

ELISE action
Webinar Series

*Location Intelligence and
Partnerships
to support the Sustainable
Development Goals*

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European Location Interoperability
Solutions for e-Government

*Enabling Digital Government through
Geospatial and Location Intelligence*

Welcome to the ELISE webinar series



ELISE Webinar - The role of Geospatial for Digital Government

07/05/2019 event



ELISE Webinar - Governance models, ecosystems and benefits of APIs for public sector organisations

11/06/2019 event



ELISE Webinar - Persistent Identifiers (PIDs) as the glue for linking information infrastructures

15/07/2019 event



ELISE Webinar - Geospatial Technology and Public Participation

28/08/2019 event



ELISE Webinar - The role of Spatial Data Infrastructures for Digital Government

09/10/2019 event



ELISE Webinar - Using serious games in the geospatial domain to stimulate digital transformation of government

14/01/2020 event



ELISE Webinar - The role of Organisational Interoperability in the context of Geospatial and Digital Government Transformation

11/02/2020 event

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ELISE action

European Location
Interoperability
Solutions for
e-Government

Enabling Digital Government through Geospatial and Location Intelligence



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The views expressed are purely those of the authors and may not in any circumstances be regarded as stating an official position of the European Commission.



What we will cover today

1. Context and definitions: what is the link between geospatial and the SDGs?

2. Partnerships and data ecosystems as enablers for sustainable development

3. Partnering on solutions: applying location intelligence for development

4. Challenges ahead: institutionalising partnerships and solidifying ecosystems

5. Key take-away messages and conclusions

6. ELISE Contribution: the Energy and Location Applications activity

1

*Context and definitions:
what is the link between
geospatial and the SDGs?*

“ High-quality, timely **geospatial** information is **often overlooked** in policymaking, **yet is fundamental** to achieving inclusive growth and sustainable development. ”

Anna Wellenstein, Director, Land and Geospatial, World Bank

The Sustainable Development Goals: what are they?

The **2030 Agenda for Sustainable Development** → a shared blueprint for a more sustainable future

17 Sustainable Development **Goals**

169 Specific **targets** for development

5 Key **pillars** for delivery

Cooperation and pooling of resources through **global partnerships** is one of the five **key pillars**.





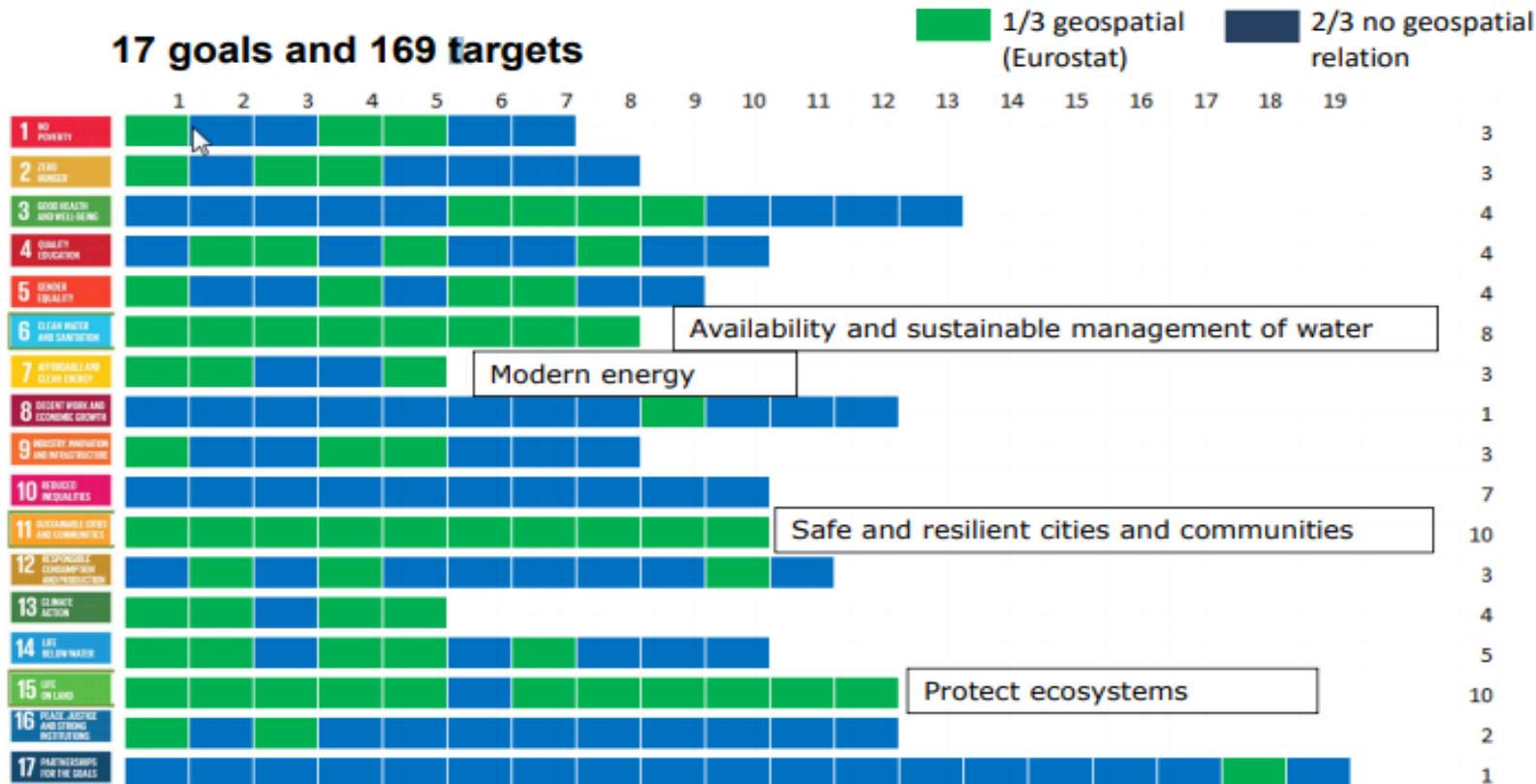
1. Context & definitions: what is the link between geospatial and the SDGs?

What ensures an effective delivery of SDG goals?

Lessons learnt from the **Millennium Goals** on key tools for delivery:

- 1 Collaboration** between different types of actors (*Stafford-Smith et al, 2017*)
- 2 Technology** as an enabler for an agile and integrated global innovation system (*Stafford-Smith et al, 2017*)
- 3 Availability and reliability of data** (*Jaiyesimi R., 2016*)

SDGs and their relation to geospatial data: a well established role for geospatial data



Source: Eurostat

The role of geospatial for SDGs, and especially how geospatial can support monitoring and reporting for the SDGs (see Eurostat), is a well-established theme in academic literature and research.

International efforts for global geospatial management: the work of UN-GGIM



UN-GGIM
UNITED NATIONS
COMMITTEE OF EXPERTS ON
GLOBAL GEOSPATIAL
INFORMATION MANAGEMENT

aims to **address global challenges** regarding the use of **geospatial information**, including in the development agendas, and to serve as a body for global policymaking in the field of geospatial information management.

FUTURE TRENDS IN GEOSPATIAL INFORMATION MANAGEMENT:

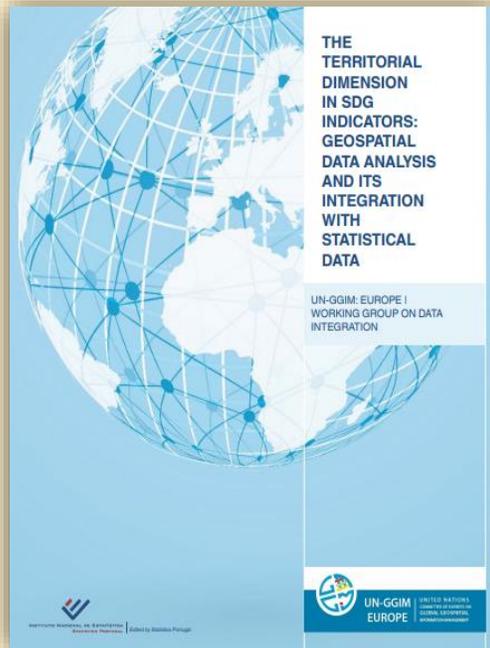
Smart cities and IoT, AI and big data, integration of data sources, role of private and non-governmental actors, cloud computing, open source, open standards, open data Skills...

INTER-AGENCY AND EXPERT GROUP ON THE SUSTAINABLE DEVELOPMENT GOAL INDICATORS (IAEG-SDGS)

Working Group on Geospatial Information (est. 2016).

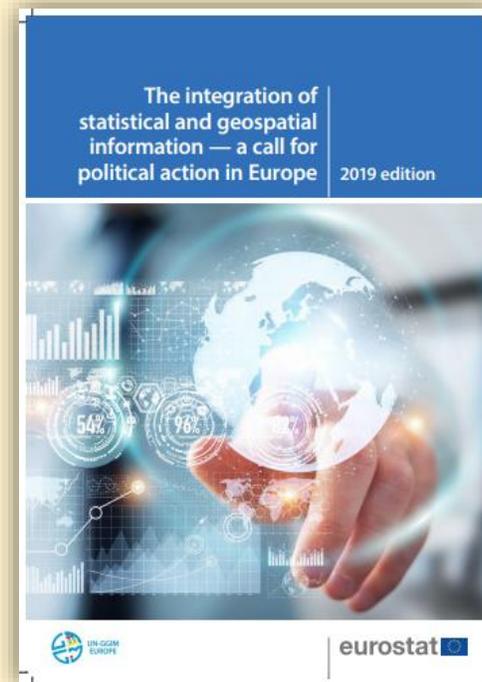
International efforts for global geospatial management: UN-GGIM Europe

UN-GGIM Europe recent work includes:



A report on the **territorial dimension in SDG indicators: Geospatial data analysis and its integration with statistical data (2019)** →

- Harmonisation of data themes
- **Use of Earth Observation (EO) data**
- Increased collaboration



A call for political action in Europe (2019) for the integration of statistical and geospatial information →

1. Communication with all stakeholders
2. Strengthening institutions and governance
3. Standards, quality and accessibility



1. Context & definitions: what is the link between geospatial and the SDGs?

International efforts for global geospatial management: EARSC's work on promoting EO data for the SDGs

The *European Association of Remote Sensing Companies* (EARSC) promotes the use of Earth Observation (EO) technology.

Example from SDG 6 clean water & sanitation:

- (1) Target 6.1. is to assess water use efficiency
- (2) Indicator 6.1.1 is the proportion of the population using safely managed drinking services

✓ **EO can support the mapping and inventory of wetlands** as a basis for management-oriented assessment and monitoring



Source: EARSC



SDGs and geospatial data: a well established and long standing relation

The role of geospatial for monitoring and indicators is widely acknowledged. However, **geospatial can also play a role in the delivery of Sustainable Development Goals.**

Two increasingly important dimensions stand out:

- 1 The role of **new/emerging data ecosystems and partnerships** for the provision of data for development.
- 2 The **importance of location intelligence** in the context of these data ecosystems in particular.



Key definitions for this webinar 1/2

Data Ecosystems are “composed of complex networks of organizations and individuals that exchange and use data as main resources. Such ecosystems provide an environment for creating, managing and sustaining data sharing initiatives.”

(Oliveira and Loscio, 2018.)

Transnational multi-stakeholder partnerships are “institutionalized transboundary interactions between public and private actors, which aim at the provision of collective goods.”

(Schäferhoff et al., 2009.)



Key definitions for this webinar 2/2

Location Intelligence refers to “a business intelligence (BI) tool capability that relates geographic contexts to business data. Like BI, location intelligence software is designed to turn data into insight for a host of business purposes.” (TechTarget)

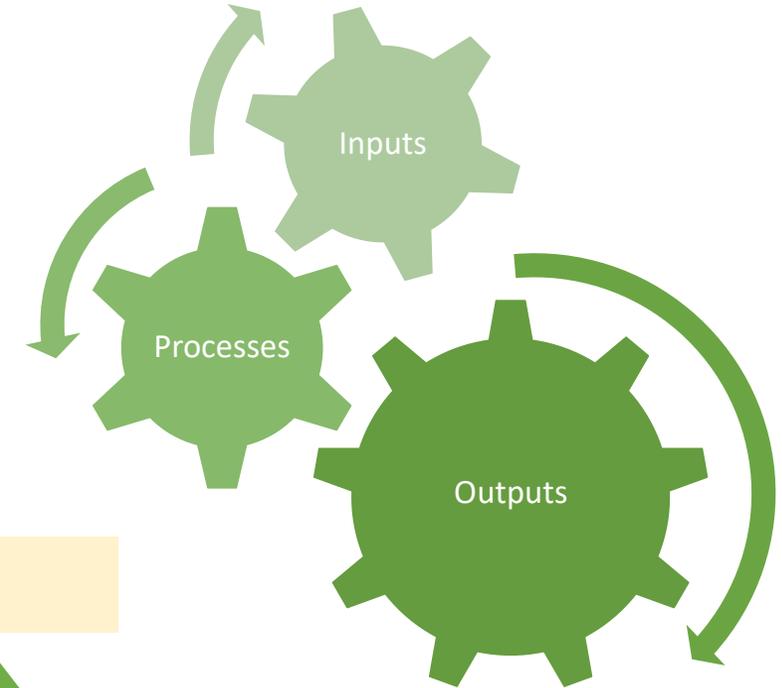
For this webinar is interpreted as a **broader concept** encompassing:

Processes allowing to turn **inputs** into **outputs**

Technologies like GIS but also Artificial Intelligence, digital twins, augmented reality

Different information sources including traditional geospatial sources and more innovative sources

Insights allowing for to make SDGs decisions more geospatially aware

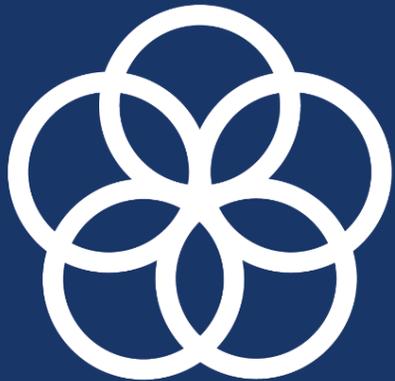


2

*Partnerships and ecosystems as
enablers for sustainable
development*

Partnerships for SDG 17: Building global partnerships and catalyzing initiatives to strengthen means of implementation

17 PARTNERSHIPS FOR THE GOALS



- **Partnerships** for sustainable development are **multi-stakeholder initiatives** voluntarily undertaken by Governments, intergovernmental organizations, major groups and others stakeholders, which efforts are **contributing to the implementation of** inter-governmentally agreed **development goals** and commitments.
- **Sustainable Development Goal 17**, aims to “strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development,” and recognizes multi-stakeholder partnerships key to the achievement of the SDGs.

“ *It is time to bring together official national statistical data along with geospatial data, earth observation data and citizen-generated data and Big Data such that more real-time data is available to address the SDGs. This will only help in both reporting and monitoring purposes and what it means for data for action and decision-making.* ”

Aditya Agrawal, Director, Data Ecosystems Development, Global Partnership for Sustainable Development Data



Enriching the SDGs data ecosystem: bringing all together



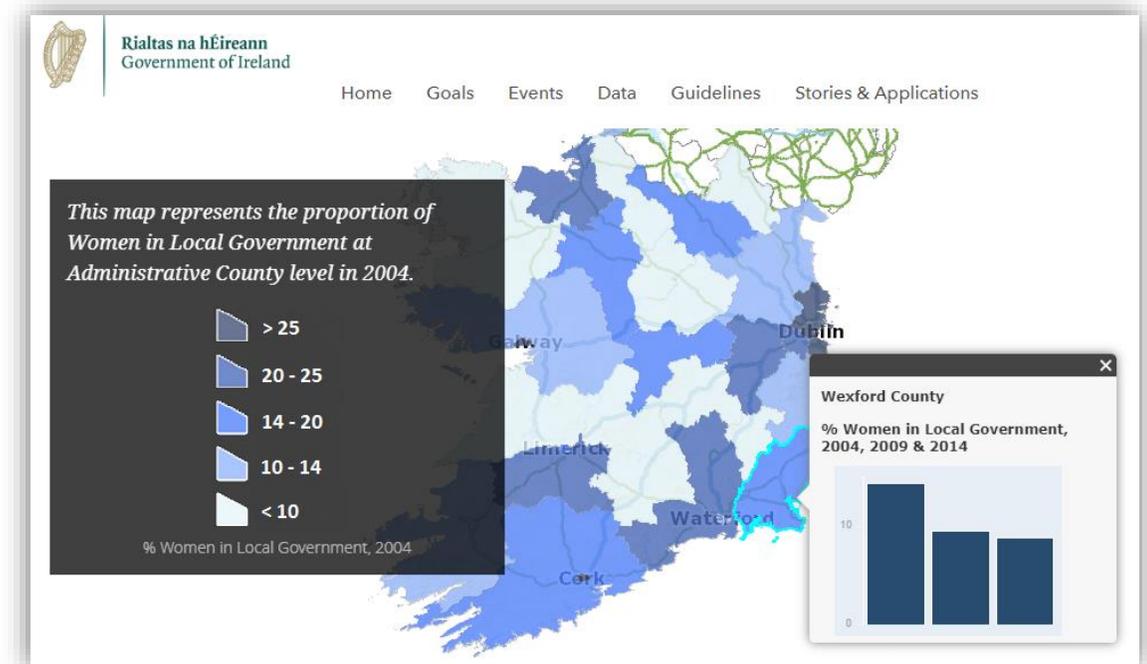
Monitoring and reporting aided by geospatial in Ireland

- **Ireland Sustainable Development Hub** is a platform for reporting on progress towards the SDGs in Ireland.
- **Public-Private partnership** between Ordnance Survey Ireland, the Central Statistics Office and Esri Ireland.



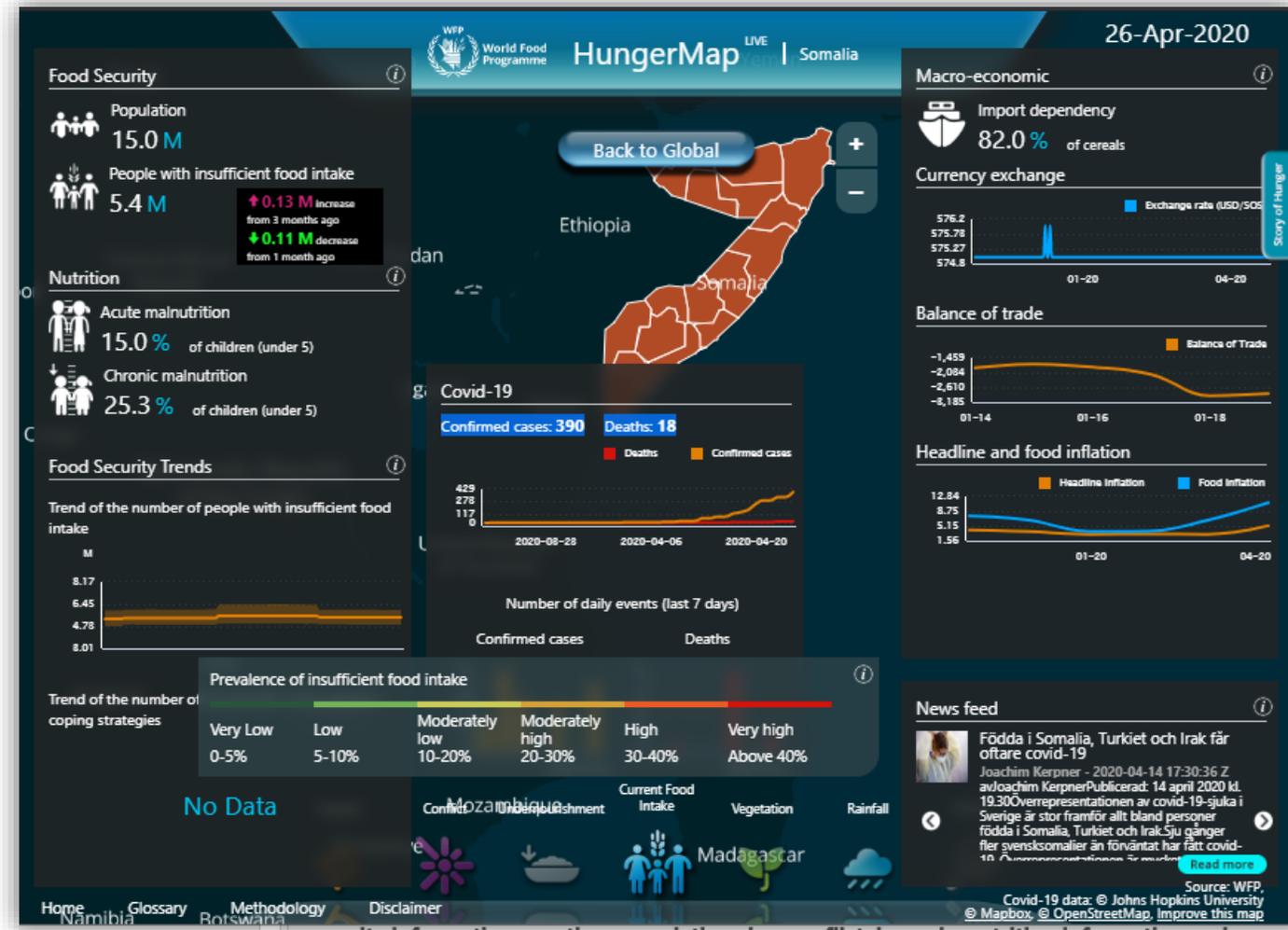
Key characteristics and success factors:

- 1 A collaborative approach to reporting and sharing data
- 2 Mobilising private and public know-how
- 3 A one-stop shop for progress reports and indicator data for all SDGs



Humanitarian assistance and monitoring powered by geospatial: *HungerMap LIVE*

- A global, near real-time, hunger monitoring and prediction system developed by the *World Food Program* and *Alibaba Cloud*.
- Combines key metrics from various data sources, i.e. **food security information, weather, population size, conflict, hazards, nutrition information and macro-economic data.**
- Data is collected through Computer Assisted Telephone Interviewing (CATI) and processed through automatic statistical engines.



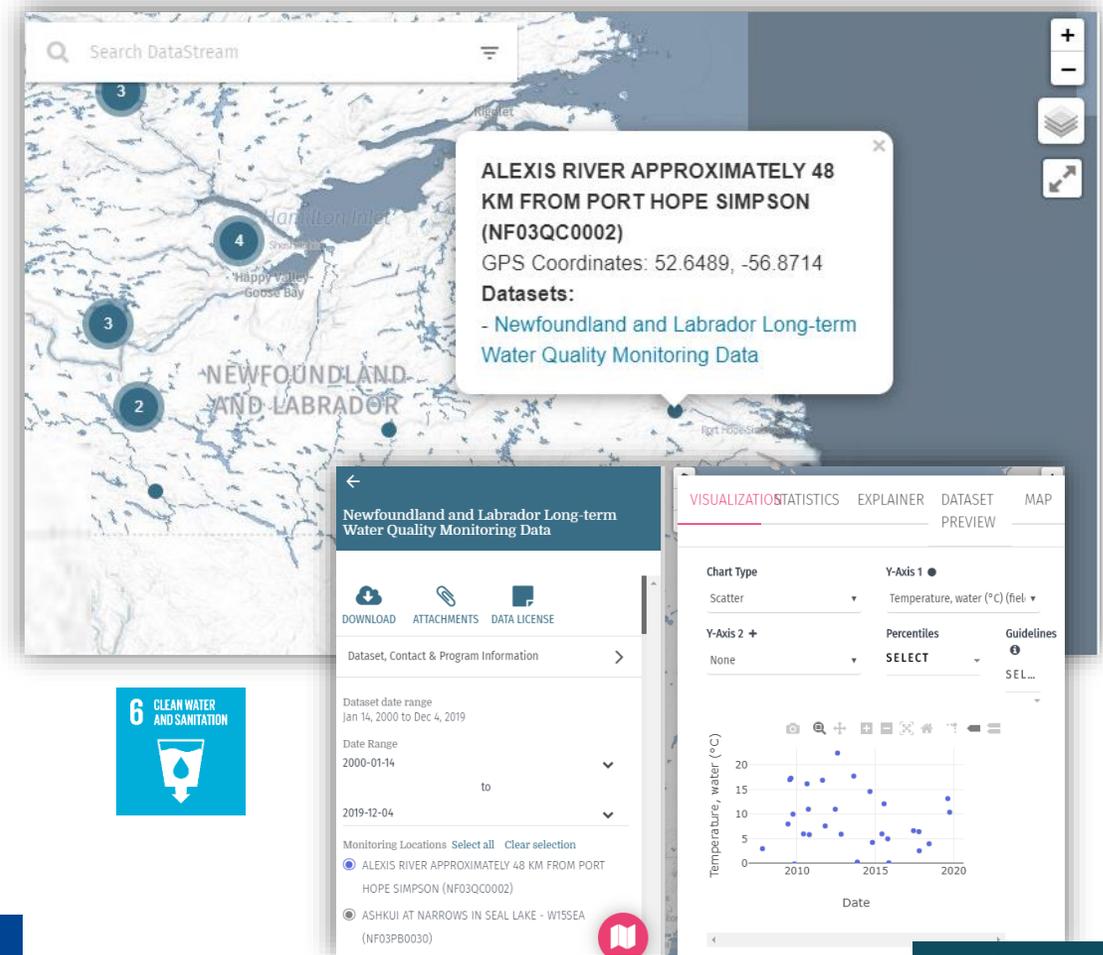
Involving citizens for addressing sustainable development goals

Atlantic Water Network (AWN): Monitoring the quality of open water sources in Canada

Key characteristics and success factors:

- 1 Provision of **technology and guidance** from AWN
- 2 Engaging communities allows a double win: **more data** on remote areas and **more citizens awareness** of these environmental challenges
- 3 Engagement of **indigenous communities** to integrate their knowledge in traditional databases

Source: *Advancing Sustainability together? Citizen-generated data and the Sustainable Development Goals*



3

*Partnering on solutions: applying
location intelligence for
development*

Location intelligence for development

Location intelligence “is more than analysis of geospatial information or geographic information systems alone, it is the capability to visualize spatial data **to identify and analyze relationships.**”
(del Carmen, 2016)

To exploit location intelligence for SGDs (Deloitte 2013), stakeholders need to:



COLLECT

data available
and integrate in
decision-making



CONNECT

with external
partners and
data sources



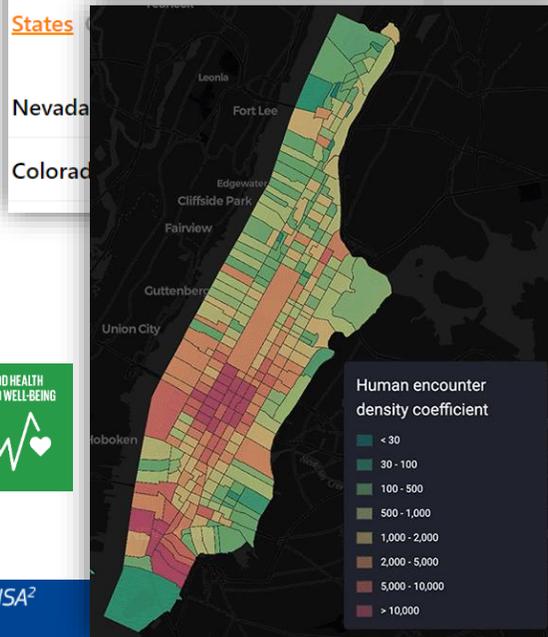
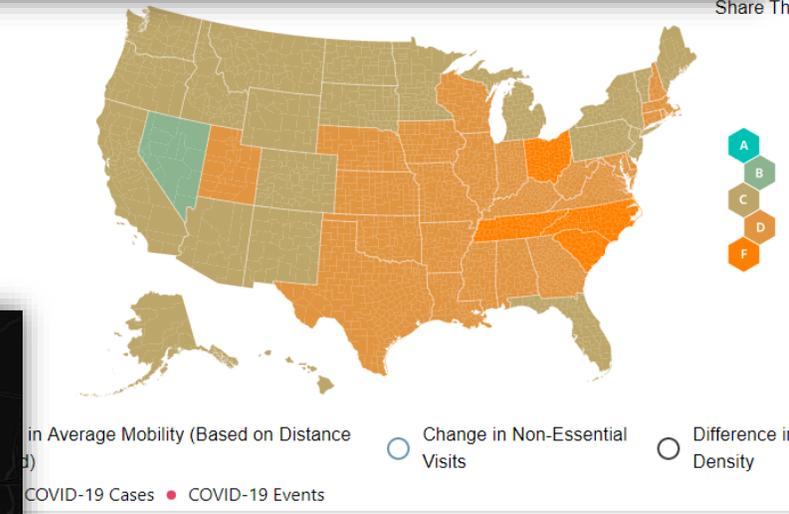
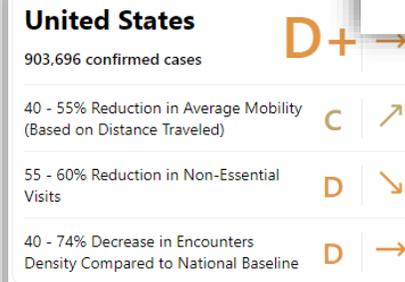
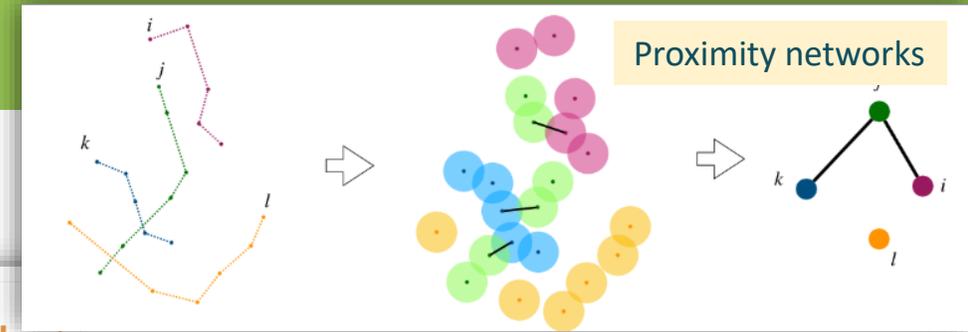
PROTECT

citizens by
understanding
privacy issues

Location intelligence for development: *Responses to Covid-19*

There are many Covid-19 related initiatives based on **location intelligence** and the development of **spatial (thinking) relationships**. The following draw insights **from human mobility**:

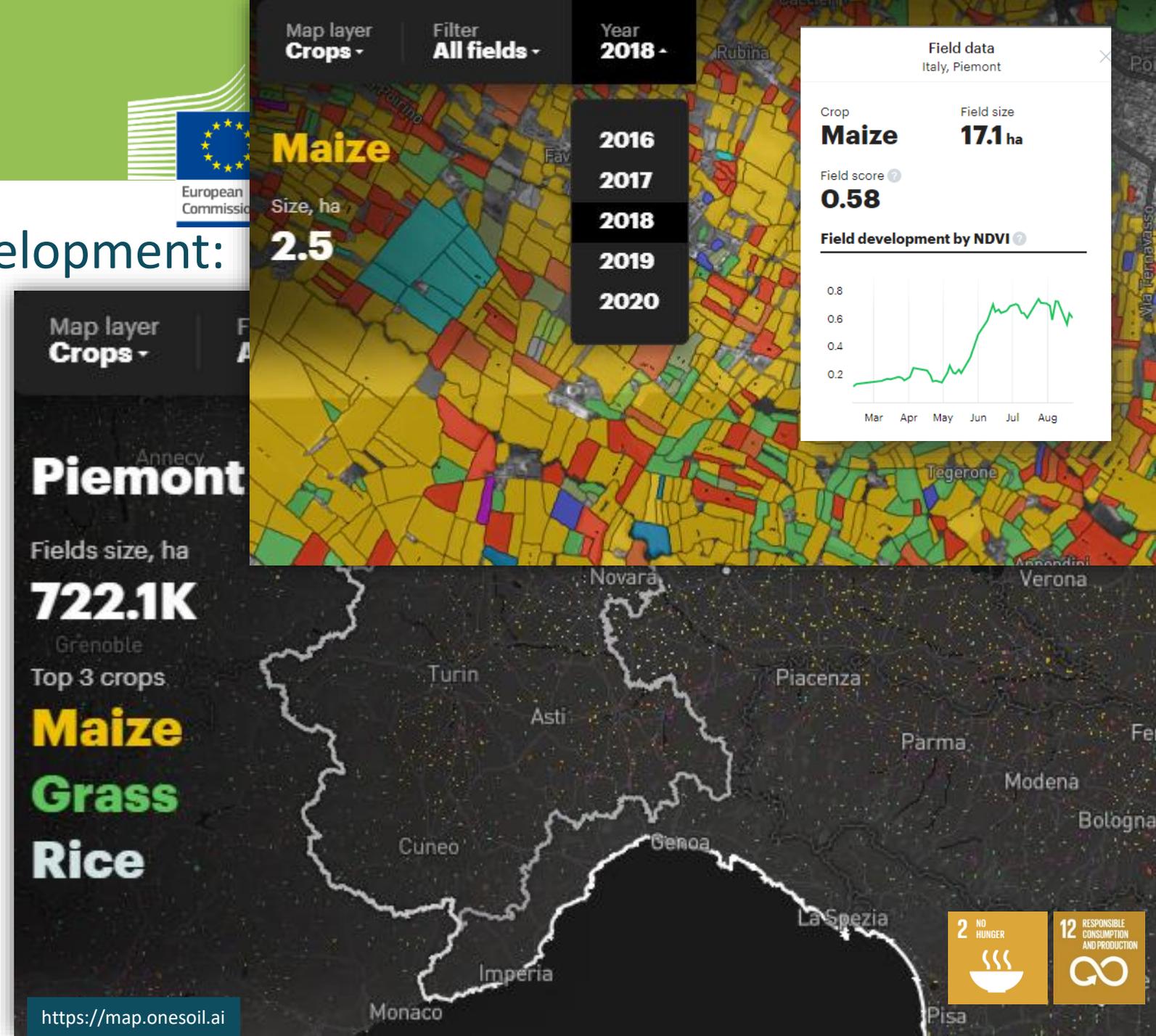
- **The Covid-19 Mobility Monitoring project:** analyses anonymized location data to understand the **effect of mobility restrictions and behavioural changes** on the current international COVID-19 outbreak.
- **Social Distancing Scoreboard:** is an interactive scoreboard developed by *unacast*, which is updated daily to inform and empower organisations **to make better decisions regarding social distancing**.
- **ShopSafe:** aids shoppers in **keeping social distance and tracking availability of products in supermarkets**, based on citizen-generated data and location data provided by telecom operators.



Location Intelligence for development: *AI detected fields and crops*

OneSoil uses Copernicus sentinel data to allow users to explore and compare fields and crops in Europe and the United States.

- The map reveals insights about **local and global trends in crop production**, which can be a significant tool to inform decision-makers and foster sustainable policies.
- **Sustainable farming and agriculture** is indeed key to achieve the SDGs, and the work towards zero hunger for a growing world population.

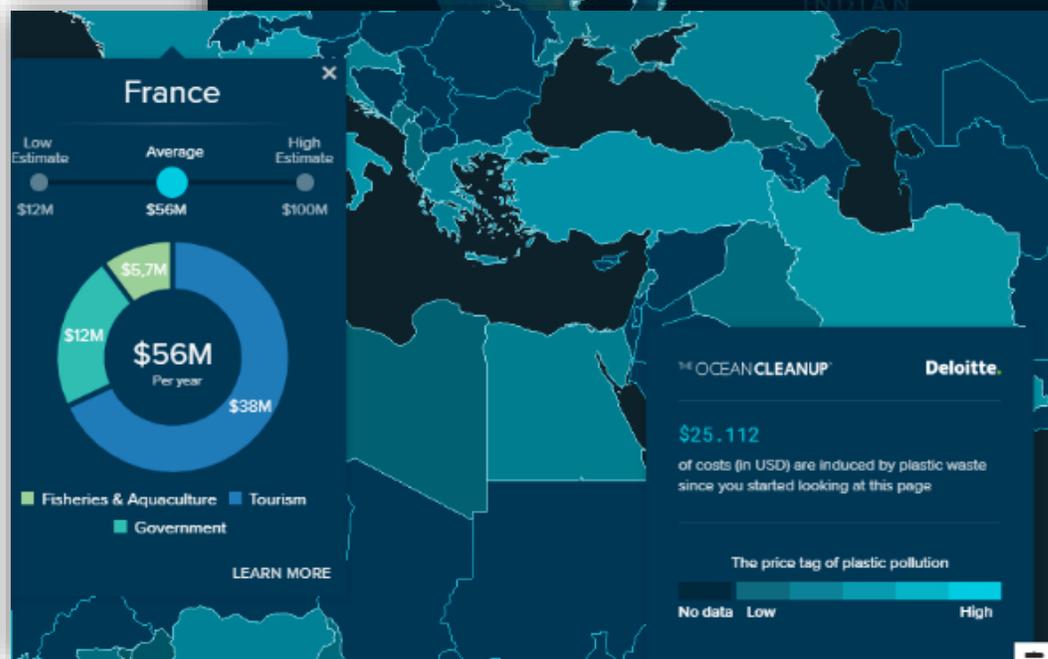


Non-profits initiatives powered by geospatial information

- **Ocean Cleanup** is an engineering environmental organization based in the Netherlands, that develops technology to extract plastic pollution from the oceans.
- Use of maps and geospatial information, developed and funded by **private and public partners**, to **predict, visualize and raise awareness** towards pressing and constantly evolving issues in the pollution of oceans and rivers.



Right click or drag with two fingers to change the angle
Click/tap and drag to pan the map
Scroll or double tap to zoom



4

*Challenges ahead:
institutionalising partnerships
and solidifying ecosystems*

Challenges ahead: what's next for data ecosystems and location intelligence in development

Geospatial multi-stakeholder, technology and data centered approaches can help addressing sustainable development challenges more effectively.

However it is important to:

- Continue to **increase the awareness** of key stakeholders about the advantages of sharing data (Global Partnership for Sustainable Development data, 2019).
- Address the question of **sustainability and institutionalization of data partnerships and ecosystems put in place** (MacDonald et al. 2017).
- **Ensure a degree of flexibility** and customization in the data governance and ecosystem approaches (Global Partnership for Sustainable Development data, 2019).
- Work on **capacity building** (Lämmerhirt D. et al, 2019).

5

Take-aways and conclusions



Concluding remarks

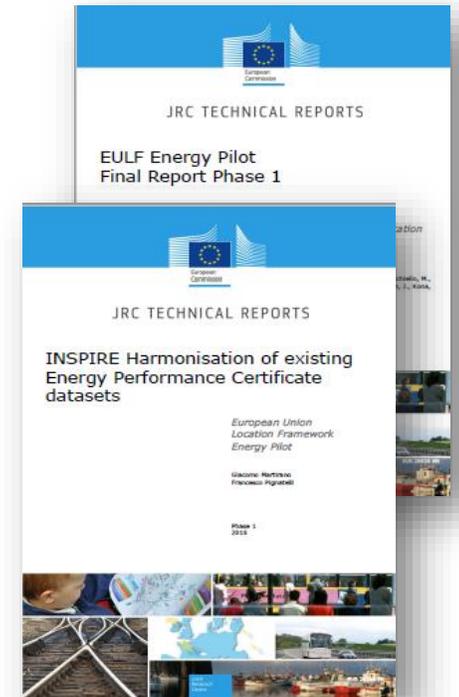
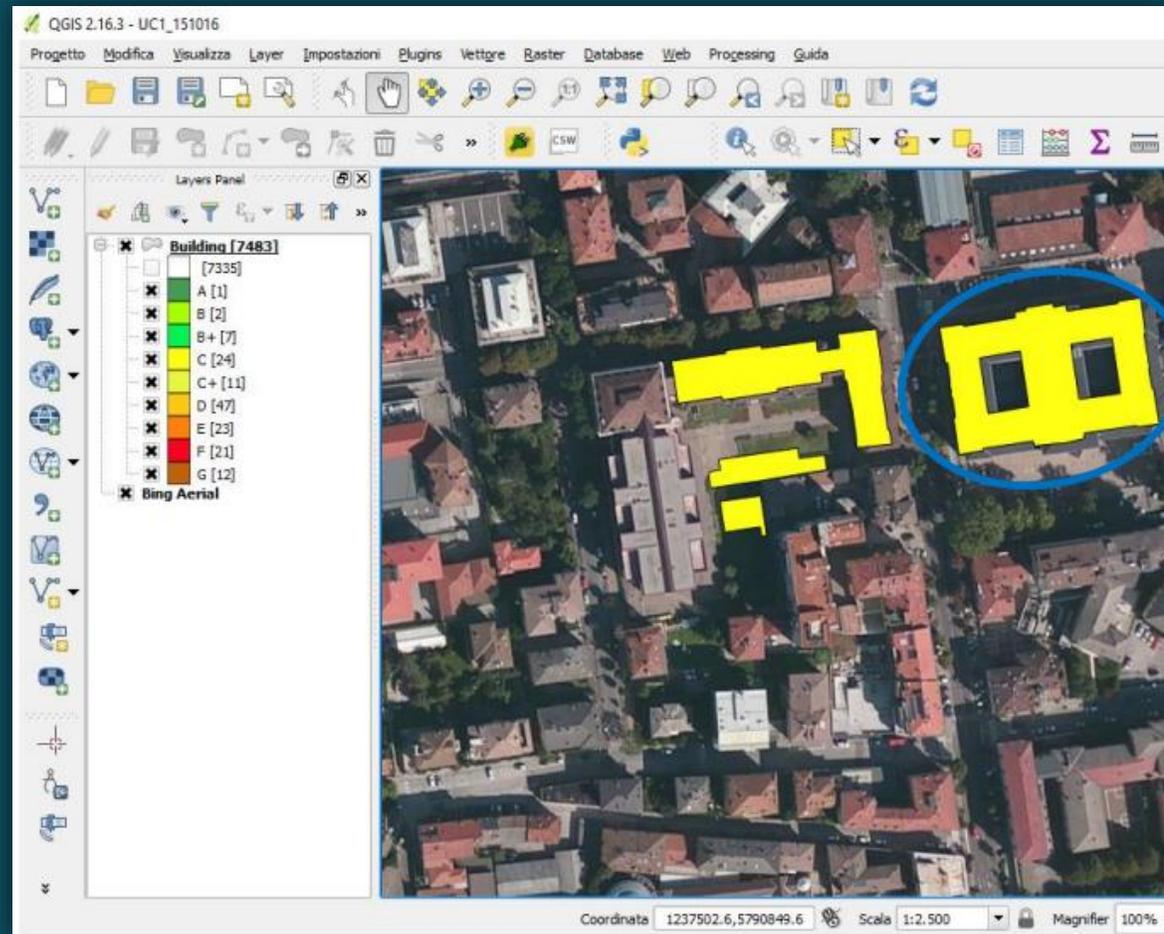
- New trends around geospatial (use of EO, Big Data and AI) can **strengthen its role in SDG beyond monitoring and statistical purposes.**
- **Data ecosystems and location intelligence are relevant.** While a lot of literature on SDG already focuses on data ecosystems, location intelligence in practice is still less explored.
- A definition of **location intelligence** should be commonly understood.

6

*ELISE Contribution:
the Energy and Location
Applications activity*

ELISE Energy and Location Applications

- Leverage the use and exchange of harmonised location-based data at building level
- Scale-up methodologies to assess energy consumption and performance from local to national level
- as required by the energy efficiency-related European Directives



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