Core Data for Europe
– moving beyond a list of data themes

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

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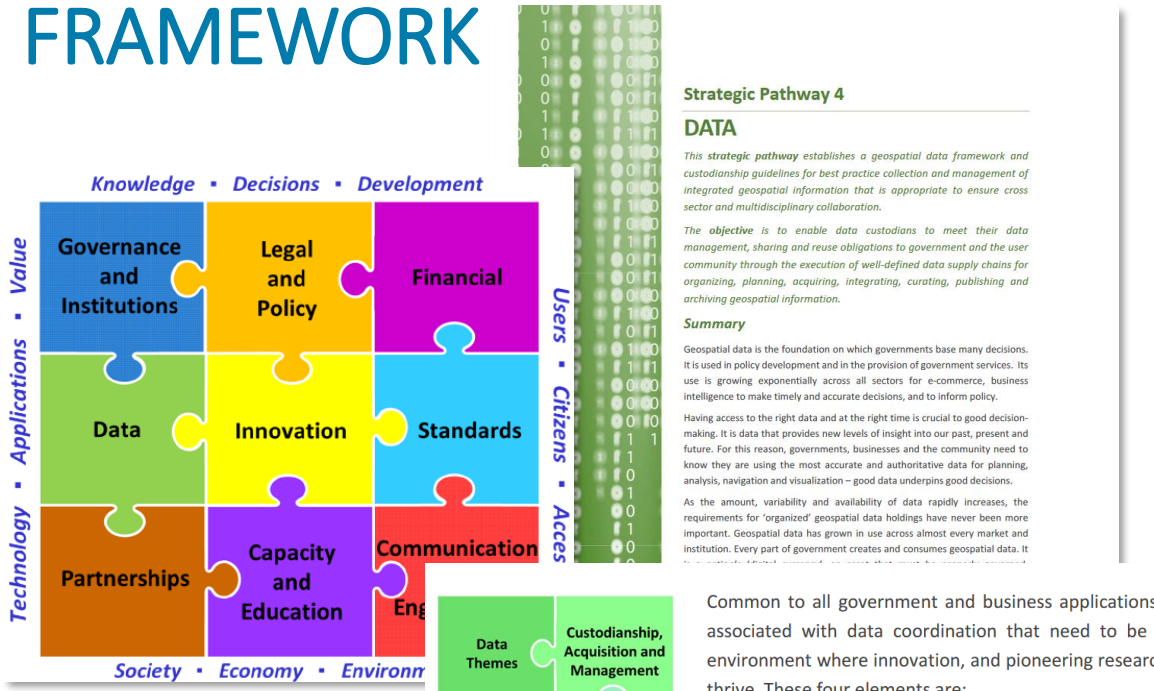
UN-GGIM: Europe

Fundamental Geospatial Data Themes

INTEGRATED GEOSPATIAL INFORMATION FRAMEWORK



Strategic Pathway 4

DATA

*This **strategic pathway** establishes a geospatial data framework and custodianship guidelines for best practice collection and management of integrated geospatial information that is appropriate to ensure cross sector and multidisciplinary collaboration.*

*The **objective** is to enable data custodians to meet their data management, sharing and reuse obligations to government and the user community through the execution of well-defined data supply chains for organizing, planning, acquiring, integrating, curating, publishing and archiving geospatial information.*

Summary

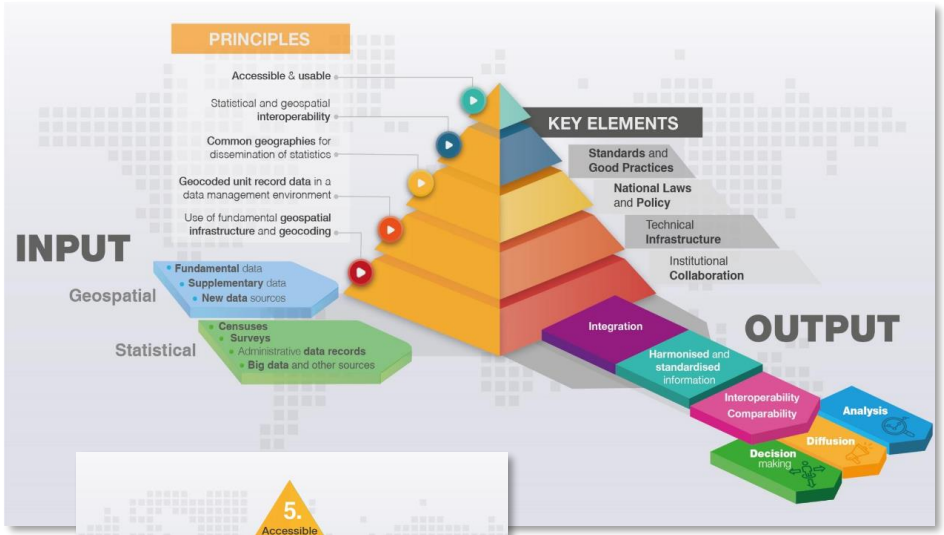
Geospatial data is the foundation on which governments base many decisions. It is used in policy development and in the provision of government services. Its use is growing exponentially across all sectors for e-commerce, business intelligence to make timely and accurate decisions, and to inform policy.

Having access to the right data and at the right time is crucial to good decision-making. It is data that provides new levels of insight into our past, present and future. For this reason, governments, businesses and the community need to know they are using the most accurate and authoritative data for planning, analysis, navigation and visualization – good data underpins good decisions.

As the amount, variability and availability of data rapidly increases, the requirements for 'organized' geospatial data holdings have never been more important. Geospatial data has grown in use across almost every market and institution. Every part of government creates and consumes geospatial data. It

Common to all government and business applications are four key elements associated with data coordination that need to be achieved to enable an environment where innovation, and pioneering research and development can thrive. These four elements are:

- **Data Themes** – the organization of priority national data themes, aligned to the globally endorsed fundamental geospatial data themes.
- **Custodianship, Acquisition and Management** – leading to responsible collection, management, maintenance and dissemination of fit-for-purpose geospatial information.
- **Data Supply Chains** – and interlinkages that support cooperative data sharing and integration.
- **Data Curation and Delivery** – enables enduring accessibility and value of data, and an information resource for broader usage across all sectors.



The five Principles of the GSGF

The Global Statistical Geospatial Framework

Global Fundamental Geospatial Data themes

1. Global Geodetic Reference Framework
2. Addresses
3. Buildings and Settlements
4. Elevation and Depth
5. Functional Areas
6. Geographical Names
7. Geology and Soils
8. Land Cover and Land Use
9. Land Parcels
10. Orthoimagery
11. Physical infrastructure
12. Population Distribution
13. Transport Network
14. Water

[The Global Fundamental Geospatial Data Themes]

[Story Map Cascade]

Example: Addresses data theme

Why is this theme fundamental?

Addresses underpin government administration at all levels; and good administration is a prerequisite for achieving sustainable development goals. An address is often the unit to which a public service, such as water, is provided. Addresses also enable effective communication with citizens; informing them of policies applying to them, and notifying them of relevant incidents. The theme also helps in managing buildings and properties, and supports social surveys. Datasets relating to individuals or households are often linked to addresses, which can therefore play a role in connecting otherwise-unrelated information. Geocoding addresses relates such information to geographic location. This allows for location-based data analytics and data mining.

Which sustainable development goals (SDGs) will it help to meet?

Addresses have been identified as playing a key role in the achievement of SDGs 4,6,7, 9 and 11.

Geospatial data features in more detail

The addresses theme comprises a single feature type, address, to which a variable number of attributes may be attached. Typically, in urban areas these comprise at least one locator (building, floor or apartment number and/or name), a two-dimensional geographic position and a number of address components which place the address within other features such as a road, a locality, an administrative unit or postal code. In rural areas the locator may be less precise.

Possible sources of geospatial data

Address datasets are usually maintained by public authorities. While data may be created and maintained at local level, it should ideally be compiled into a single national register.

Existing geospatial data standards

Note: This is indicative. Other lists of standards exist and UN-GGIM will seek to work with thematic experts to develop a list of relevant data standards.

- INSPIRE Data Specification on Addresses – Technical Guidelines 3.1;
- ISO 19160-1:2015 Addressing -- Part 1: Conceptual model;
- ISA Programme Location Core Vocabulary; and,
- ISO 19160-4(UPU, Universal Postal Union) Addressing--Part4: International postal address components and template language.

Core Data Themes for Europe

- Geographical Names
- Administrative Units
- Addresses
- Cadastral Parcels
- Transport Networks
- Hydrography
- Elevation
- Land Cover
- OrthoImagery
- Statistical units
- Buildings
- Land use
- Utility and governmental services
- Area management/restriction /regulation

Data content

- Feature types and attributes
- Levels of detail
- Geographical extent
- Data capture
- Quality

Other recommendations

- Coordinate Reference System (CRS)
- Metadata
- Delivery

Core Spatial Data Theme 'Address' Recommendation for Content

4.1 Feature types and attributes

Core Recommendation 1

Core data should comprise feature type Address with at least the following attributes: one two-dimensional geographic position, one locator (e.g. number or name) if available, and such other address components as are in current use. A unique and persistent identifier is also required.

Good Practice 1

All basic units of addressing should be provided with a unique address enabling their unambiguous location, i.e. an address with a locator and geographic position.

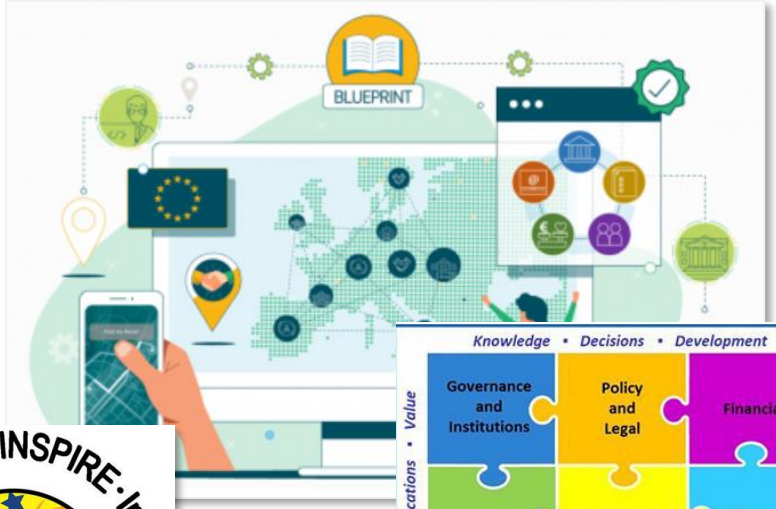
Good Practice 2

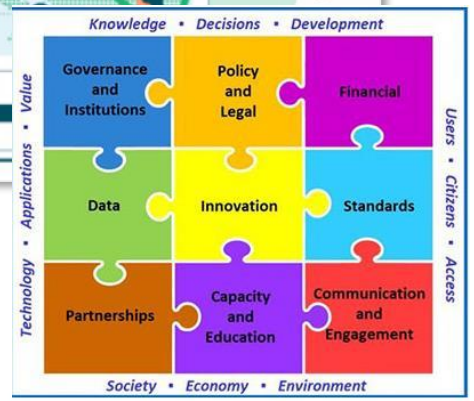
Geographic position should be further refined by including the geometry specification attribute, which describes the type of spatial object used to derive the position. Examples from the INSPIRE code list are: building, entrance, parcel, postal delivery point, postal descriptor and administrative unit. Wherever possible, building or entrance should be used, for reasons of precision.

Changing landscape in Europe

- Regional context is dynamic, with regulation that supports a society empowered by data
- Emerging policies and legislations that support data provision throughout the region
- Global frameworks

EUR-Lex





Contributing >>>

DIRECTIVE (EU) 2019/1024 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

of 20 June 2019

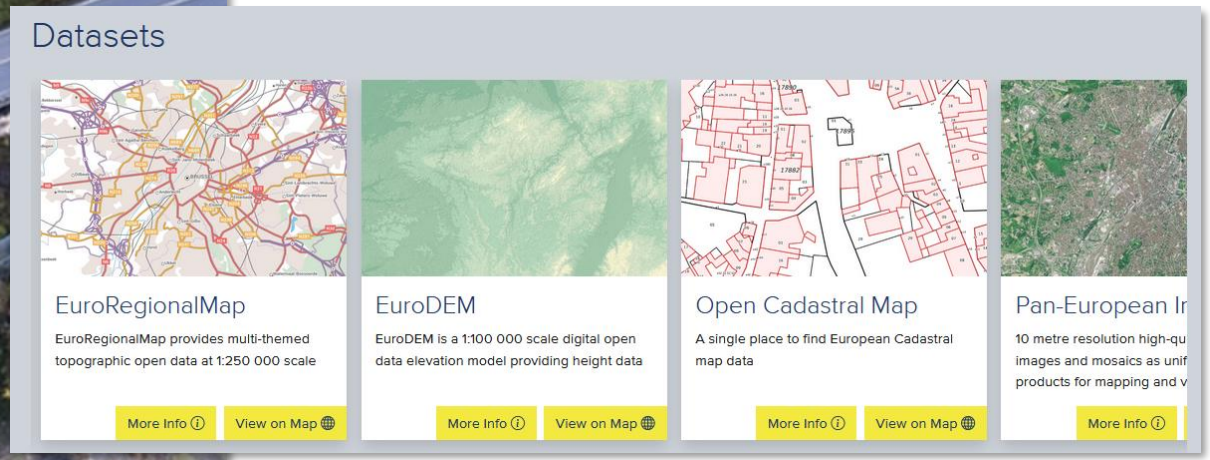
on open data and the re-use of public sector information

(recast)

List of thematic categories of high-value datasets,

1. Geospatial
2. Earth observation and environment
3. Meteorological
4. Statistics
5. Companies and company ownership
6. Mobility

www.mapsforeurope.org



Project *"Open Maps for Europe 2.0"*

- Creation of the large scale production process, to test the feasibility to produce large scale harmonised pan-European datasets
- Encouraged to adopt UN-GGIM: Europe Core Data as **guiding principle** for product managers and data producers

Thank you

Contact UN-GGIM: Europe Secretariat (carol.agius@eurogeographics.org) to find out more

Maximise the use of geospatial information in Europe for a safer and more sustainable world.

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