From Geoportal to Spatial Data Service Platform

Jani Kylmäaho

National Land Survey of Finland

Development Centre

3.9.2012

NATIONAL LAND SURVEY OF FINLAND

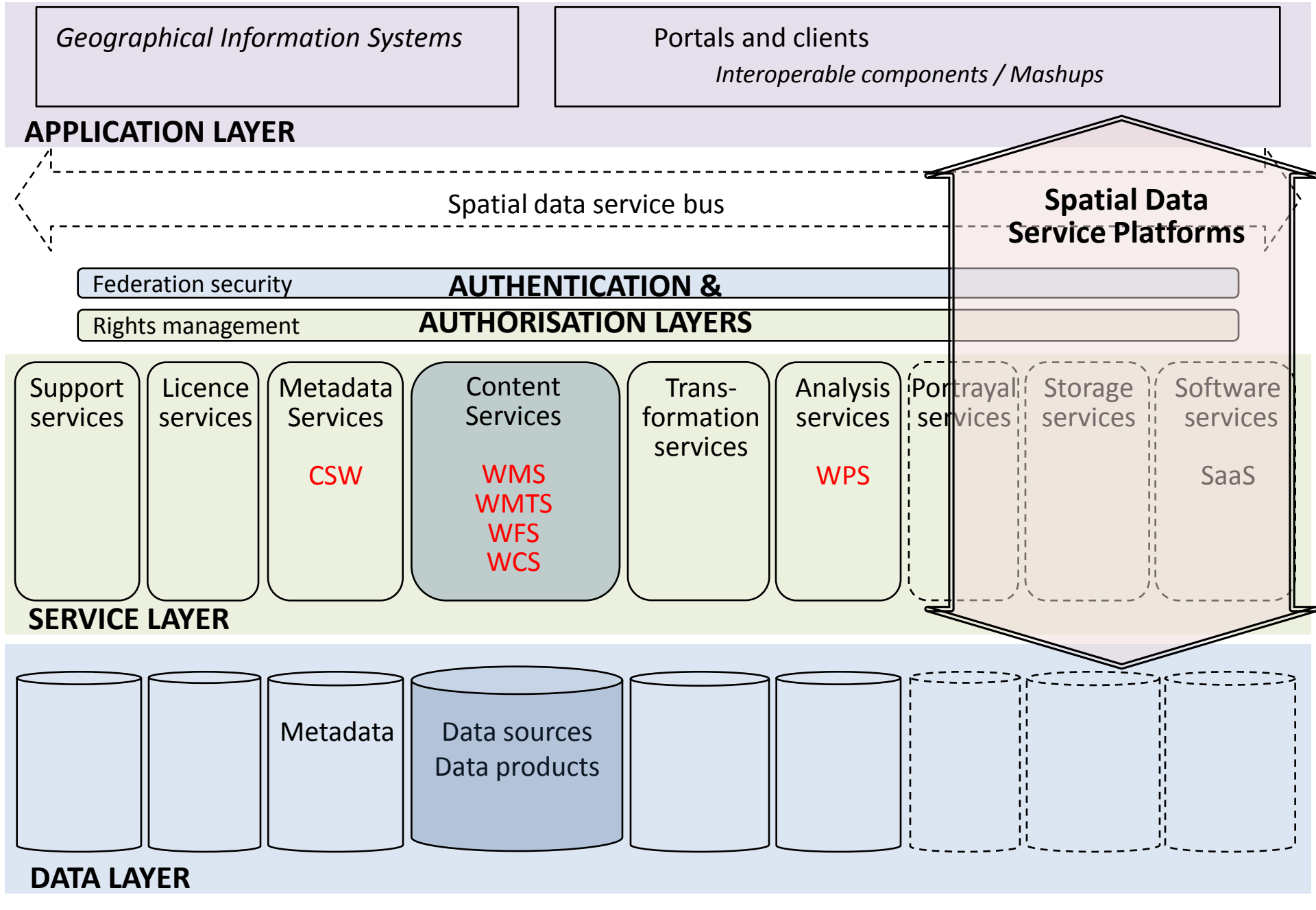
Introduction

- National Land Survey of Finland - 1900 employees
- Development Centre - 120 employees
- SDI Team - 8 employees
- Authors
  - *Jani Kylmäaho, Product Owner, SD Service Platform*
  - *Antti Rainio, Team Leader, SDI team*

Finnish Reference Architecture for SDI Services

- Description of how to achieve interoperability of Geographic Information systems, services and content
- Based on European INSPIRE legislation and international standards

Finnish public sector reference architecture for SDI services



Finnish Reference Architecture for SDI Services

- Consists of five main layers:
  - *Content layer*
  - *Service layer*
  - *Authorisation layer*
  - *Authentication layer*
  - *Application layer*
- The SD Service Platform binds the five layers together
  - *Enables users to publish content through standardised services securely into any web applications or portals*

Finnish Reference Architecture for SDI Services

Individual datasets and systems

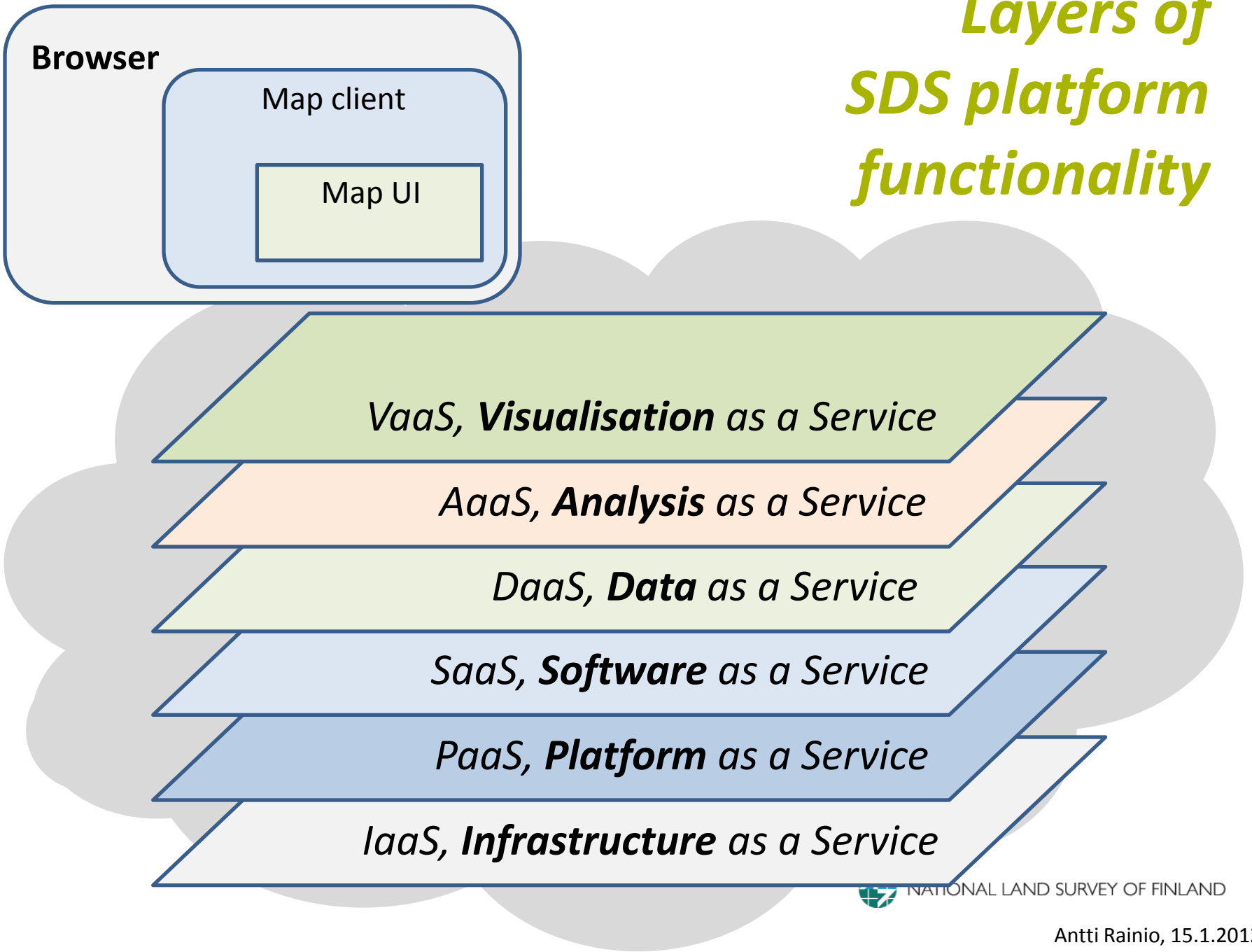
Spatial Data Infrastructure **SDI**

(**Inspire** services and content made available)

Spatial Data and Services **Ecosystem**

public sector provides basic infrastructure,
infrastructure is complemented and extended by
private sector and collaboration

Layers of SDS platform functionality



Spatial Data Service Platforms

- Spatial Data Service Platforms…

  …enable efficient browser-based utilisation

  …of spatial data and services

  …through the web

  …as cloud services

Google maps

Portal for ArcGIS / ArcGIS Online

GeoNode

opengeoportal

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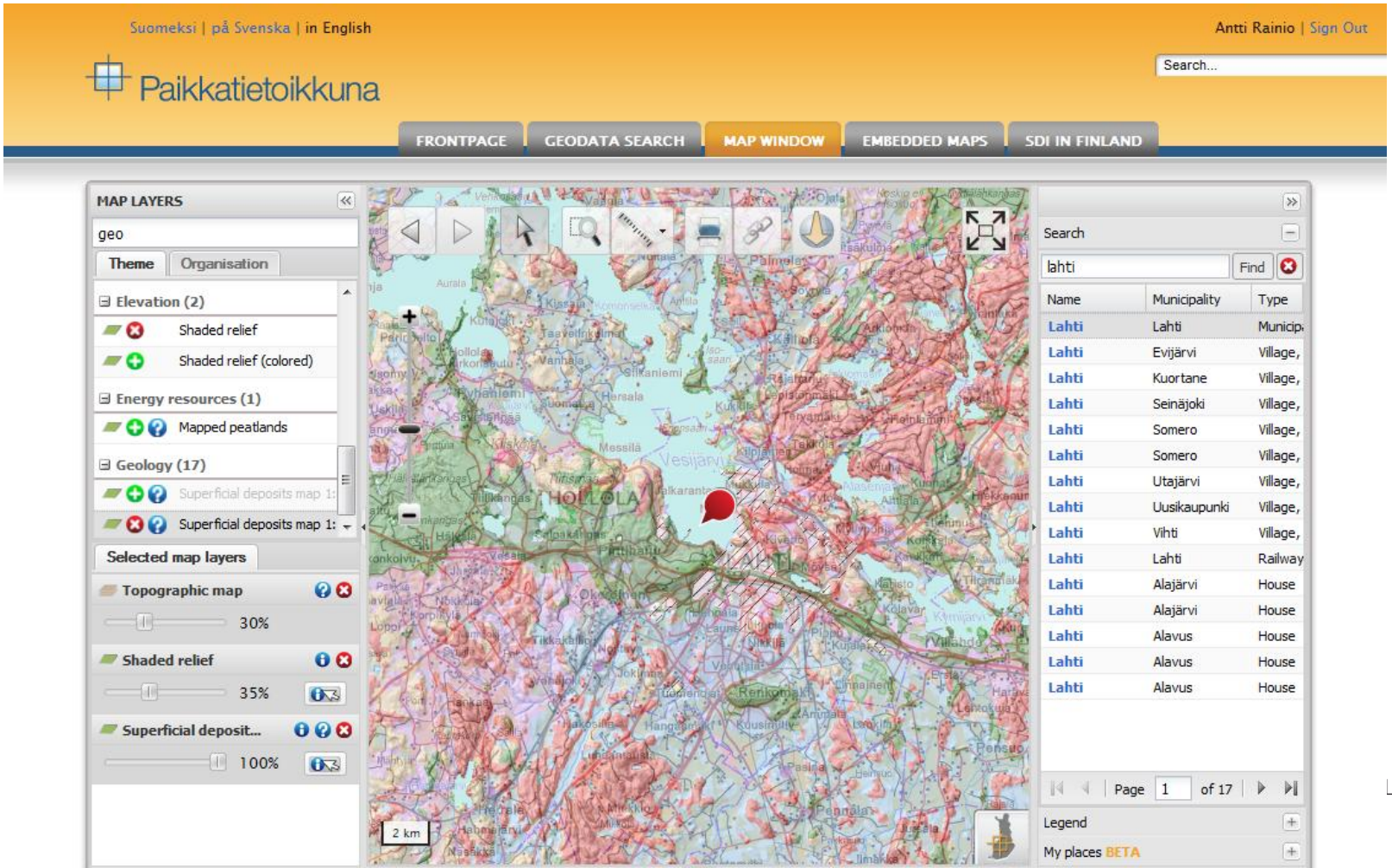
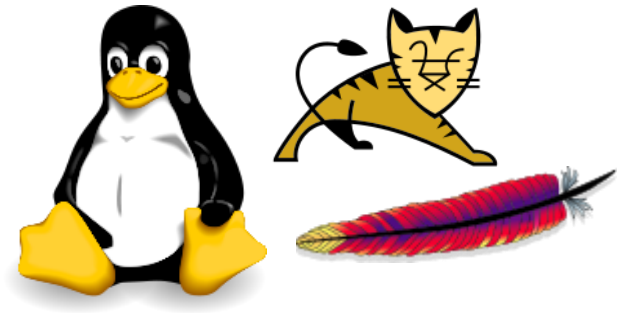
National geoportal

About 3000 daily users, about 5000 registered users
Embedded maps / Service platform , My places -beta
> 20 data providers, > 200 map layers



LAND www.geoportal.fi

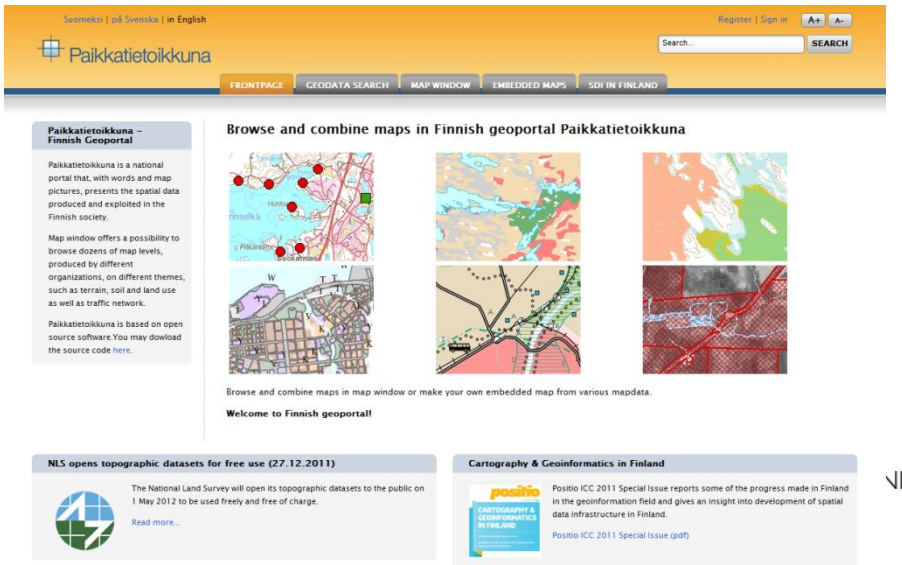
Open Source Geoportal



Open source code libraries

- OpenLayers
- jQuery, RightJS
- Liferay
- GeoNetwork
- GeoServer, GeoWebCache
- PostgreSQL, PostGIS
- Linux, Apache, Tomcat

OSKARI



www.geoportal.fi

Open Source Map Application Framework

Haku

Kirjaudu sisään | Asetukset | Ohjeet | Tietoja Tracista | Register | Forgot your password?

Wiki | Aikajana | Tavoitteet | Näytä liput | Haku

wiki: WikiStart

Aloitussivu | Luettelo | Historia

Viimeksi muokattu 21 tuntia sitten

Developer Web Site for Oskari Map Application Framework

Oskari.org is a web site to support the development of Oskari Open Source JavaScript Map Application Framework. The Map Application framework is implemented as a collection of reusable bundles.

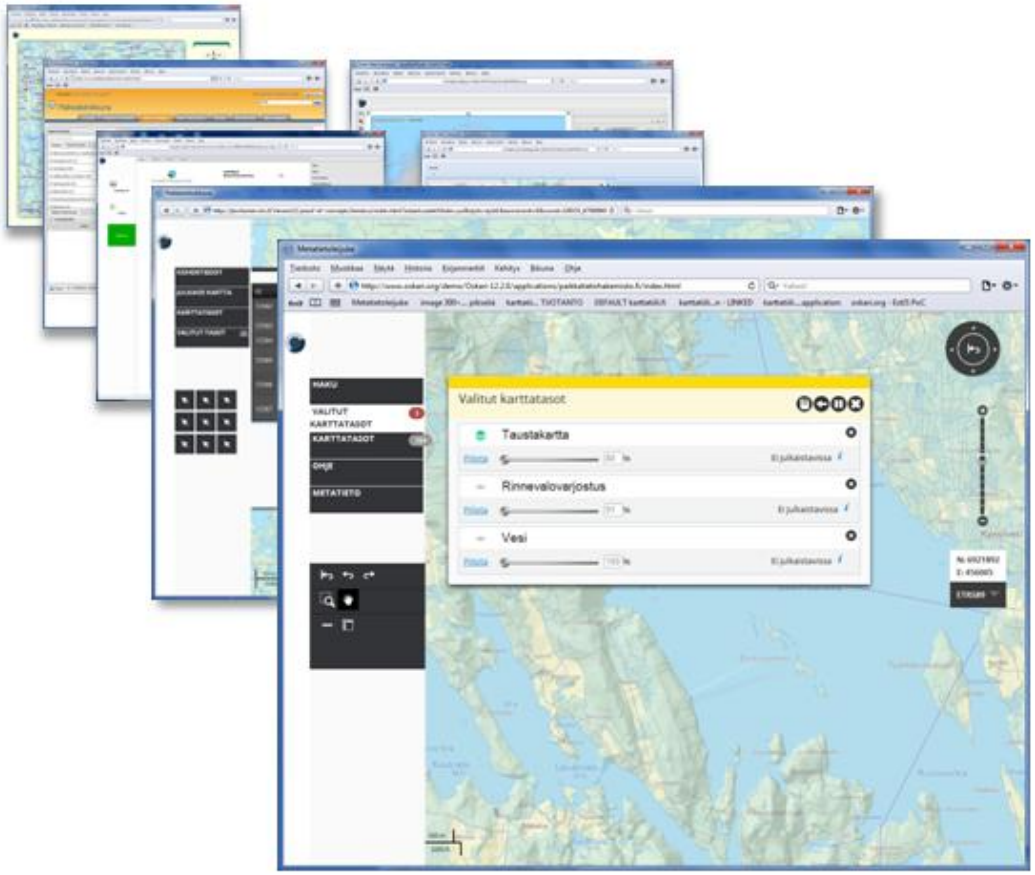
Bundles are used as uniform containers to ship and share new functionality to the application setups. Additions to existing functionality are implemented as Plugins shipped within the bundles.

Oskari version 12 provides applications with loose coupling and inter-bundle messaging with Requests and Events, configuration, application state and localization support. Loose coupling enables reusing bundles in different application setups.

Map functionality is implemented with ⇨ OpenLayers. The user interface components are based on ⇨jQuery, ⇨YUILibrary, ⇨DOJO Toolkit, ⇨RightJS, see Open Source JavaScript libraries for a more complete list of libraries used and to be used.

Getting started

- Download
- Quick start
- Documentation



www.oskari.org

Open Source Spatial Data Service Platform - OSKARI

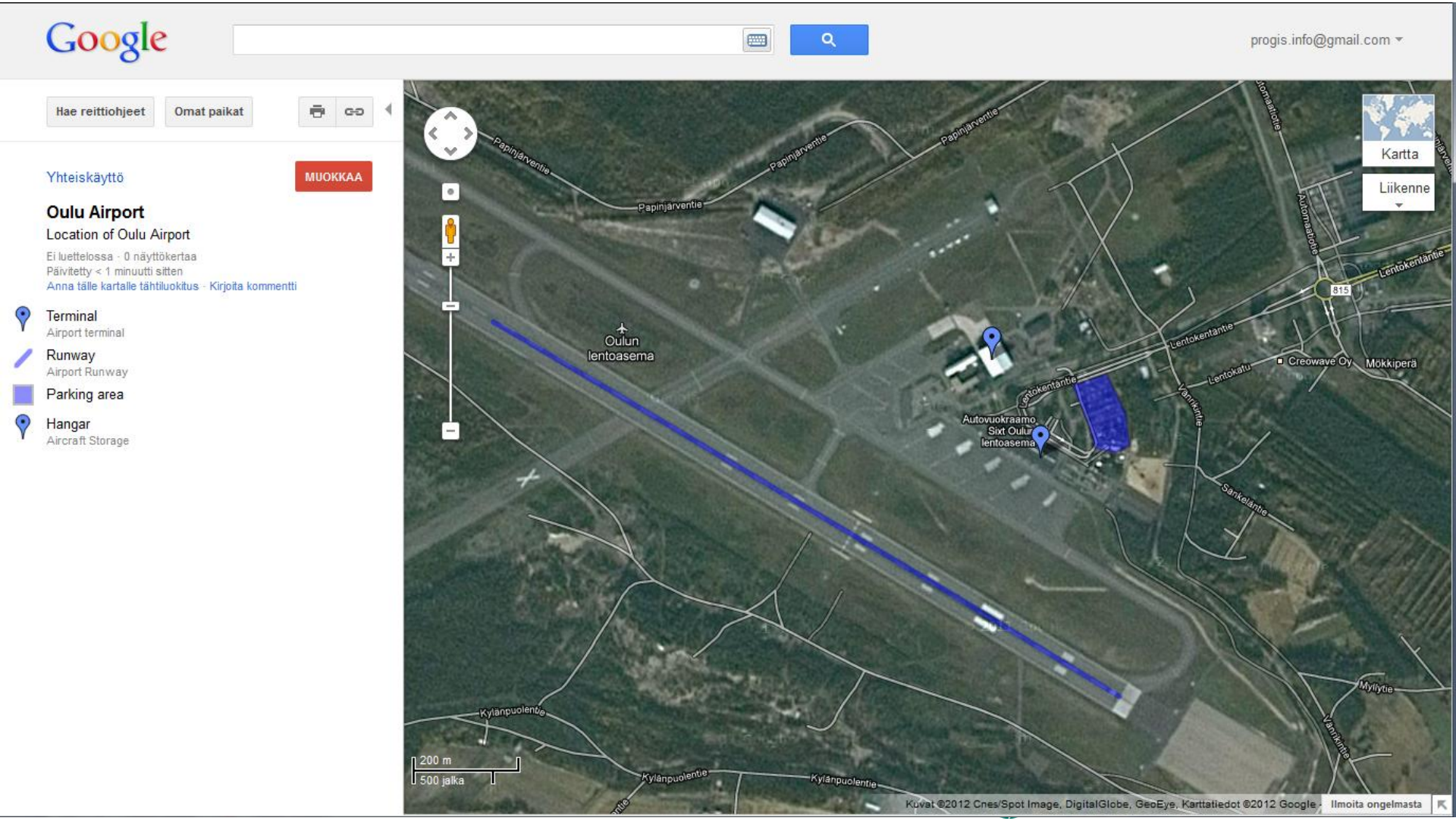
oskari.org

- OSKARI = **O**pen **S**ource **Kar**tta**i**kkuna (stands for Open Source map window)
  - *…but OSKARI is more than just a map window in a Geoportal…*
- **OSKARI is the core of an Open Source based Spatial Data Service Platform – key principals:**
  - *Reuse existing OS components: e.g. OpenLayers, jQuery*
  - *All developed code is released under OS licenses (MIT/ EUPL)*
  - *Flexible architecture allows for adding functionality both on the server and client side*

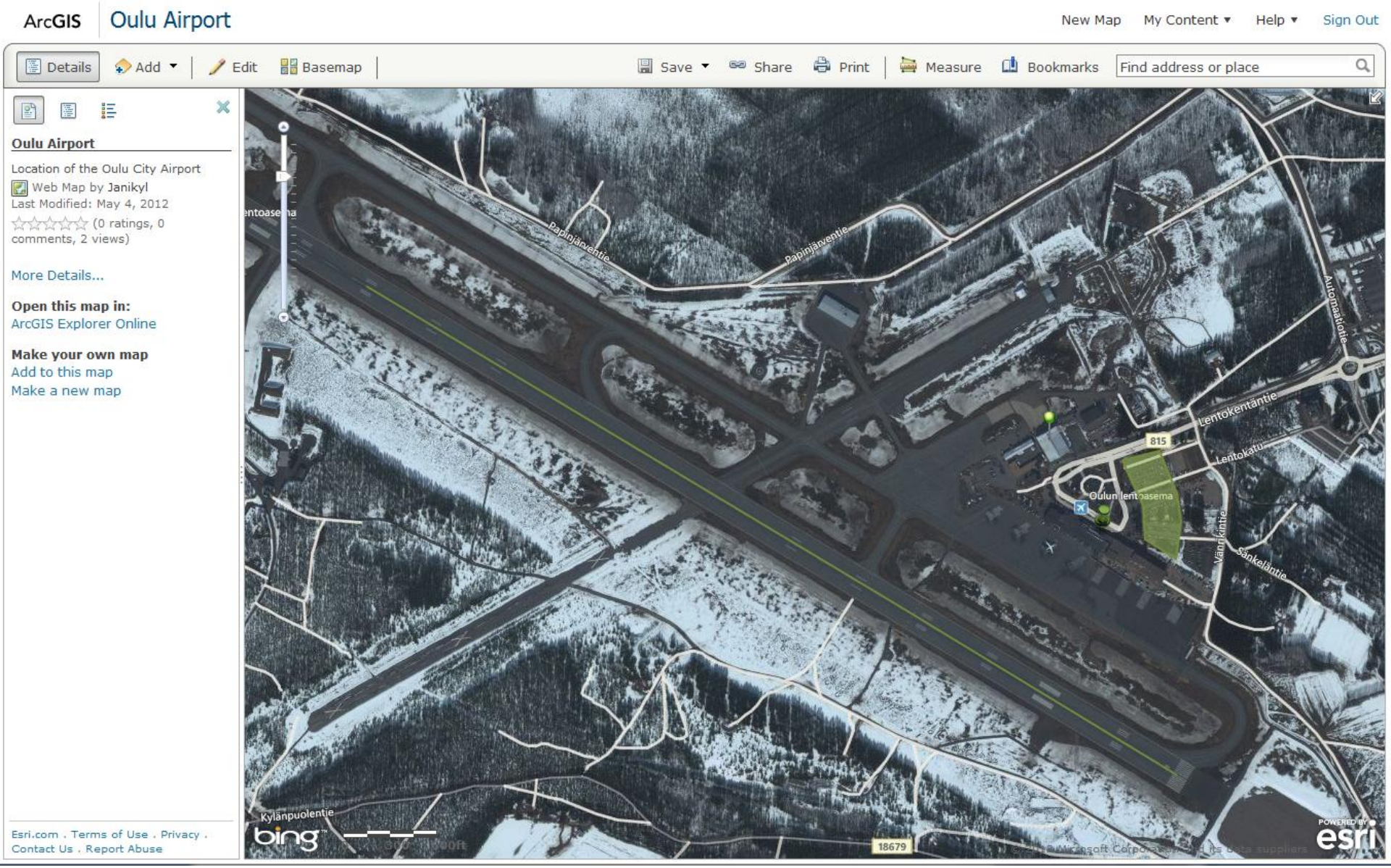
OSKARI first phase @ geoportal.fi

- Users can publish an embedded map into any common web content management system (CMS), utilizing the rich content from the Finnish SDI
- The embeddable map client has basic functionality
  - *Zooming, panning, index map*
  - *Selection of background map*
  - *Address and gazetteer search…etc.*
  - *WMS GetFeatureInfo*
- All data consumed by the map client is provided through standard INSPIRE-approved OGC interfaces (WMS/WMTS, WFS)

Google maps


Google
progis.info@gmail.com
Hae reittiohjeet
Omat paikat
Yhteiskäyttö
MUOKKAA
Oulu Airport
Location of Oulu Airport
Ei luettelossa · 0 näyttökertaa
Päivitetty < 1 minuutti sitten
Anna tälle kartalle tähtiluokitus · Kirjoita kommentti
Terminal
Airport terminal
Runway
Airport Runway
Parking area
Hangar
Aircraft Storage
Papinjärventie
Oulun lentoasema
Autovuokraamo Sixt Oulun lentoasema
Lentokentäntie
Lentokatu
Creowave Oy
Mökkiperä
Vanrikintie
Sankelantie
Automaatiotie
Kylänpuolentie
Mylliytie
815
Kartta
Liikenne
200 m
500 jalka
Kuvat ©2012 Cnes/Spot Image, DigitalGlobe, GeoEye, Karttatiedot ©2012 Google
Ilmoita ongelmasta

ArcGIS Online



SDI Service Platform

Starting points:
INSPIRE-directive
International standards (OGC, ISO)
Spatial Data Infrastructure

An Open Source Solution

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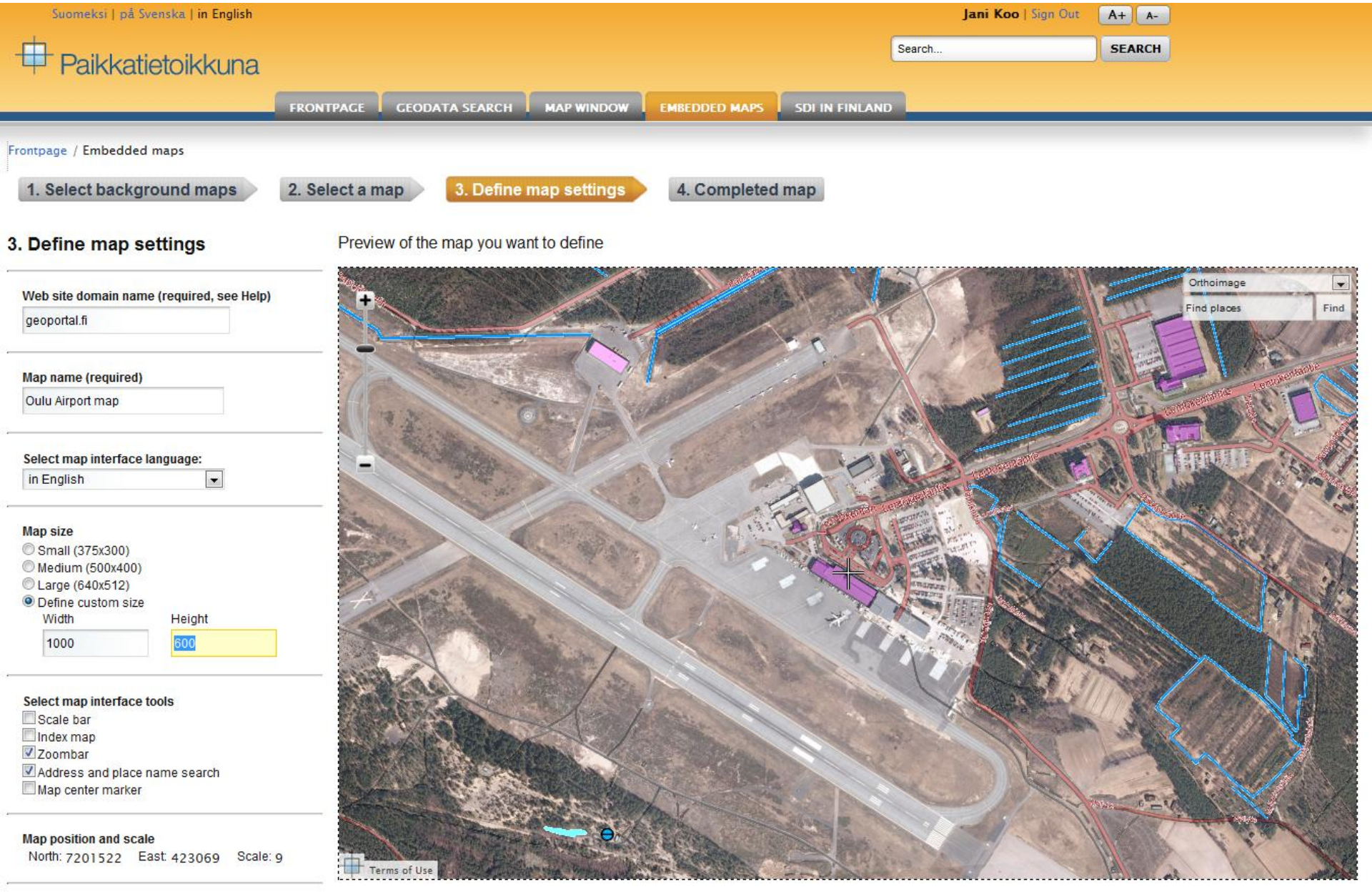
OSKARI SD Service Platform @ Geoportal.fi

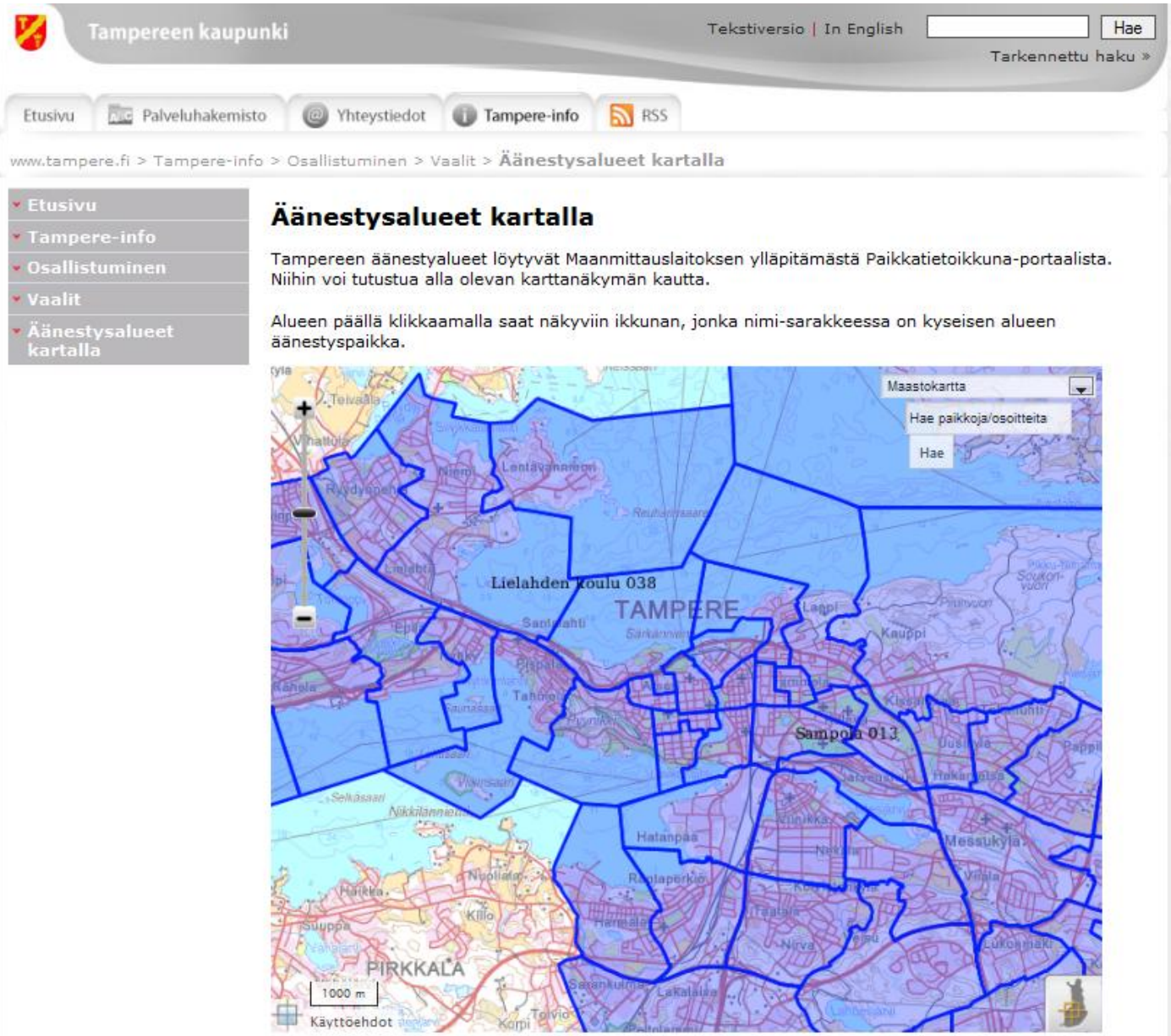


OSKARI SDI Service Platfrom

- The Clue:
  being able to define and publish a map UI on a web page without having to write code
- Defining a simple map UI is possible **within a few minutes**;
  defining a more complex map UI can take tens of minutes or hours

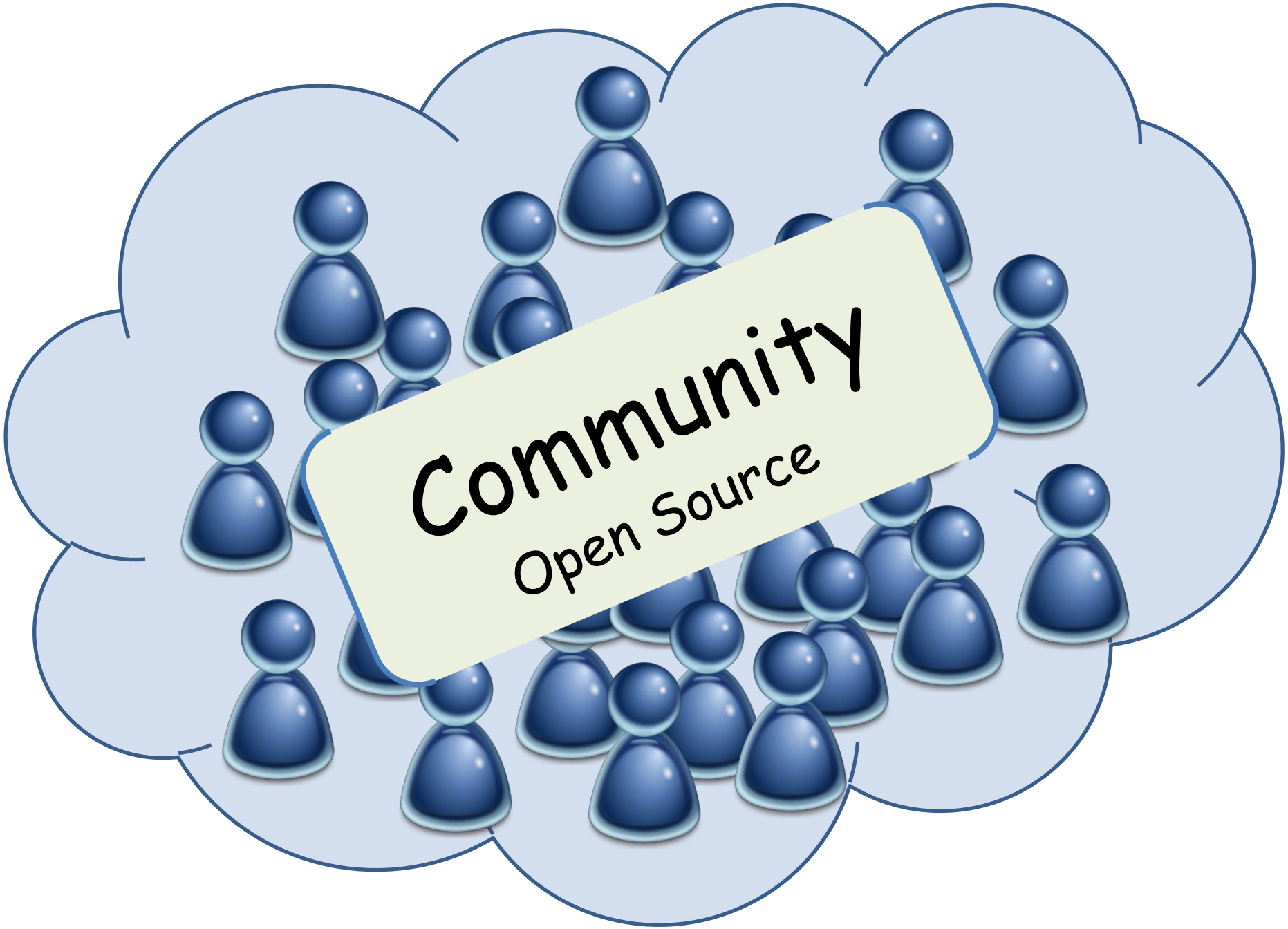
  => multifold increase in productivity as compared to traditional ways of publishing a map UI
- **Rich Inspire data content available for publishing**

Example: City of Tampere voting districts



One Company

Closed Source


Community
Open Source

Why OSKARI?

- Open Source – collaboration
- Support for OGC standards and INSPIRE
- Architecture considerations
  - *Modularity – flexibility, adaptability, performance*
  - *OSKARI is an organized way of writing JavaScript*
  - *Possibility to exchange e.g. UI libraries*
  - *Avoiding lock-up situations with software components or technologies*
- Localization needs

OSKARI further development - Geospatial web applications

- Functionality of the source code and the platform to be extended using same code base to cover more use cases, e.g.
  - *Building permit web services for municipalities*
    - the Finnish Ministry of Environment
  - *Web-based e-Conveyance of real estates*
    - NLS FI
  - *Statistical evaluation of basic services, such as health care and safety services*
    - the Regional State Admin Agencies
  - *Candidate technology for European Location Framework (E.L.F) platform*
    - EuroGeographics project application

Project Started

Project Started

Project Starting

In Negotiation

OSKARI wiki

http://oskari.org/trac/wiki

Search

logged in as jani | Logout | Preferences | Help/Guide | About Trac

Wiki | Timeline | Roadmap | View Tickets | New Ticket | Search | Admin

wiki: WikiStart

Start Page | Index | History

Last modified 19 hours ago

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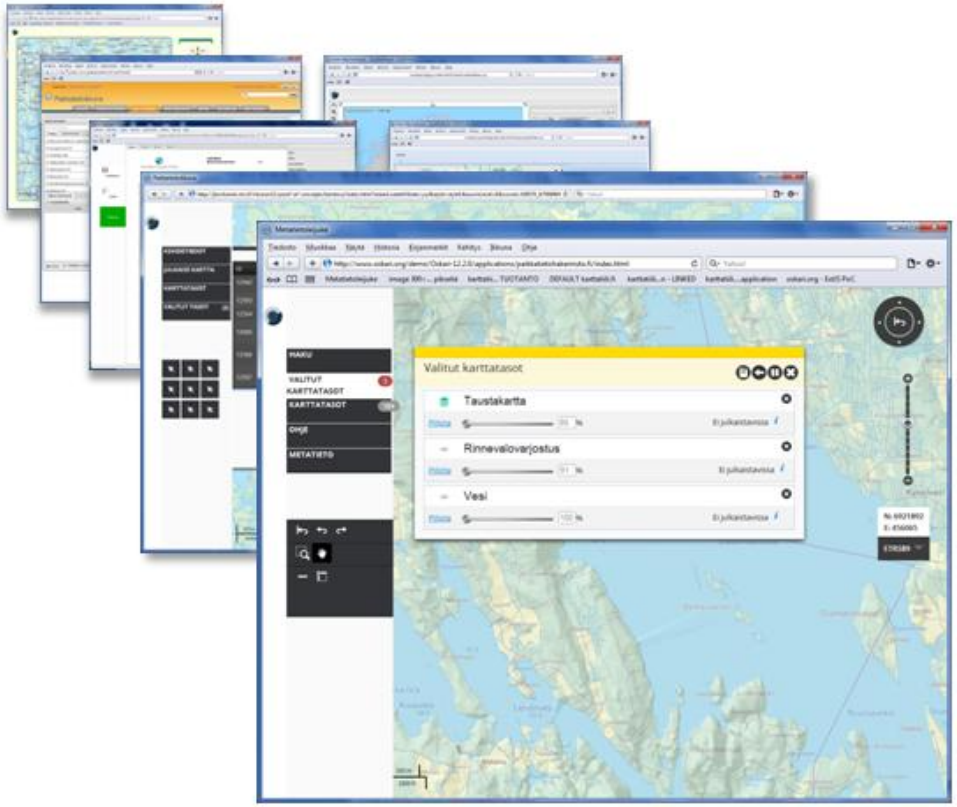

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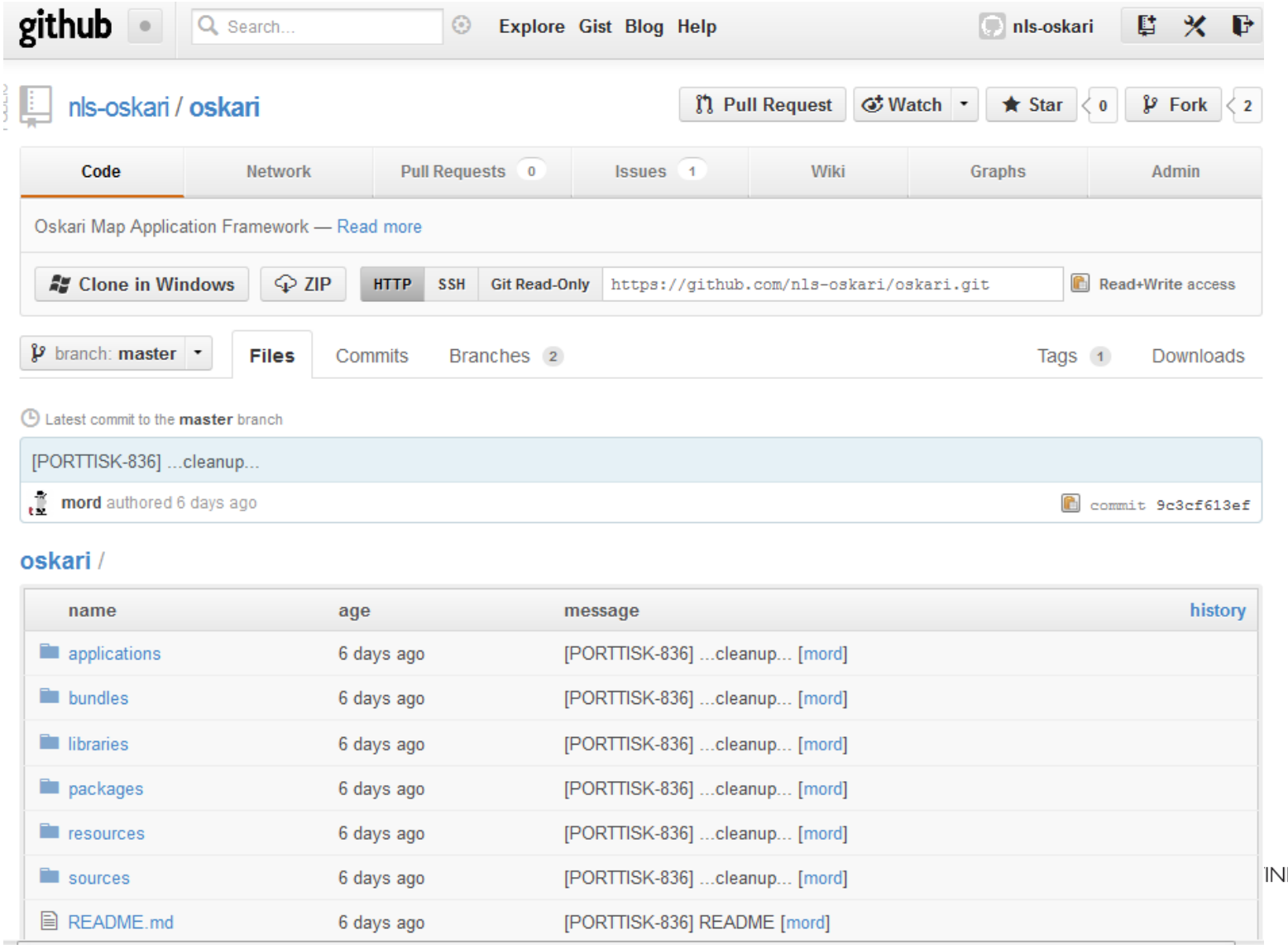
OSKARI GitHub repository

https://github.com/nls-oskari



INLAND

NLS FI Open topografic data 1.5.2012

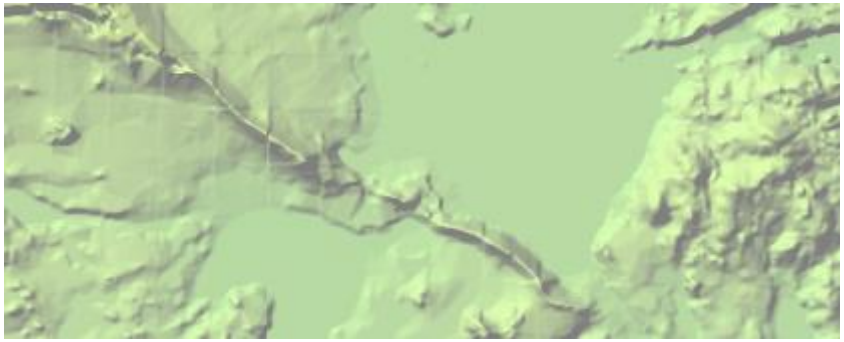
Topographic maps 1:25.000 … (raster)

Backround maps 1:10.000 … 1:8 M (raster)

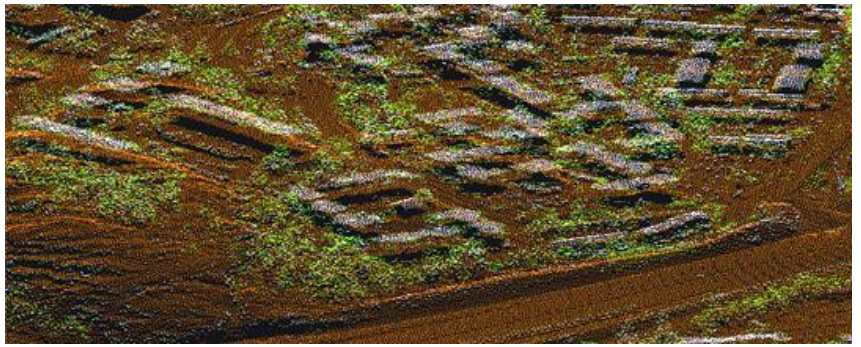
Topographic Database (vector)

Ortophotos (0,5 m)

Elevation model 2m, 10m … (grid)



Laser scanning data (LAS)



http://www.maanmittauslaitos.fi/en/opendata

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- used within the organisation
- published as desired
- distributed freely to others
- further processed to new products
- sold ...or used in any other way

- mention the name of the Licensor, the name of the dataset(s) and the time when the National Land Survey has delivered the dataset(s)
- provide a copy of this licence or a link to it, as well as
- require third parties to provide the same information when granting rights …

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http://www.maanmittauslaitos.fi/en/opendata/terms-of-use

Be smart …

–> Be open minded!

- Open standards
- Open source code
- Open data
- Open services

More information

oskari.org

http://www.oskari.org

http://www.geoportal.fi

Thank You! Questions?

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