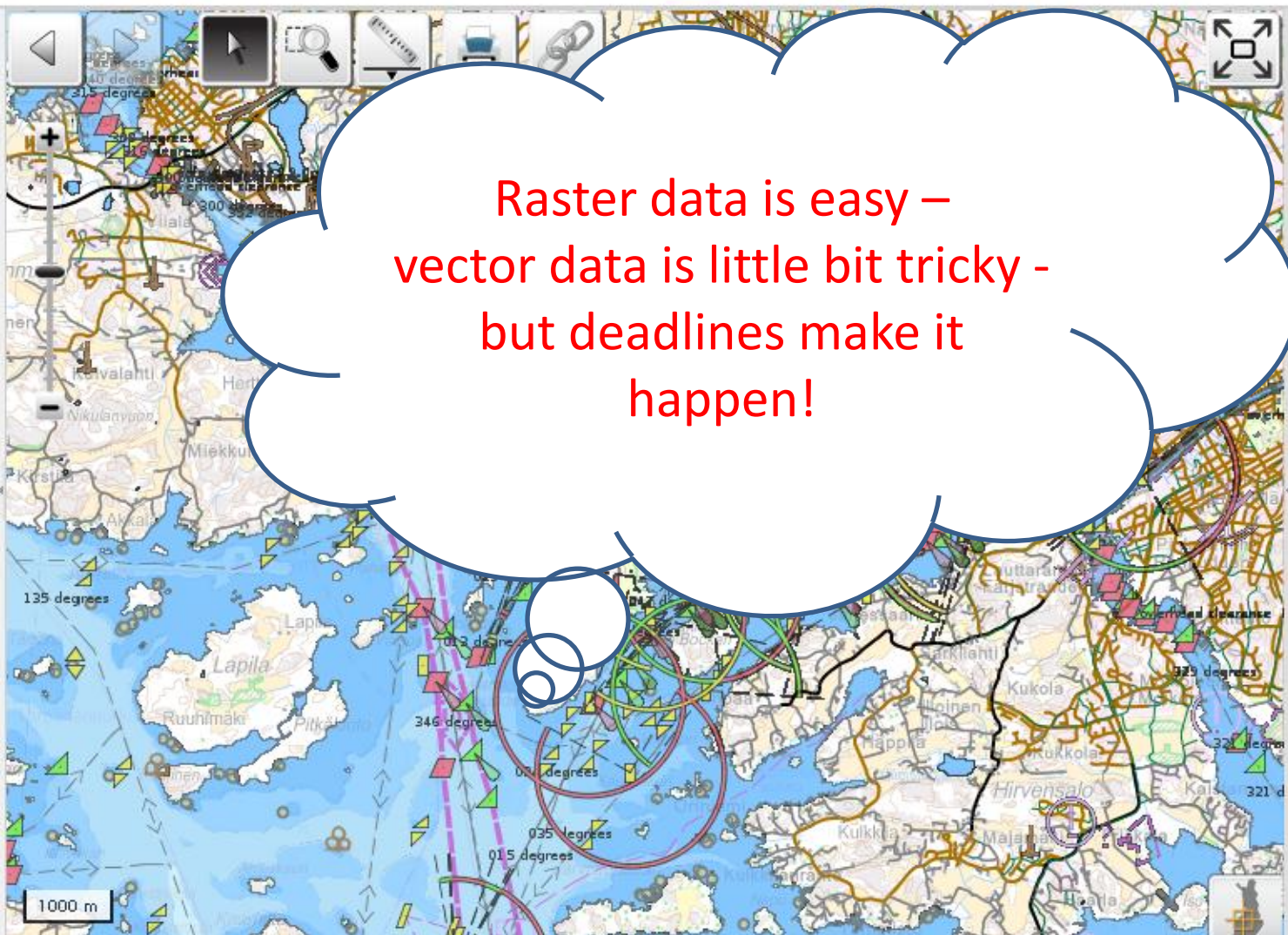
Find map layers

- Transport networks
  - Digiroad
  - Transport network
  - OpenStreetMap
  - Rail network
  - Level crossings
  - Road database network
  - Electronic nautical charts
  - ENC coverage areas
  - Jyväskylä bus routes
- Land use

Selected map layers

- Electronic nautical charts
  - 75%
- Digiroad
  - 100%
- Topographic map
  - 33%

Style: transparent land



Raster data is easy –  
vector data is little bit tricky -  
but deadlines make it  
happen!

# Costs

- Inspire implementation takes a lot of resources
- Huge investments have been made to data capture
  - European cooperation is time consuming
  - National support services demands investments
  - Education takes time from experts
  - Implementation of services is not an easy task
  - Maintenance of services is laborious

MAP LAYERS

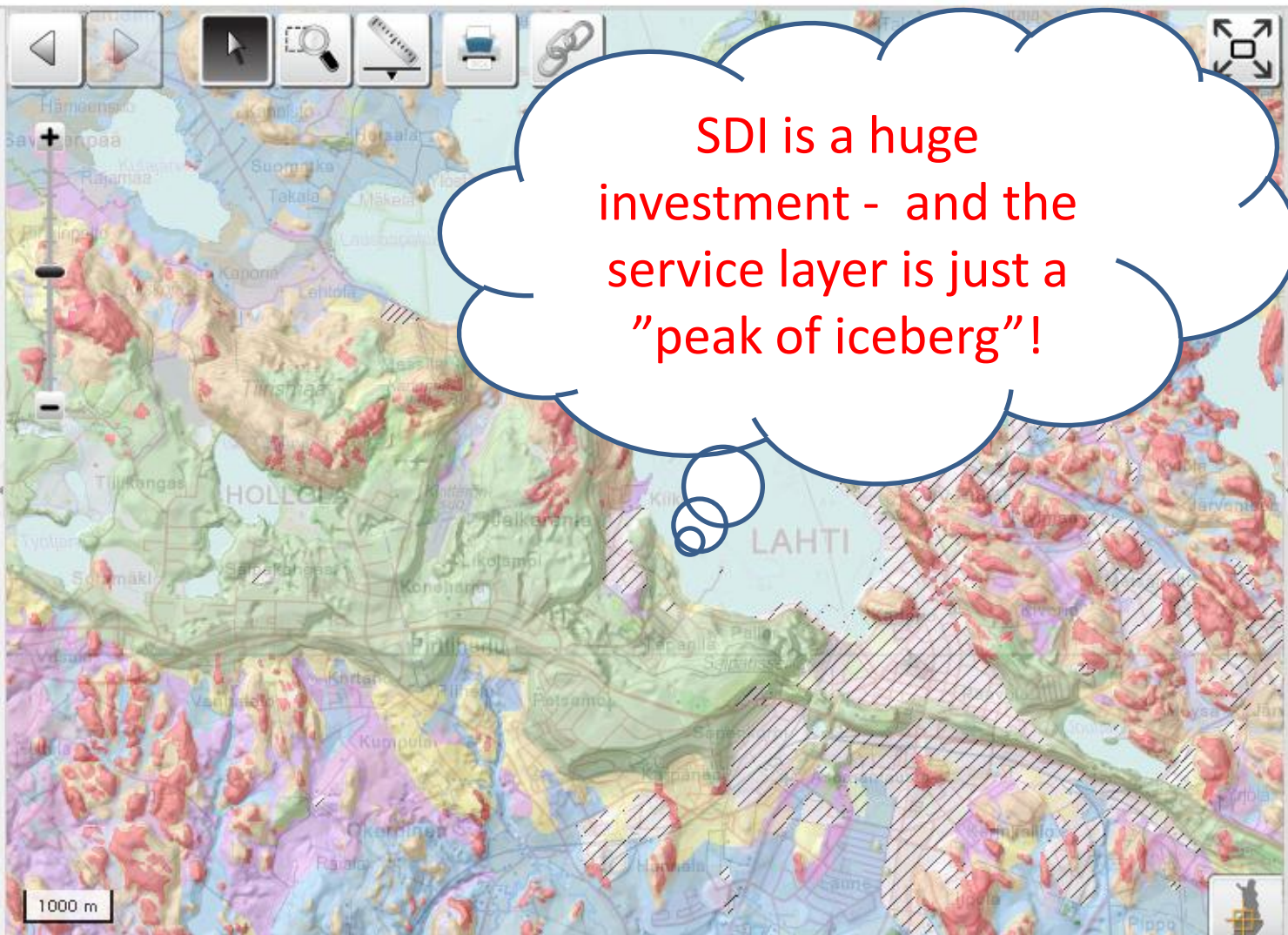
Theme ▾

Find map layers

- Area management/restriction zones
- Energy resources
- Geology
  - Superficial deposits map 1:20 000 / 1:50 000
  - Superficial deposits map 1:20 000 / 1:50 000
  - Superficial deposits map 1:20 000 / 1:50 000
  - Superficial deposits map 1:20 000 / 1:50 000
  - Superficial deposits map 1:20 000 / 1:50 000
  - Magnetic field map
  - Surface geology map 1:100 000
  - Surface geology map 1:100 000
  - Bedrock map 1:200 000

Selected map layers

- Topographic map (15%)
- Shaded relief (30%)
- Superficial deposits map 1:20 000 / 1:50 000 (100%)



SDI is a huge investment - and the service layer is just a "peak of iceberg"!

# Benefits

Inspire catalyses European development

- Shift from data capture to data services
- Wider attention to spatial data at political level
- National SDI "marries" eGovernance!
- Increasing possibilities to make global innovations
- "GIS goes to Web", analyzing tools for everyone

**MAP LAYERS**

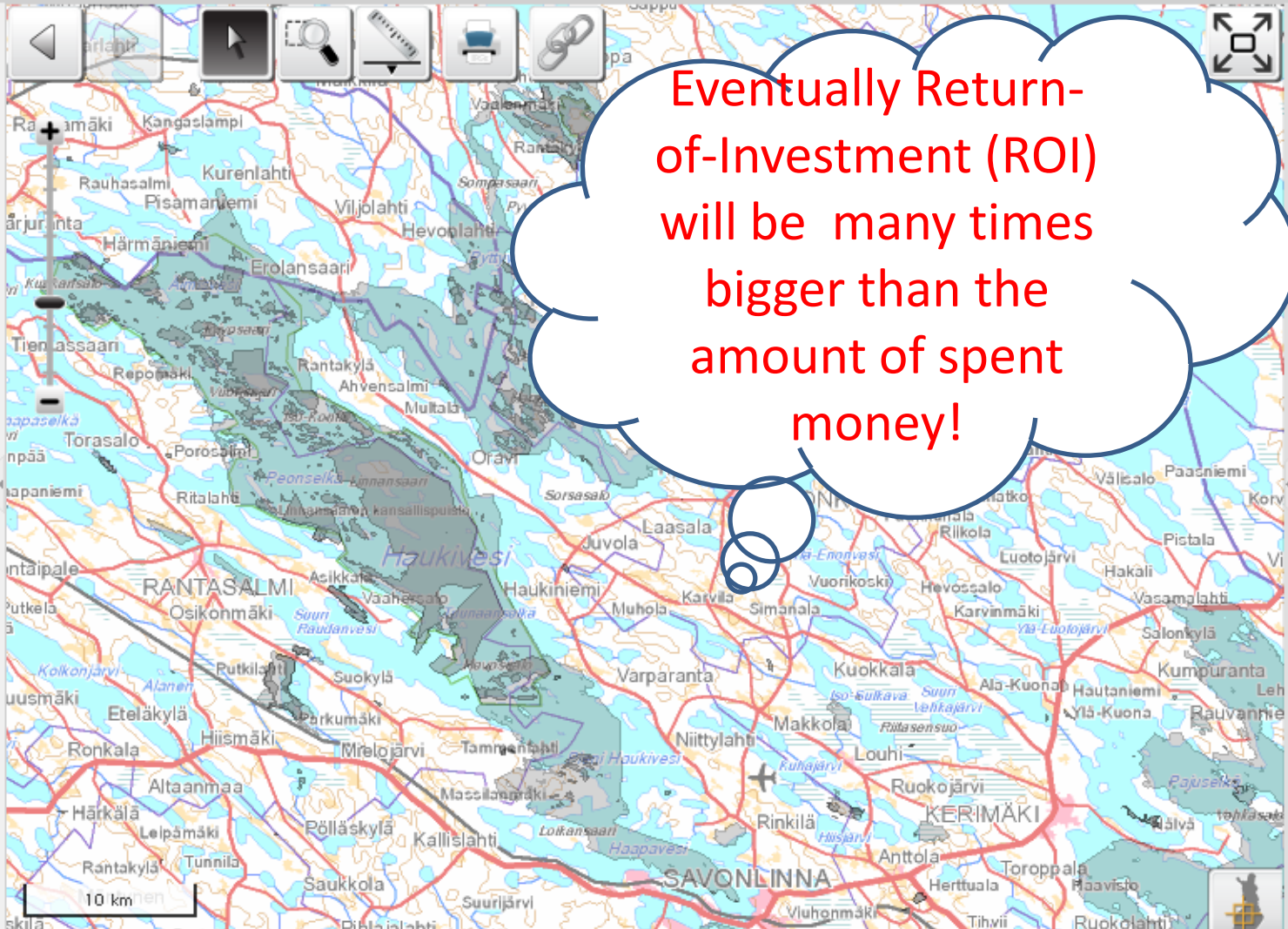
Theme ▾

Find map layers

- Protected sites
  - Nature Conservation Area
  - Natura2000 Lines
  - Relics
  - Natura2000 areas
  - Subdivision of Relics
  - Relic areas
  - Built Heritage
  - Built Heritage sites
  - Sites of National Significance
  - Sites of National Significance

**Selected map layers**

- Natura2000 areas 33%
- Nature Conservation Areas 50%
- Topographic map 50%



Eventually Return-of-Investment (ROI) will be many times bigger than the amount of spent money!

# Openness

- Inspire encourages to open governance
  - Open standards
  - Open source code
  - Open service interfaces
  - Open data
  - Open competition

**MAP LAYERS**

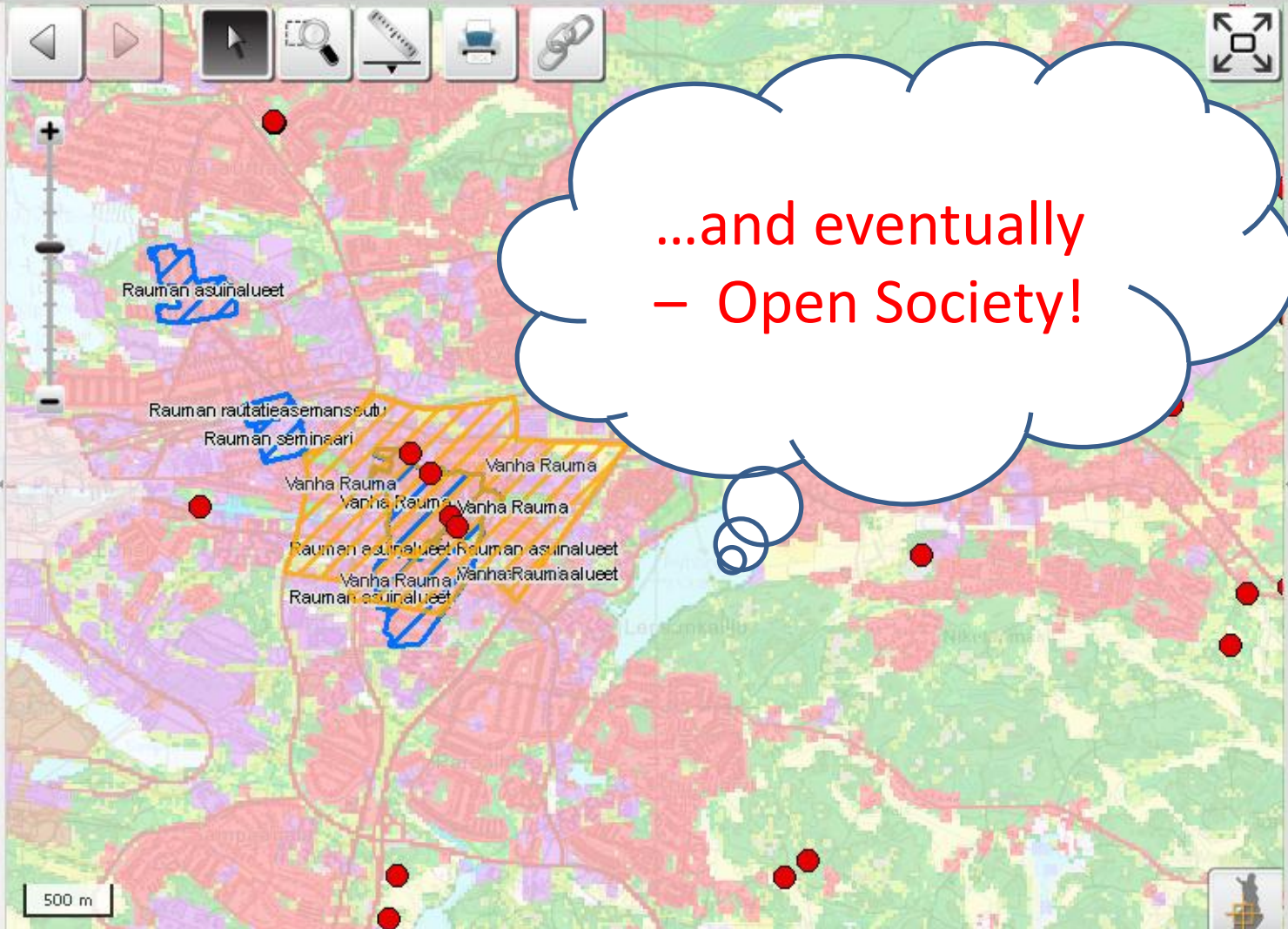
Theme ▾

Find map layers

- Relics
- Natura2000 areas
- Subdivision of Relics
- Relic areas
- Built Heritage
- Built Heritage sites
- Sites of National Significance
- Sites of National Significance
- Sites of National Significance
- World Heritage sites
- World Heritage areas

**Selected map layers**

- World Heritage areas**  
80%
- Sites of National Significance - areas**  
100%
- Corine Land Cover 2006, 25 m**



...and eventually  
– Open Society!





**Thank You  
for Your Attention!**