Experiences in implementing pan-European Services using national INSPIRE services,

Inspire Helsinki 2019 -event

Workshop panel participants and their slides in order

Dominique Laurent (Chair of INSPIRE KEN), IGN France – introduce the workshop and chair the session.

Mick Cory, EuroGeographics – 5 minutes – Introduction to the projects (ELF, Open ELS and CRD) and their context

Eva Pauknerova, Czech Office for Surveying, Mapping and Cadastre (CUZK) – 15 minutes – a national data providers perspective - Experiences from a national data provider point of view; key arrangements needed to reach cross-border seamless data and functional interoperable services for practical usage (or not). Making national data Inspire compliant services, and ensuring that these services are compliant for a pan-European services (i.e. making them ELF compliant).

Dorus Kruse, Dutch Kadaster (15 minutes) – a coordination perspective - to present about the technical challenges of coordinating the supply of data from multiple providers, the approach taken in ELF and Open ELS, and the lessons learned (to include the challenges of getting Inspire compliant metadata into European Data Portal).

Anja Hopfstock, BKG Germany (15 minutes) - The integration perspective - to present the technical challenges of bringing INSPIRE data sets and services together, harmonisation experiences and challenges of doing so and the work arounds necessary to achieve pan-European data. Drawing on experiences from ELF, Open ELS and the CRD project.

Mick Cory, EuroGeographics (10 minutes) - the overarching perspective – the legal, policy and organisational challenges and lessons learned.

Conclusion

Experiences in implementing pan-European services using national INSPIRE services Introduction

INSPIRE KEN

- Knowledge Exchange Network (EuroGeographics)
- Objectives:
  - Sharing news and information about INSPIRE
  - Sharing experiences about INSPIRE implementation
- Through workshops and webinars
  - Some devoted only to NMCA
  - But most of them open to every one

https://eurogeographics.org/calendar-event/

EuroGeographics and INSPIRE implementation

- Sharing national experiences (INSPIRE KEN)

- **Implementing a coordinated approach in Europe**

Topic of today workshop

Experiences in implementing pan-European services using national INSPIRE services

Implementing pan-European Services using national INSPIRE services

Mick Cory, Secretary General & Executive Director
EuroGeographics
Helsinki, 23 October 2019

EuroGeographics – Our Association

National government bodies responsible for geodetic surveying, topographic mapping cadastral surveys and land registration

63 members **46 countries**

from the whole of geographical Europe

Members invest over **€1.5B** each year in the development of geo-information

Relied on by European Commission Businesses & Citizens

Share best practice through expert knowledge exchange networks

66,000 people and over are employed by EuroGeographics members

Presentation Outline

Introduction to;

- European Location framework (ELF) Project
- Open European Location Service (Open ELS) Project
- Core Reference Data Project

Later

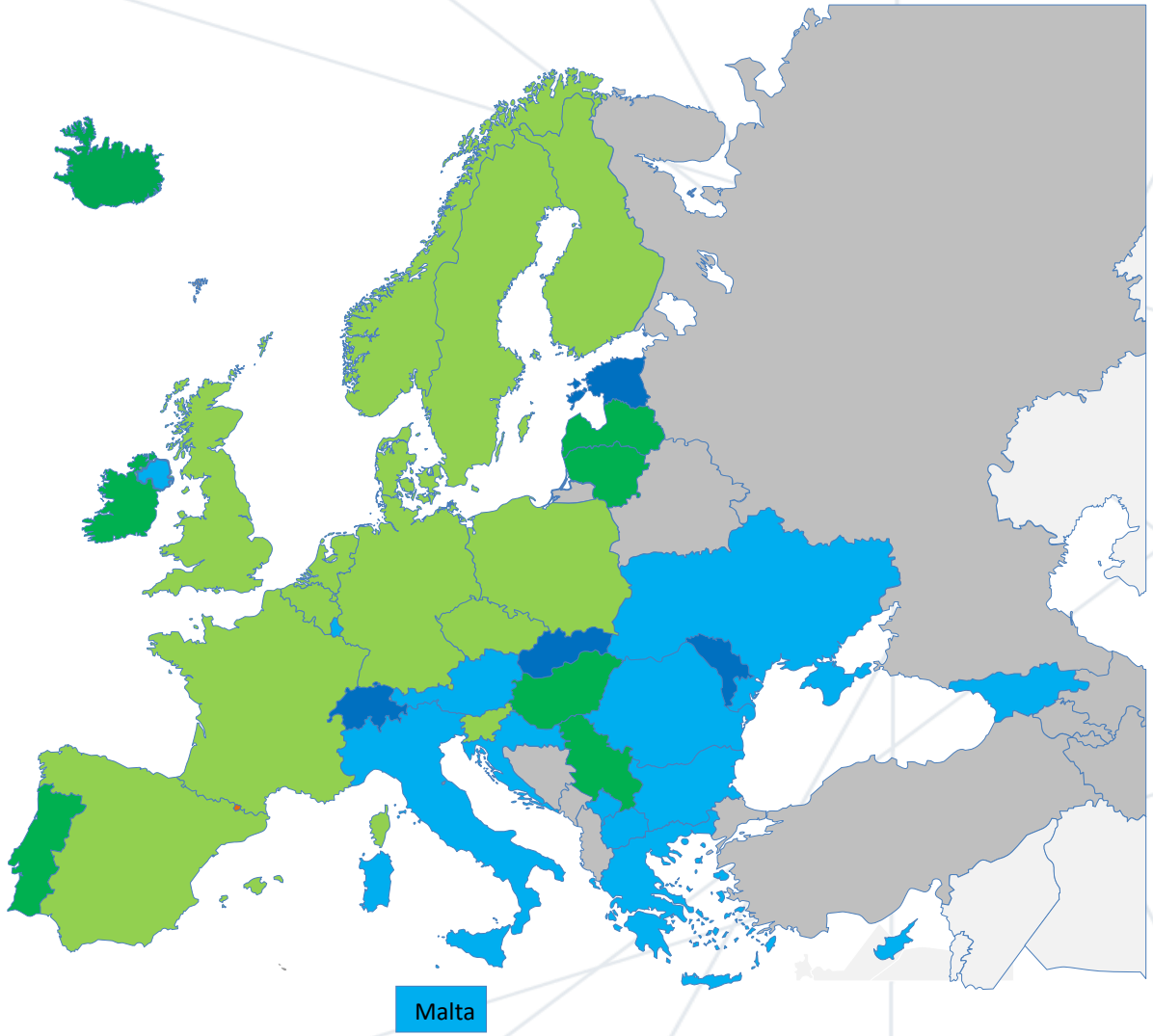
- Broader, strategic lessons learned

The ELF project

- 44 month project, co-funded under the ICT PSP programme of the European Commission
- A consortium of 40 partners from private and public sectors
  - ★ Public, private and academic organisations
  - ★ Includes 23 National Mapping & Cadastral Authorities (NMCAs)
  - ★ Spanning 20 countries
  - ★ Managed and coordinated by Norway and Finland
- Running from March 2013 to October 2016
- 2 year transition period concluded October 2018

ELF Data providers in 2016

- Project partner countries (13)
- Joined 2016 (7 countries)
- Data provider outside project (4)
- Contributors to ELF Global/Regional through EuroGeographics products ERM,EGM,EBM



- Content built on INSPIRE services
- Services based on ‘cascaded’ services architecture

ELF - What Happened?

- Products and services were available for testing (EEA) from December 2016
- Further offer to test the data and system and contribute to its future development offered to European Commission
- Opportunity for Eurostat and the wider geospatial / statistical community to work with us to test, refine and develop the system to meet needs
- A suitable funded project was needed to be developed to do this

- We looked for partners to help develop further products and services

- Not taken up

Open ELS - Project partners

- **2 years project duration (May 2017 – April 2019)**
- **10 project partners**
- **Open ELS website: www.openels.eu**

Co-financed by the European Union
Connecting Europe Facility

Open ELS - Summary of achievements

- Project objectives and deliverables achieved (as defined in the Grant Agreement)
- Demonstrated what we mean by Open European Location services and we are able to demonstrate the value of our members' open, authoritative geospatial data
- Made our open data available through a policy and licensing framework, and through an User Interface, so that SMEs and other users are able to use our open authoritative data in a structured way
- Developed a structured and strategic approach to understand user needs, their priorities and clarity how to meet these needs and priorities
- Gained a better understanding of the complexity and challenges to set up open geospatial data services and operational services

Documents available at www.openels.eu

Co-financed by the European Union
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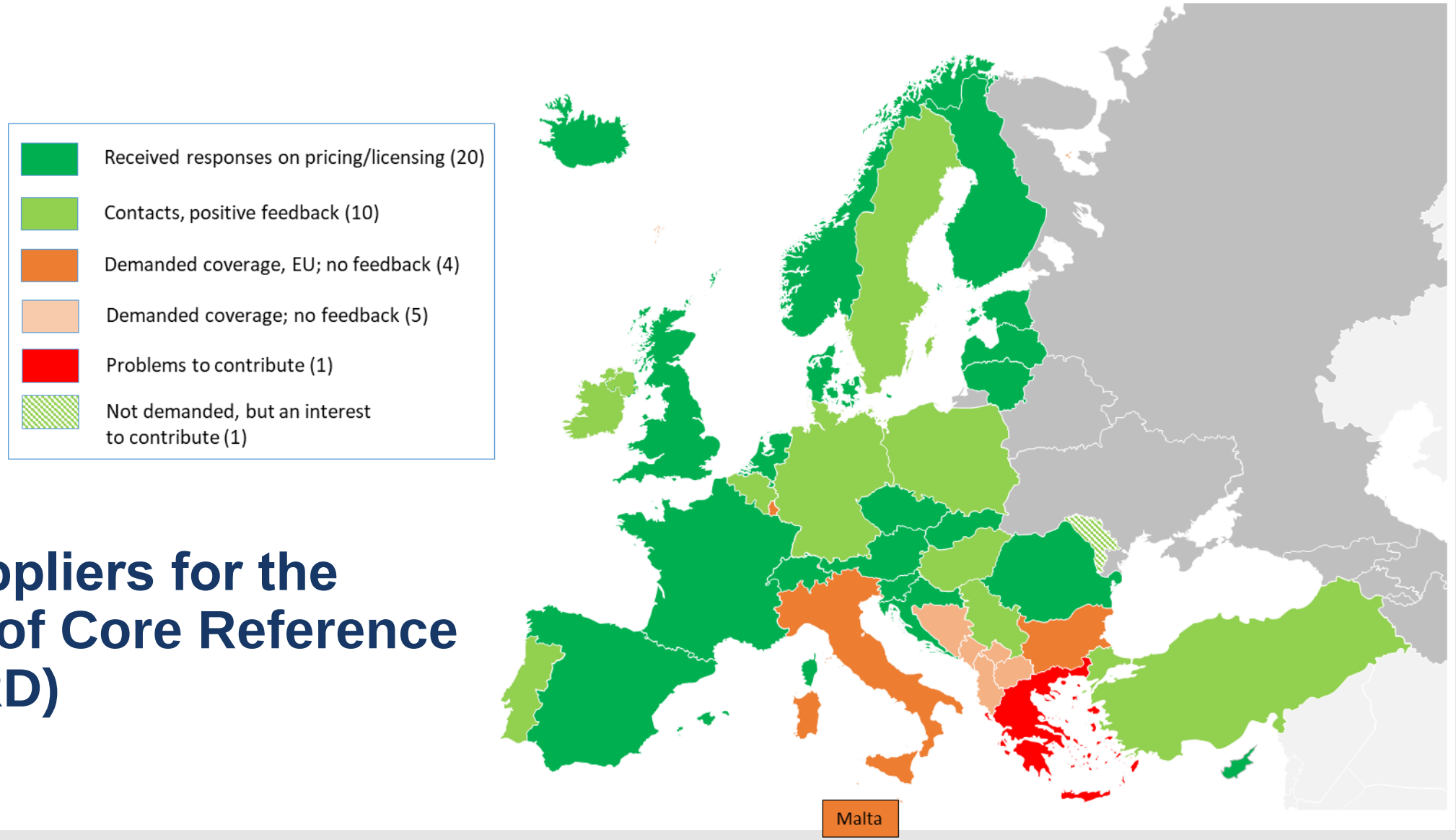
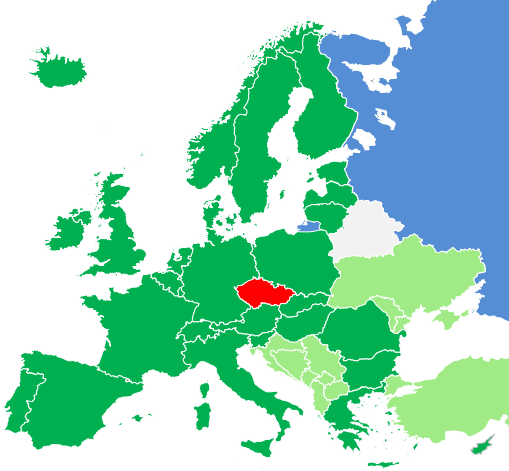
Vision for a Core Reference Dataset

- CRD produced in response to EEA CLC+ proposals, but:
- We would like to meet the demand from CLC+ but we must be mindful of the broader potential too - CRD should meet a number of demands within the EC and its Institutions, informed by proactive engagement with Commission users (under ELS)
- Started with priority themes (Hydrography / Transport), but add other themes later, including buildings or settlement areas, addresses, elevation and even orthophotos.
- The CRD composition is based on the INSPIRE requirements – flattened INSPIRE data model.
- EGHO therefore instigated an urgent project to create a core reference dataset for Europe with the aim of providing this to the EC and its agencies.
- Prototype datasets created for evaluation
- Funding! To create and maintain!

NMCAs' suppliers for the production of Core Reference Dataset (CRD)





Experiences in implementing European Services using national INSPIRE services

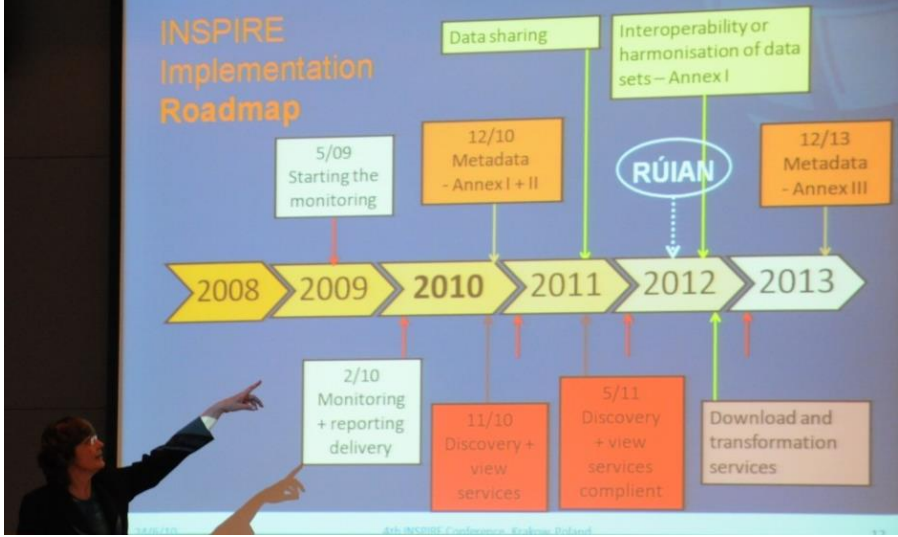
Data Provider (LMO) perspective

Eva **Pauknerová**

ČÚZK

ČESKÝ ÚŘAD ZEMEMĚŘICKÝ A KATASTRÁLNÍ
CZECH OFFICE FOR SURVEYING, MAPPING AND CADASTRE
TSCHECHISCHES AMT FÜR LANDESVERMESSUNG UND KATASTER

Presentation outline



- roles and products
  - from local to national data
  - **from national to European SDIs**
  - and return
- Lessons learned

CUZK perspective

- CUZK (NMCA) maintains and provides **most of reference and base geospatial data** in the Czech Republic, both - administrative and topographic.

- CUZK is *NOT* a MS-CP for INSPIRE, but it plays a significant **role at the national coordination body** for INSPIRE implementation – KOVIN.

- CUZK set up and administers the **Base Registry** of Territorial Identification, Addresses and Real Estates – **RUIAN**
  - its content up-dated in accord with the **O-O-P** by authorized editors daily; for eGovernment available 24/7
  - RUIAN accelerated the INSPIRE implementation already in 2010,
  - bridging RUIAN and INSPIRE illustrates potential and limits of INSPIRE for eGovernment.

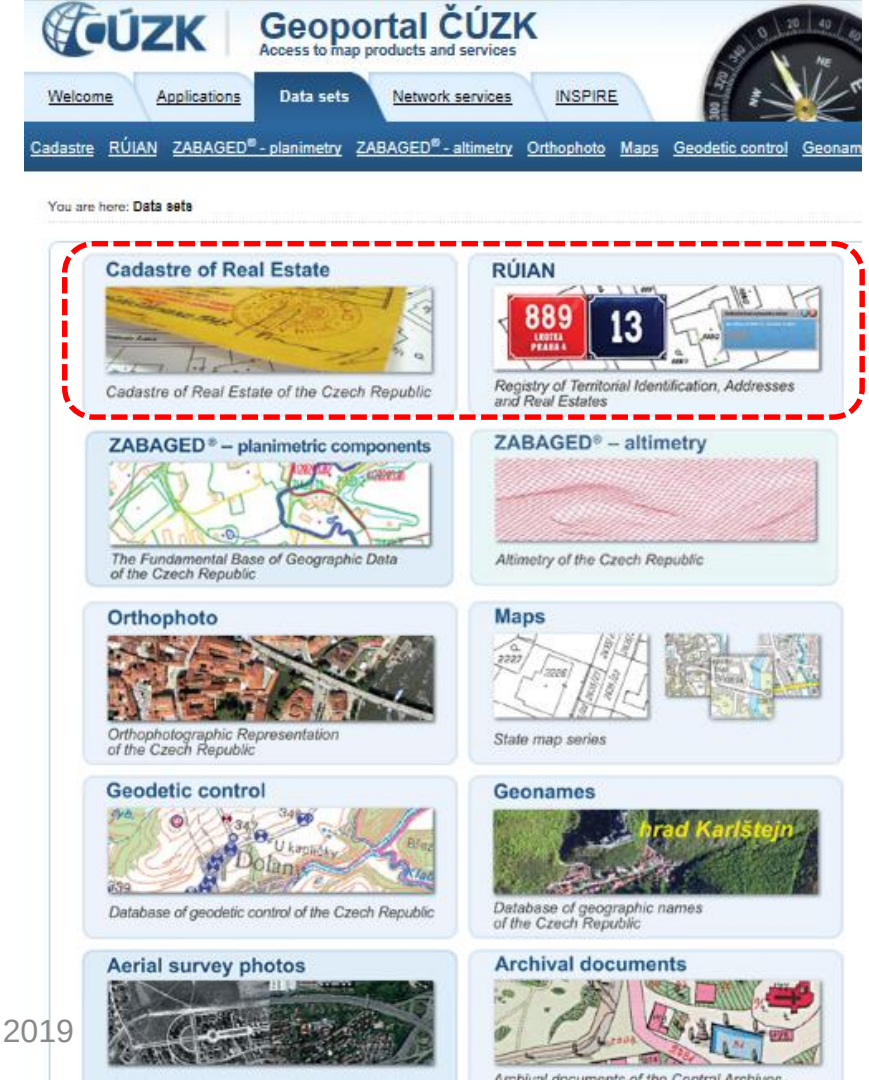
- As a member of **EuroGeographics** (EG), CUZK participated in European projects as the **European Location Framework** and **OELS**; it contributes to various EG Products as ERM, EGM, EGN, CRD etc.

- The ELF and OELS projects, esp. the **CZ-PL regional pilots** helped detecting several **cross-border data harmonisation** issues and invoked various follow-up actions:
  - by EG, by and between NMCAs, and with other stakeholders at the MSs.

Czech Office for Surveying, Mapping and Cadastre

Key information sources:

- **ISKN** - Information System of the Cadastre of Real Estates
- **RUIAN -** the Base Registry of Territorial Identification, Addresses and Real Estates
- **ZABAGED -** the Fundamental Base of Geographic Data of the Czech Republic
- **CUZK Geoportal** http://geoportal.cuzk.cz



Goals: Data maintenance at one place and sharing across different levels …

Local data, survey sketches

Location data in Czech Base Registries (RÚIAN)

INSPIRE data sets (AD, AU, CP, GN, BU etc)

INSPIRE webservices (WMS, WFS, Atom etc)

PORTAL Geo

location data used by **PAs at the EU+**

Feasible ?

Czech Office for Surveying, Mapping and Cadastre

Key words:

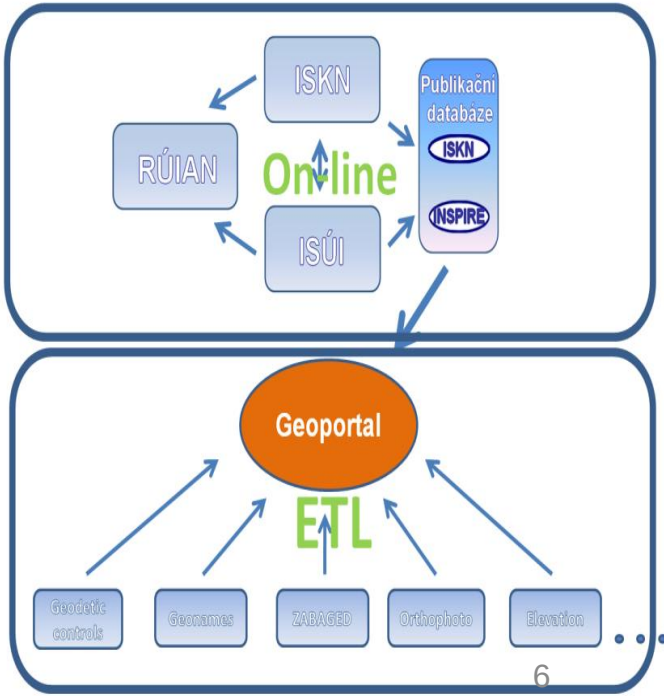
- public on-line access to authoritative data&services

- *up-to-date* location data for base registries and e-Government; *open* location data for re-use

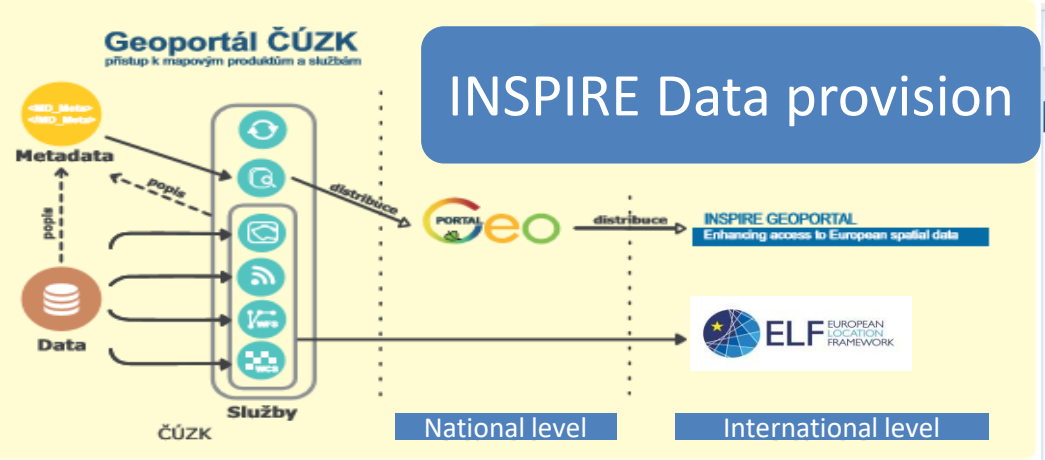
Two modes of reaching compliance with IIRs and of provision conditions

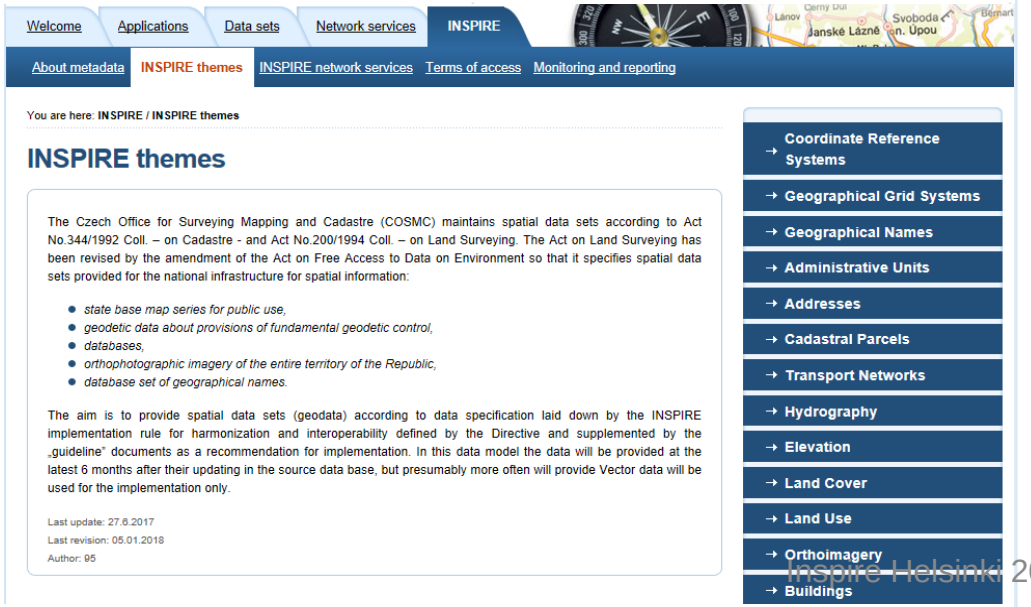
- INSPIRE compliance:

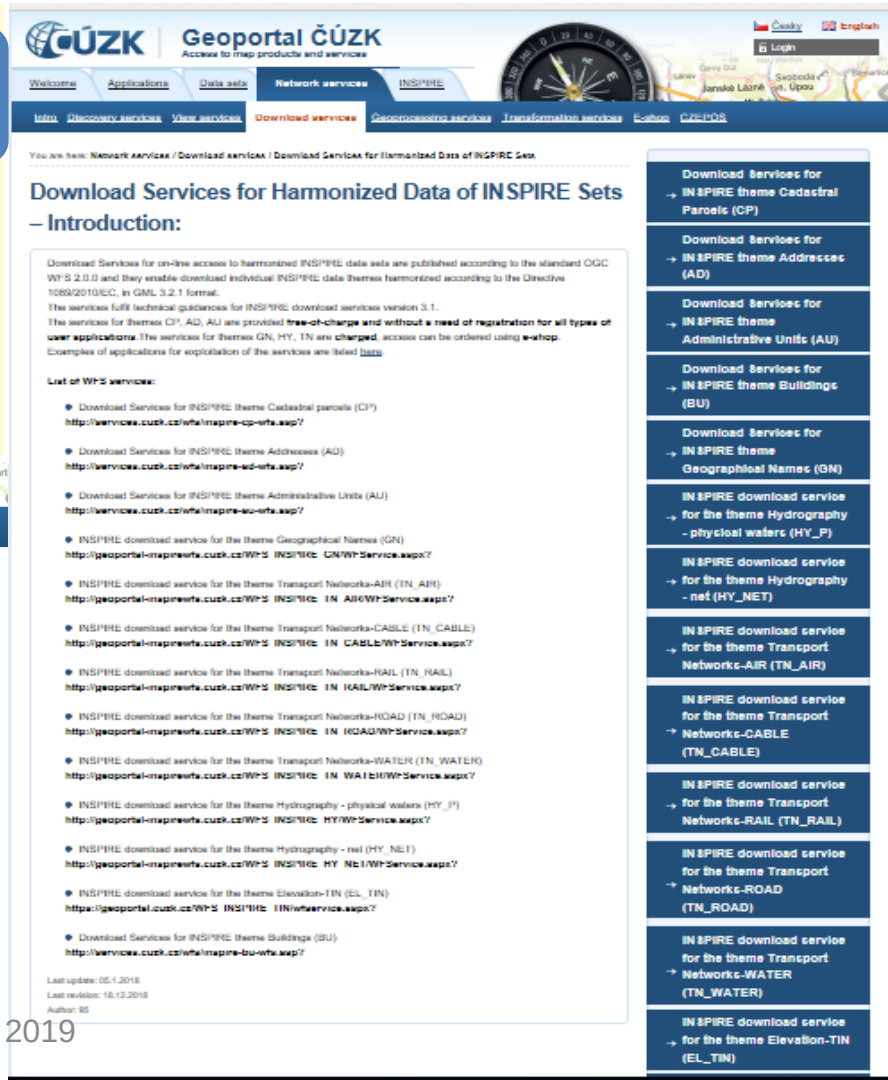
***CP*, *AU*, *AD*, *BU*, GN, HY, TN, GG, EL, OI**



INSPIRE Data provision







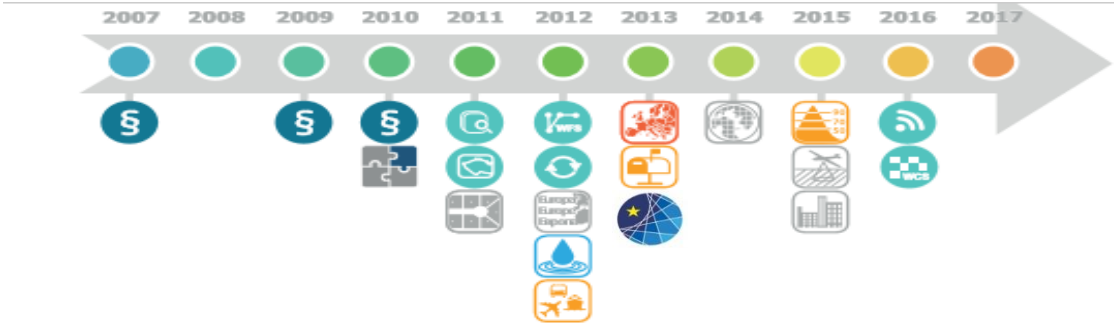
Český úřad zeměměřický a katastrální

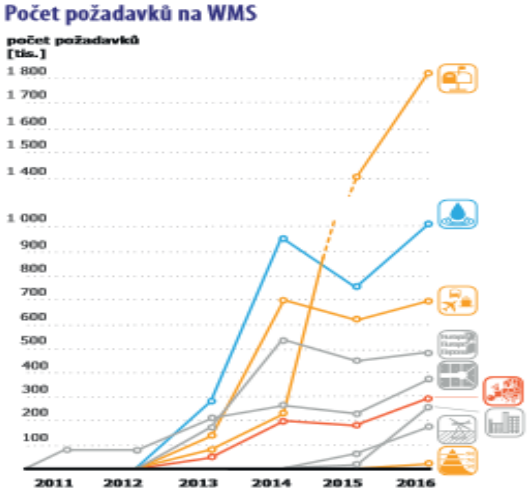
ČÚZK

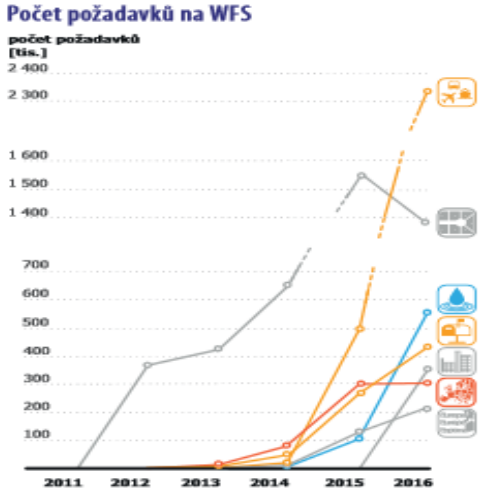
10 YEARS with

V Evropě již deset let probíhá budování infrastruktury pro prostorové informace (INSPIRE). Právní základ tvoří evropská směrnice č. 2007/2/ES s řadou souvisejících právních předpisů a technických prováděcích pokynů. Podle těchto společných pravidel členské země EU i další státy postupně ustavují své koordinační struktury INSPIRE, harmonizují svá prostorová data, jejich metapopisy a také vytvářejí webové služby a transparentní podmínky pro jejich poskytování.

INSPIRE



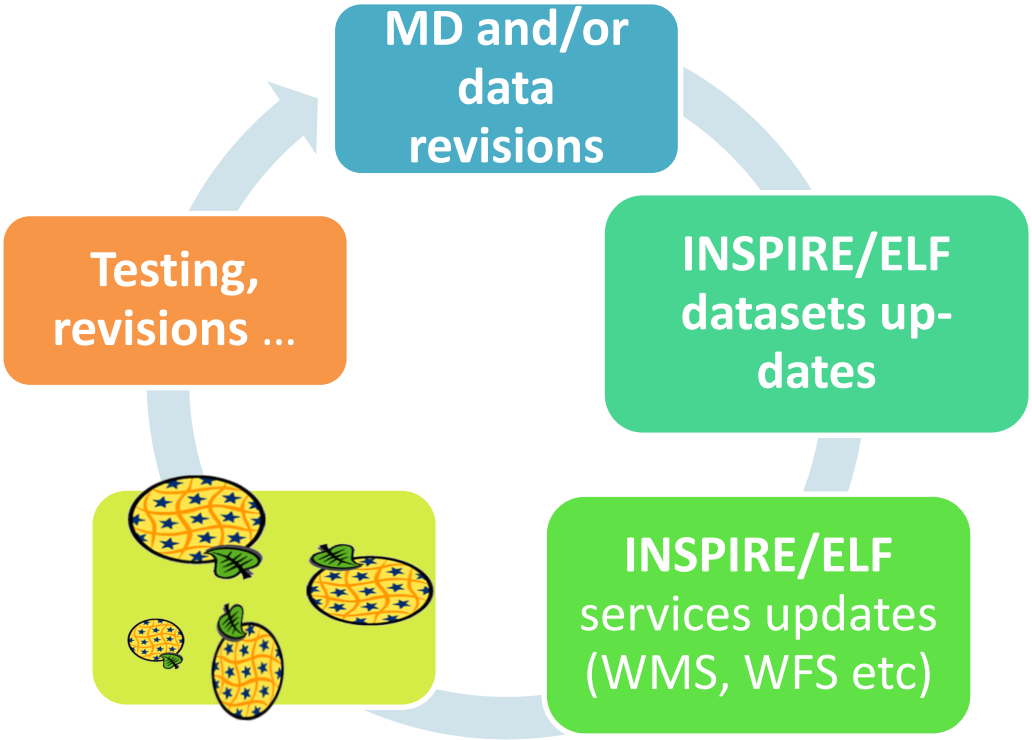




Prohlížecí služby
WMS (Web Map Services) pro všechna data harmonizovaná podle INSPIRE specifikací.

Služby stahování dat
WFS (Web Feature Services) a WCS (Web Coverage Services) pro on-line stahování dat na základě prostorového výběru. Atom pro stahování dat v podobě předpřipravených souborů.

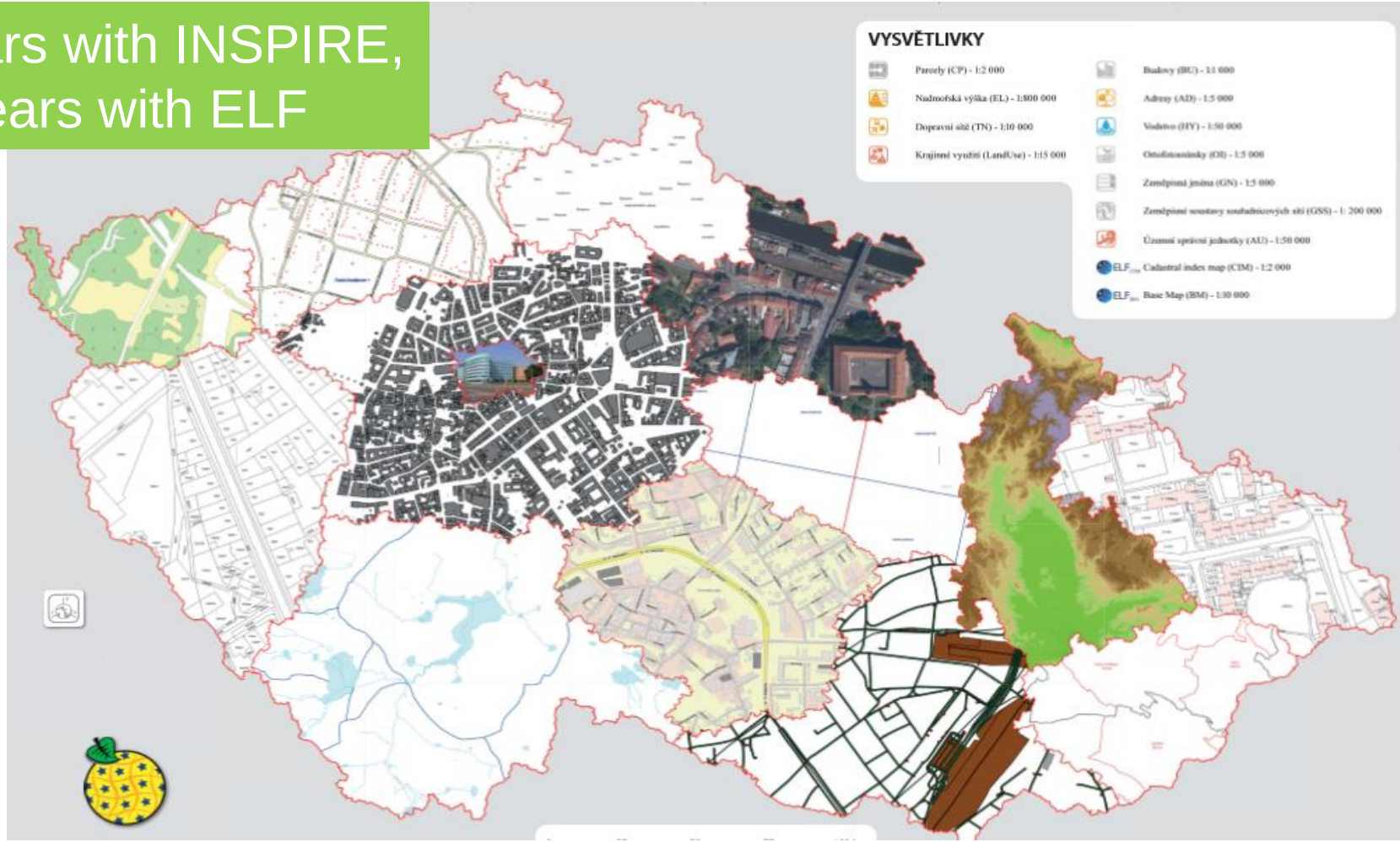
Quality and interoperability enhancement



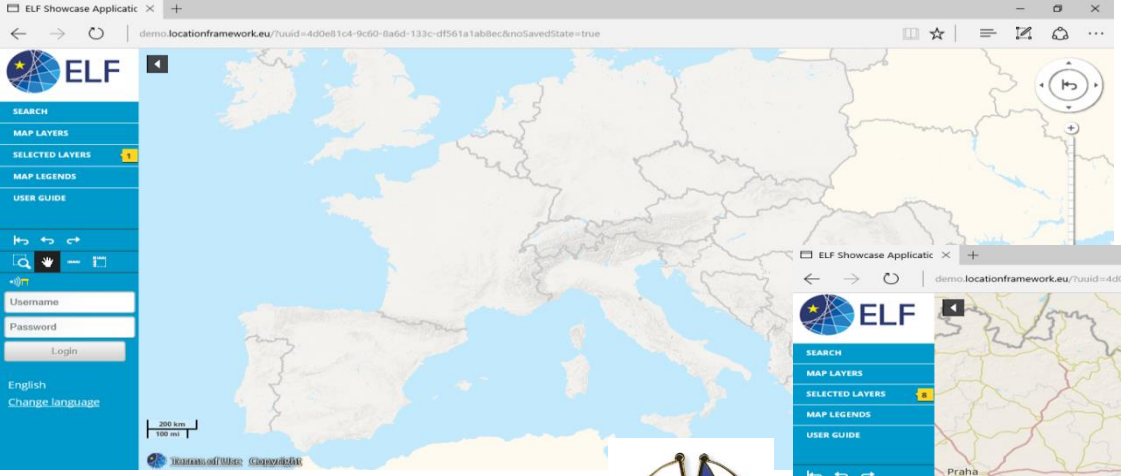
- a **never ending story** due to new standardisation or legal changes, ICT innovation etc;

- capacities and efficient **communication of several types of stakeholders** needed to reach interoperable results *(providers of data, specifications and also of ICT and testing tools)*

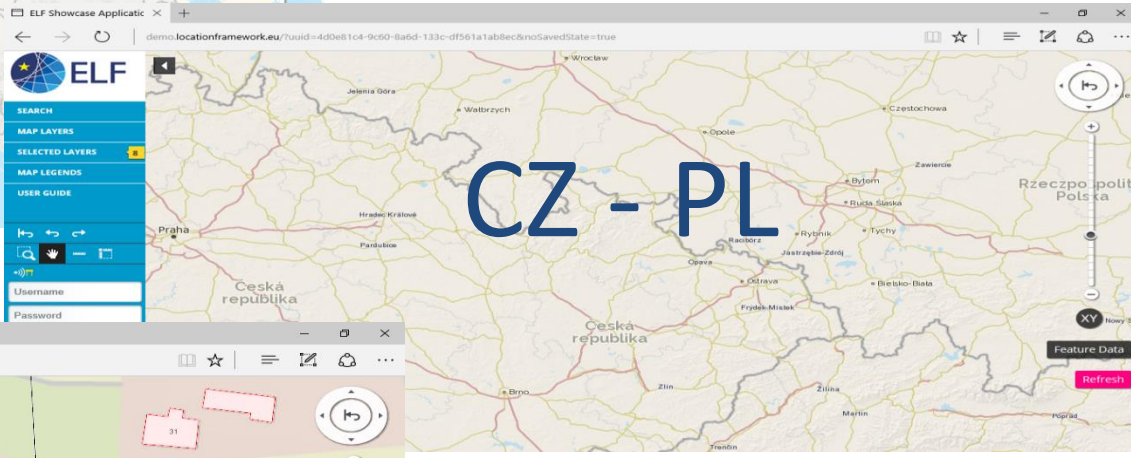
10+ years with INSPIRE, 5 years with ELF



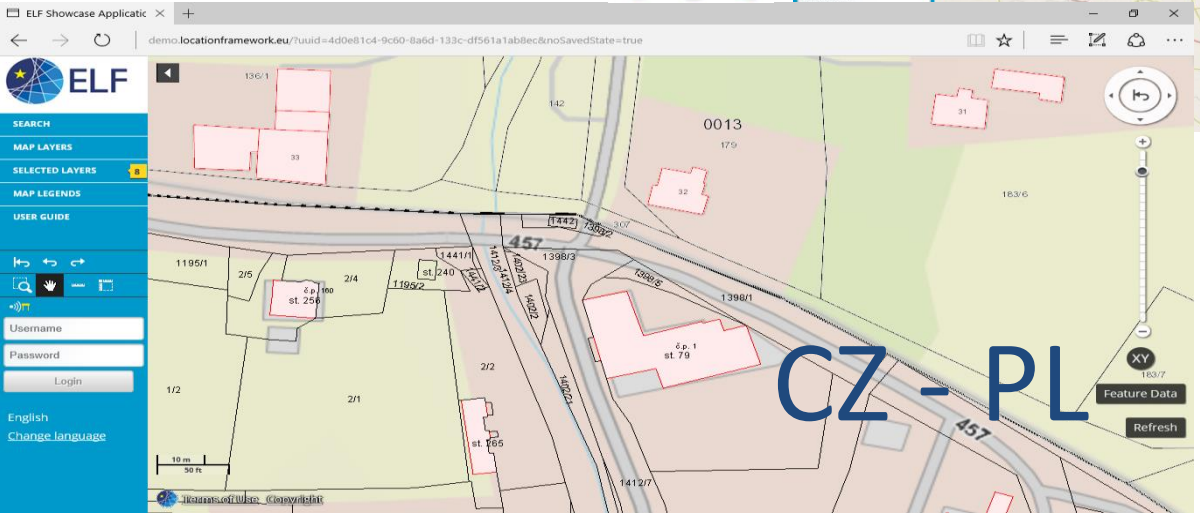
From national to EUropean



Cluster approach



CZ - PL

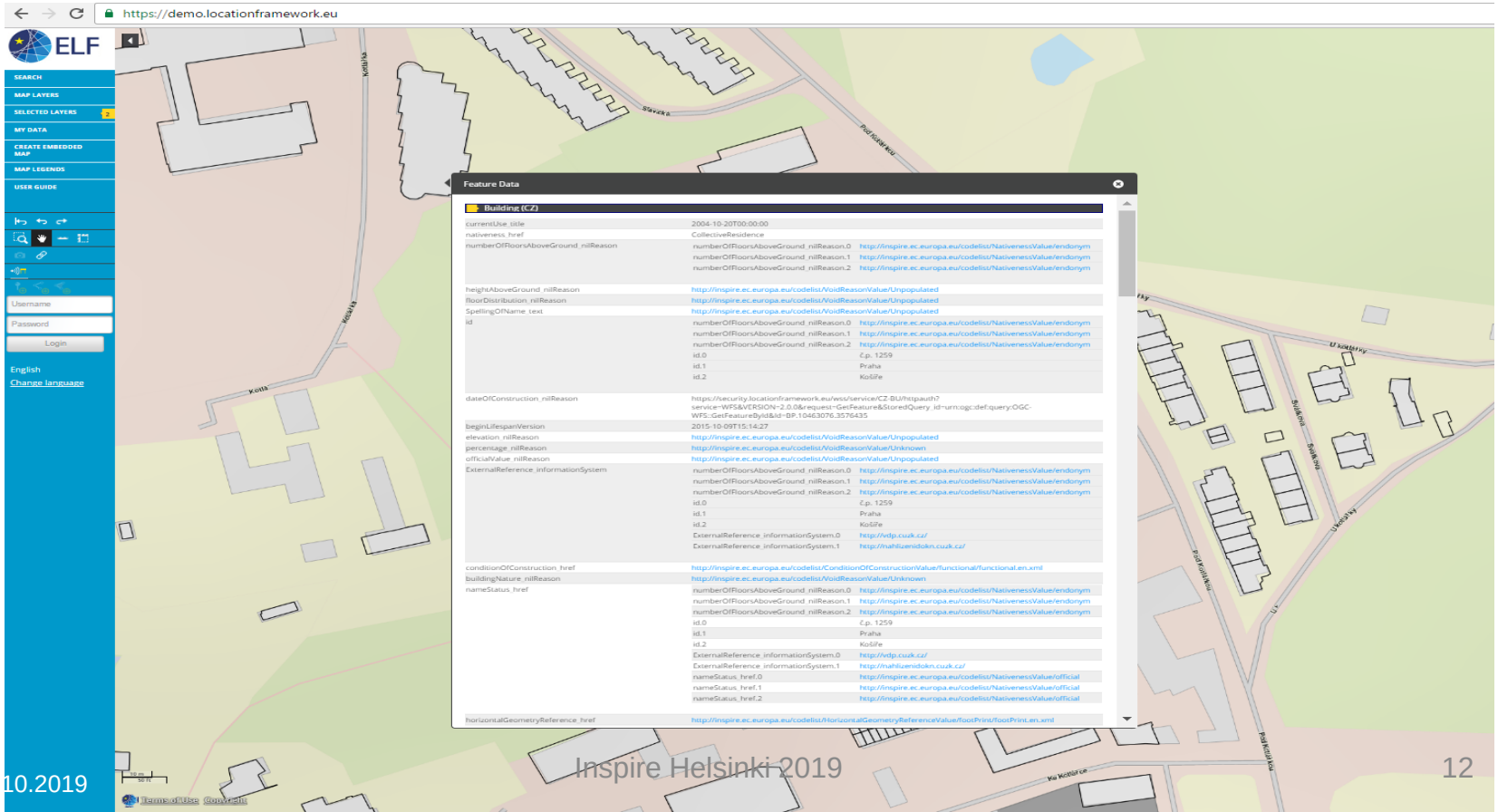


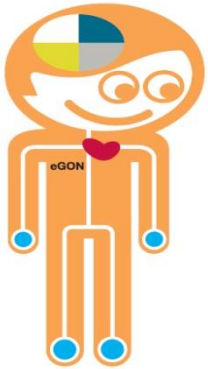
CZ - PL

Prototype testing, e.g.

Cadastral Index Map

Success: Up-to-date authoritative location data (LoD0) became an integral part of the cross-border cadastral index map (*or future ESDI*)





Survey sketches, decisions by local authorities

Base Registers Data (RÚIAN edited by ISKN, ISÚI)

INSPIRE compliant data sets and services

National webservices for the ELF

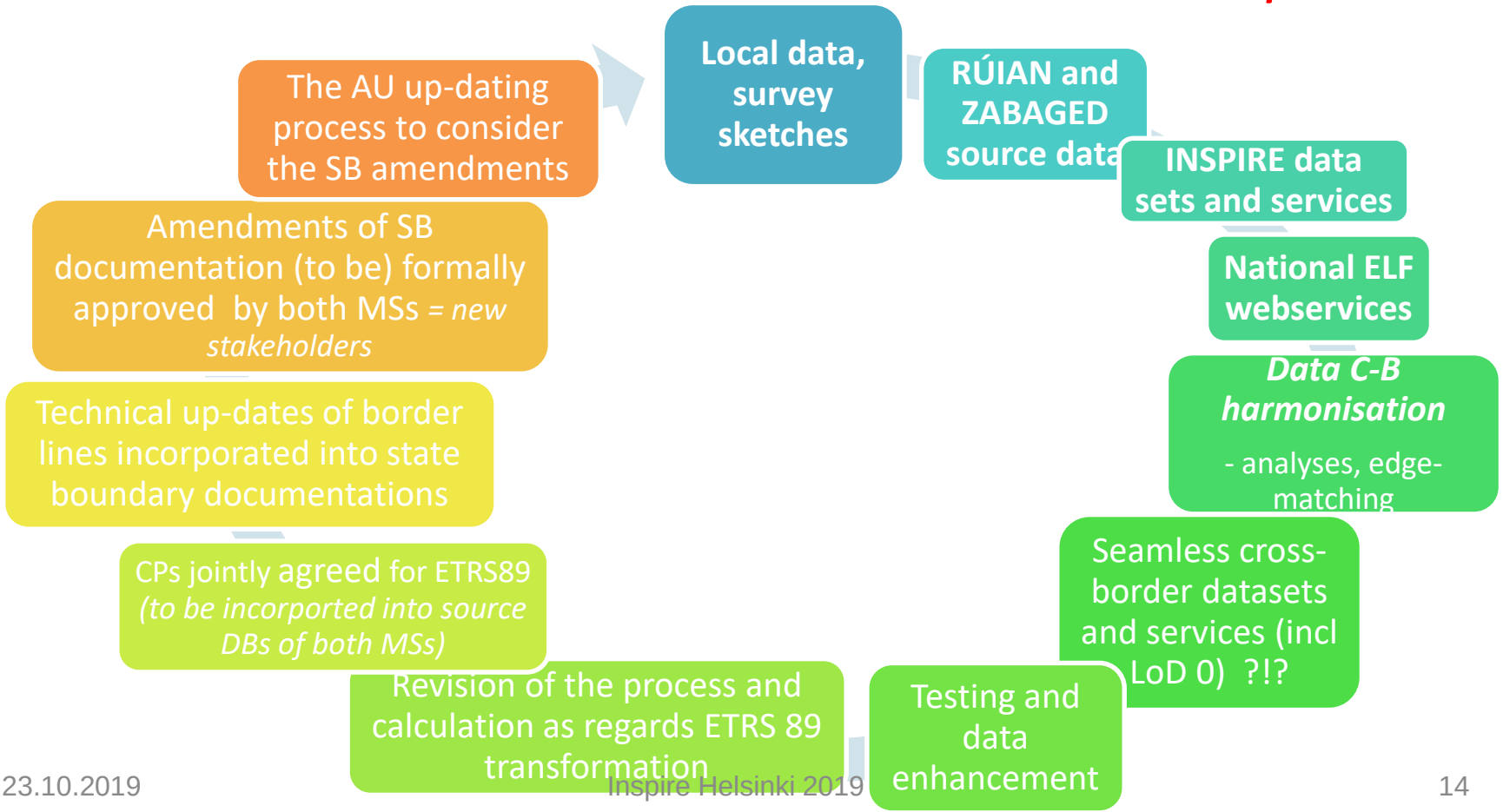
Pilot cross-border analyses and testing of data sets and services

Cross-border data harmonisation *(activated at all EIF levels)*

Seamless ELF data sets and services for EU+ *(via an EU platform ?)*

Thematic applications for European Regions and the EU+

Data harmonisation at state borders – *new requests !*



Data harmonisation
- data provider (LMO) perspective

- Data mapping has a strong **legal context** – from semantics, competences, processes; not just a technical excercise.
- **Data sources for national use** integrate several themes in a consistent manner, their maintainance is supported by robust ICT infrastructures etc.
- **INSPIRE cut data into themes**; INSPIRE datasets etc represent new products (and capacities needed). Thematic datasets *enable to understand data from other MSs, provide inputs for production of new simplified cross-border data for newly designed services (e.g. the CIM).*
- **Temporal quality and legal validity** is a key for some eGov tasks; the Base Registries deal with continuous changes and quarant reliable up-dates. Better **change management** is required for some of the INSPIRE themes.
- Harmonizing *all data* goes against the O-O-P therefore **focus on datasets relevant for international use** and on ensuring **their quality**.
- Solving **state boundary issues** and related GRSs transformation etc goes **far beyond INSPIRE.** *(Systematic arrangements in progress **with all neighbour MSs of CZ** since the ELF.)*

Lessons learned 1

- INSPIRE provides useful tools (legal, coordination etc) to invoke and underpin NSDIs and ESDI development;
- but it is **not** a one-way linear development;
- The implementation provides lessons and detects existing limits:
  - fulfilling of some principles as seamless requires **further efforts**, stakeholders and time - beyond the original INSPIRE outline;
  - the infrastructure needs a **sustainable maintainance** and innovation,
  - a coordinated **cooperation of many stakeholders** (including new ones) inside MSs, EC and cross-border partners will still be needed to develop functional products for public administrations across the EU;
  - To build up and administer a stable, sustainable infrastructure to underpin public administration services and decision-making across the **whole** EU+ remains **a challenge**. *(It reminds on the situation at MSs 15-20 years ago.)*

Lessons learned 2

- **EuroGeographics (EC)** enables several forms of communication and collaboration of NMCAs and their experts:
  - **KENs** (knowledge exchange networks),
  - **Pilot projects** with focus on interoperability, where NMCAs as participants can share experiences, contribute to developing and testing prototypes of new products, and provide mutual support to some extent.
- Despite trials **neither EG** (as a professional thematuc NGO) **or its members can provide** (due to their status, limiting competences or budgets) a technically stable and economically sustainable infrastructure for pan-EU+ location services to underpin future cross-border administrative procedures and decision-making at the EU.

Lessons learned 3

- Specific decisions of public administrations and services at the EU MSs rely on **authoritative location data** (and strictly defined processes for related editing, decision making and access required at national and local levels).
- The current tendency of some EC bodies to use information products **underestimating authoritative location data** (and related rules) may provide misleading decisions (even if based on out-dated open data). A differentiation of **information purposes and relevant information products** and services is needed to avoid undermining of subsidiarity principles. The issue requires awareness raising, serious debate and new solution(s).
- Reaching a consistency between **topographic and administrative data concerning border-lines** requires a range of systematic works (technical arrangements need to be supported by inter-ministerial communication, legal or methodical up-dates, awareness raising etc.)

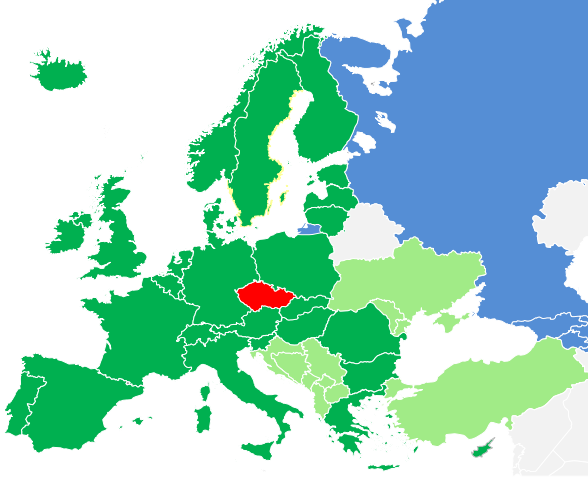
What was the impact of ELF and INSPIRE?

INSPIRE *provides or reinforces:*

- A **joint legal basis** for the ESDI
- **Coordination structures** at (sub)national and EU levels
- A **broad use** of standardized **metadata** > easier search for geodata and related services
- Provision of interoperable **webservices** to discover, view and download existing sets of spatial data
- **Common rules** to harmonize thematic data across EU+
- ELISE links INSPIRE with ISA^2 and eGov.
- A number of **practical situations had not been recognized during the INSPIRE planning** period or did not exist before.

ELF *supported and tested:*

- **Implementation of INSPIRE by NMCAs** through a coordinated effort, sharing experiences, testing, ELF specifications and tools; feed-back,
- **Cross-border and pan-European aspects** via comparison, detecting issues, developing new products.
- Functional **prototype components**: *topoBM, cadastral index map, gazeteer (with use of MSs' data/services)*
- **ELF platform** - a prototype one-access point to authoritative, interoperable services and data for thematic applications: cross border (and in EU+); **BUT** it illustrated:
  - the 3-years were **not enough for a seamless data coverage** and interoperable services for the whole of EU+ (due to several reasons).
  - The **pilot project approach** not suitable to develop and set up an ESDI requiring a central ICT infrastructure ect



Questions?
Thanks for your attention.

Eva.Pauknerova@cuzk.cz

http://geoportal.cuzk.cz
http://inspire.gov.cz/

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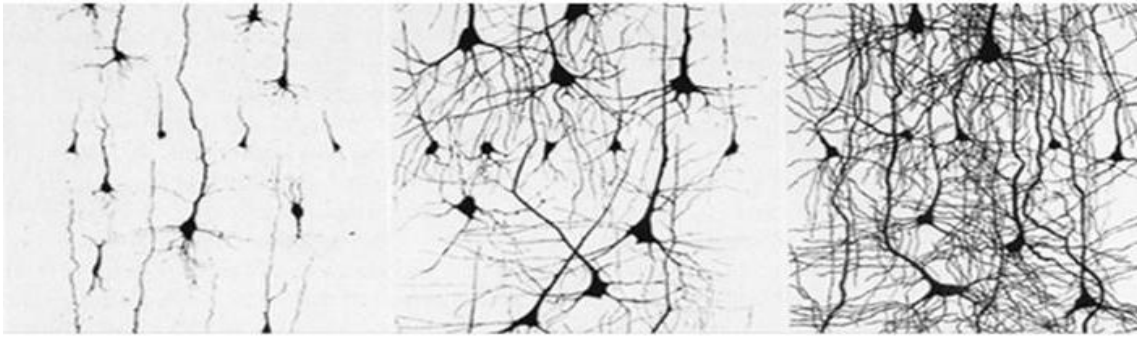
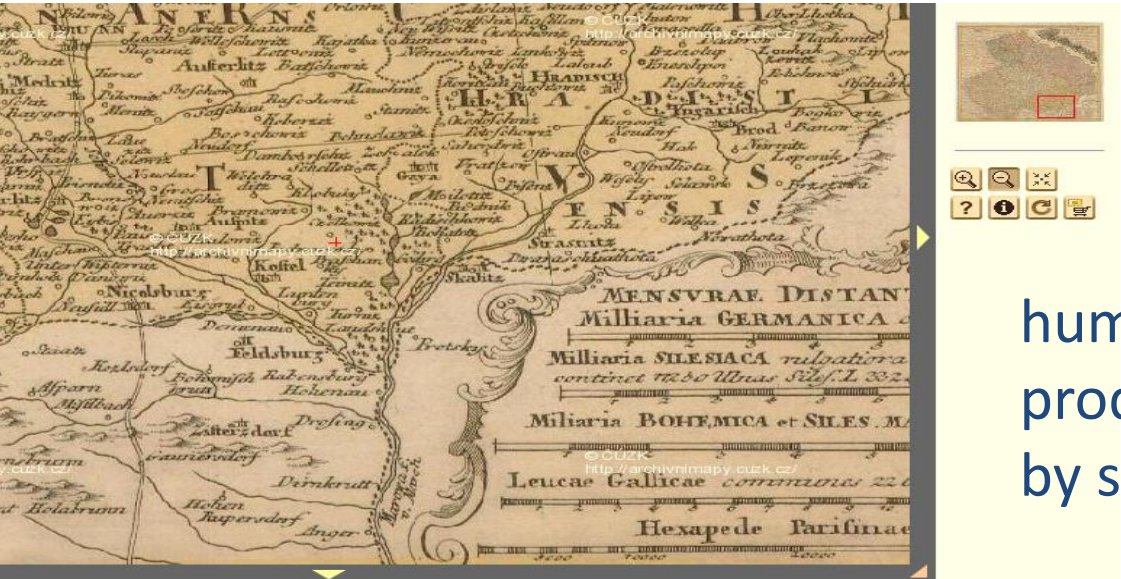
Too complex ?!?

The life never has been easy, but



Source: www.luminosity.com



human brains and their/our products can be improved step by step.

Diversity of LMOs and their competences

(ELF services as provided in autumn 2016)

	BE	CZ	DK	FI	FR	GE	HU	IS	EI	LV	LT	NL	NO	PL	PT	RS	SL	ES	SE	GB
	Belgium	Czech Rep.	Denmark	Finland	France	Germany	Hungary	Iceland	Ireland	Latvia	Lithuania	Nether-lands	Norway	Poland	Portugal	Serbia	Slovenia	Spain	Sweden	GB
ELF Basemap - regional/global																				
ELF Basemap - master																				
ELF Cadastral Index Map																				
Geolocator																				
ELF Regional Themes																				
Addresses																				
Administrative Units																				
Buildings																				
Cadastral Parcels																				
Elevation																				
Geographical Names																				
Geology																				
Hydrography																				
Land Cover																				
Protected Sites																				
Sea regions																				
Transport Networks																				

= available = will be implemented by project end = implemented, but restricted for consortium use only

ELS: Data from multiple providers

Coordinating the supply

Dorus Kruse

Topics

- The approach in ELF and Open ELS;
- Task 3 in Open ELS: Data supply coordination;
- Challenges:
  - Technical challenges
  - Governance issues
  - The devil is in the details
- Lessons learned;
- Next.

The approach in ELF

- Cascading service;
- Inspire services as is;
- Showcase application only;
- Data providers partner of EU funded project;
- Focus on WFS’s.

ELF services summary

	BE	CZ	DK	FI	FR	GE	HU	IS	EI	LV	LT	NL	NO	PL	PT	RS	SL	ES	SE	GB	
	Belgium	Czech Rep.	Denmark	Finland	France	Germany	Hungary	Iceland	Ireland	Latvia	Lithuania	Nether-lands	Norway	Poland	Portugal	Serbia	Slovenia	Spain	Sweden	GB	
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The approach in Open ELS

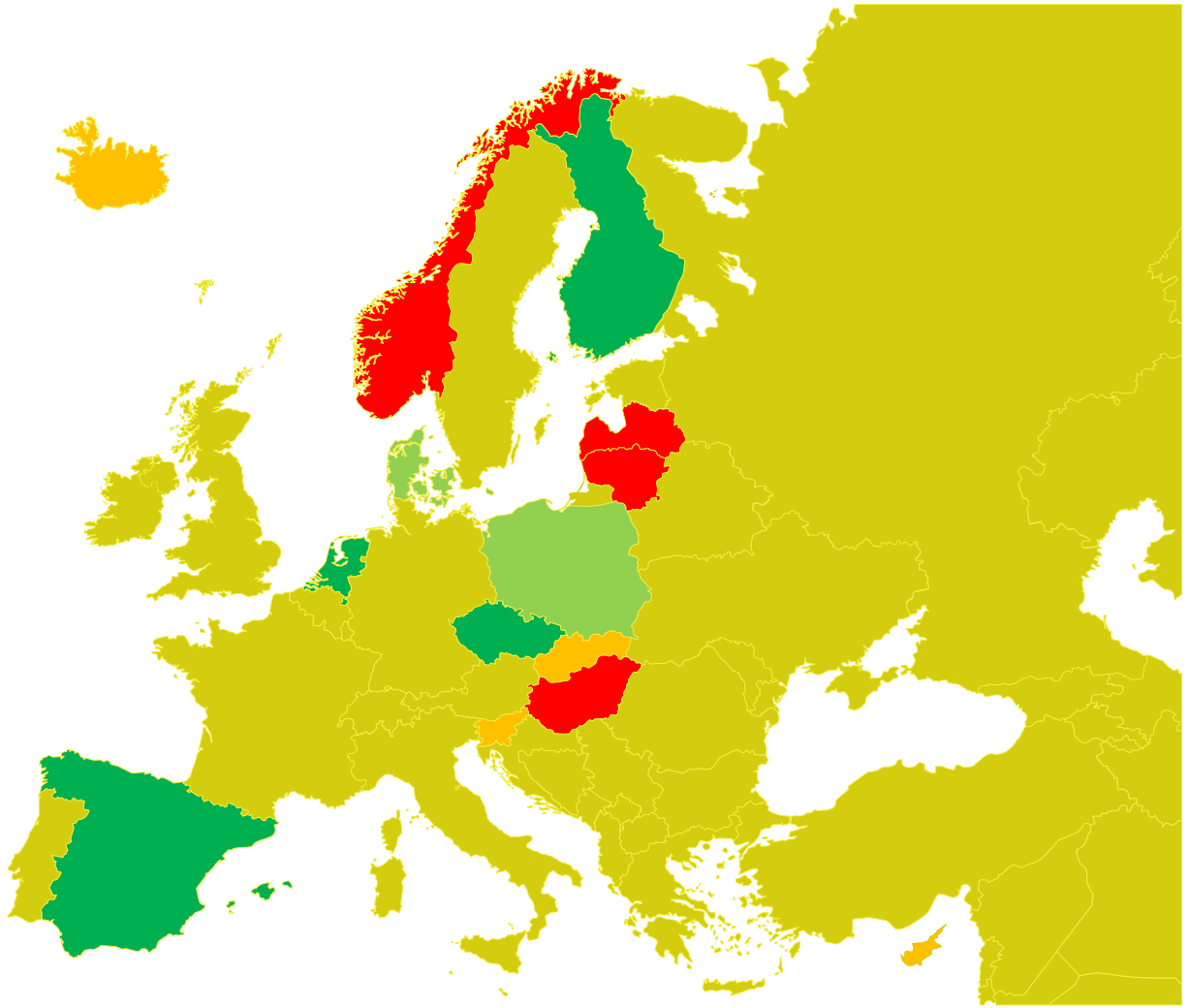
- Cascading service;
- Data quality checks;
- Open Data licence agreement;
- No funding for providing data;
- Focus on products and data needed for these products.

Task 3 in Open ELS: Data supply coordination and Data quality

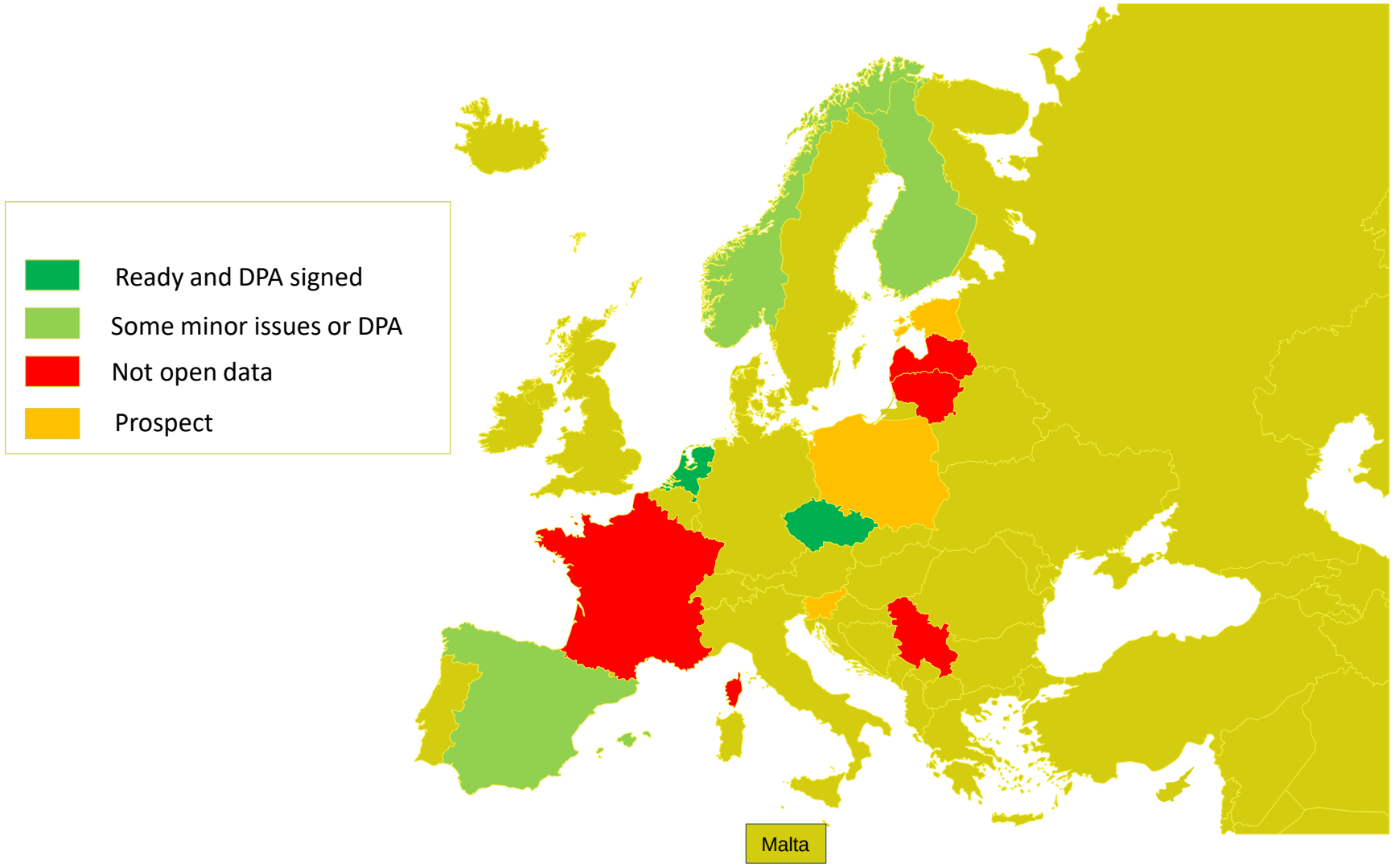
- Focus on products;
- Only accepting validated data;
- Need for signed data agreements;
- Budget for capacity building.

Cadastral Index Map

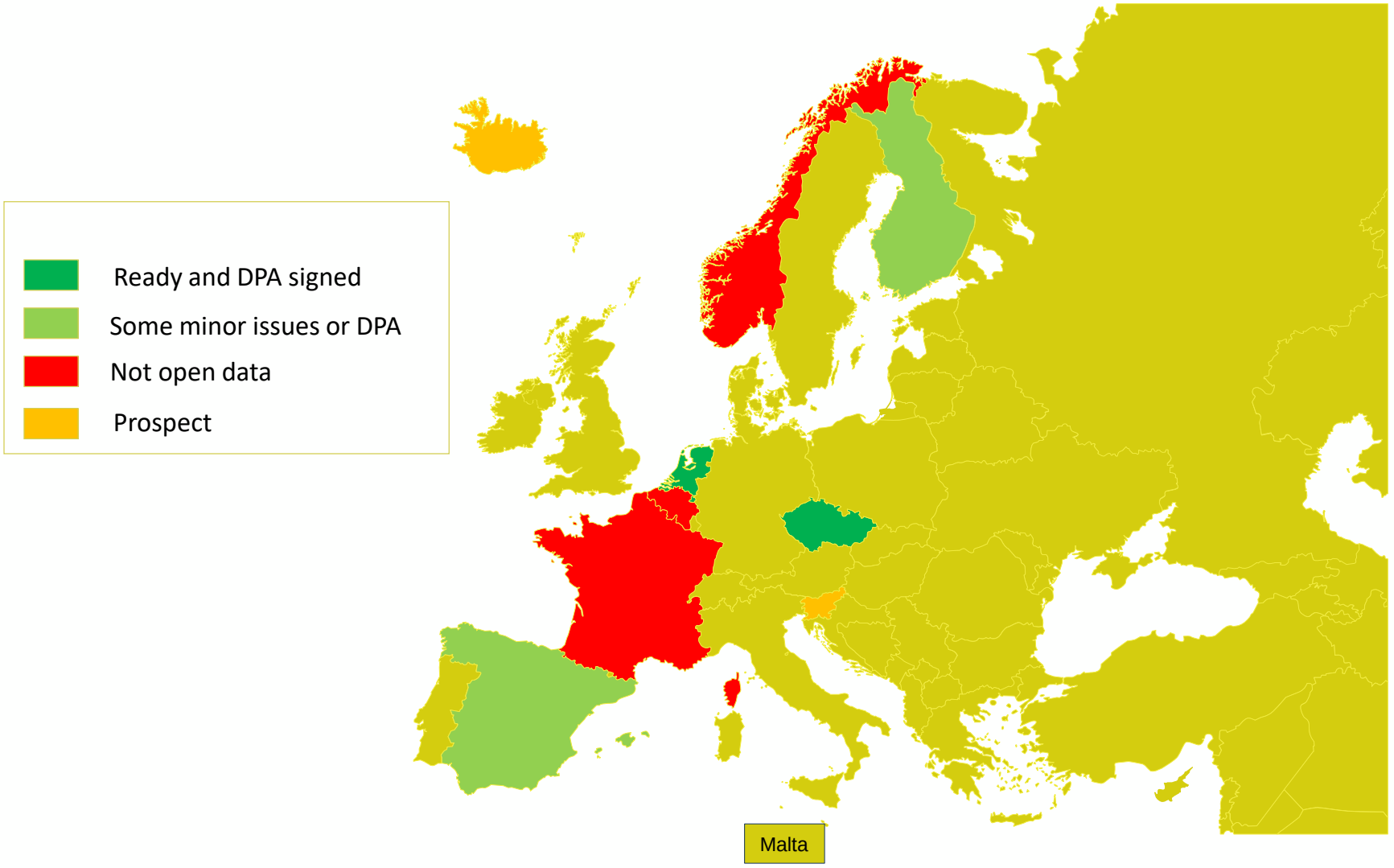
- Ready and DPA signed
- Some minor issues or DPA
- Not open data
- Prospect



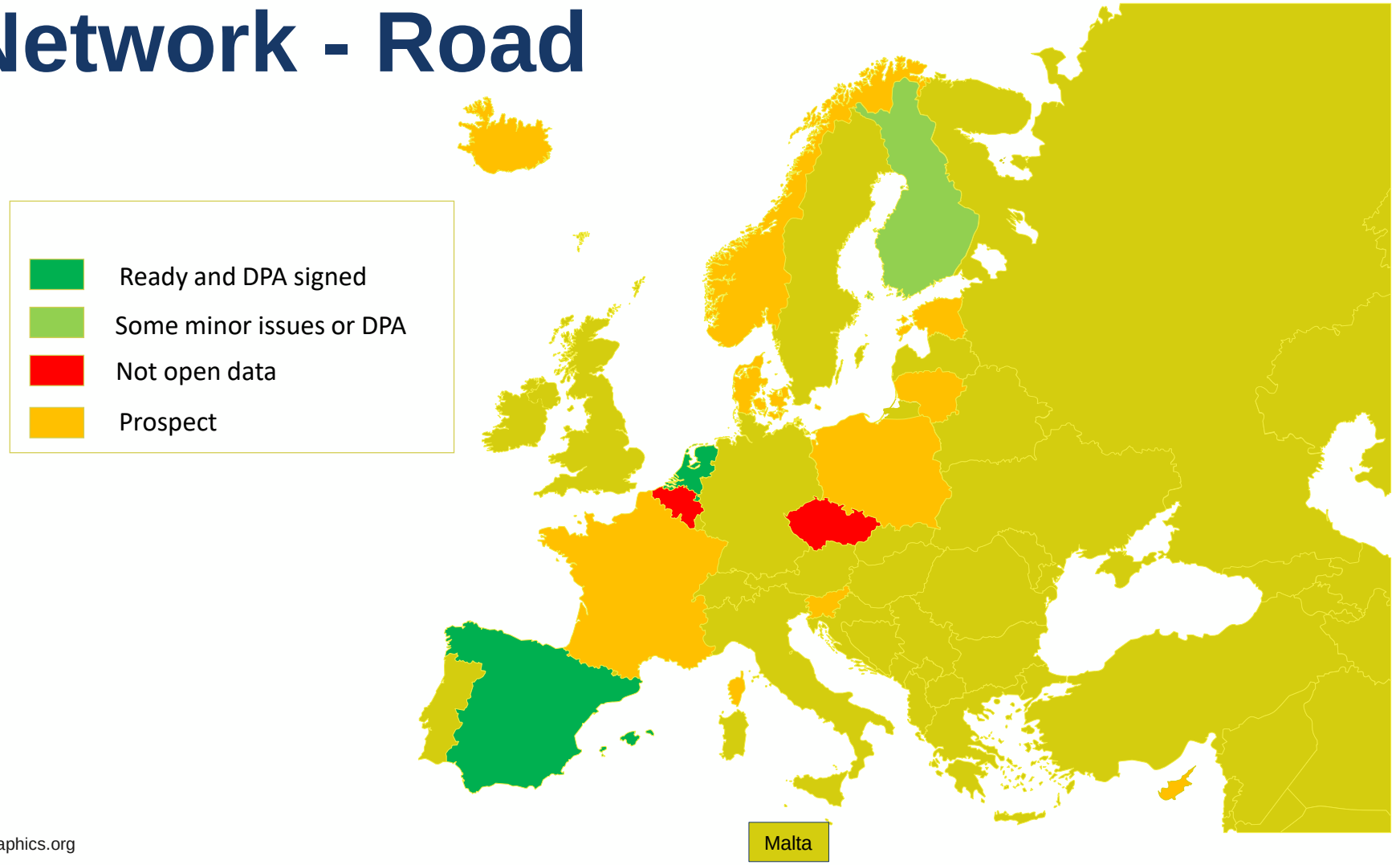
Addresses



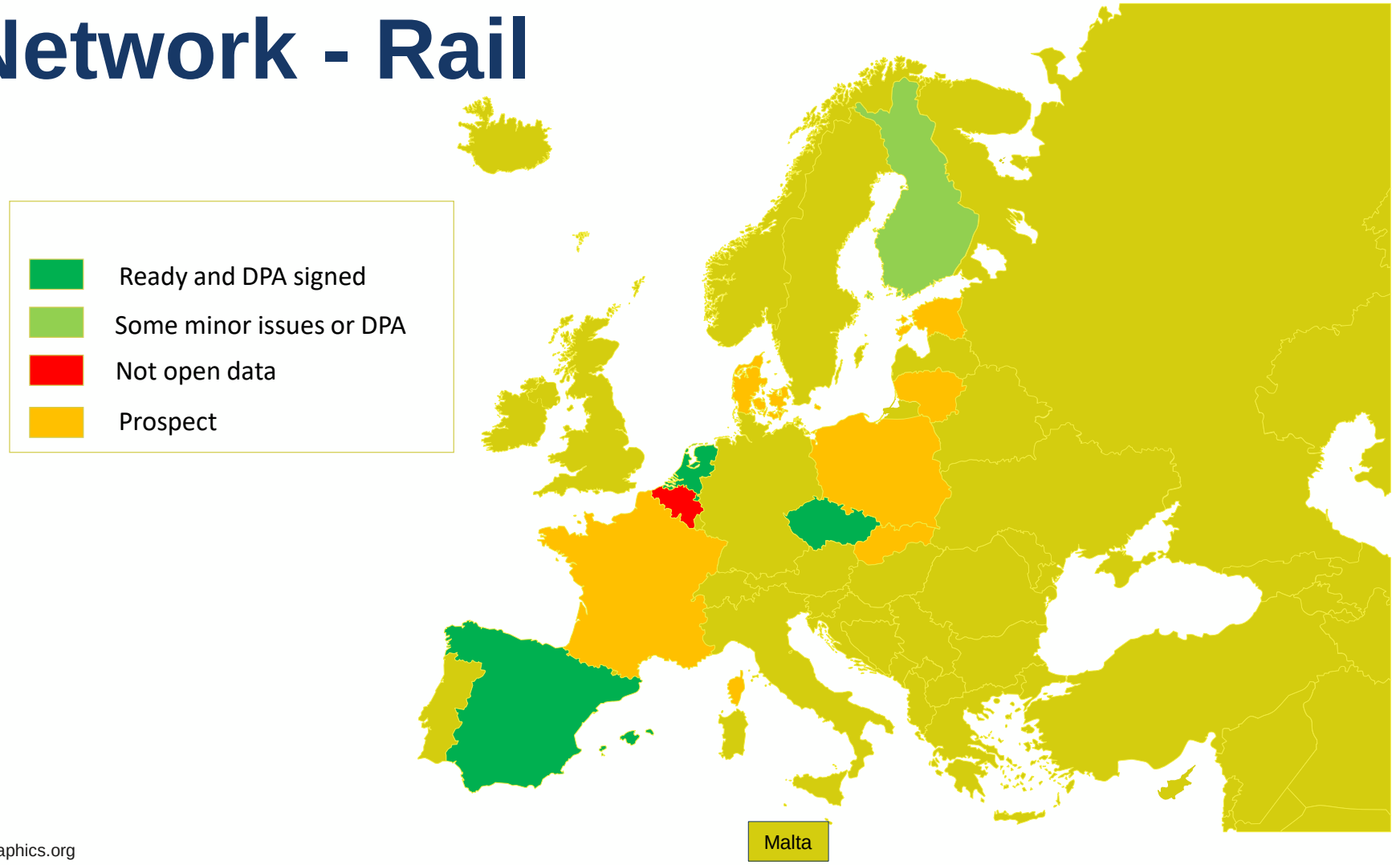
Buildings



Transport Network - Road



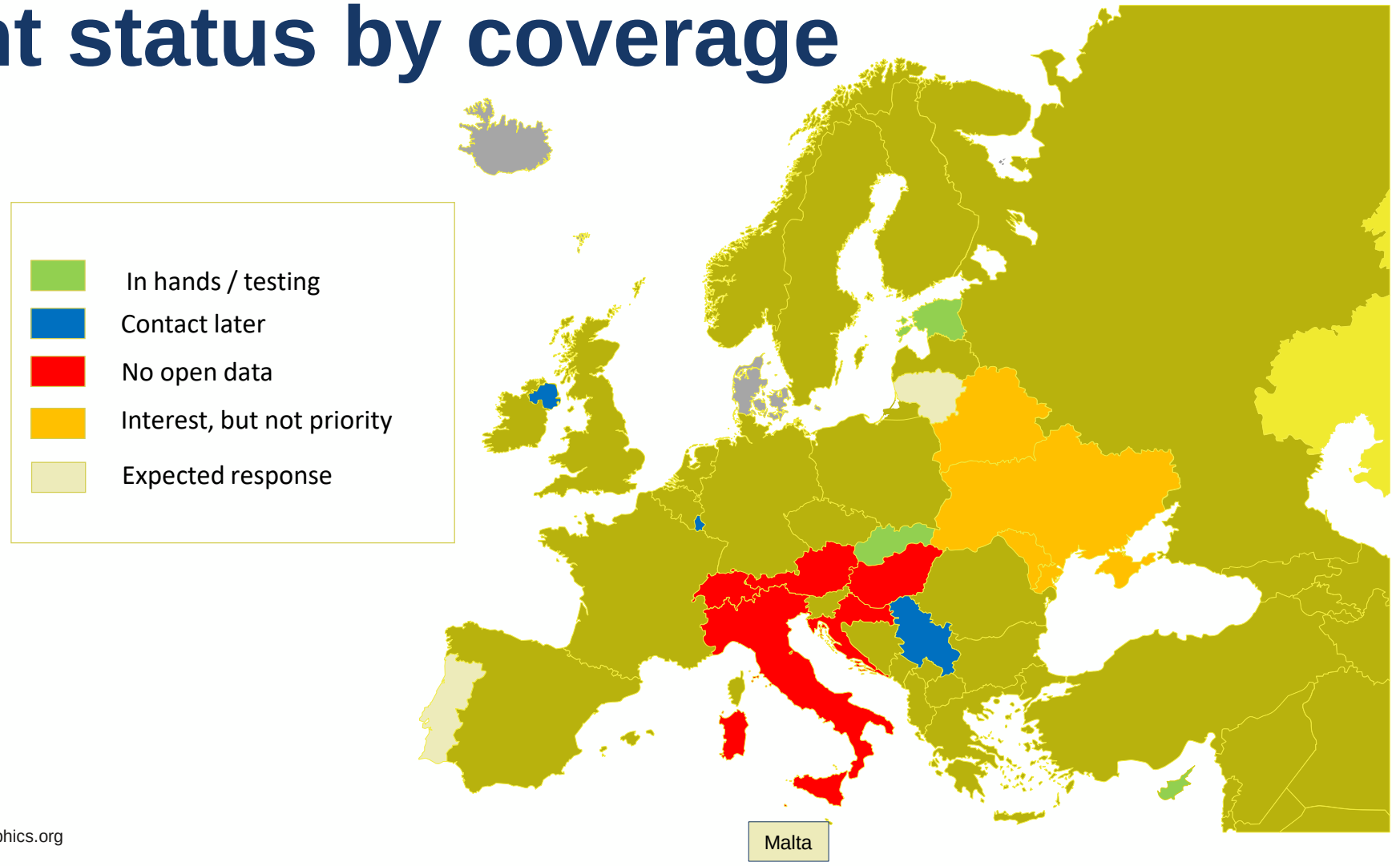
Transport Network - Rail



Challenges

- Technical challenges:
  - ETF validation;
  - Capacity building;
  - Signed agreements;
  - Difficult WFS specs.
- Governance issues:
  - No funding for providing data;
  - No real users or first adopters ready;
  - National priorities;
  - Architecture depending on national services and performance.
- Organisational challenges:
  - EU Grant Agreement versus Agile development;
  - no sale = no data;
  - Partner agreement regarding deliverables, not on data.

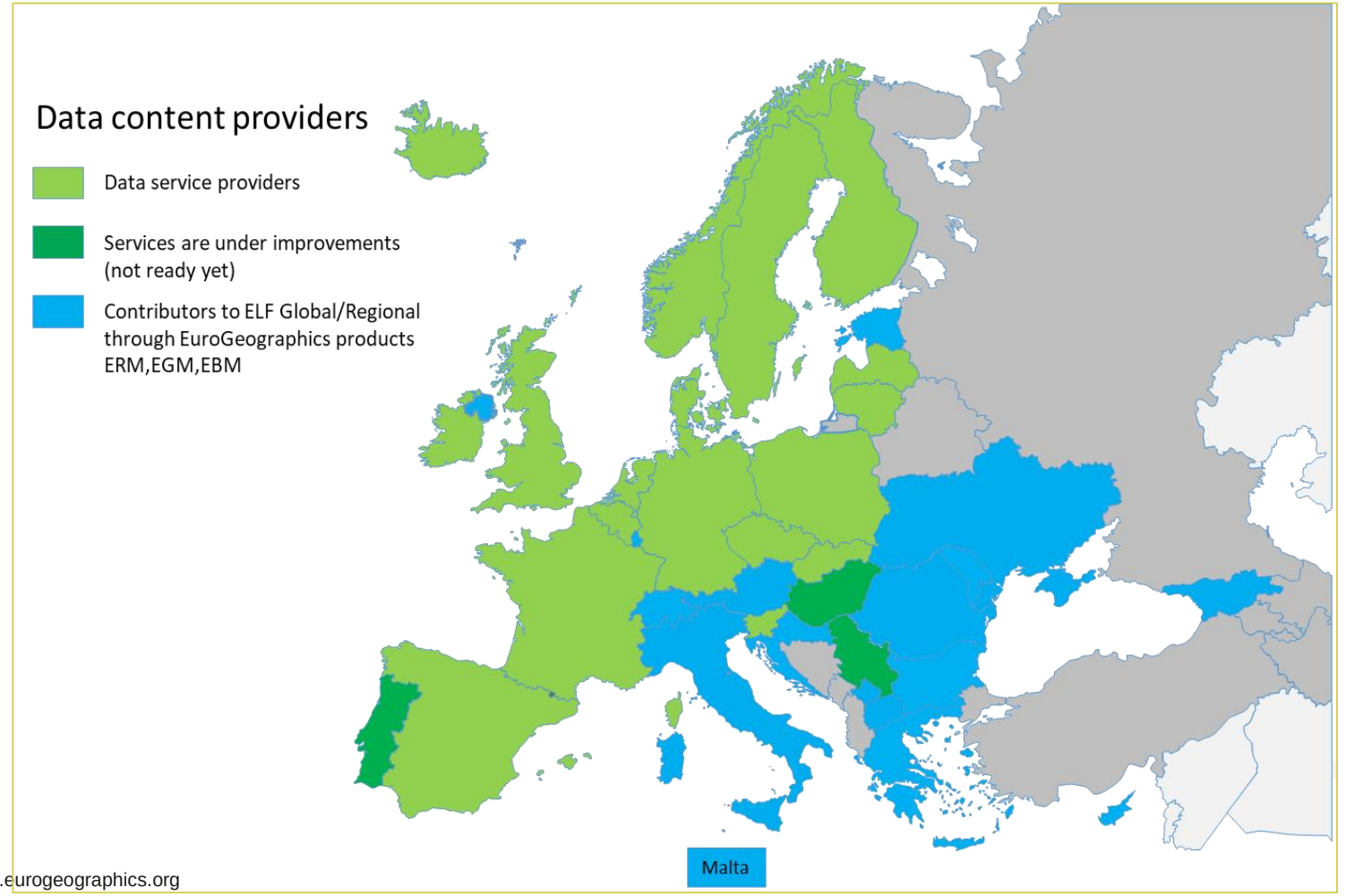
Engagement status by coverage



Lessons learned

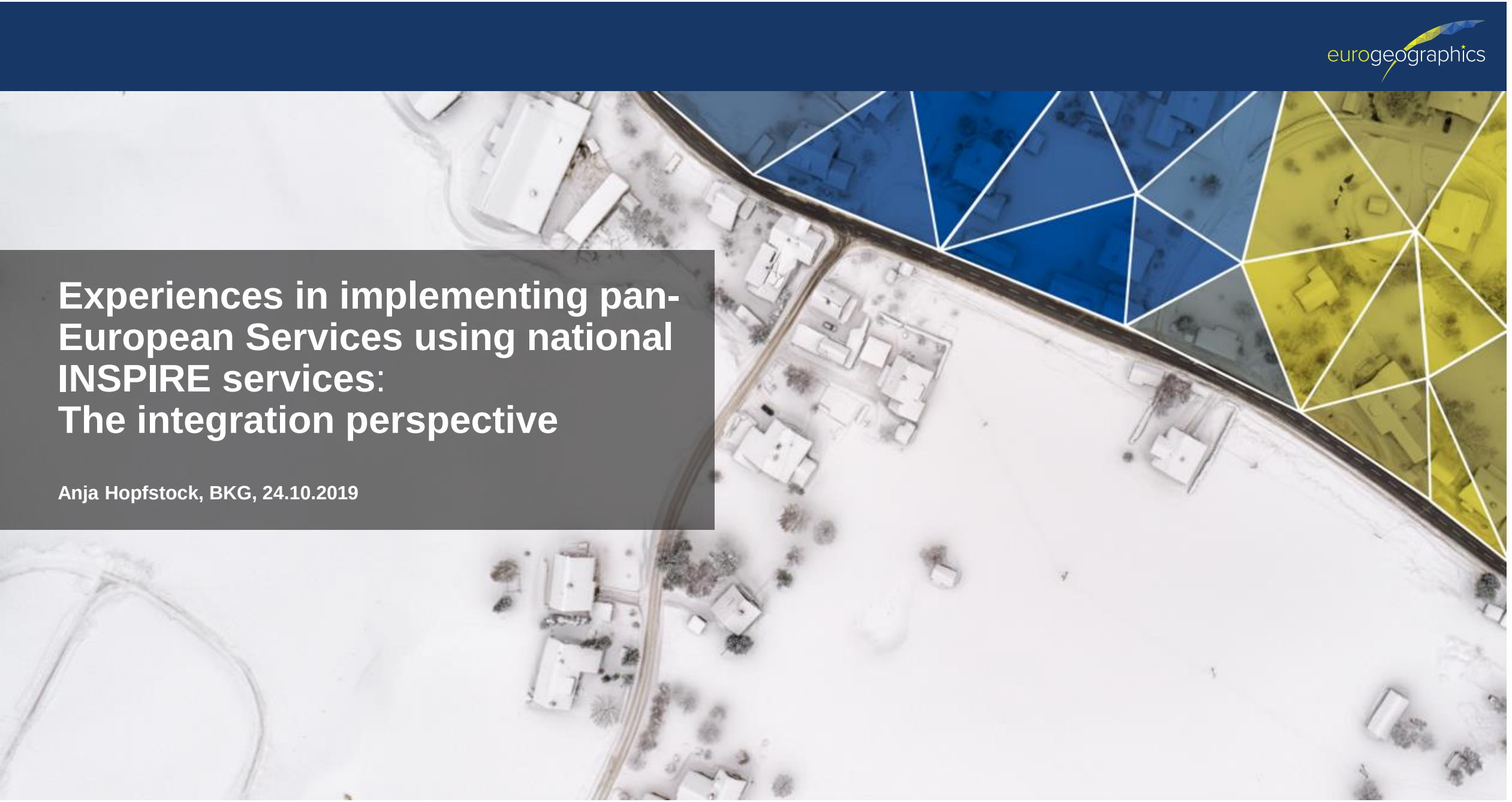
- Change architecture;
- Funding needed for providing data;
- Agile development (involvement users);
- WFS 3.0;
- Compliancy with MQA, metadata DCAT-AP, multilingual;
- User orientation and user requirements;
- Coalition / community of the willing.

The potential coverage of Data providers in ELS



Next

- WFS 3.0 !!
- Centralised system.
- Privacy and security means Authoritative data.
- Coalition of the willing !!



Experiences in implementing pan-European Services using national INSPIRE services: The integration perspective

Anja Hopfstock, BKG, 24.10.2019

Agenda

- Assembling multi-country datasets – centralized approach
- Core Reference Dataset (CRD)
- Data integration experiences – lessons learned

Assembling multi-country datasets

Decentralized approach

National INSPIRE services → automatic harvesting → European Location Services

- assumed to be complete, quality assured and harmonized

- services
- multi-purpose
- all topographic INSPIRE themes
- pan-European coverage

Centralized approach

National INSPIRE services → Assembling and harmonization by central production team → Core Reference Dataset (CRD)

- assumed to be complete and quality assured

- dataset
- specific use case
- limited content, simplified INSPIRE
- pan-European coverage

Core Reference Dataset (CRD)

EuroGeographics wanted to create a

- Reference Data set (not a service)
- at Master Level of Detail (scale 1:10.000 to 1:50.000)
- for all of Europe → provided through one Point of Contact
- make use of **INSPIRE-** / ELS-Data provided by NMCAs

But:

- Limited content, only few themes, only basic attribute information → “Core”
- Easy to use → Simplified data model
- Harmonised at international boundaries
- Centralised data production

Easy to use

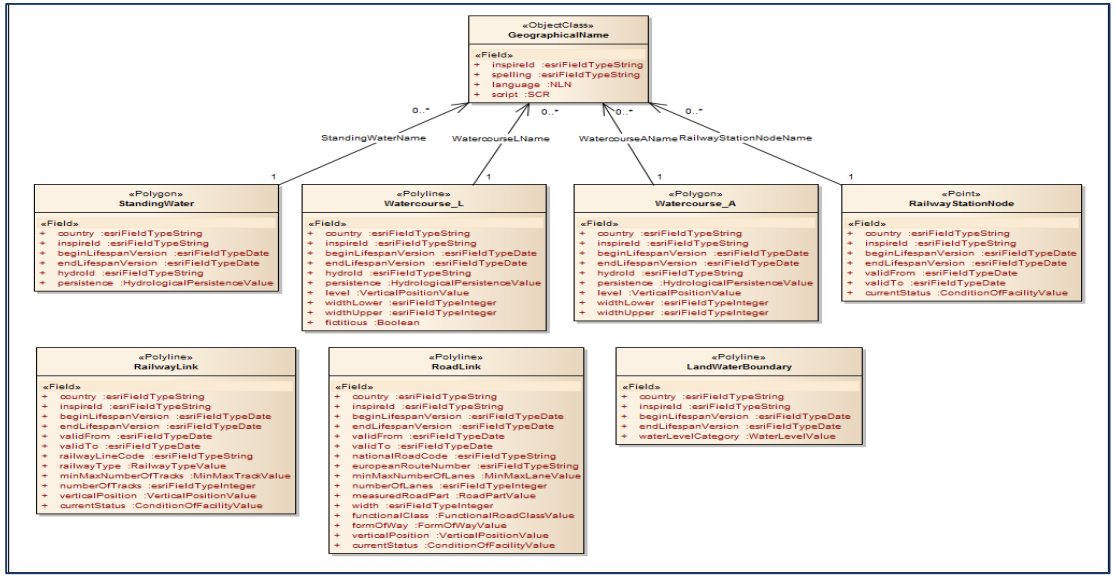
Limited content

- **Hydrography:** Watercourse, StandingWater, LandWaterBoundary
- **Transport Network:** Road Network, Railway Network including RailwayStationNode
- Only few basic attributes

Simplified data model

Flat structure means:

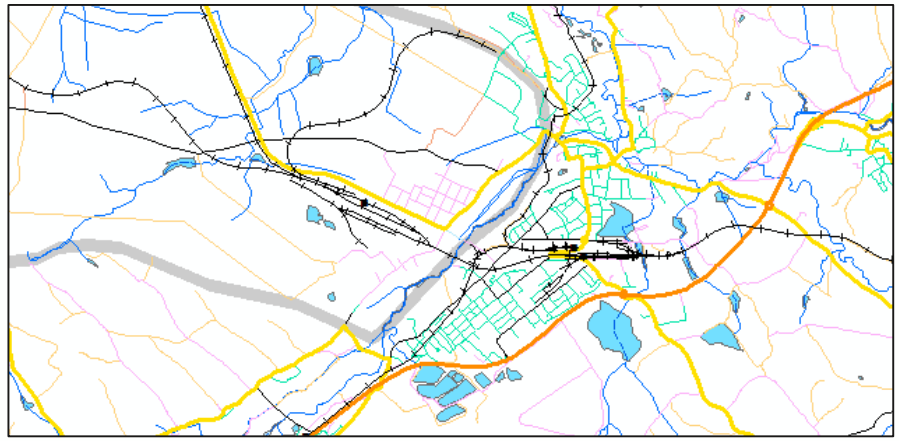
- Only direct attributes for properties
- No connected tables (except for Geographic Names)
- No linear referencing
- Only one geometry type per feature



Production steps by central production team:

- Receiving data delivery from NMCAs → mainly as dataset and not by services
- If needed: transformation to CRD data model
- Basic quality checks → but CRD relies on the quality checks done by NMCAs for the original data
- Edge matching on international boundaries → semi-automatic
- Final assembly of CRD → documentation, metadata

➢ Prototype of CRD including 3 countries: Austria, Czech Republic, Slovakia



Assumptions at the beginning

Data delivery: INSPIRE data delivered by INPIRE service (download service, WFS)

Transformation: done by production team

Content: all content available → Annex I themes

Data quality: data is quality checked as data is the official national INSPIRE data

Edge matching: main task of the production team

Lessons learned: data delivery

WFS not suitable because:

- Access difficult (because text only in national language)
- Download of whole country not possible
- Connections not stable
- In some countries: Complex registration procedures (in national language)

Recommendations for data providers:

- Make data available as downloadable dataset
- Avoid complex access restrictions → provide real open data

Lessons learned: transformation

Data provider prefer direct transformation to simplified CRD model, because:

- INSPIRE data models too complex
- National INSPIRE implementation obviously not perfect

Recommendations for INSPIRE evolvement:

- Simplify data models and streamline the models of the different themes

Recommendations for data providers:

- Take INSPIRE implementation serious and provide meaningful content
- Collaborate with other data providers to understand the INSPIRE data models and its implementation

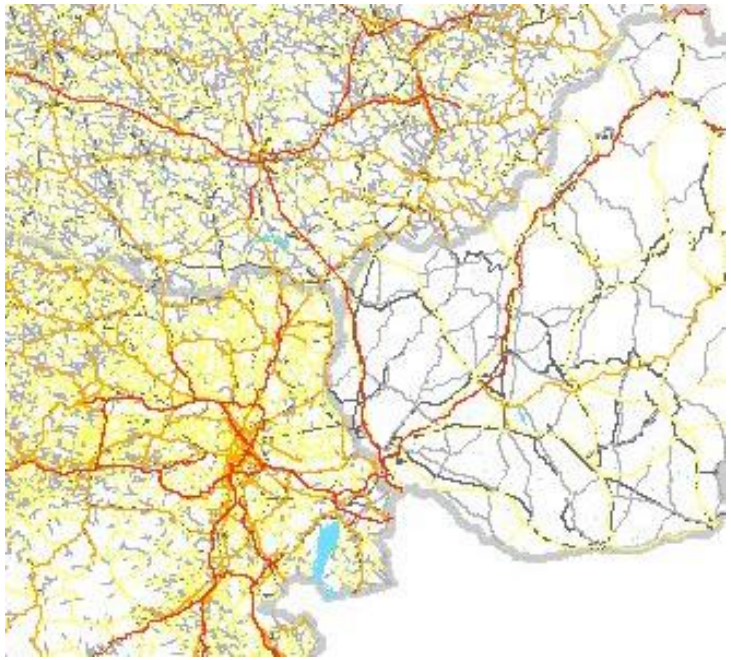
Lessons learned: data content (I)

- Not all information (feature types, attributes) available as INSPIRE data → some countries use additional sources for CRD
- Voidable (and even mandatory) attributes empty
- Common understanding of selection criteria is critical

  → semantic harmonisation

Missing attribute values (Example RoadLink):

Country	InspireId	Begin Lifespan Version	End Lifespan Version	ValidFrom	ValidTo	National RoadCode	European Route Number	MinMax NumberOf Lanes	NumberOf Lanes	Measured RoadPart	Width	Functional Class	FormOf Way	Vertical Position	Current Status
A	100	100	0	0	0	6	0	100	100	0	0	100	100	100	100
B	100	100	0	0	0	28	0	0	0	0	0	100	0	100	100
C	100	100	0	0	0	13	0	0	0	100	53	100	100	100	98
D	100	100	0	0	0	11	1	86	86	86	86	100	100	100	86
E	0	0	0	0	0	4	0	0	100	98	0	97	100	99	100
F	100	100	0	0	0	47	1	0	30	0	0	100	100	100	100
G	100	0	0	0	0	15	0	0	54	100	54	89	100	100	100
H	0	0	0	0	0	31	0	0	0	0	0	100	100	0	100
I	100	100	0	0	0	100	0	0	0	0	0	0	0	0	0



Varying density of road network

Lessons learned: data content (II)

Recommendations for INSPIRE evolvement:

- Make relevant attributes mandatory

Recommendations for data providers:

- Provide as much information as possible
- Take into account the use cases
- Respect the recommendations for core content and selection criteria of topographic data (see ELF as well as UN-GGIM: Europe)

Lessons learned: data quality

- Even simple quality checks show errors (short lines, geometrical errors, gaps between adjoining surfaces, semantic errors)

Recommendations for INSPIRE evolvement:

- Provide requirements for data quality

Recommendations for data providers:

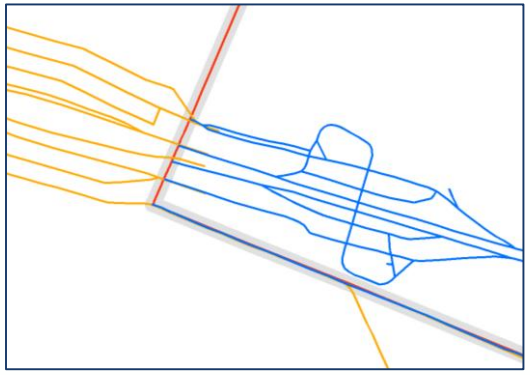
- Improve data quality of national source data
- Implement quality checking workflow
- Document data quality

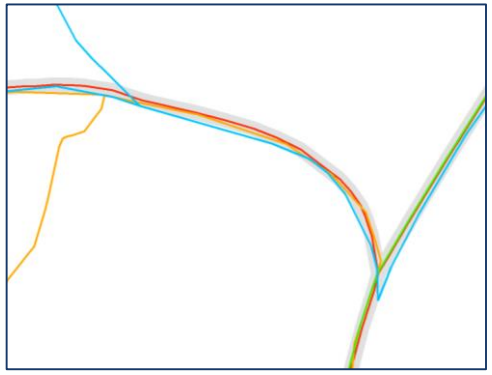
Lessons learned: edge matching

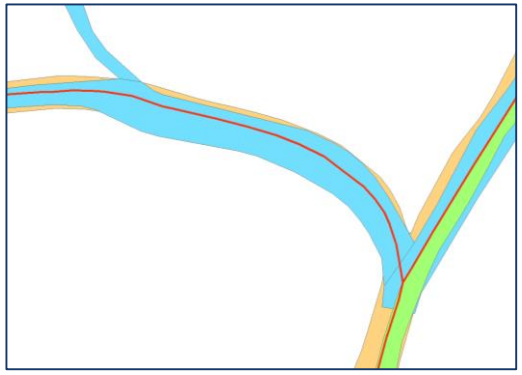
- Neighbouring countries use different boundary lines
- Delivered data overlapping neighbouring country

Recommendations for data providers:

- Agree on common border represenation with neighboring countries
- Edge match national source data to reach cross-border harmonisation of topographic data







Summary: Lessons learned

Recommendations for INSPIRE evolvement:

- Simplify data models and streamline the models of the different themes
- Make relevant attributes mandatory

Recommendations for data providers:

- Make data available as downloadable dataset → simplify access to data
- Deliver meaningful content → use cases „topographic data“
- Respect the recommendations for core content and selection criteria of topographic data
- Collaborate with other data providers to understand the INSPIRE data models and its implementation → achieve better semantic harmonisation across borders
- Edge match national source data → achieve better geometric harmonisation across borders

Thank you for your attention

Contacts

EuroGeographics:

Primary contact, Pricing and Licensing: angela.baker@eurogeographics.org

BKG

CRD Production team: sonja.werhahn@bkg.bund.de

Implementing pan-European Services using national INSPIRE services: Strategic lessons learned

Mick Cory,
Secretary General & Executive Director
Helsinki, 23 October 2019

ISSUES to be resolved

Legal

- Multiple legal jurisdictions
- Centralised licensing framework vs national requirements
- Multiple agreements required
- Impact of Open Data Psi Directive?

Policy

- Different National data policy regimes
- Different interpretations of privacy
- Government data policy differs (eg Open Data)
- Impact [illegible] PSI

Financial

- Sustainability

Technical

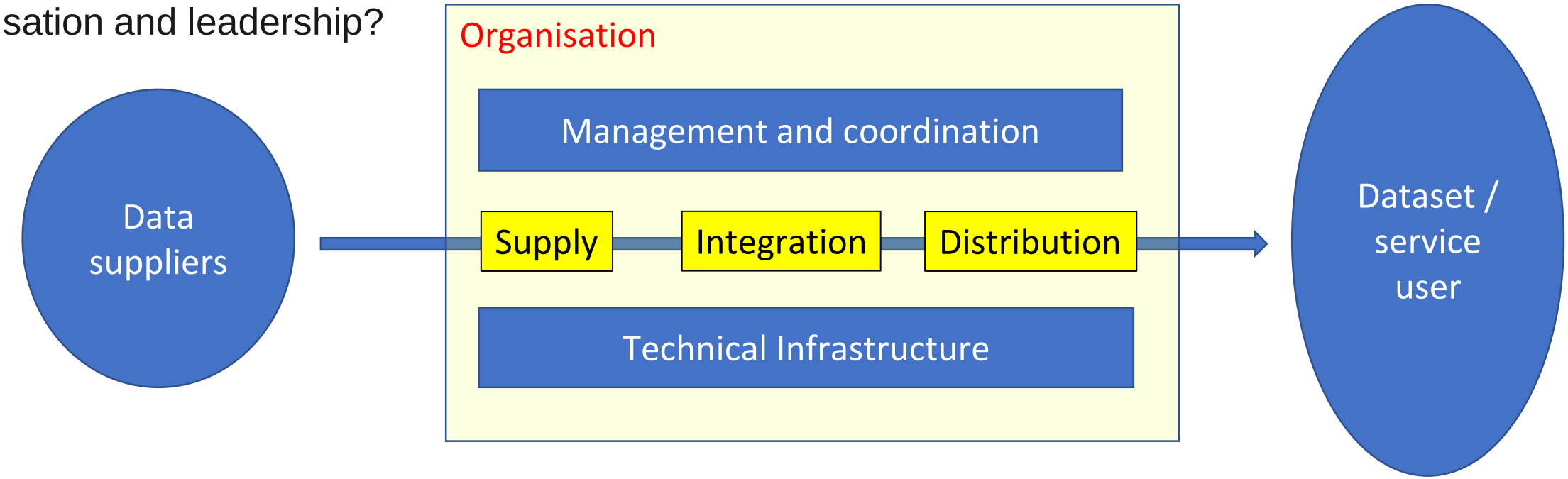
- Data model interpretation
- Complex data schema
- Client software issues
- Version control
- Infrastructure (Centralised vs distributed)
- Data Content!

Sustainability

Who pays?

Who manages / coordinates?

Organisation and leadership?



Leadership needed! A coherent approach to European geospatial policy?

- INSPIRE Directive is now 12 years old; concept is much older!
- Things have moved on; technically and politically
- New entrants, new data; AI, big data, earth observations, new technologies
- UN GGIM policy framework – global sustainable development goals
- Integrated geospatial implementation framework
- What next for INSPIRE?

- Who will take the lead in Europe?

Workshop

“Experiences in implementing pan-European services using national INSPIRE services “

Conclusion

23 October 2019

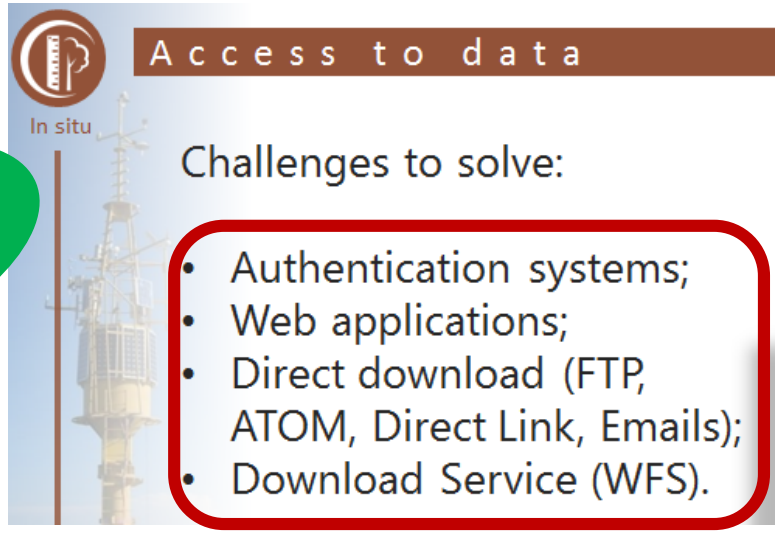
Use of INSPIRE data

- INSPIRE KEN Workshop held on November 2018
- Rationale:
  - INSPIRE benefits widely recognised for supporting national and European SDI (discovery, coordination, …)
  - **But limited use of INSPIRE (interoperable) data**

Barriers: easy access to data

- **Variety and limits of download services**

ELF



EEA integration test on theme AU

- "Most of our requirements cannot be met together in a **distributed SDI infrastructure** : Integration, edge-matching, generalisation »

CRD

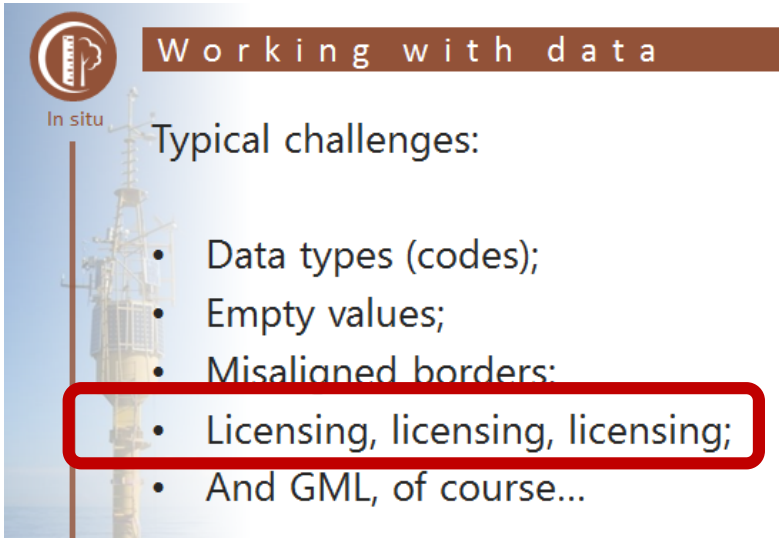
Eurostat not so much interested by the INSPIRE puzzle

Barriers: legal access (licensing)

- Is it easy to understand access conditions to INSPIRE data?
  - Not enough according users

Open ELS

From EEA presentation



From HERE presentation

Barriers: difficult use

- Complex INSPIRE data models not easily usable in GIS
- Not everyone familiar with GML

Conclusions

- Harmonized complex features generally don't work in GIS-tools
- You need to be a GIS, OGC and INSPRE export to download data
- Retrieving cross border geodata is still troublesome and the Annex I deadline of November 2017 has not been reached, but 10 years ago, it was all much worse

Use of INSPIRE data for X-border accessibility assessment

What would be more useful for MSP?

WMS + INSPIRE portrayal rules already useful

To easily be able find out in which data a certain code list value is being used -> integrate that as a separate layer

Less scale restrictions in providing data overview through WMS

Provide distinctly different values as different layers in the WMS

Simple encoding with simple data content – the users are planners.

INSPIRE - Infrastructure for Spatial Information in Europe

CRD

Use of INSPIRE data for Marine Spatial Planning

Main learnings from EuroGeographics initiatives

- *Benefits : attempts to face the main issues met by users when willing to exploit INSPIRE data*

- But some disappointment
  - Main potential pan-European user (European Commission) has shown
    - Limited interest for INSPIRE data
    - Limited support (funding)

Conclusions

- We should not forget the positive side of INSPIRE

Conclusions

- Harmonized complex features generally don't work in GIS-tools
- You need to be a GIS, OGC and INSPRE export to download data
- Retrieving cross border geodata is still troublesome and the Annex I deadline of November 2017 has not been reached but 10 years ago, it was all much worse

- Next INSPIRE KEN event
  - Webinar about "INSPIRE by inspiration and not by obligation"
  - Date not yet fixed (end 2019)

Conclusions

- INSPIRE often considered as first step towards interoperability

- Workshop objective was to share EuroGeographics experience and to help on the next steps
  - Useful input today
  - Hopefully, discussion to be continued in Dubrovnik …