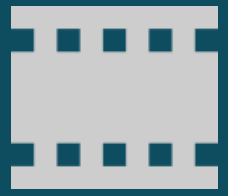
Thank you for joining us!

We will start shortly.



The presentation will be recorded

Mute your microphone

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Use the chat box to ask or comment

ELISE action
Webinar Series

Achieving Location Interoperability

Lessons learnt from ELISE Action and future perspectives

Massimo PEDROLI, Deloitte IT
Lorena HERNÁNDEZ, QUIRÓS European Commission JRC
Simon VREČAR, European Commission JRC (consultant)
Lily PANIAGUA, European Commission JRC (consultant)

28/04/2022 14:00 CEST (UTC+2)

European Location Interoperability Solutions for e-Government

Enabling Digital Government through Geospatial and Location Intelligence

ISA²

Our hosts

Simon VREČAR
European Commission,
JRC (External Consultant)

Lorena HERNÁNDEZ QUIRÓS
European Commission,
JRC

Our speakers

Tomaž PETEK
Surveying and Mapping Authority, Slovenia

Miguel ÁLVAREZ RODRÍGUEZ
European Commission, DG DIGIT

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European Commission, JRC

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Dagmara FRANCZAK
Deloitte

Massimo PEDROLI
Deloitte

Irene MAGNANI
Deloitte

What we will cover today

1 What is *location interoperability*?

2. Benefits and challenges of location interoperability

3. ELISE Action support to location interoperability: achievements and success stories

4. Recommendations, next steps and perspectives for location interoperability

5. The ELISE Action Final Report

6. Q&A

A BIT OF HISTORY...

2004

IDABC: Interoperable Delivery of European eGovernment Services

2010

ISA: Interoperability solutions for public administrations

- **Actions:**
  - EULF
  - ARE3NA

2016

ISA²: Interoperability Solutions for European Public Administrations, Businesses and Citizens

- ELISE

2021

DIGITAL: Digital Europe Programme

ELISE builds upon the outcomes of the former ISA actions EULF and ARE3NA. It is the only action of the ISA² Programme, aiming to improve Digital Government through Location Interoperability.

European Commission

WHAT?

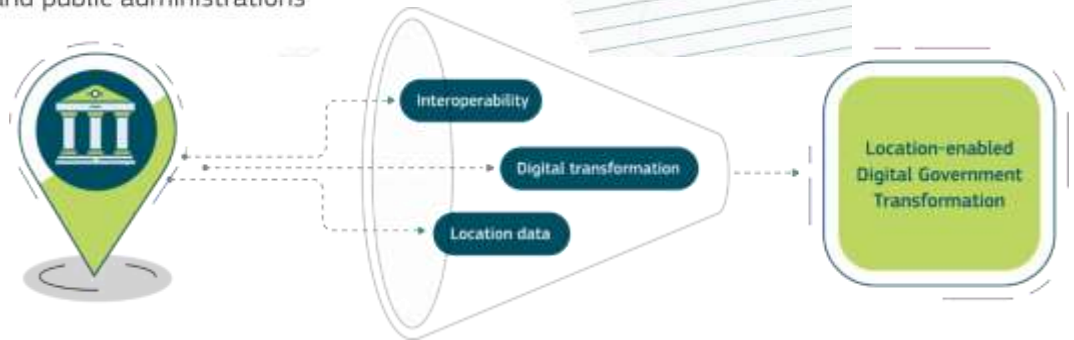
ELISE stands for **E**uropean **L**ocation **I**nteroperability **S**olutions for e-Government. It is one of the more than 50 actions in the European Interoperability Programme ISA².

WHAT FOR?

To support Digital Government Transformation by making the best use of location data and technologies in an interoperable manner

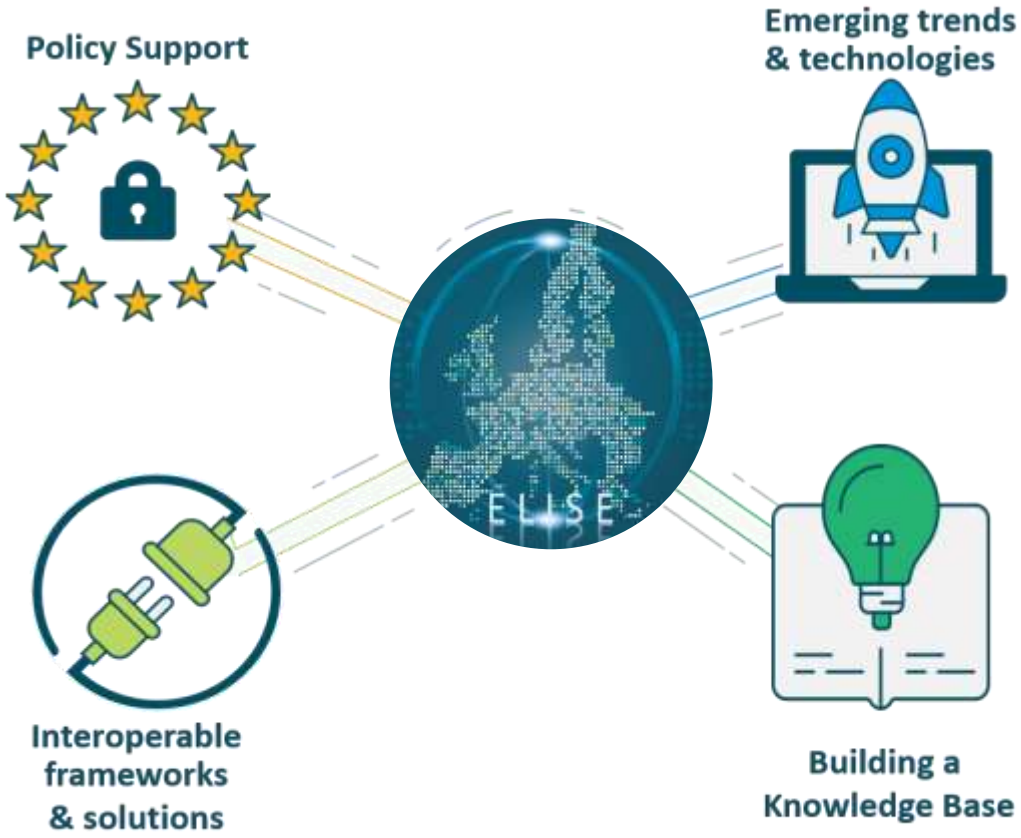
FOR WHOM?

For all: citizens, businesses and public administrations



ISA²

ELISE's **four main objectives:**



achieved through different type of **outputs**:

ELISE Action stakeholders' community

ELISE Action Community's Opinion

When I think about the ELISE Action...

"Interoperability solutions at different levels and efficient use of digital cross sector data interaction."

Ouns KISSIYAR
Informatie Vlaanderen

"Bridge between the GIS world and ICT community, between INSPIRE and eGov."

Martin TUCHYNA
Slovak Ministry of Environment

"Data sets and services harmonisation across Europe."

Tomaž PETEK
Slovenian Surveying, Mapping and Cadastral Authority

"Location interoperability and use of open standards to support local administrations."

Ricardo VITORINO
ubiwhere

joinup

1

Location Interoperability?

ELISE Action Community's Opinion

Why is interoperability essential?

It facilitates data integration, reduces work, prevents us from reinventing the wheel, saves time, and increases efficiency."

Ouns KISSIYAR

Informatie Vlaanderen

"It is essential to ensure the access to data across departments and organisations to facilitate data-driven decision making."

Ricardo VITORINO

ubiwhere

" Information should be Findable, Accessible, Interoperable, Reusable, and Ethical."

Rob VAN DE VELDE

Geonovum

"Fundamental human aspect of the need to communicate, collaborate and share."

Agneta ENGBERG

joinup

What is *Location Interoperability*?

Source: EULF Blueprint

Why the focus on *location Interoperability*?

Achieving location interoperability can bring significant opportunities and benefits for all actors involved, including the public sector, businesses and citizens**.**

Interoperability is fundamental in enabling initiatives such as the European Digital Identity Wallet to work.
Systems and devices exchange and make use of data coherently and consistently.

Location data facilitates governments in making data-driven decisions and improving communication through different methods.

ELISE Action Community's Opinion

The role of 'location' in achieving interoperability

"80 % of all information is related to position or location. Government interoperability solutions need interoperable location data."

Morten BORREBAEK

Norwegian Mapping Authority

"Location is an important identifier which brings together all things you know. Lowering the threshold to reuse location on any device and application."

Rob VAN DE VELDE

Geonovum

"If one ignores the location aspect of data, there is a risk to make uninformed decisions."

Gobe HOBONA

Open Geospatial Consortium

"Location and time are essential."

Ricardo VITORINO

ubiwhere

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2

Benefits and **challenges** in achieving location Interoperability

ELISE Action Community's Opinion

Opportunities and innovative approaches by using interoperable location data

"Cooperation across all levels and sectors can be facilitated by Smart Spaces."

Ouns KISSIYAR
Informatie Vlaanderen

"To start experimenting with solutions and workflows that bring AI and Machine Learning approaches together."

Gobe HOBONA
Open Geospatial Consortium

"Applying innovative approaches in including location-based data and services supporting future Digital Economy."

Tomaž PETEK
Slovenian Surveying, Mapping and Cadastral Authority

"APIs can handle location and non-location information together and can be used in general eGov solutions."

Morten BORREBAEK
Norwegian Mapping Authority

joinup

Benefits from location interoperability

- New and more **effective public digital services**
- Improved **access** to information
- Improved **cross-border collaboration**

- **Economic** and **financial** benefits
- Better support to the **policy lifecycle**
- Improved **spatial awareness** and **analytical skills**

Source: Sharing and using geospatial data across-borders

Benefits from location interoperability

- Agricultural Subsidy Compliance
- Monitoring Guimarães Urban platform
- FAIRway project
- Metropolitan Housing Observatory
- Amsterdam Smart City PPP
- ESRI Platform
- The Port of Rotterdam
- KLIP platform
- Locator tool for cross border investment
- Galigeo crime prediction platform

Source: Sharing and using geospatial data across-borders

ELISE Action Community's Opinion

Location interoperability success stories

"KLIP – inspired by a Dutch initiative. Avoid accidents by making underground interoperable."

Ouns KISSIYAR
Informatie Vlaanderen

"Having standards and compliance testing tools is key to success."

Gobe HOBONA
Open Geospatial Consortium

"Optimising location data in the public sector issuing building permits."

Tomaž PETEK
Slovenian Surveying, Mapping and Cadastral Authority

"Prešov region – sharing and using of data, and showing the examples how to use them."

Martin TUCHYNA
Slovak Ministry of Environment

joinup

What are the **remaining challenges** hampering achieving location Interoperability?

- **Fragmented data provision**
- **Lack of harmonisation**
- **Hesitance to invest** due to high initial costs
- **Lack of standardised licensing schemes** is costly
- Differences in **data sharing cultures**
- **Insufficient level of cooperation** between different stakeholders
- **Concerns** among **involved stakeholders** regarding data privacy
- **Lack of a consistent European framework** to integrate different ecosystems
- Need to **ensure alignment** of **interoperability policies and initiatives** and create synergies
- Focus on **user capacity** and **needs** in innovative solutions

ELISE Action Community's Opinion

Gaps and barriers in achieving location interoperability

"Lack of knowledge and capacities on national and EU levels."

Agneta ENGBERG

ISO

"Cross community glossary harmonisation."

Gobe HOBONA

Open Geospatial Consortium

"The difference in pricing policies in EU member states."

Tomaž PETEK

Slovenian Surveying, Mapping and Cadastral Authority

"Everything starts at the local level."

Ricardo VITORINO

ubiwhere

joinup

3

Location Interoperability supported by the ELISE Action

ELISE Action Community's Opinion

Benefits from the ELISE Action

"We learn form each other, we inspire each other - stone of European community."

Rob VAN DE VELDE
Geonovum

"Build on what ELISE Action has done, for example, identifying future technology trends and how the community should address them."

Gobe HOBONA
Open Geospatial Consortium

"Compare national realities with the European context. Knolwedge transfer activities."

Martin TUCHYNA
Slovak Ministry of Environment

"Blueprint recommendations through which EIF is applied in the location context."

Morten BORREBAEK
Norwegian Mapping Authority

joinup

Location interoperability **related-TOPICS** analysed under ELISE

- Collaboration models
- Location-enabled public services
- Data ecosystems
- Data models
- Data protection
- Evolution of SDIs
- Impact of location enablement
- Knowledge transfer
- Location intelligence
- Location interoperability components
- Location interoperability governance
- Location technologies
- Location-enabled innovation
- Data access and sharing

Key **facts** of the ELISE Action (1/2)

- 92 EULF Best practices
- +1700 Enrolled students to eLearning courses
- 19 Re3gistry releases
- +160 Members to Joinup collection
- 6 Policy domains
- 5 Years of action
- 4 Objective areas
- 37 Country factsheets
- 2 Open source communities
- 6 Interoperability layers
- +3500 Participants to events
- 4 Interoperability solutions
- 19 EULF recommendations
- +60 Workshops
- **22 Reference Validator releases**

Key **facts** of the ELISE Action (2/2)

- +40 Webinars
- +20 Studies
- 12 domain experts
- +190 Organisations involved
- 19 eLearning courses
- +160 Authors
- 8 Surveys
- +100 Interviews
- 7 Infographics
- +350 Contributors
- +220 speakers
- 40 Conference sessions
- +120 Publications
- 58 New items
- 8 Benchmarking studies
- +300 Case studies
- +150 Glossary terms

Academia/ Research +47

NGO +20

Standardisation bodies

Business +60

Private–Public partnership

Public Administration +65

ELISE Action's **key achievements**

The ELISE Action has reached numerous accomplishments during its five years of activity, among which:

- Complementing the **EIF and National Interoperability Framework Observatory**
- **Putting the INSPIRE Directive into practice** with tools for data providers
- Building an **extensive stakeholder community**
- **Raising awareness** on new approaches to location-enabled digital transformation
- Helping in the **assessment of the roles of SDIs**
- Assessing **new policies and technologies**
- **Promoting and facilitating** links on location data between public and private
- **Providing guidance** to improve spatial awareness and analytical skills for the best use of data
- **Developing key interoperability frameworks**
- Putting in place a **knowledge base** for a wide variety of stakeholders

3

Policy Support

Policies supported by the ELISE Action

- INSPIRE Directive
- European Green Deal
- Destination Earth

Environment

Energy

- Energy Performance of Buildings Directive

- Digital Single Market Strategy
- Open Data Directive
- Data privacy

Data economy

Transport

- Intelligent transport systems
- EU-wide multimodal travel information services

- European Interoperability Framework
- Future Interoperable Europe Act
- Shaping Europe's Digital future
- Better Regulation Agenda

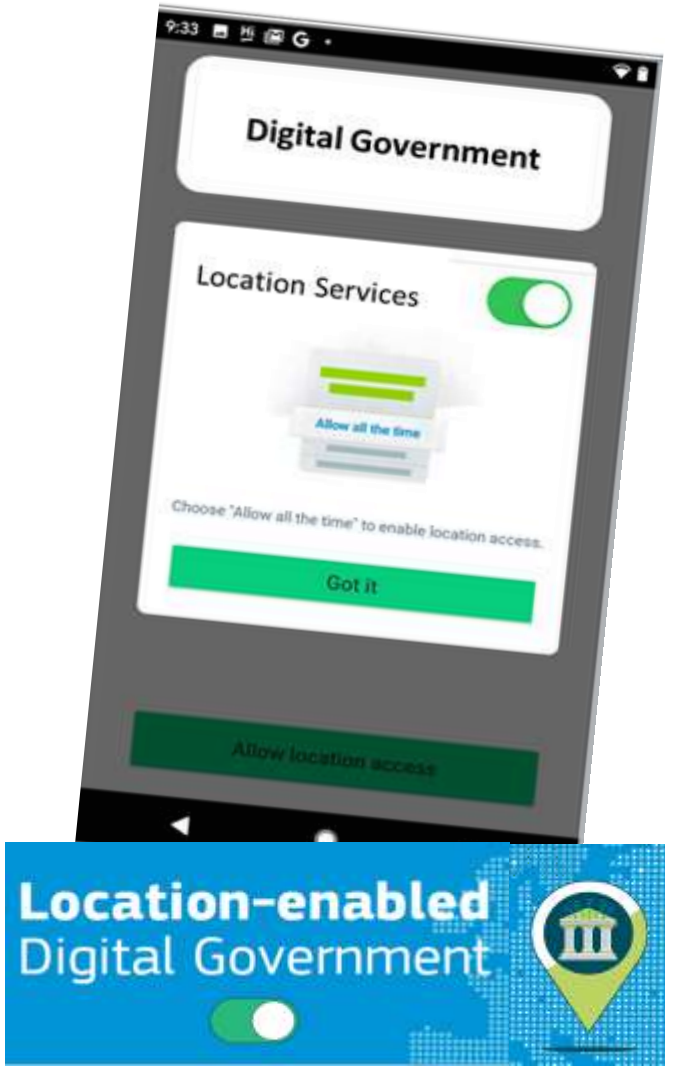
Modernisation & digitalisation of PA

EU cohesion

- Recovery plan for Europe

Location enabled digital government and digital government transformation

Short description	Relevance/Impact
• Exploring how innovation in the public sector through ICTs can transform governance systems and enable governments to address problems more systematically • Highlighting the role location data plays in the Digital Transformation of Government • Bringing together communities to put forward different interests in drafting policies	• ELISE's main outputs and good practices acknowledged as ISA² legacy for the DEP • ELISE key messages and good practices presented by a range of speakers from the European Commission, Member State public administrations, industry and other international organisations



Support to the Digital Single Market

Short description	Relevance/Impact
• ELISE supported the goals of the DSM strategy and ensured better access for consumers and businesses to online goods and services across Europe.	• Assessment of the usability barriers • Identification of usability barriers to Inspire terms of use • Identification of opportunities from geodata marketplaces • Establishing concrete approaches to modernise how SDI data is shared under the INSPIRE Directive • Identification of opportunities and challenges of collaboration for geospatial services

ELISE cross-border/trans-national pilots

ELISE has developed **cross-border pilots -** sandboxes that explored the most effective ways of using location information to develop efficient policies **-** and applications to test location data interoperability principles in the following sectors:

	Energy efficiency	Transport	Marine	Cultural heritage
Scope	• Common structured data models • Data access agreements • Common data access mechanisms • Centralised and distributed ICT infrastructures	• Up-to-date flow of road safety data • Agreement between road authorities and commercial map providers in Norway and Sweden • Guidance on linear referencing and exchange standards	• Requirements analysis to link INSPIRE and MSFD • MSFD spatial data requirements mapped to INSPIRE data models • Recommendations for the alignment of EMODnet and INSPIRE	• Evaluate the feasibility of using existing Pan European Gazetteer solutions to satisfy users' requirements in terms of lining location with place names and vice versa respecting
Perspectives	More sandboxing activities can bring the prototype methodologies and tools developed in the use cases to a more mature level of solutions.	• More sandboxing on: value of timely road safety updates • Public road authorities to maximise their data processing efficiency • Effective data sharing between public and private	• Explore how existing location-enabled frameworks, such as INSPIRE, can be used to streamline eReporting between national and EU level administrations.	• Explore through use cases the implementation and use of a EU gazetteer common service.

Source: Energy efficiency pilot, Transport pilot, Marine pilot, Cultural heritage pilot

Icons by thenounproject.com

Success story

ELISE- Supporting EIF monitoring & Interoperable Europe Policy

Miguel ÁLVAREZ RODRÍGUEZ
European Commission,
DG DIGIT

ISA²

European Interoperability Framework (EIF):
overarching and hosting domain frameworks such as location (EULF Blueprint)

The EIF is an agreed approach to the delivery of interoperable European digital public services, with a set of interoperability guidelines in the form of common principles, models and recommendations.

Legal Context

The EIF is promoted and maintained by the **ISA² programme** in close **cooperation between the Member States and the Commission** calling for the establishment of **interoperable trans-European networks that will enable citizens to derive full benefit from a European internal market.**

Objectives

Inspire European public administrations in their efforts to **design and deliver seamless European public services** which are to the extent possible, digital-by-default, cross-border by-default and open-by-default; **fostering cross-border and cross-sectoral interoperability**

Scope

The EIF is a **generic framework applicable to all public administrations in the EU**, composed of 12 principles, 4 layers, a conceptual model, and 47 recommendations across these 'pillars' of the framework

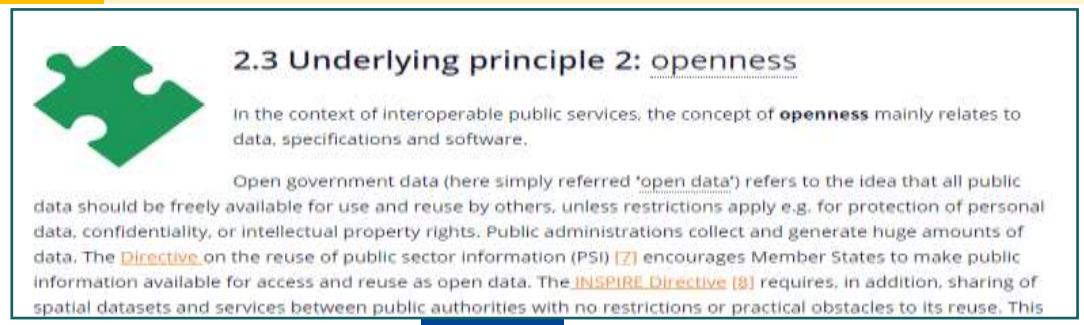
EULF BLUEPRINT

Promotes policy alignment in use of location data

Addresses these objectives in the context of location data

Linked to the EIF recommendations and illustrated with best practices from all levels of government

INSPIRE:
Inspiration for EIF



2.3 Underlying principle 2: openness

In the context of interoperable public services, the concept of **openness** mainly relates to data, specifications and software.

Open government data (here simply referred 'open data') refers to the idea that all public data should be freely available for use and reuse by others, unless restrictions apply e.g. for protection of personal data, confidentiality, or intellectual property rights. Public administrations collect and generate huge amounts of data. The Directive on the reuse of public sector information (PSI) [7] encourages Member States to make public information available for access and reuse as open data. The INSPIRE Directive [8] requires, in addition, sharing of spatial datasets and services between public authorities with no restrictions or practical obstacles to its reuse. This

The *National Interoperability Framework Observatory* (NIFO)

NIFO publishes the most up-to-date information on the state-of-play of digital public administration and interoperability (LIFO is a complementary observatory on location interoperability).

NIFO provides support and guidance to European national administrations to facilitate the alignment of their National Interoperability Framework (NIF) with the European one (EIF)..

NIFO fosters engagement activities with European public administrations such as workshops and webinars, so as to create a community of practice.

NIFO
NATIONAL INTEROPERABILITY FRAMEWORK OBSERVATORY

The main mission of NIFO is to monitor the implementation of the revised version of the ***European Interoperability Framework*** *(EIF) and to help foster the capacity building policy and* ***modernisation of public administrations.*** *By doing so, it aims at becoming an online community of practice and the prime source of information regarding digital public administration and interoperability matters within Europe.*

Introduction to the EIF Monitoring Mechanism: linking LIFO KPIs

The EIF Monitoring Mechanism's (EIF MM) goal is to provide each Member State with its level of implementation of the EIF based on a recommendation-by-recommendation measurement as defined by the Article 1.2 of the ISA² Decision stating that "the Commission, through the ISA² programme, shall monitor the implementation of the EIF".

Input

Primary indicators

A survey of national contact points will be conducted to obtain responses needed to measure primary indicators.

Secondary indicators

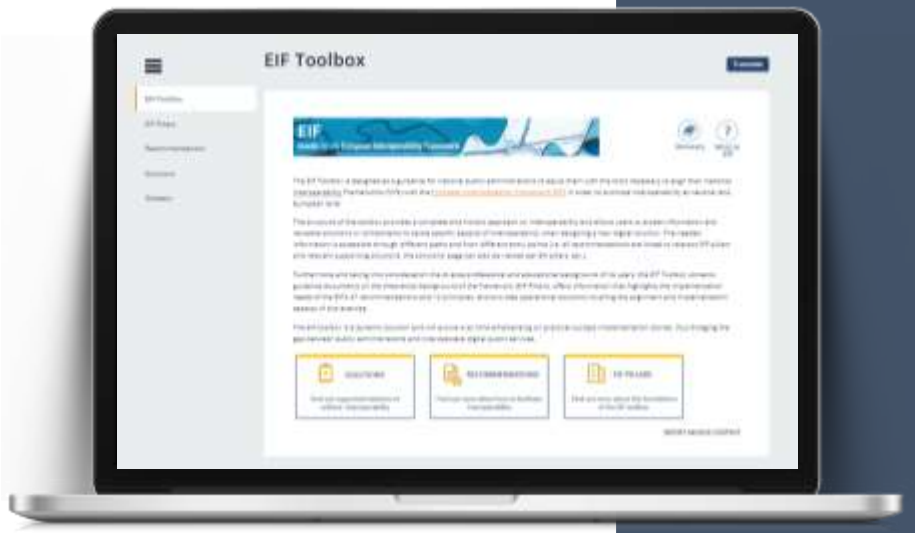
Secondary research will use existing data sources, such as LIFO, the Open Data Portal, DESI, and eGovernment Benchmark Report, Eurostat, etc.

Monitoring Mechanism

Benefits

- Member States **gain intelligence** on which operation areas they can improve in.
- Member States obtain **granular information** on their level of **EIF implementation.**
- Simplified **evaluation process** through existing indicators.
- Useful input for **ISA² programme** mid-term and final evaluations.
- Identification of **synergies across EC** facilitating interoperability.

The **EIF Toolbox**: Linked to EULF Blueprint



Objectives

The European Interoperability Framework (EIF) Toolbox is an **online tool designed to provide guidance to national public administrations and equip them with the tools necessary to implement the EIF**. The main purpose of the EIF Toolbox is to provide a comprehensive approach on interoperability and allow its users to access information and reusable solutions when tackling specific aspects of interoperability or when designing a new digital service.

Scope

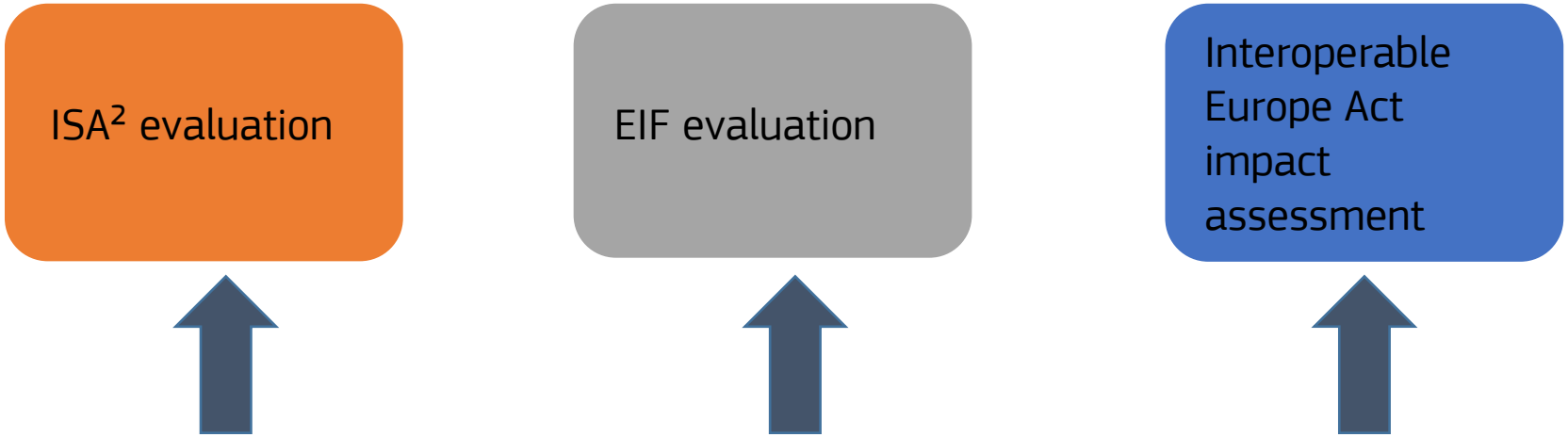
The EIF Toolbox provides a mapping of the **main components of the EIF** such as recommendations on how to facilitate interoperability and the key pillars of the framework. It also encompasses solutions that can help European countries foster interoperability.

Types of solutions: Assessment tools | Common frameworks | Common services | Generic tools | Legal interoperability tools | Semantic assets

European Union
Location Framework Blueprint

Recommendations 11 of the EULF Blueprint encourages the reuse of relevant technical solutions where possible. Recommendation 8 of the EULF Blueprint recommends the use of an open and *collaborative* methodology for the design and improvement of location enabled public services. It recommends designing for reuse by future collaborators. Recommendation 19 of the EULF Blueprint on effective partnering includes partnership agreements for joint developments.

ELISE contribution to Interoperability policy: 2022



ELISE:

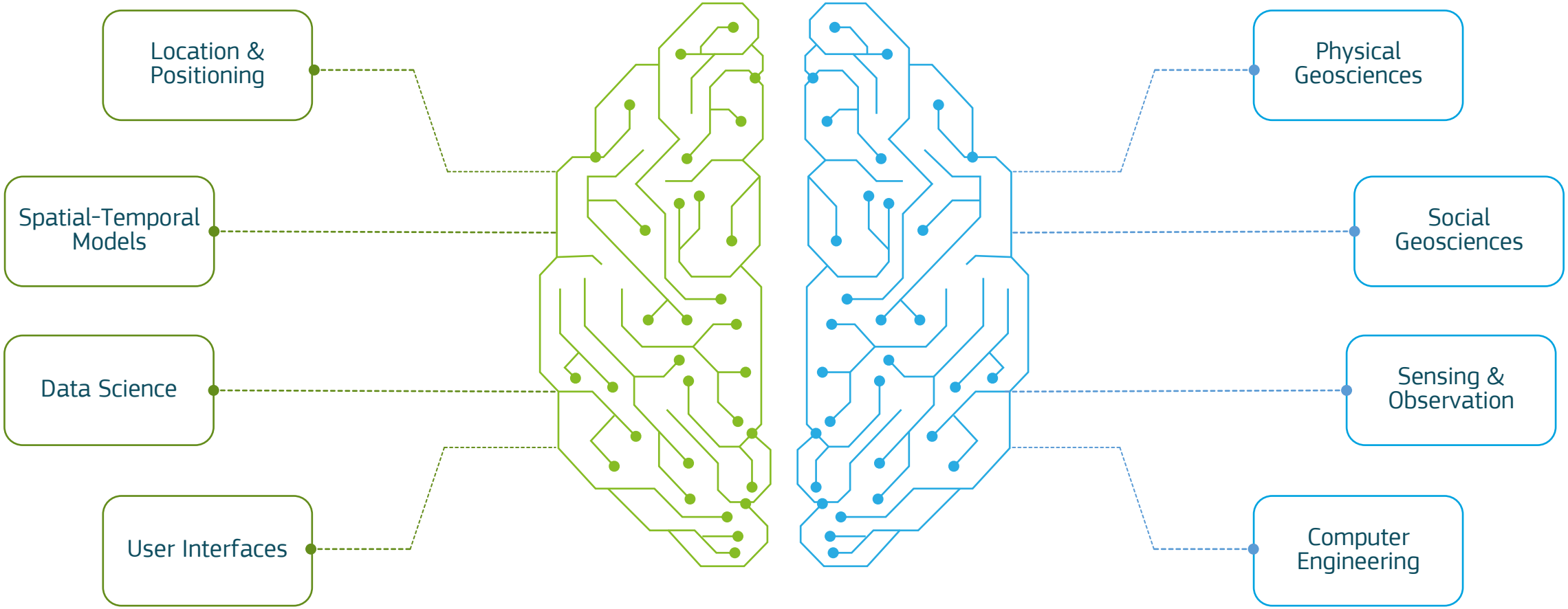
→ "*Quantifying the Benefits of Location Interoperability in the European Union*": Input EIF evaluation and Impact Assessment

→ Partnership between JRC and DIGIT: Upcoming: EIF evolution blueprint; New monitoring practices

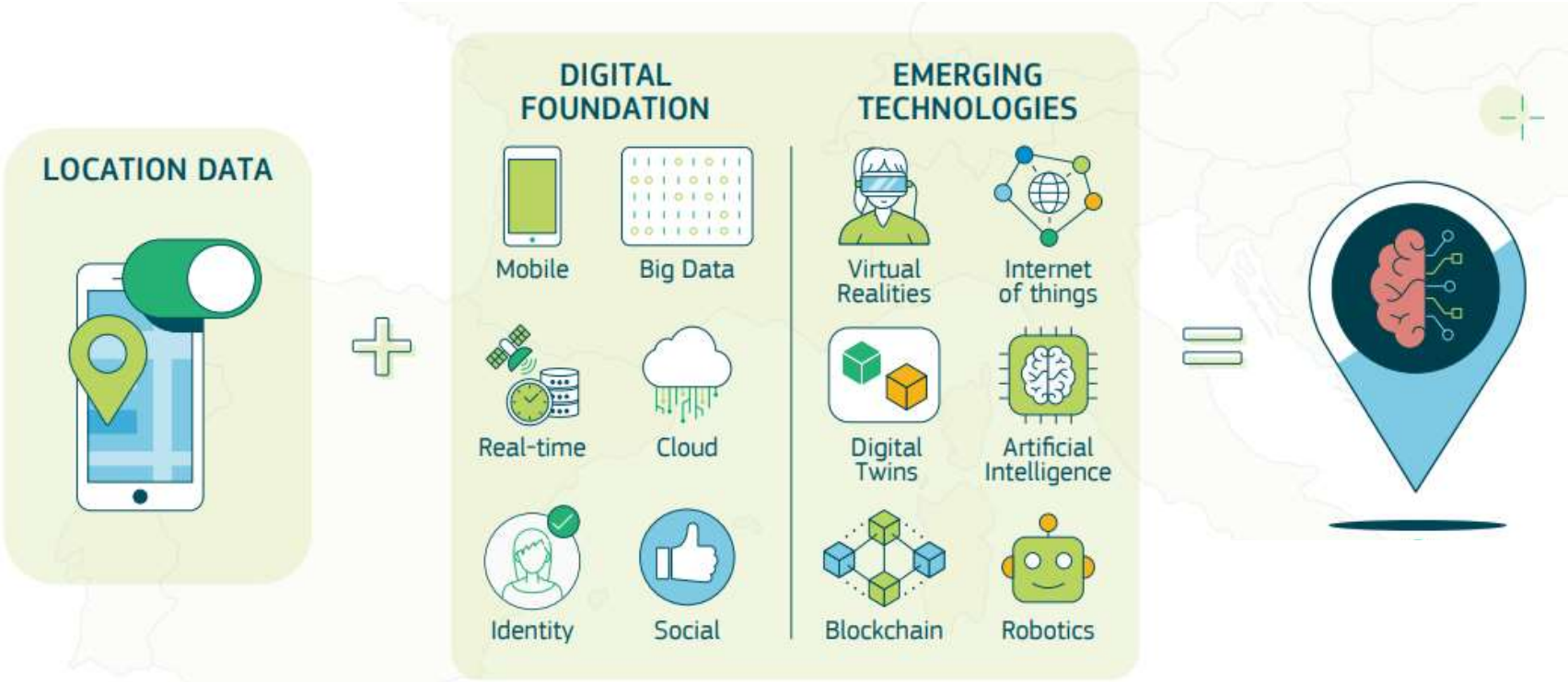
3

Emerging trends & technologies

Location Tech Trends – Top Level Categories



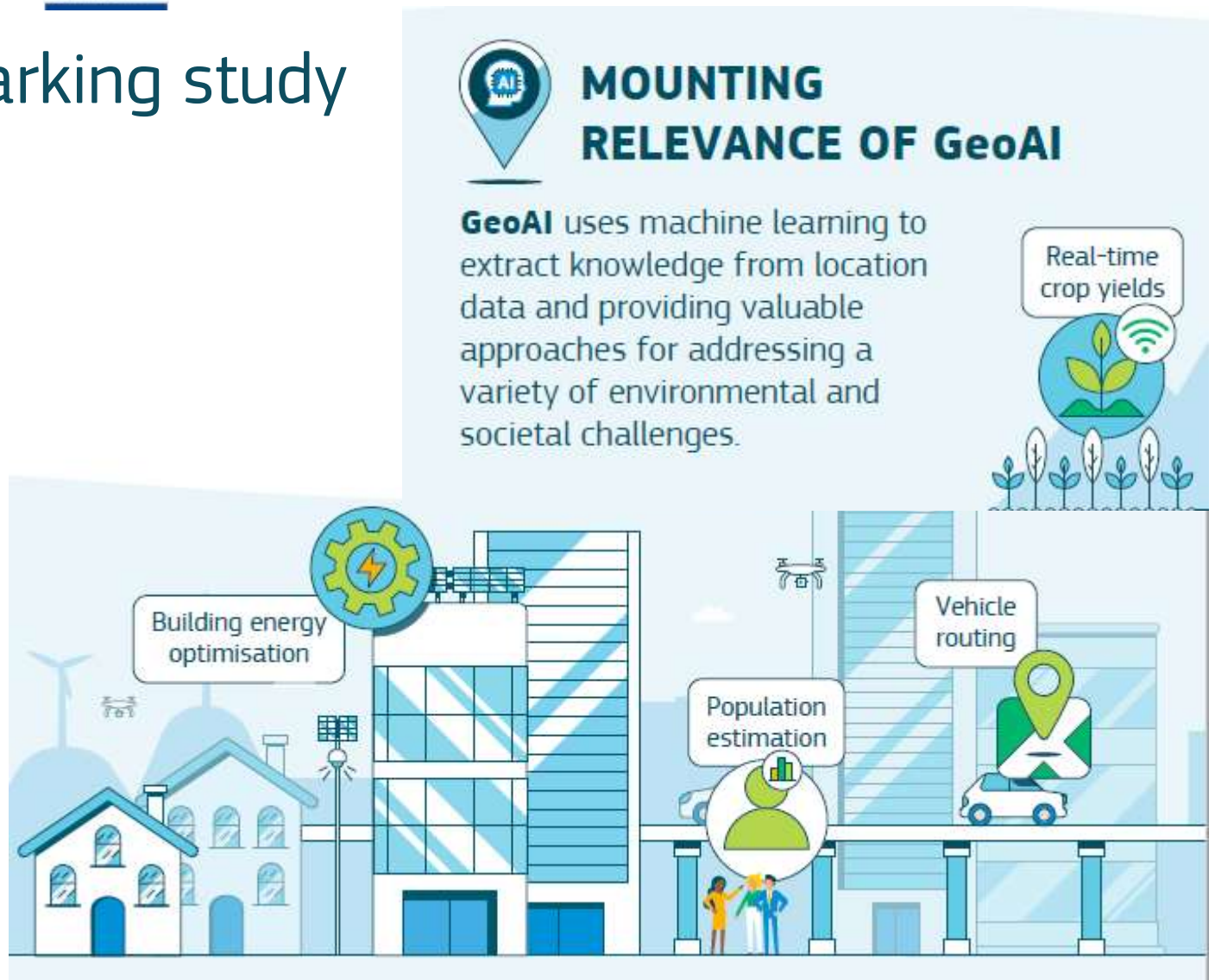
Location intelligence



Location intelligence is the result of combining information about 'where' things are, i.e. combining location data with digital and emerging technologies.

Location intelligence benchmarking study

Short description	Relevance/Impact
The ELISE Action has formulated the "Location intelligence benchmarking study" in which the use cases demonstrate the impact, benefits and challenges of using different technologies with location intelligence.	When combined with AI, location intelligence can support DGT by enabling data-driven decision-making to develop proactive and predictive map-based models using GeoAI and spatial analytics.



Smart spaces & location intelligence

Short description

In Portugal, the **Guimarães Urban Platform** gives a view of the urban environment which allows to monitor various indicators by displaying information in real-time

Slovenia's **Pametna Mlaka (City of Kranj)** is a "public cloud first" smart city solution, developed in a lean and agile way and in a close relationship between city council and IoT innovation companies

Digital City of Rotterdam is a digital Open Urban Platform with a 3D Digital Twin. The model is created using data sourced from data-streams, (IoT sensors and geospatial technologies)

Relevance/Impact

- The importance of location data and its contribution to **public value** through location intelligence is increasing.
- Policy makers need to address the quality of data generated to ensure that the electronic devices can work together in a way to benefit ends users.
- Opportunity for innovating in the area of integration. For new systems developed in a strong interoperability setting, integration costs will likely decrease → the impact of an interoperability regulation would reach business value.

"Smart spaces are a combination of physical and digital environments in which people and technology interact in dynamic, inter-connected and intelligent ecosystems".

- Adapted from Gartner definition

Success story

Regional and local data-driven innovation through collective intelligence and sandboxing

Marina MICHELI
European Commission, JRC

ISA²

Regional and local data-driven innovation through collective intelligence and sandboxing

Objectives

- Understanding the policy implications of the adoption and development of regional and local data ecosystems on public sector innovation.
- Analysis of existing data ecosystems in various European cities and
- Experimentation - through sandboxing - of approaches, models and tools that favours the establishment and sustaining of data ecosystems at sub-national level.

Definition of sandboxing

In the context of this activity, "sandboxing" refers to testing solutions in a safe environment, with a focus on technical and organizational innovations that enable more efficient and effective delivery of public services through data sharing and reuse. The concept of "sandboxing" originates in the field of cybersecurity and refers to working in isolated environments separate from production. In such environments, untrusted programmes can be run safely in order to identify security risks and threats without compromising the operational production environment

Scope of the activity

- The Study actively involves 10 European cities, with different levels of maturity of their data ecosystems
  - ✓ Barcelona, Helsinki, Milan & Poznan

→ Data ecosystem analysis

→ *Sandboxing* experiments
  - ✓ Bordeaux, Rome & Santander

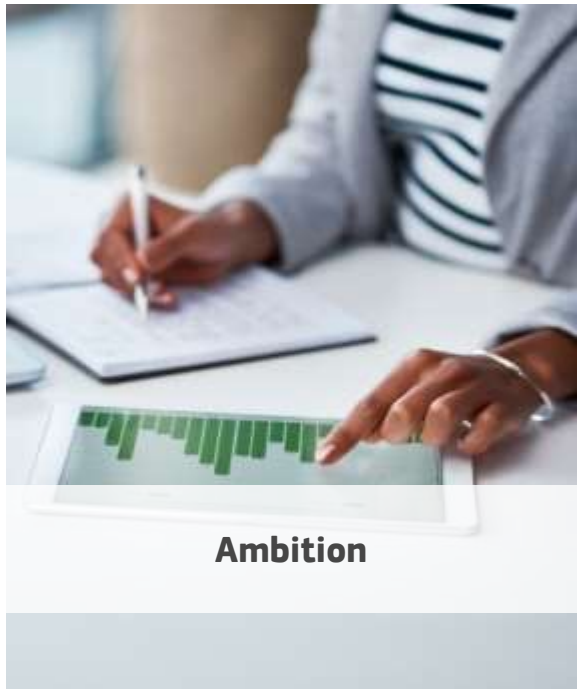
→ Data ecosystem analysis
  - ✓ Amsterdam, Ghent & Sofia

→ Validation of results

What did the activity offer to participating cities?

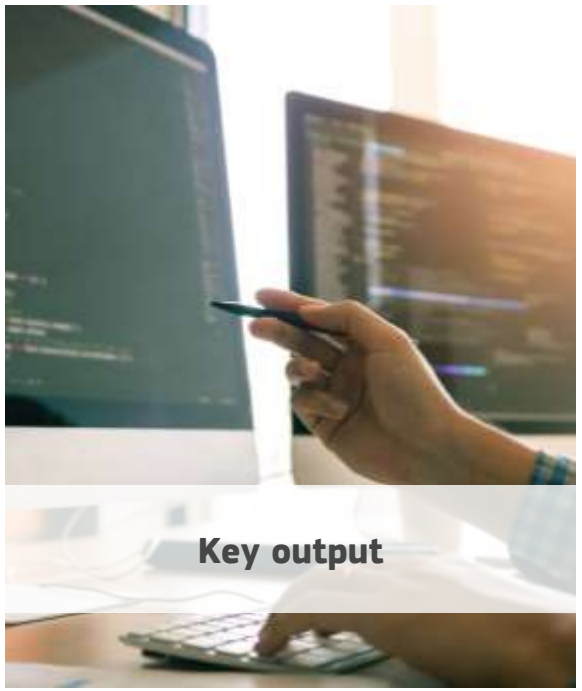
- Experiment **new (technical and organisational) approaches** to share data and to leverage its potential for delivering public services within a network of European cities
- Give a practical meaning to the concept of data-driven innovation by **running experiments** and learning lessons from them (in a collaborative manner)
- **Share knowledge** and experiences with other European cities while experimenting
- Increase the ability to **create and sustain local and regional data ecosystems** for public value creation

Poznan's sandbox



Ambition

- Poznan's sandboxing activities focused on supporting the city in its ambitions to improve management of **micro-mobility** and implementation of **Mobility-as-a-Service (MaaS)**



Key output

- The main output of the sandbox is a **dashboard** illustrating the location and status of the e-scooters of a private company (en route, broken, parked, etc.)

Key challenges

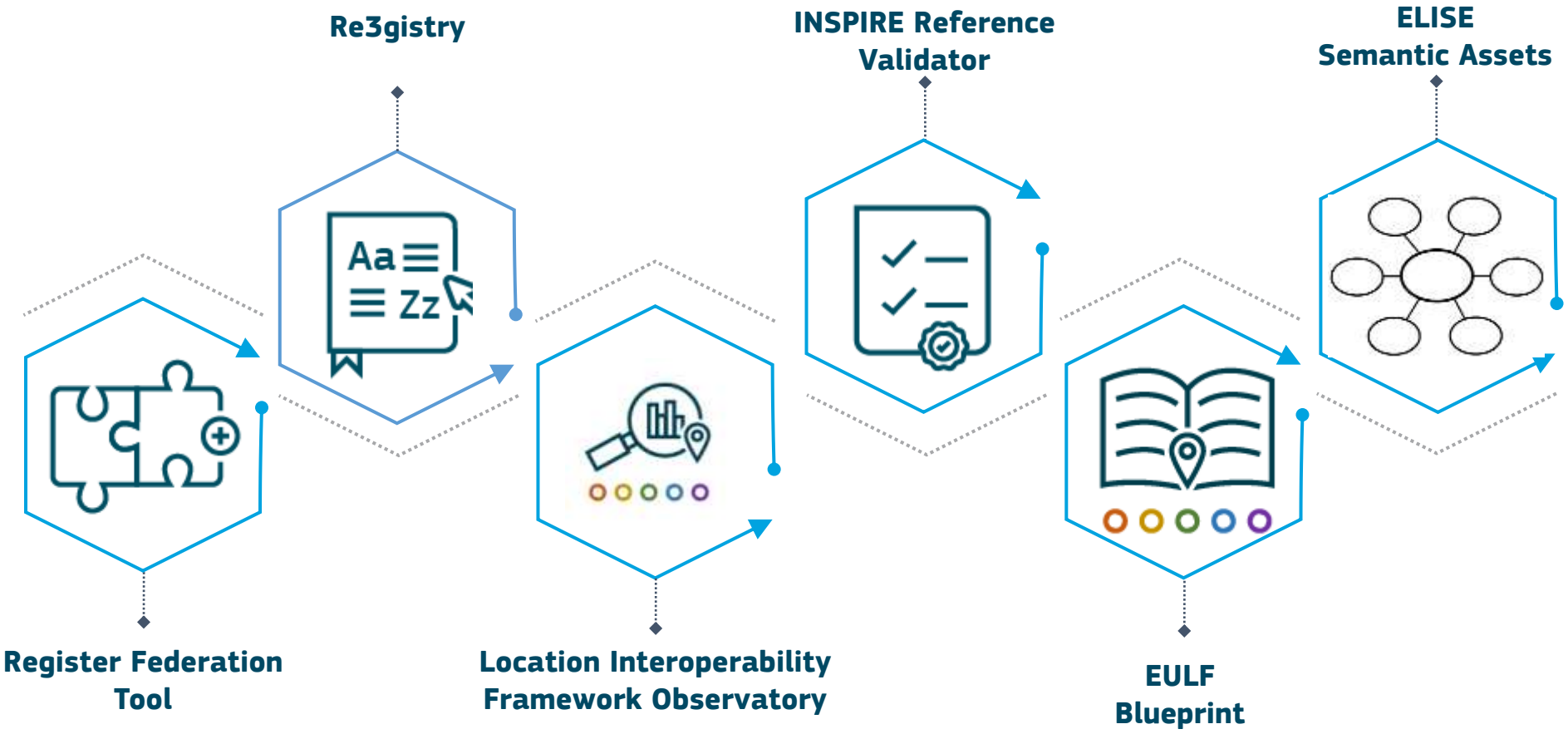
- **Accessing data** from the e-scooter company took more than expected (3 months)
- Internal technical **knowledge** of the administration on how to run a sandbox can improve

Key benefits

- Improved **management** of e-scooters in public space
- Clearer data sharing **requirements** for vendors
- Enhanced awareness of the administration on the potential of using **sandbox** to test innovative solutions for data sharing

3 Interoperable frameworks and solutions

Solutions supporting location interoperability



Focus on the INSPIRE Reference Validator

Reusable **open source tool**, based on the ETF open source testing framework

Allows **checking automatically** the correctness of data based on predefined rules

Non-domain specific

- **Central building block** of the INSPIRE Infrastructure
- Different member states are deploying the software
- Continuously **growing open-source community**
- More than **20 versions released** since 2018 (latest version released on 17 March 2022)

Source: Validator

Icons by thenounproject.com

Exploiting ELISE's solutions:

ERA, Slovenia's Surveying and Mapping Authority and ISO/TC 211

Short description	Relevance/Impact
The European Railway Agency (ERA) uses the INSPIRE RDF guidelines to model its linked data platform.	ERA has benefited from reusing the INSPIRE RDF guidelines in developing phase 1 successful pilot project in the Register of Railway Infrastructure (RINF)
LIFO results can be used to examine current national and European status, compare countries and identify strengths and areas needing improvement	Slovenia has exploited LIFO as a tool to monitor and assess the State of Play of location interoperability.
ELISE vision has been assimilated in the **STRATEGIC BUSINESS PLAN – ISO/TC 211 GEOGRAPHIC INFORMATION/GEOMATICS.**	**ISO** echoed in its strategic business plan the vision of the EULF Blueprint developed by the ELISE Action, whereby **location can enable DGT.**

Success story

Deployment of Re3gistry with the INSPIRE Italian Registry

Antonio ROTUNDO
AGID, Italy

ISA²

Deployment of *Re3gistry* with the **INSPIRE Italia Registry**

Challenges:

- Complying with INSPIRE requirements
- Implementing the action on controlled vocabularies
- Making available a tool for the management of reference codes at national level
- Engaging the Italian PA as register managers/owners

Sistema di Registri INSPIRE Italia

https://registry.geodati.gov.it

INSPIRE Italian Registry - key facts

- 2017 – beta version
- 2018 – official version and linking with INSPIRE register federation (Re3gistry v. 1.3)
- 2021/22 – new version reusing Re3gistry v. 2.0
- 12 registers published and new ones planned
- 4 supported languages

Beneficiaries

- AgID (Agency for Digital Italy), as registry manager
- National INSPIRE community
- Italian public administrations, as register managers and/or register owners
- Data providers
- Data and services users

Benefits received

- Harmonising and standardising recurrent codes in the vocabularies used for metadata, data sets and services;
- Managing the persistent and unique identifiers of the elements used;
- Improving data and metadata quality;
- Managing the extensions to national code lists by local and/or regional organizations;
- Supporting the implementation of GeoDCAT-AP;
- Linking the geospatial domain with eGov and general public sector domain;
- Supporting the activities on the cross-map registers.

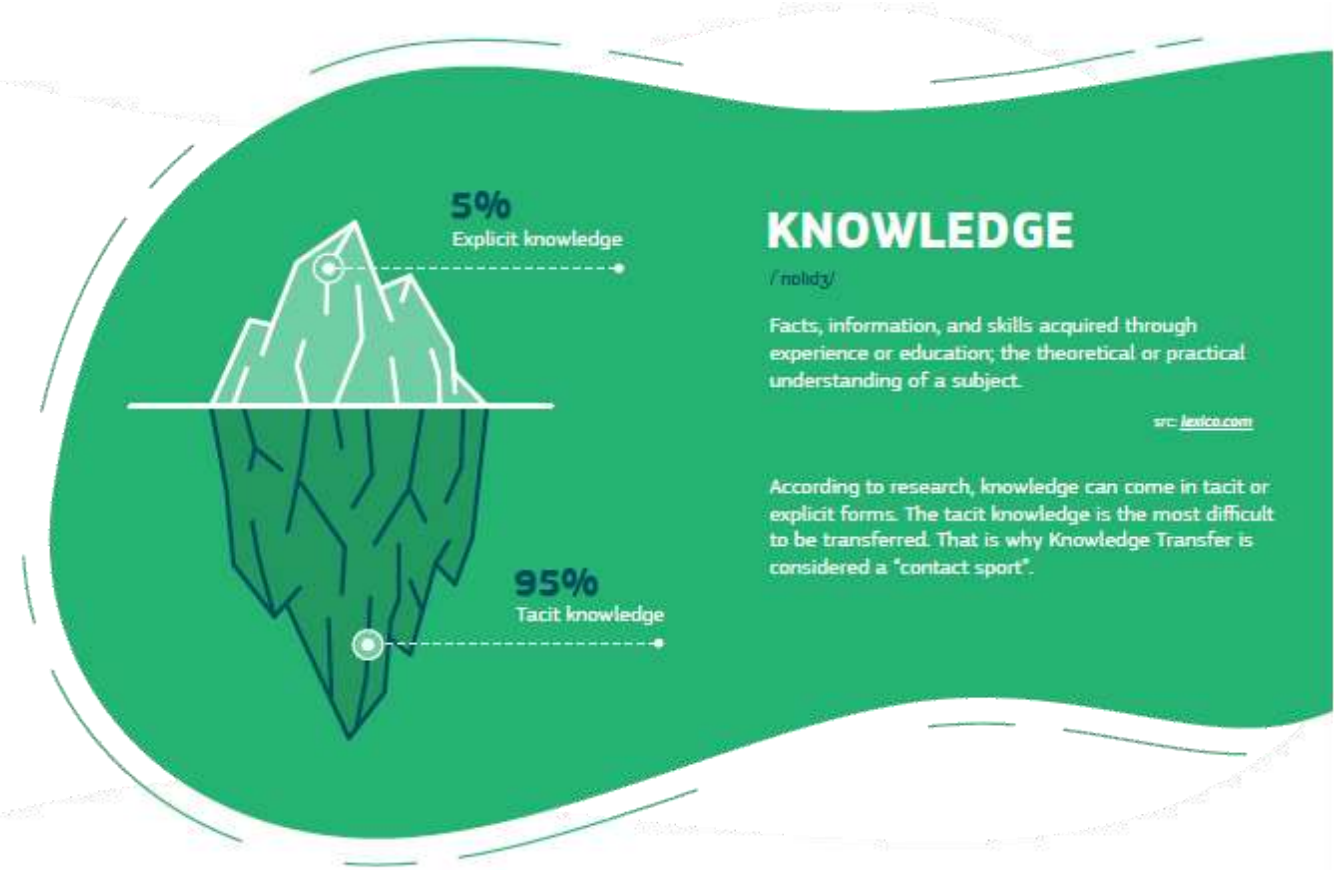
3

Building a knowledge base

Knowledge base for location interoperability

ELISE KNOWLEDGE TRANSFER GUIDING PRINCIPLES

- ✓ Interoperability
- ✓ Reusability
- ✓ Openness
- ✓ Guidance & advice
- ✓ Capacity building & Skills
- ✓ Networking & Participation
- ✓ Collaboration & Partnerships
- ✓ Innovation & Experimentation
- ✓ Accessibility
- ✓ Transparency



Knowledge base activities

Short description	Relevance/Impact
The **ELISE knowledge base serves as a platform** with the **aim to maintain a vibrant stakeholder** community.	165 documents and 55 news items have been published on Joinup, and the platform has 152 members within its community.
Webinar Series aimed to set the scene and **explore the broad role of location data** as an important enabler and building block of DGT.	Webinar series has reached many speakers and guests from: academics, research centres, institutions, policymakers, private companies, and citizens.
Promotion **of "spatial thinking"** through courses targeted **to increase spatial literacy level and facilitating spatial, technical skills acquisition**.	**These courses are designed for further dissemination,** including video lessons and quizzes at the end of the course.

Success story

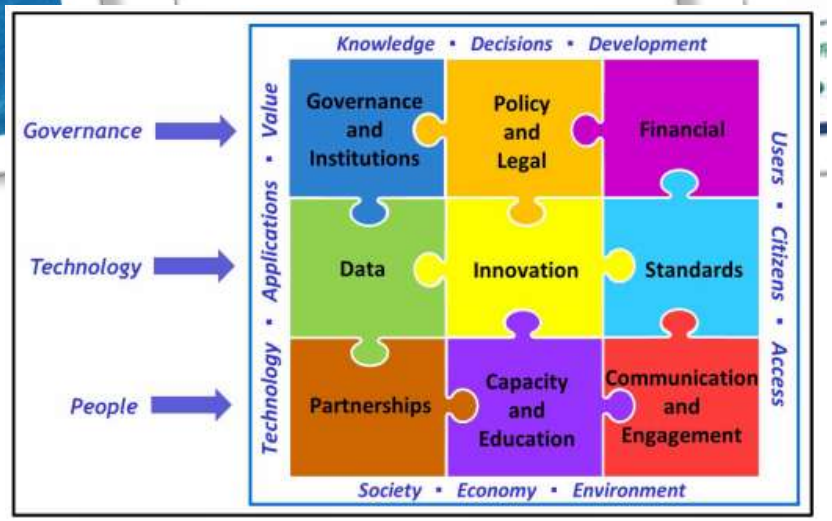
Knowledge base supporting ELISE activities fitting in the national, broader regional and global context

Tomaž PETEK
Surveying and Mapping Authority, Slovenia

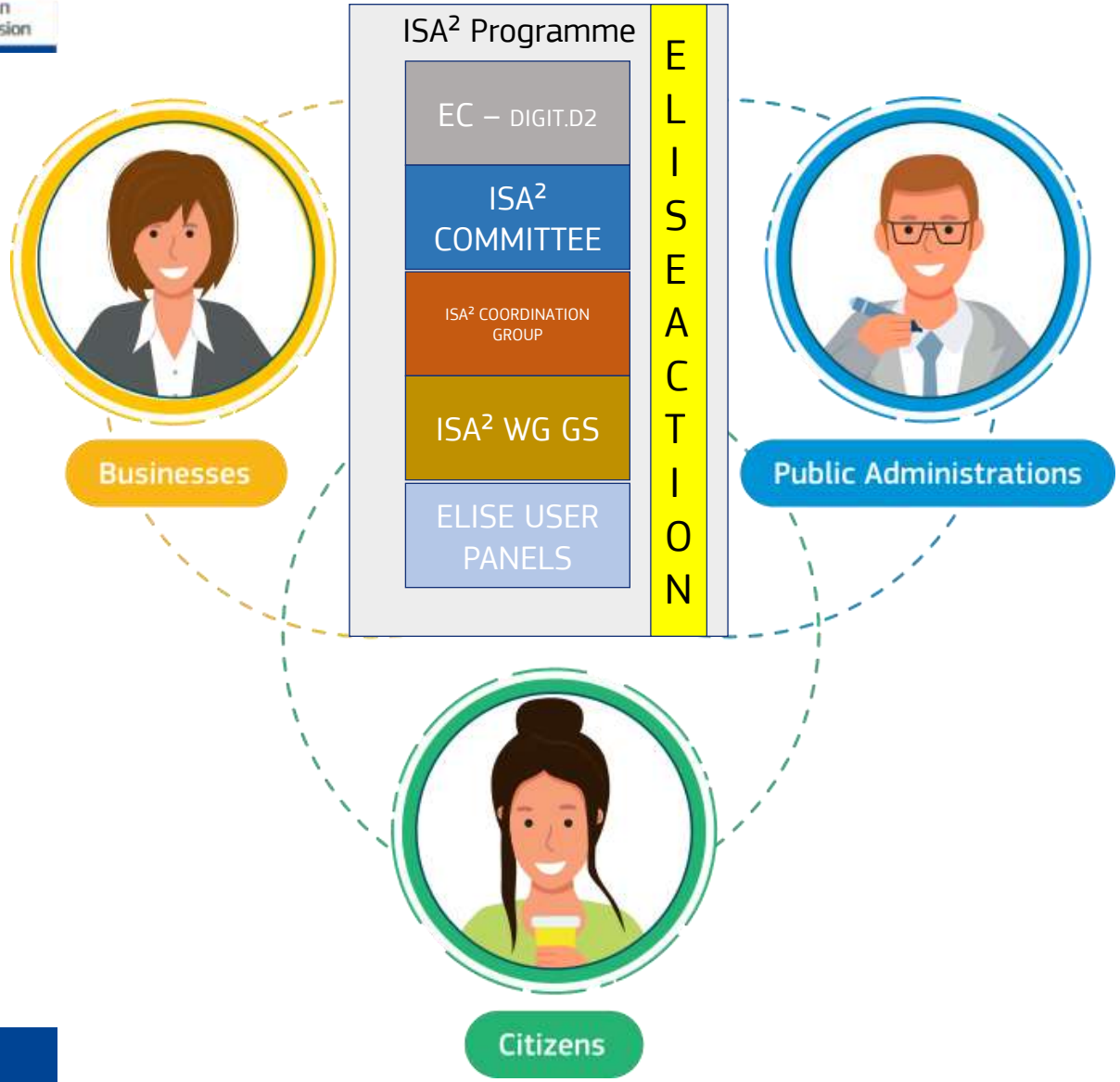
ISA²

Using the EULF Blueprint and LIFO in Slovenia

Fitting EULF Blueprint within the broader regional and global context



Achieving Location Interoperability in cooperation with communities



4

Recommendations and future perspectives

ELISE Action Community's Opinion

Expectations about the future

"Build on what ELISE Action has done, for example, identifying future technology trends and how the community should address them."

Gobe HOBONA

Open Geospatial Consortium

"Only when being interoperable, location component can be used in supporting data-driven policies."

Ouns KISSIYAR

Informatie Vlaanderen

"A systematic follow-up involving the Member States would be appreciated."

Martin TUCHYNA

Slovak Ministry of Environment

"Maintain the relationship ELISE Action has developed with the international standards."

Agneta ENGBERG

ISO

joinup

Lessons learnt

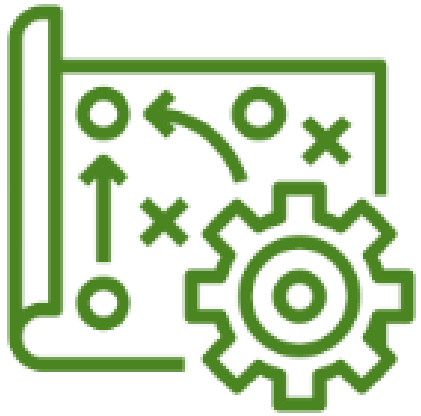
1. **Data access and sharing** policies/tools are crucial for public bodies and policymakers to harness the full potential of location data
2. Putting in place regulations and standards to ensure **data protection is essential**
3. Monitoring **emerging location technology** trends and **location intelligence**, particularly to the evolution of SDIs, is essential for a healthy basis and development of **data ecosystems**
4. **SDIs** can **support access to location data** cross-border and cross-sector through a holistic focus
5. Further **guidance** and monitoring of the progress made in advancing **location interoperability governance**
6. **Interoperability** will be key to **consistently assessing** and i**dentifying areas of improvement**
7. **Knowledge transfer support** remains crucial to better **exploit location interoperability** and **location enabled innovation** assets across the policy landscape for all types of stakeholders
8. Establish mutually **beneficial communities** is crucial for knowledge transfer' success to create an interactive environment that enables co-creation and open innovation

Recommendations for further actions

1. Support the development of location-enabled data spaces to ensure the development of sustainable **data ecosystems**.
2. Carry out dedicated activities to ensure **data protection** is duly considered.
3. Updating and further developing the EULF Blueprint and associated indicators are key to furthering location interoperability maturity in Europe.
4. Developing and enhancing reusable interoperability solutions supports stakeholders to ensure location interoperability in **data ecosystems**.
5. **Building capacity at all levels** and ensuring skills development is key to ensuring the successful digital transformation of government.
6. **Continuous assessment of emerging trends and technologies** is crucial in an ever-evolving environment to deploy such GovTech solutions in the delivery of public services.
7. **Expanding the knowledge base** and engaging the growing stakeholder community is crucial to exploiting location interoperability assets.

Future perspectives

1. **Reinforcing interoperability policy** in the public sector
2. **Digital focus**: high-performance computing; cloud, data and AI; Cybersecurity; Advanced digital skills; Accelererating the best use of technologies
3. Develop a **location data** protection framework
4. **Overcoming interoperability challenges** through piloting and sandboxing
5. **Sustainable Development Goals**: online availability of a list of 21 administrative procedures
6. Continuous **assessment of emerging trends and technologies**
7. Government audience's **geoknowledge expansion**



5

The ELISE final report: a brief overview

Location Interoperability - Lessons learnt from the ELISE Action. Where next?

ELISE final report aims to show **the main highlights and findings** obtained throughout the Action activities.

ELISE Action objective areas: an overview is provided for the four key areas of work of the ELISE Action:

- Providing policy support,
- Assessment of emerging trends and technologies,
- Providing and sharing interoperable frameworks and solutions,
- Building a knowledge base.

Each chapter is concluded with **key messages, challenges and a future outlook**.

Main Outputs

- **Benefits and challenges** to achieving location interoperability expands on the key concept of location interoperability,
- **Conclusions and recommendations for further action**

Image by "New European Interoperability Framework (2017)"

6

Q&A

Our discussants

Tomaž Petek
Surveying and Mapping Authority, Slovenia

Gobe Hobona
Open Geospatial Consortium

Javier Orozco Messana
European Commission, DG CNECT

Miguel Alvarez Rodriguez
European Commission, DG DIGIT

- **Why do you think interoperability is so important for the future of the EU public sector in delivering public services for public administrations, businesses and citizens?**
- **What are the challenges and future perspectives in achieving interoperability?**

Thank you

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Stay tuned

Join the *ELISE* community in Joinup

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eu-location@ec.europa.eu

ELISE channel