European INSPIRE Directive and Location Interoperability

ISO/TC211 “Standards in Action” Seminar
27/11/2020
Agenda

1. Context for European (Location) Interoperability
2. ELISE as an enabler of location interoperability in Europe
3. INSPIRE and ISO: a close relationship for years
4. ELISE Studies & Frameworks & Solutions in the area
5. ELISE efforts towards semantic Interoperability
Context for European (Location) Interoperability – 1/2
Digital government is about:
• the use of digital technologies
• as an integrated part of governments’ modernisation and transformation strategies,
• to create public value

It relies on a digital government ecosystem comprised of government actors, non-governmental organisations, businesses, citizens’ associations and individuals.

Location intelligence enables new ways of delivering public value and making services and government procedures digital by design.
The INSPIRE Directive establishes an infrastructure for spatial information in Europe to support Community environmental policies, and policies or activities which may have an impact on the environment.

The Directive addresses 34 spatial data themes:

**ANNEX: 1**
- Addresses
- Cadastral parcels
- Geographical grid systems
- Hydrography
- Transport networks

**ANNEX: 2**
- Administrative units
- Coordinate reference systems
- Geographical names
- Protected sites
- Geology
- Orthoimagery

**ANNEX: 3**
- Agricultural and aquaculture facilities
- Atmospheric conditions
- Bio-geographical regions
- Buildings
- Environmental monitoring facilities
- Human health and safety
- Meteorological geographical features
- Natural risk zones
- Population distribution and demography
- Sea regions
- Species distribution
- Utility and governmental services
- Area management / restriction / regulation zones & reporting units
- Energy Resources
- Habitat and isotopes
- Land use
- Mineral Resources
- Oceanographic geographical features
- Production and industrial facilities
- Soil
- Statistical units

Implementing Rules (IR) are adopted in a number of specific areas:
- Metadata,
- Data Specifications,
- Network Services,
- Data and Service Sharing
- Monitoring and Reporting
INSPIRE Directive - Roadmap

Next step:
- European Data Ecosystems
- Support to EU Green Deal
ISO standards as the INSPIRE ‘building blocks’

- **ISO standards** underpin the establishment of the pan-European data infrastructure as defined by the INSPIRE Directive.
- The standards are extensively used for the creation of non-legally binding INSPIRE Technical guidelines documents.
- ISO standards are used as ‘building blocks’ for the:
  - encoding of data and metadata,
  - and network services for discovery, viewing and downloading of data.
Benefits for the users

- Some larger scale benefits as seen by the European Commission’s JRC:
  - Improved transparency in sharing geospatial data
  - Optimised processes within and between different organisations
  - Easy sharing of data across different borders (e.g. regional, national) and different application domains
  - Better interaction of users and providers of data
  - Minimising the risk of vendor lock-in
  - Standards are a catalyst for data-driven innovation

- INSPIRE implementers are encouraged to consider submitting **Good implementation practices** based on different standards (e.g. ISO) and technologies
ELISE as enabler of *Location Interoperability* in Europe

- **European Interoperability Programme**
- **cross-border** and **cross-sector** Interoperability solutions
- for **public administrations**, **businesses** and **citizens**

- **54 different actions** tackling **interoperability** from different angles
- **ELISE** action is the **only** action focusing on the **location dimension**
ELISE Studies on Location-enabled Digital Government Transformation

- Assessment of economic opportunities and barriers related to geospatial data in the context of the Digital Single Market
- Digital Government Benchmarking
- Exploring Digital Government Transformation in the EU (DigiGov)
- Guidelines for public administrations on location privacy
- INSPIRE support to Multi-Modal Travel Information Services
- The role of Spatial Data Infrastructures in the Digital Government Transformation of Public Administrations
- Study of the terms of use applied in the INSPIRE resources and their usability barriers
- Artificial Intelligence (AI) in the public sector
- Architectures and Standards Guidelines for Spatial Data Infrastructures (SDI) and Digital Government
- Data Ecosystems for Geospatial Data
- Facilitating access to INSPIRE data through APIs-API4INSPIRE

Check them at: https://joinup.ec.europa.eu/node/701948
ELISE Frameworks and Solutions

Access the Blueprint by focus area
- Policy and strategy alignment
- Digital government integration
- Standardisation and reuse
- Governance, partnerships, and capabilities
- Return on investment

Access the Blueprint by role
- Policy Maker
- Public Service Owner, Manager, and Implementer
- ICT Manager and Developer
- Data Manager/Data Scientist
- INSPIRE Data Publisher
- Private Sector Product and Service Entrepreneur/Developer

Watch the EULF Blueprint introductory video
Browse the online EULF Blueprint

Application: ELISE Frameworks and Solutions

Recommendation 12
Apply relevant standards to develop a comprehensive approach for quality data modelling, sharing, and exchange to facilitate integration in digital public services.
ELISE Frameworks and Solutions

ATS & ETS validating many ISO and ISO application profiles

https://inspire.europa.eu/validator

https://github.com/inspire-eu-validation
ELISE Frameworks and Solutions

ISO 19135 registration workflow implementation

https://inspire.ec.europa.eu/registry/

https://github.com/ec-jrc/re3gistry
Common Vocabularies are central to achieve semantic interoperability and they allow to be reused in innumerable ways. Cross-cutting aspects to connect the future European Data spaces.
ELISE efforts towards semantic Interoperability 2/2

- INSPIRE registry
- Re³gistry software
- Spatial Object catalogue
- INSPIRE in RDF - Linked data Ontologies
- INSPIRE in Practice platform
- INSPIRE Implementation and use vocabularies based on the GI Body of Knowledge
- GeoDCAT-AP Specification (Metadata management)
- LD proxy & web discoverability
- INSPIRE synonyms (On going)
- Knowledge Graphs (next)

Register here
https://joinup.ec.europa.eu/node/703535
Stay tuned

Join the *ELISE* community in JoinUp

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ELISE playlist