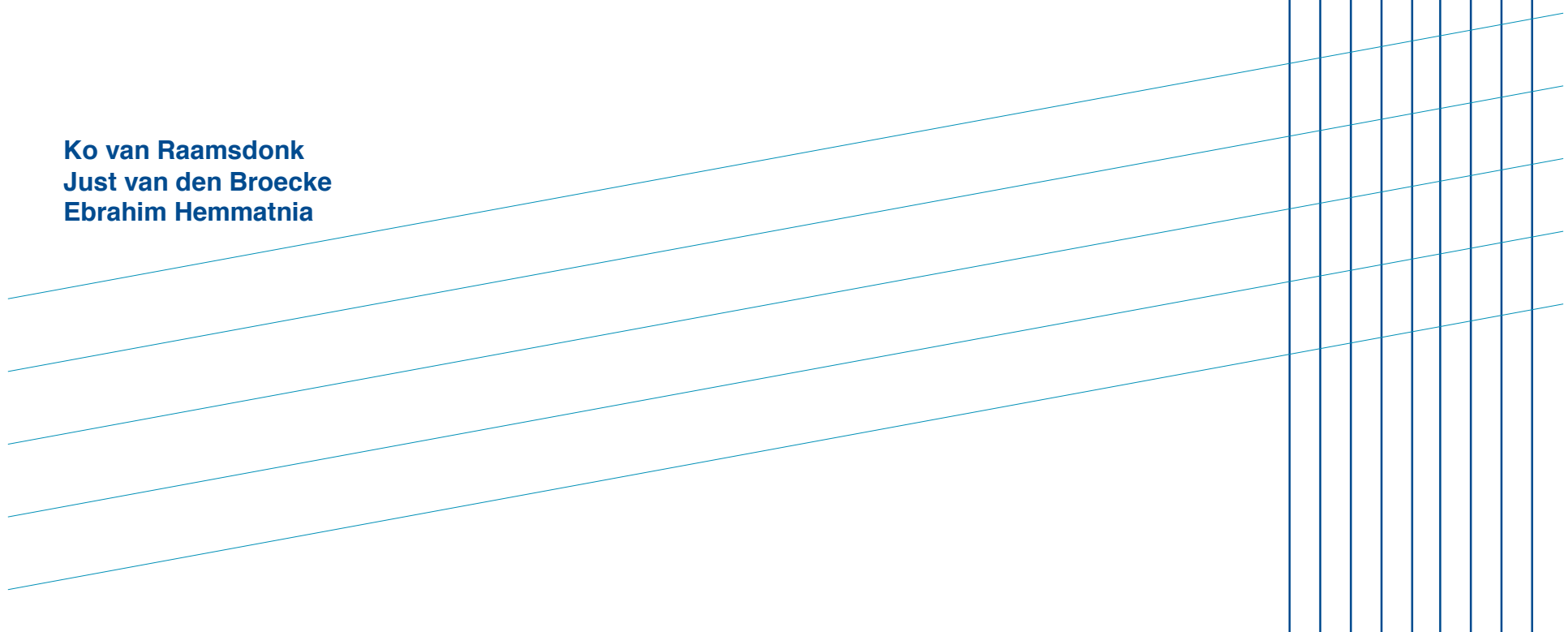




Harmonizing Dutch National Geodata Conform To INSPIRE Using Combined Transformation

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Agenda

- GeoRZ- Lab and Research
- Research Context
- Transformation Approaches
- Combined Transformation
- Results
- Project Info
- Conclusions
- Further Research

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Just Objects



INSPIRE Conference, 25 June 2010, Krakow, Poland

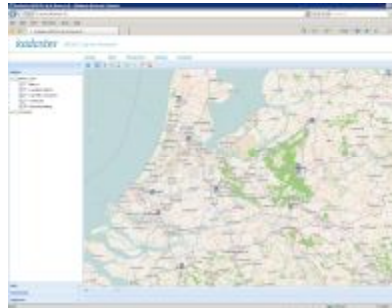
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GeoRZ Lab and Research

Laboratory for Research and Development (R&D)
for both Geo and Land registry boards at Kadaster:

- Translating innovative ideas into real world applications
- Practising standards such as INSPIRE
- Participating in research projects e.g. ESDIN
- Developing various demo-applications for Kadaster business
- Using both Open and Closed Source software / environments

<https://kademo.nl>



Research context (1)

What is ESDIN ?

- Bridge from theory to practise
- Support NMCA's to comply with INSPIRE
- EU-funded eContentPlus project
- Run by EuroGeographics
- 12 Work Packages
- Participants
 - NMCA's
 - Research institutes
 - VAR's



Research context (2)

ESDIN WP 11 – Best Practice for Content Transformation

- Download service via WFS
- View services via WMS

Two INSPIRE Annex I Themes:

- Cadastral Parcels (CP)
- Addresses (AD)

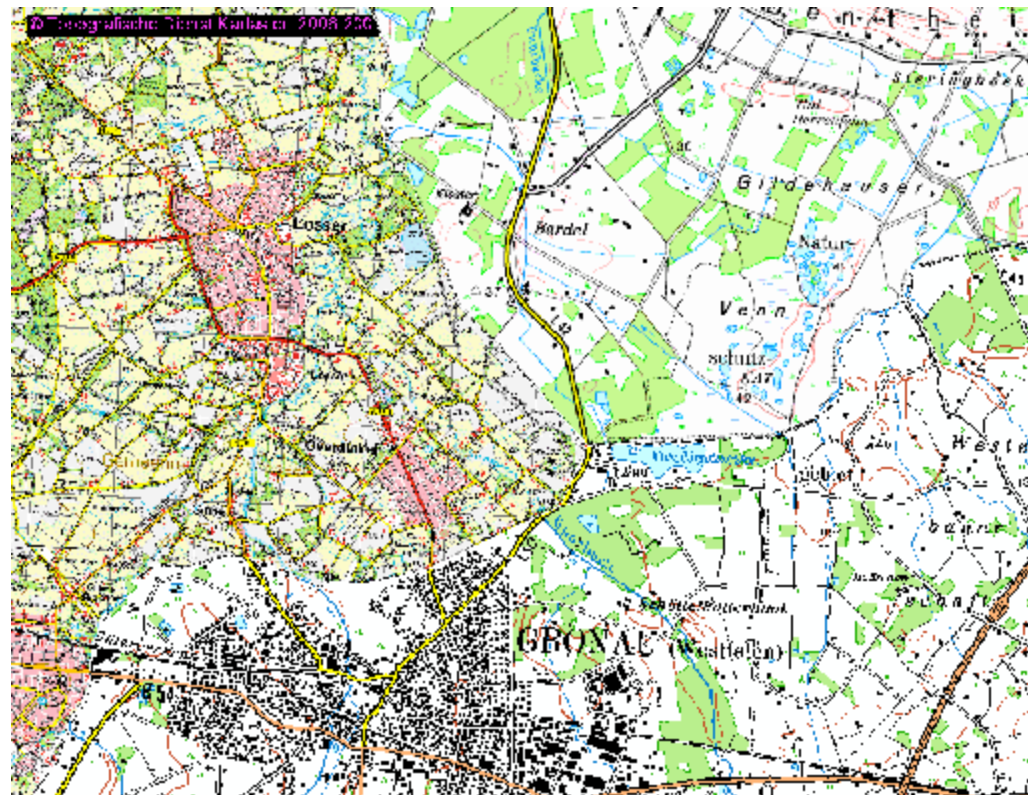
Transform Dutch national geodata sets:

- Buildings and Addresses (BAG)
- Cadastral parcels (BRK)



Transformation

A process through which a data / coordinate model can be changed conform to another data / coordinate model in order to get harmonized datasets.



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Transformation Approaches(1)

INSPIRE Approaches:

- Offline transformation of the spatial data and provision of the transformed data in the View and Download service.
- On-the-fly transformation of the spatial data during request processing in the View and Download service.
- Transformation through a separate Transformation Service e.g. through WPS (Web Processing Service).



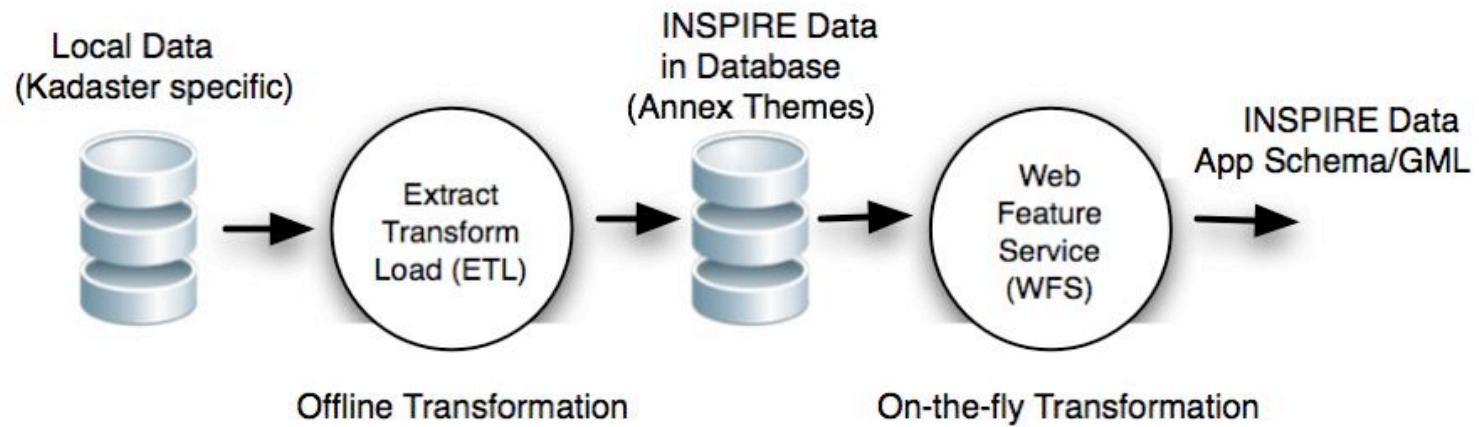
Transformation Approaches(2)



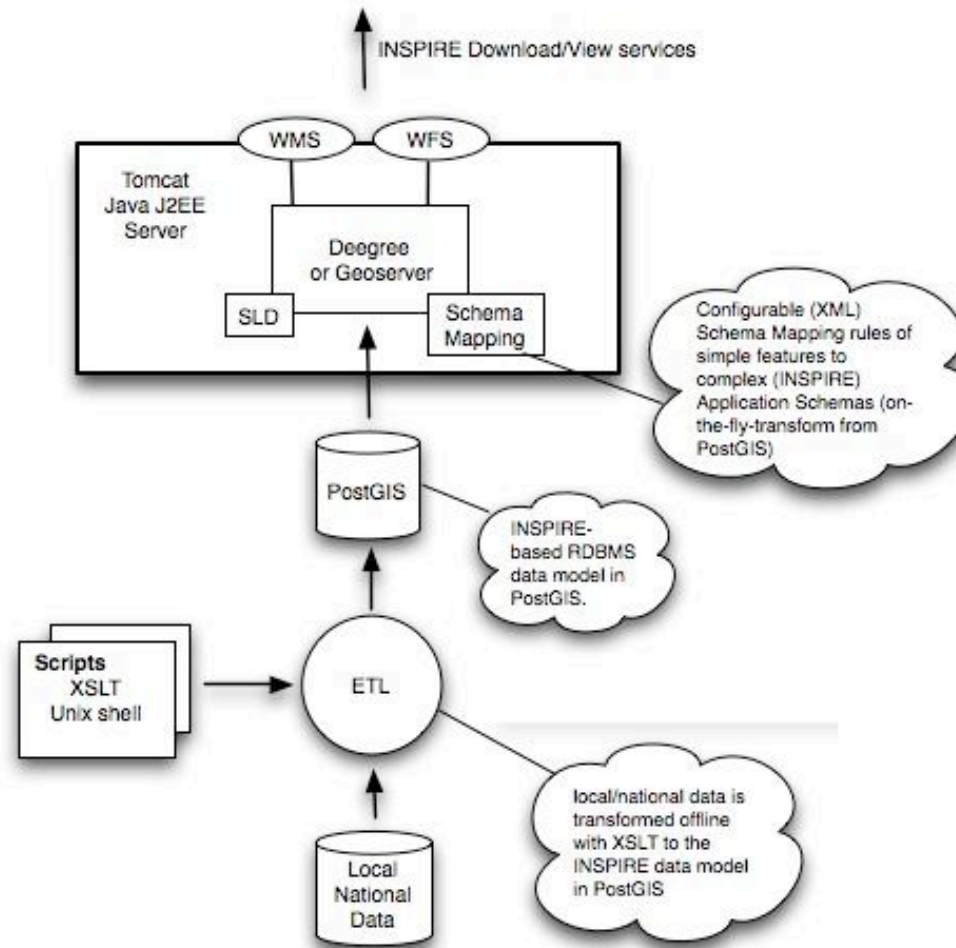
ESDIN Approaches:

- Off-line Transformation: the transformation is realized through an entirely off-line pre-processing approach using a copy of a data set from the original database through a service database.
- On-the-fly Transformation: the transformation is arranged through an online process during the interactive request-response communication through web services.
- Combined Transformation: the transformation is applied using a combination of the two earlier introduced methods. Firstly, data from the original database is transformed and stored in a service database.

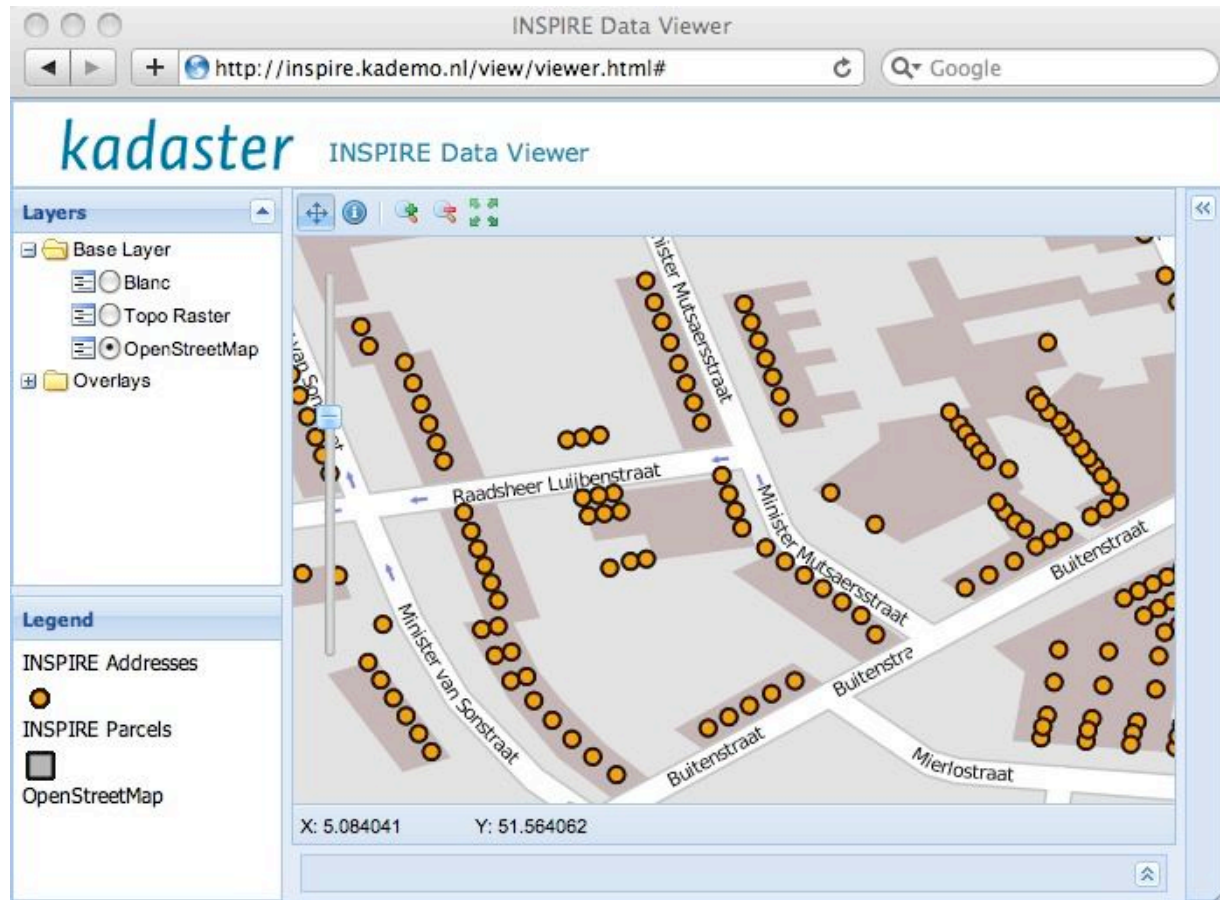
Combined Transformation (1) - Concept



Combined Transformation (2) - Architecture

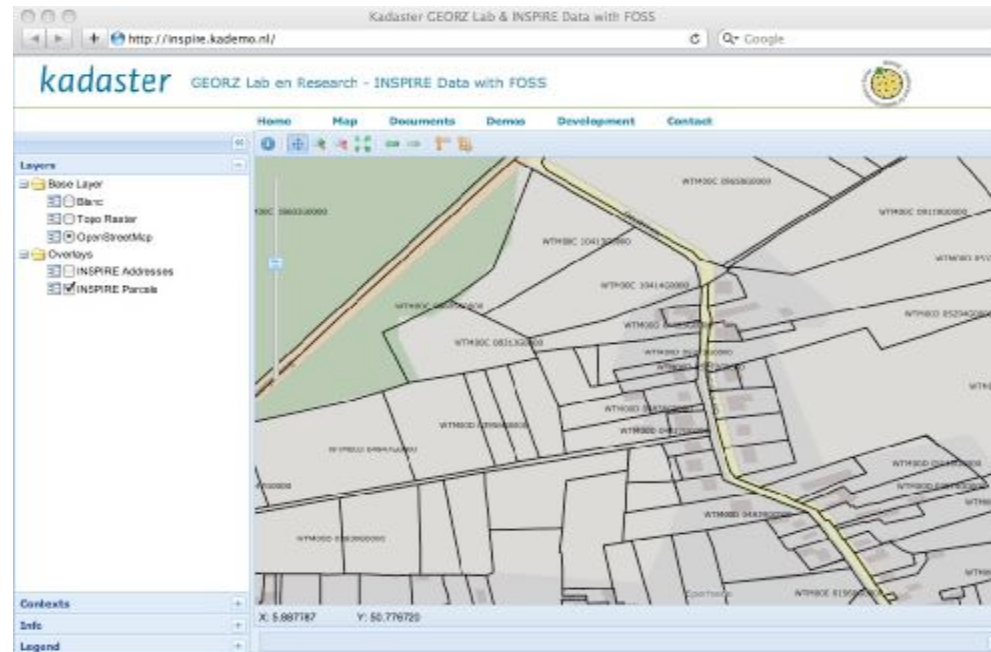


Results - Interface



Project Info

- Project website: <http://inspire.kademo.nl>
- Google Code <http://code.google.com/p/inspire-foss>



Conclusions

- + Single integrated DB data model
- + Software architecture: divide and conquer
- + Reuse: NMCA's only need step 1 (offline)
- + Performance: minimal on-the-fly processing
- + Cross-theme relationships
- + FOSS works for INSPIRE!!
- + Not just free (as in free beer)
- + Mix and match FOSS components
- + Community support
- + Integration is the key
- + Joint development for NMCA's
- Data synchronization with source data

Further Research

Improve Database Model

- optional attributes
- additional Annex I-III data themes + ESDIN ExM
- cross-theme relationships

On-the-fly transformation with GeoServer2

Collaboration with NMCA's and Open Source providers

- share experience
 - share codebase
- <http://code.google.com/p/inspire-foss>



Any Questions?

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**Thank you
for your attention!**