

The road to an inspired e-government

eEnVplus National Workshop, 18 september 2013 Leuven

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Topics

- INSPIRE/SDI State of play
 - Metadata, discovery, services and portals
- Bridging the last mile to the user
 - Make your SDI return on investment
 - Apps in the SDI landscape – Clint Eastwood app strategies
 - Courtesy of Christian Elfers (Conterra)
 - Use Case demo – Geopunt

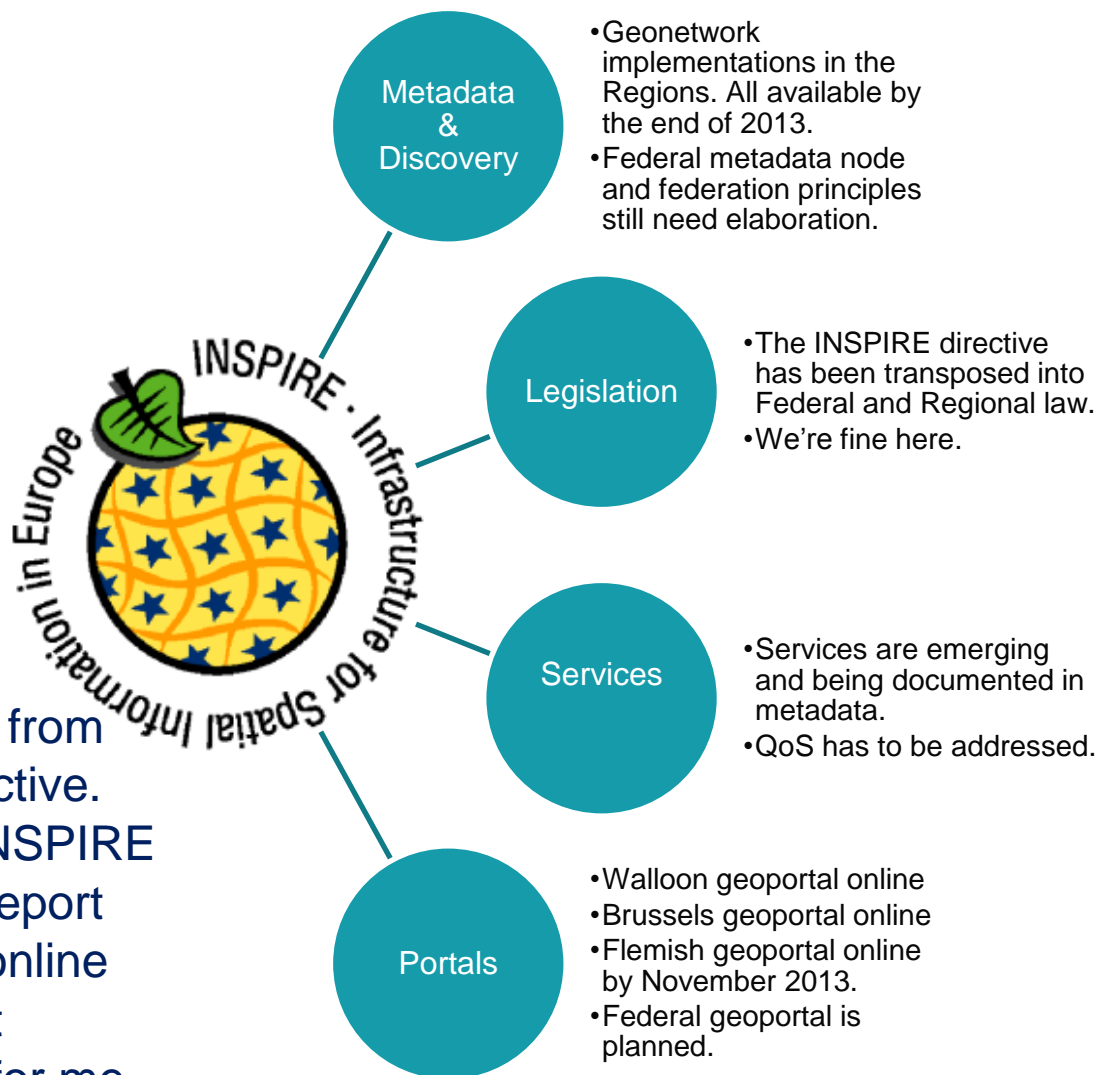
If we got time left

- INSPIRE, ISA, EULF, ELF, Are3NA ... ??
 - It's about realizing the potential of INSPIRE

Part 1

INSPIRE/SDI – State of Play in BE 2013

I checked it out from a users perspective. I briefly read the INSPIRE member state report and then went online to see what is really available for me.



Metadata & Discovery

In Brussels, Flanders and Wallonia metadatamanagement and publication is implemented using Geonetwork.

Geonetwork is opensource and provides support for INSPIRE metadata and discovery services. Support for INSPIRE ATOM Download feeds is coming.

Harvesting at Federal State level of the Regional discovery services should be straightforward.

The Brussels and Walloon INSPIRE conform discovery services are online, the new Flemish discovery service will go online in October 2013.

Metadata and metadata search is or will be integrated in the portals as well. This will provide a low-threshold access to data and service offerings for non-specialized as specialized audiences. Metadata management will be done on Geonetwork instances.

At Federal State level the NGI has a metadata application on their website that offers INSPIRE conform metadata, but only for NGI data.

Metadata & Discovery: live systems in 2013

The image displays three overlapping web portals related to geographical information systems (GIS) and metadata discovery in Belgium.

- GEOPortal Brussels:** The top-left portal, featuring a search bar, a sidebar menu with categories like 'Andere Informatiebronnen', 'Audio/Video', 'Case studies, best practices', 'Catalogi', 'Conferentie handelingen', 'Datasets', 'Fotos', 'Interactieve kaarten', 'Kaarten & afbeeldingen', and 'Toepassingen', and a 'Zoeken' (Search) button.
- Metawal - Catalogue pour l'information géographique de Wallonie:** The top-right portal, showing a search bar, a 'Recherche' (Search) button, and a list of results. It includes a sidebar with 'Recherche simple', 'Recherche avancée', and 'Résultats'.
- geo.punt.be:** The bottom portal, displaying a search bar, a 'Recherche' (Search) button, and a list of results. It includes a sidebar with 'Recherche simple', 'Recherche avancée', and 'Résultats'.

Portals, viewers & services: Wallonia

Wallonia has released their new geoportal (Géoportail de la Wallonie) in February 2013. It is a very nice portal with integrated viewer and catalog functionality. The viewer offers orthoimages, historical data, planning data, etc.. Only a limited amount of these services can be found when browsing the catalogue. It is not clear whether the data offering in the viewer is also available as a service (WMS, WMTS, WFS) for integration in 3rd party applications.

The screenshot displays the Géoportail de la Wallonie interface. The top navigation bar includes links for PORTAIL WALLONIE, FÉDÉRATION WALLONIE-BRUXELLES, GUIDE DES INSTITUTIONS, Plan du site - Contact, and Accueil - Contact. The main header features the Wallonia logo and the title 'Géoportail de la Wallonie'.

The left sidebar contains the following sections:

- ACCUEIL**
- Géocatalogue** (with RSS icon):
 - Aménagement du territoire
 - Données de base
 - Mobilité
 - Nature & environnement
 - Société & activité
 - Tourisme & loisirs
- InfraSIG**
 - Informations sur WalOnMap
 - Informations sur les métadonnées
- Ressources**
 - Mise à disposition de données

The central area is divided into three main categories:

- DONNÉES DE BASE** (Data Base):
 - Données topographiques
 - Limites administratives
 - Photos & imagerie
 - Cartes anciennes
 - Autres
- AMÉNAGEMENT DU TERRITOIRE** (Territory Planning):
 - Plans et règlement
 - Risques et contraintes
 - Autres
- SOCIÉTÉ & ACTIVITÉ** (Society & Activity):
 - Industrie & services
 - Agriculture
 - Logement et habitat

The right side features a map viewer with the following elements:

- Choir du thème:** Vue générale
- Ma sélection Catalogue:**
 - ☐ Nature 2000 - Enquête publique
 - ☒ Plans topographiques
 - ☐ Cartes IGN (Top10R, 50R, 100)
 - ☐ Cartes IGN (Top10S)
 - ☐ PICO
 - ☐ Ville de Namur
 - ☒ Cartes anciennes
 - ☐ Travaux publics 1950 - 1973
 - ☒ Cartes de Ferraris 1777
 - ☐ Cartes de Vander Maelen 1850
 - ☒ Mobilité
 - ☐ Voies lentes
 - ☐ Voies navigables
 - ☐ Zones à risque sur voies régionales
 - ☐ Cartes d'accessibilité 1991 (CPDT)
 - ☐ Patrimoine
- Map Viewer:** Displays an aerial orthoimage of a rural area with a scale bar (0 to 0.3 km) and coordinates (x = 202304, y = 123300).
- Information Box:**
 - Communautés pour aînés (hors territoire de la Communauté germanophone de Belgique)**
 - Géodonnée modifiée le : 05/09/2013
 - Fiche modifiée le : 13/09/2013

Portals, viewers & services: Brussels

Brussels has a Geonetwork based geoportal online. They are working on their GeoBru Brussels Geoportal with advanced map making functionality which should be released by the end of 2013. A lot of open data on Irisnet, but limited public service offerings.

The screenshot displays the Brussels UrbIS Geoportal interface. The top navigation bar includes links for 'Startpagina', 'Contact', 'Links', 'Over', 'Bijdragen', and 'Help', along with a language selector set to 'Nederlands'. A search bar is present with fields for 'Gebruikersnaam' and 'Wachtwoord', and an 'Inloggen' button. The main content area is titled 'Brussels UrbIS®' and features a search results section with 'Zoekresultaten: 1-10/188 (page 1/19), 0 ge'. Below this, there are three main product categories: 'UrbIS-Fot' (luchtfoto's), 'UrbIS-Ortho' (orthofotoplannen), and 'UrbIS-Topo' (topografische gegevens). Each category includes a thumbnail image and a brief description. The right sidebar contains a list of services and links, including 'Digitale cartografie', 'UrbIS nuttige toepassingen', 'Hoe kan u bijdragen tot de update?', 'Brussels UrbIS®', 'Enkele nuttige links', 'Interactieve toepassingen', 'Toegang tot de gegevens', and 'UrbIS® Diensten'. The bottom of the page shows a download link for 'rs_clu...pdf' and a button for 'Alle downlo...'.

Portals, viewers & services: Flanders

Flanders is working on geopunt, the new Flemish geoportal. This portal will be released in November 2013. For the moment metadata, services and data is available from AGIV and DOV websites. The new geoportal will have a viewer and a metadata catalog integrated for all geodata in Flanders. Metadata is harvested from different metadata catalogs. The data offering will consist of reference data (large scale map, aerial photo's, streetmap, DHM), POI, historical data, ...

The screenshot displays the 'geoportaal Vlaanderen' website interface. The top navigation bar includes links for 'Contact', 'Winkelmandje', 'Registreren', and 'Aanmelden'. The main menu features 'Kaart', 'Catalogus', 'Geolabo', 'Actualiteit', and 'Over Geopunt'. The central map area shows a large-scale aerial view with a red rectangular overlay. To the left, a sidebar titled 'Ontdek Vlaanderen op kaart' provides a map of Flanders with various regions highlighted. Below this, the 'In de catalogus' section lists datasets, including 'Haltes Vlaamse Vervoersmaatschappij De Lijn'. The right sidebar contains a 'Historic maps' section with a historical map of the same area. At the bottom, a 'Downloads' section lists available data formats, and a 'Geolabo' section provides links to 'Geo-wiki', 'GDI-viewer', and 'Geopunt API'. A 'Feature info' window is open, displaying metadata for a specific feature, including its name, coordinates, and description.

Portals, viewers & services: Federal State

The NGI will provide a national infrastructure for metadata discovery. For the moment there is only a viewer and INSPIRE conform metadata available for NGI Data (topographic map, aerial data, administrative borders, ...). The metadata application only holds metadata for data, no information available for services.

The image displays two overlapping web interfaces from the National Geographic Institute (NGI) of Belgium.

Left Interface: metadata portal

- Logo: **ngi ign** metadata portal
- Search section: **SLEUTELWOORDEN** with a text input field.
- Filter section: **SCHAAL** (Scale) with dropdowns for 'van' (from) and 'tot' (to), and 'AUTEUR' (Author) with a dropdown for 'elke auteur'.
- Filter section: **DATUM PUBLIKATIE** (Publication Date) with dropdowns for 'van' and 'tot'.
- Search button: **> zoeken**
- Footer: **NATIONAAL GEOGRAFISCH INSTITUUT / INSTITUT GÉOGRAPHIQUE NATIONAL**

Right Interface: topomap viewer

- Header: **topomap viewer**, www.ngi.be, **Français**, and the NGI logo.
- Map area: A topographic map showing the region around **Bekkerzeel**, **Zellik**, **Groot-Bijgaarden**, **Tenbroek**, **Wolsem**, and **SINT-AGATHA-BERCHEM**. It includes road networks (A10-E40, N91, N95, R0) and a scale bar (0 to 1000m).
- Left sidebar: **KAARTBEHEER** (Map Management) and **LEGENDE** (Legend).
 - KAARTLAGEN** (Map Layers):
 - OVERDEKKENDE LAGEN (Overlapping Layers):
 - CARTOWEB-OVERLAY
 - STATISTISCHE SECTOREN
 - ADMINISTRATIEVE GRENZEN
 - LUCHTFOTO'S (Aerial Photos):
 - ORTHO KLEUR (2009-2012)
 - ORTHO ZWART-WIT (1995-2005)
 - BASISLAAG (Base Layer)
 - MODULES** (Modules):
 - ZOEKEN OP PLAATSDAAM
 - OVERZICHTSKAART
 - BLADWIJZER

Overview of available services in Belgium.

In anticipation of fully documented data and services and a metadata federation Appsforgeo has compiled a nice overview of services and API's available in Belgium

http://appsforgeo.be/?page_id=114

Part 2

Bridging the Last Mile to the User



Setting the context

- INSPIRE is a means to an end, not an end itself.
 - We are not doing INSPIRE, just for INSPIRE. We should make our investment worthwhile.
- eGovernment services need to bring value to governments, companies and citizens.
 - This is also true for geospatially enabled eGovernment services which use INSPIRE and SDI resources in order to provide this added value.
- The INSPIRE infrastructure in particular is focusing on the technical plumbing and the legal regulations to provide data.
 - The gap between 'people-and-theirproblems/tasks' and the INSPIRE infrastructure still needs to be overcome to realise the benefits of it.
- Not everybody is an SDI expert or expert in the field of spatial data. It is impossible to reach everybody via common geoportals or artificial multi-purpose geo-viewers.
 - Reach the public with solutions apps that are easy to use and efficient. They need to be very focused on the problem and solution fit.

Make your SDI a Success

- The SDI's success depends on its use in the public and the private domain (geo & non-geo). Tune your service offering to make it happen.
 - Interfaces / API's
 - Performance / infrastructure
- Diversification is key to attract a broad audience of experts and non-experts in- and outside the geo field (including the general public).
 - Clint Eastwood app strategies
 - Courtesy of Christian Elfers (Conterra), father of the "Clint Eastwood app strategies"

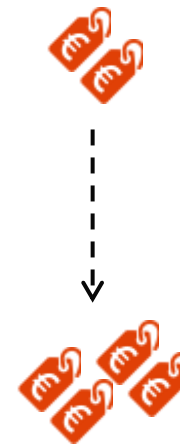
A lot of users to satisfy

- Primary group:
 - SDI Flanders participants;
 - Local governments
 - Flemish government
 - Emergency services
 - Education institutes
 - Other public institutes
 - Utility companies
 - Software providers
- Secondary group:
 - Other governments;
 - Private sector: Surveyors, notaries, architects
- Tertiary group:
 - Citizens
 - Private sector: Building companies, real estate companies, ...



Economies of Scale

Cost



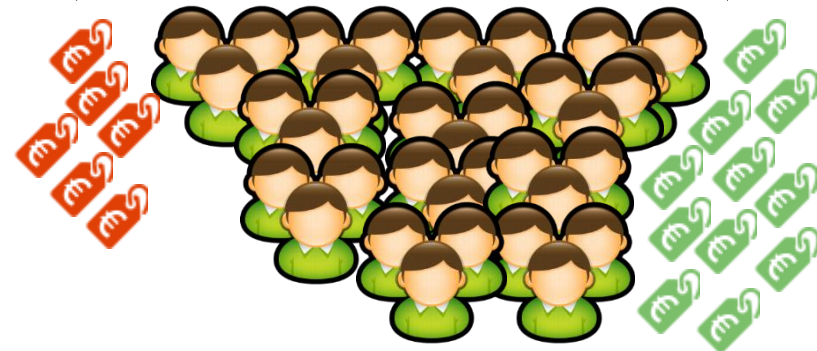
Gov2Gov



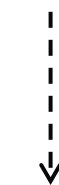
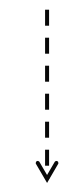
Gov2B



Gov2Citizen



Benefit



Tuning your service offering

Some things to consider

- Support for national SRS, ETRS for INSPIRE and WGS84/WSM for integration support with Google, Bing Maps, OpenStreetMap
- INSPIRE conform WMS, WMTS, WFS for geo-professionals
- TMS for the reference data services in the portal, app builders and geo-integrators
- Generic REST API's for address and POI services
- Service performance is key
- Services and data made available under an Open Data license (CC2)
- If you go to the masses, you better have the infrastructure to support it. (24/7 – 99.9% - <2s – 100.000 users)
- Useability: be easy to use, fast, responsive and use case driven

Cracking some numbers in a performance reality check. Are you up to it?

■ WMS test, random requests

- Generally a WMS needs one CPU core per second for one request. If you have one service served by an infrastructure with 10 CPU's, you can serve 10 simultaneous user requests per second (+- 50 simultaneous users). How many simultaneous users do you want to support?
- Limit: # Cores
- Optimization: # Cores, type CPU & speed, less virtualisation

■ WMTS/TMS test, random requests, all tiles seeded

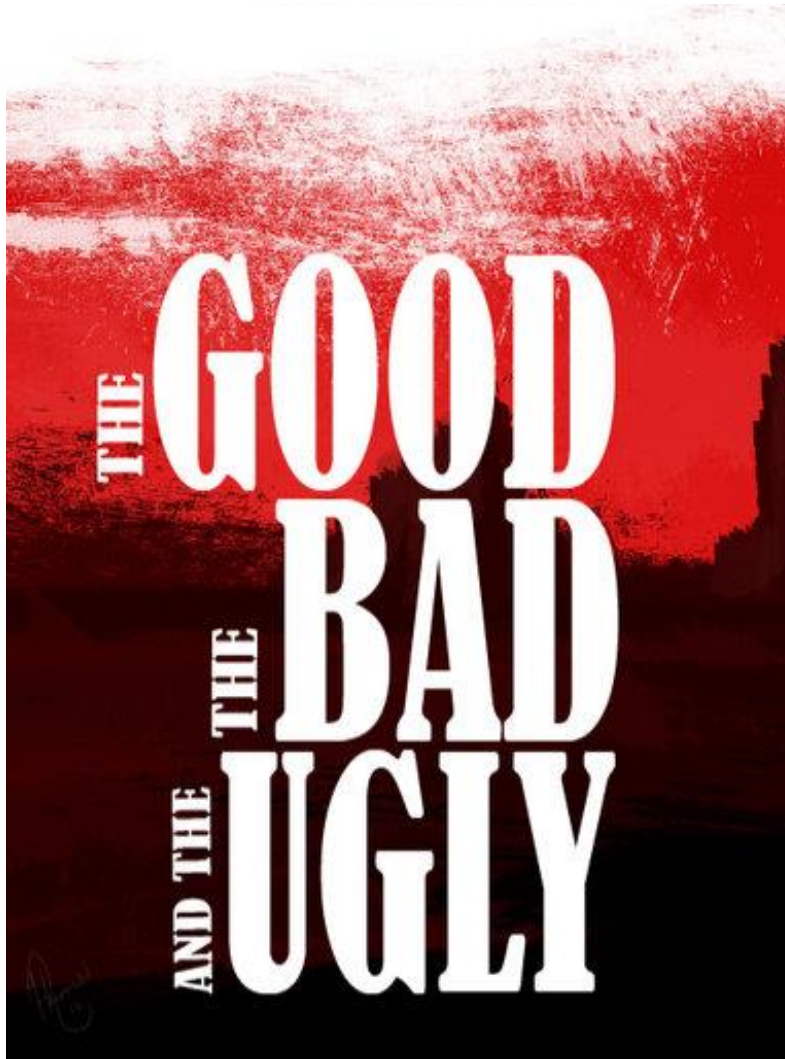
- With a one Gigabit ethernet line you can serve up to 80 megabit/second. That accounts for about an average 6500 tiles a second or 200 simultaneous WMTS/TMS users.
- Limit: bandwidth
- Optimization: larger bandwidth, multiple server sites

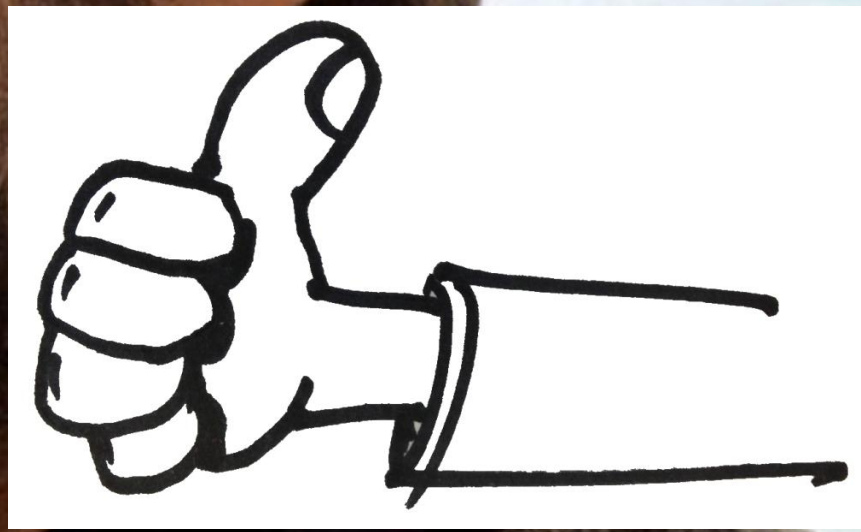
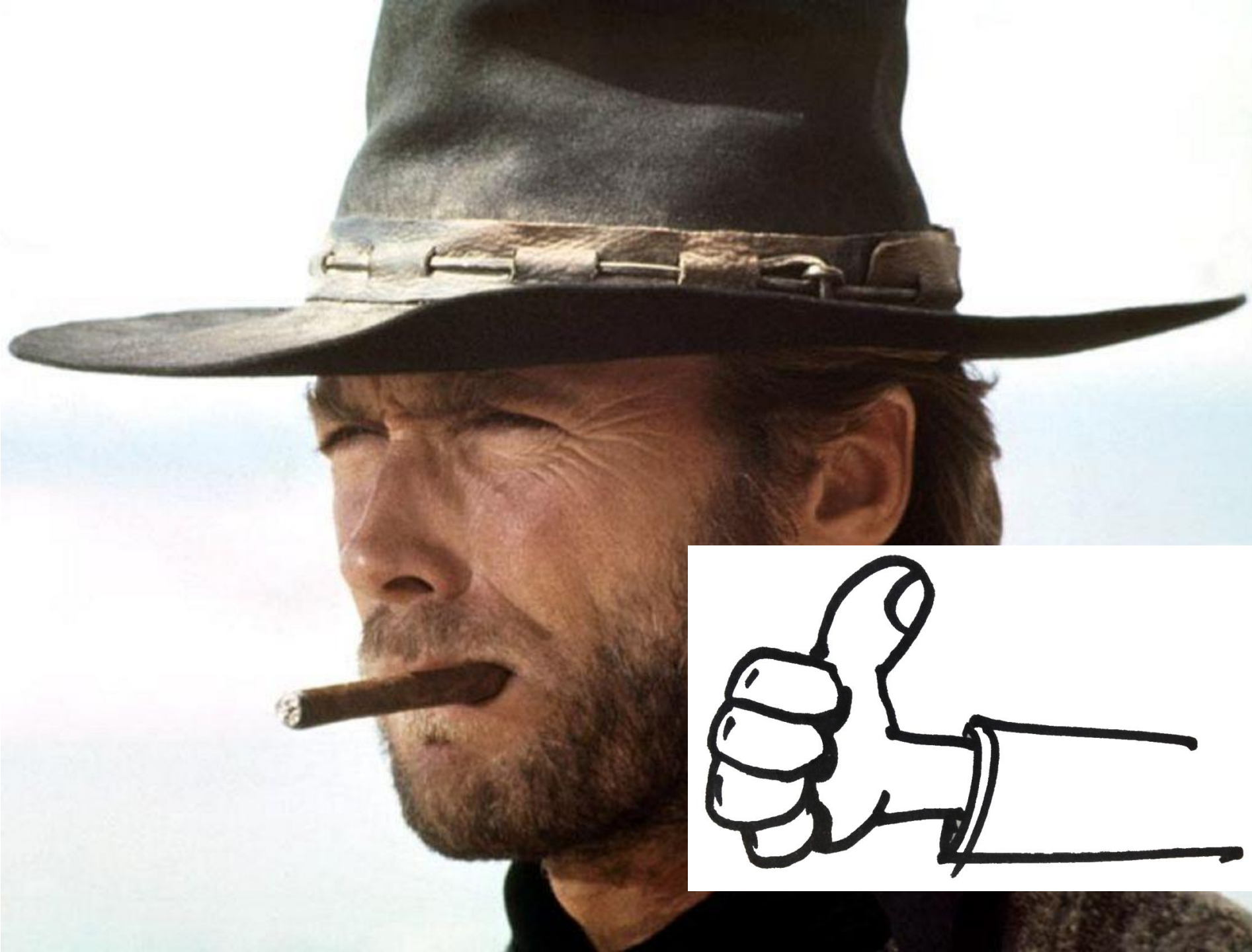
- **If you are just doing INSPIRE QoS, you better hope you don't have to much success** (20 simultaneous users, getting a bitmap of 800x600 pixels within 5 seconds 99% of the time)

Bridging the Last Mile to the User

Apps in the SDI Landscape

(courtesy of Christian Elfers, Conterra)





A background image of Clint Eastwood wearing a dark cowboy hat and a dark jacket, looking slightly to the side. The image is used as a backdrop for a presentation slide.

keep it
simple

focus!

Clint Eastwood App Strategies

delight
your users

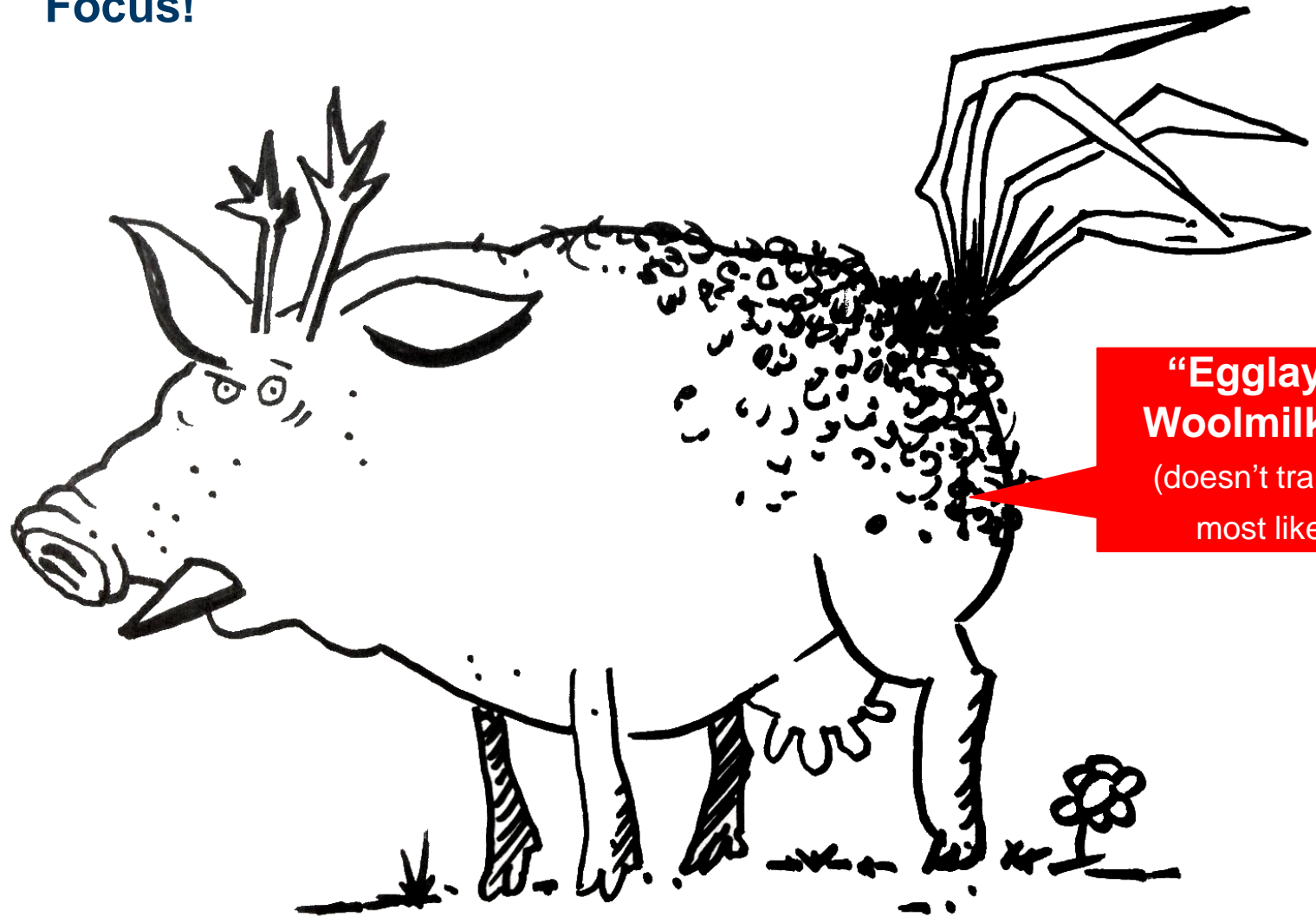
honour
aesthetics

recognize
the context

keep it simple

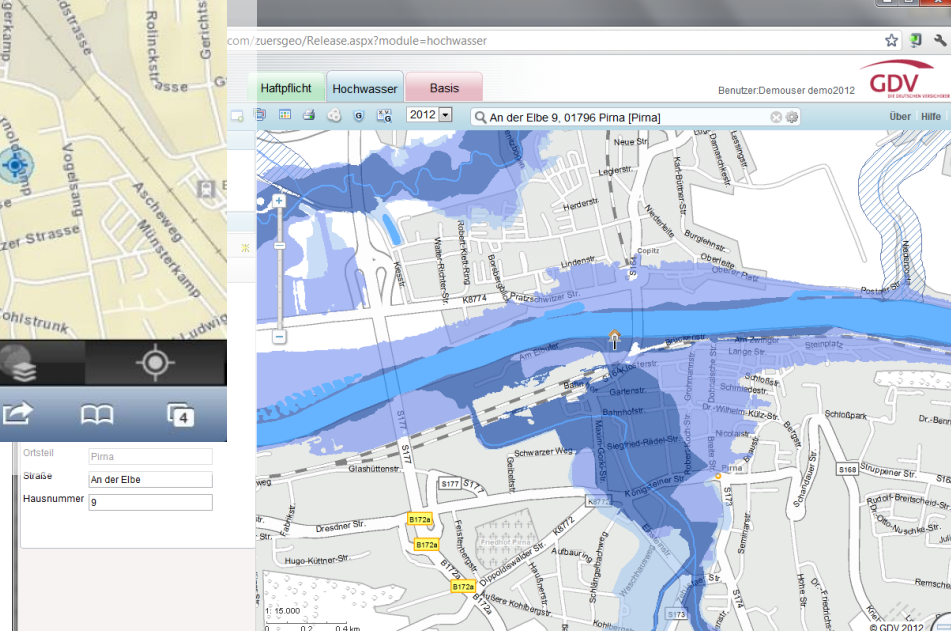
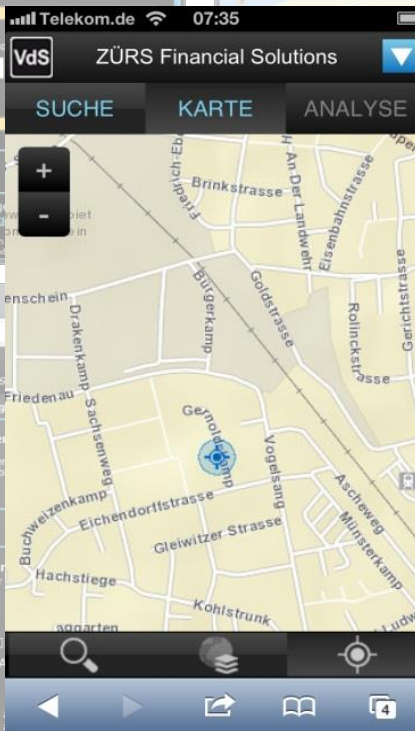
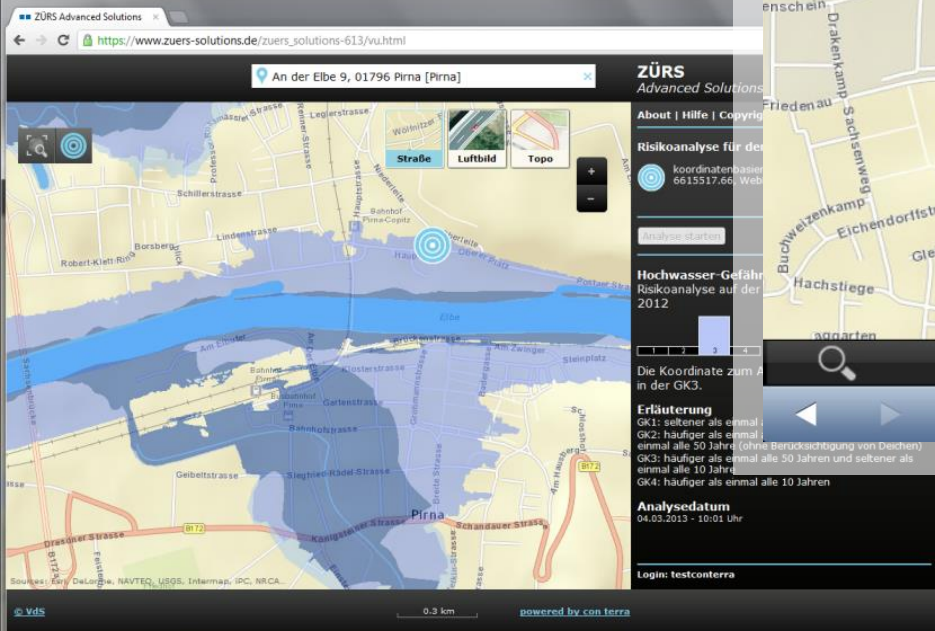
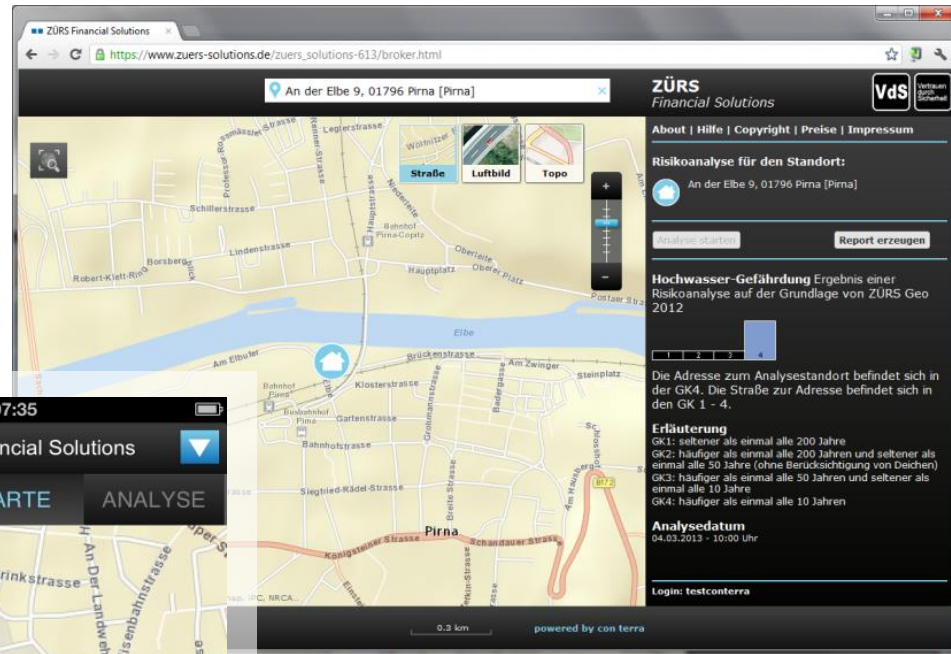
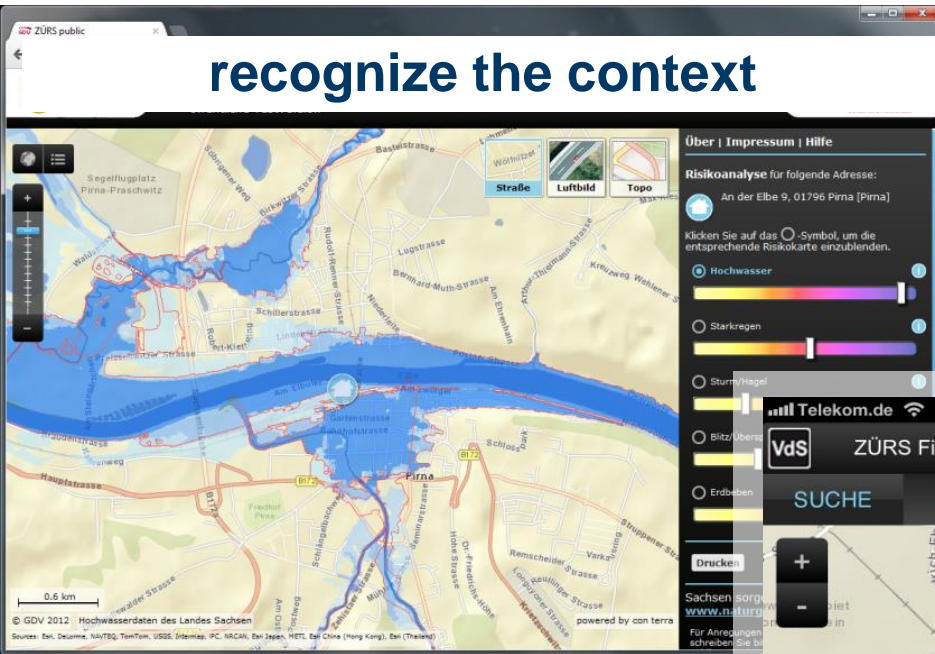


Focus!



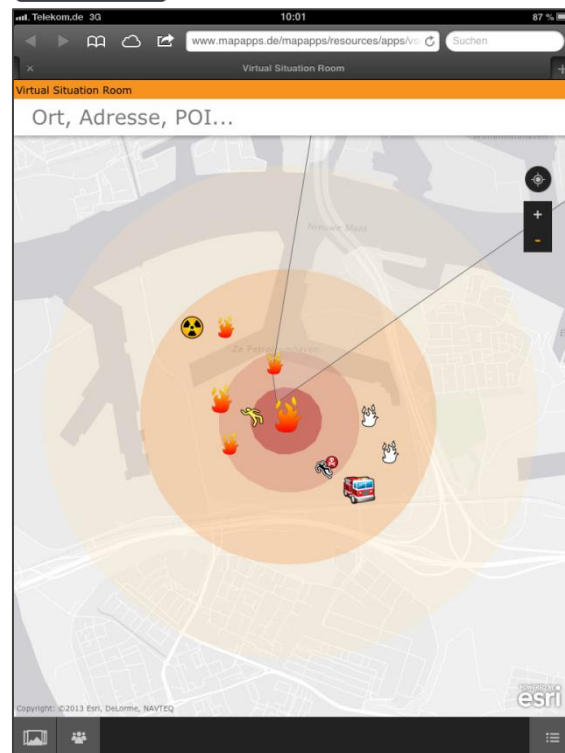
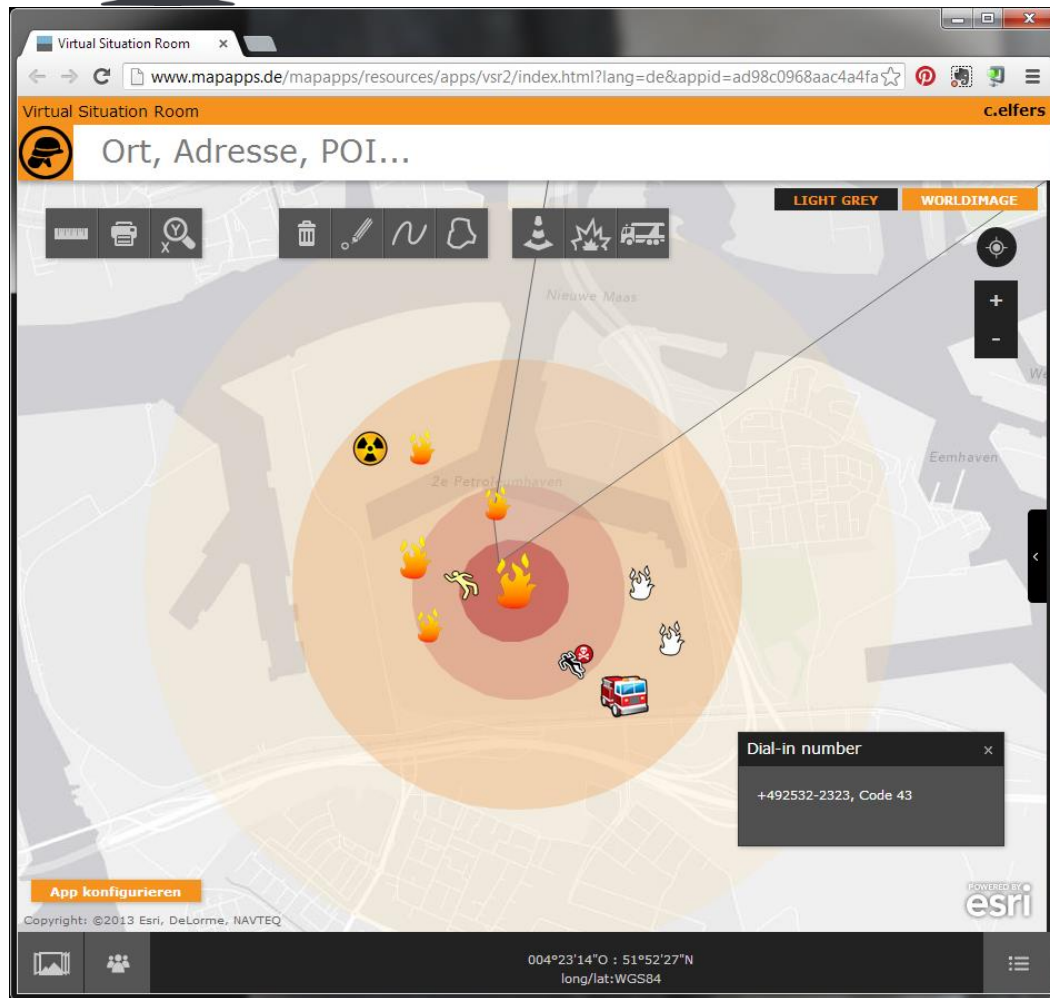
**“Egglaying
Woolmilkpig”**
(doesn’t translate
most likely)

recognize the context



Recognize the context

Different Purposes, Different Users, Different Sizes



take care of aesthetics and delight your users



Some App Travel Tips for The Journey

- **Be single purpose (use case) driven**
 - > Provide exactly whats needed: Content, Functions, Context
 - > Provide it in a easy to use way
- **Be attractive**
- **Be responsive**
- **Be fast**
- **There are also costs**
 - > New Tasks and Responsibilities, new Skills, new technical approaches, new challenges

Bridging the Last Mile to the User

Putting things together - demo

Generic 15/06/2013 Volaardestraat, Dendermonde

Routing

A Gebroeders Van Eyckstraat, Gent X
B straat 55, 9200 Dendermonde, België X

auto snelste
voetganger kortste
economisch

geopunt Vlaanderen

LOVE ALL - SERVE ALL

Historic

FERRARIS

Resultaat bevraging

Sinds 1 oktober 2012 is het Harmoniseringsdecreet in werking en moeten aanbestedingen en uitvoeringen via het e-voorkoopkijkt van de VLM verlopen.

Belangrijk: De volgorde van onderstaande lijst is willekeurig gerangschikt, en doet geen uitspraak over de volgorde van uitvoeren.

Geen recht van voorkoop van toepassing op 15/06/2013 op het perceel 42021A0568/00A000, gelegen te Winningstraat 99, Dendermonde.

ITEM 1-1 VAN 1 1

Soorttype Begunstigde Volgorde begunstigde

De ontbitting van deze historische kaart kwam tot stand door een samenwerking tussen het AGIV en de KBR

Part 3

INSPIRE, ISA, EULF, ELF, Are3NA ... ???



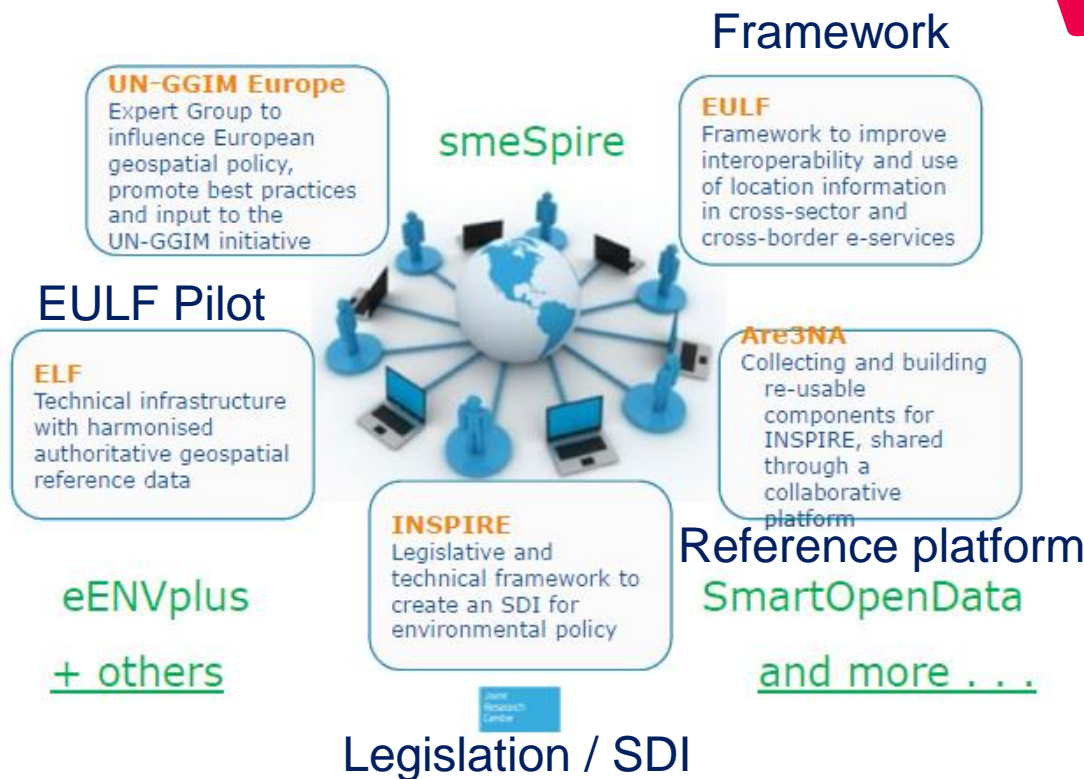
INSPIRE, ISA, EULF, ELF, Are3NA ... ???

Clearing the Mist (a little bit, because elaborating on this probably needs a session on its own).

INSPIRE in a broader perspective to release its wider potential.



- **ISA** is a European Commission-driven EU programme, running from 2010 to 2015 to support interoperability solutions, provide an architectural framework for seamless exchange of information and develop guidelines, methodologies and components for cross-sector and cross-border ICT solutions
- ISA is funding two Actions relevant to cross-sector and crossborder location-based services:
 - **EULF** to develop the policy and implementation framework, and
 - **Are3NA** to facilitate sharing of relevant technical components



E(U)LF – European (Union) Location Framework

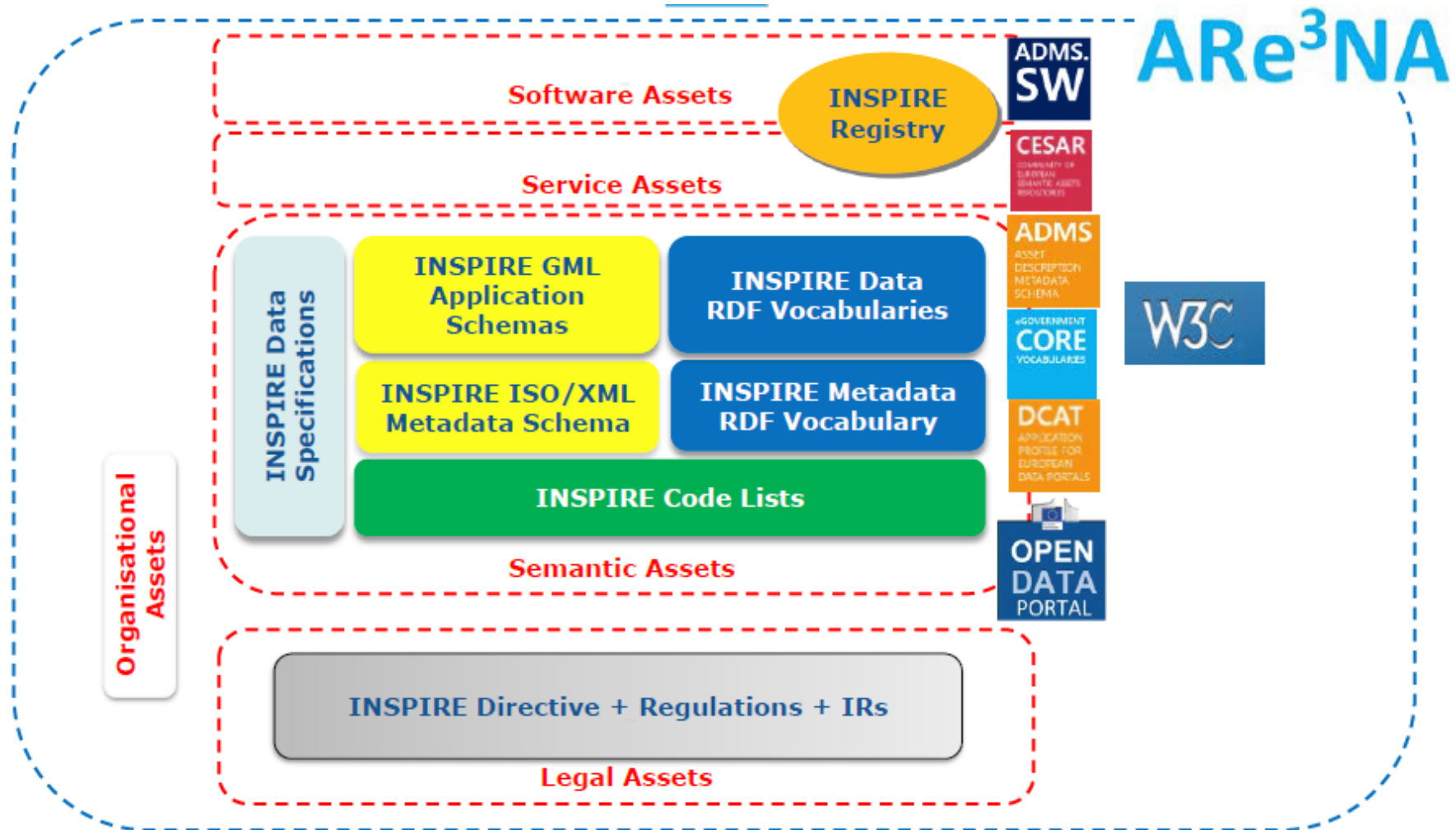
- **EULF** is **a strategic framework** of standards, case studies, guidelines and actions:
 - to realise the potential of **location information** in Europe
 - To facilitate a more **aligned** approach in **policy** areas, improve the way location information is used in MS **e-Government** services, and increase interoperability and re-use of data and services
 - To improve the conditions for building **cross-border applications**
- **based on INSPIRE.**
- **ELF** is a 36 months project to develop operational services which support the policy and legislative programme being developed in parallel with EULF

Are³NA – A Reusable INSPIRE Reference Platform

- Address interoperability issues between systems in the European INSPIRE SDE
- identify and develop common components for the successful implementation of the INSPIRE Directive in relation to European e-government.
- Support INSPIRE implementation by:
 - Inventory of existing platforms and tools spanning multiple policy areas;
 - Support existing or initiate new open source projects to address identified gaps;
 - Produce extended multilingual documentation to help create an INSPIRE node based on existing Member States' relevant initiatives;
- Collaboration platform : Joinup (<https://joinup.ec.europa.eu/>)

INSPIRE, ISA, EULF, ELF, Are3NA ... ???

ARe³NA architecture – From ISO/OGC to W3C



INSPIRE, ISA, EULF, ELF, Are3NA ... ???

Joint ISA-INSPIRE Working group

- promote the two geospatial ISA Actions (EULF and ARE3NA);
- identify policy areas where a more integrated, efficient or innovative approach to location information is required;
- identify gaps and demand for reusable technical components and pilot / test opportunities;
- identify relevant barriers or good practices;
- identify the role for INSPIRE and where it will need to be adapted to support cross-sector or cross-border activities;



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