The work of the UN-GGIM: Europe Core Data WG “A” and how it relates to the Fundamental Themes

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Introduction – Reminder
What is Core Data?

- Core data is **priority data**
  - Geospatial data
  - The most useful to analyse, achieve or monitor the SDGs
  - Directly or indirectly
Objectives of the Working Group “A” on European Core Data

• **Define Core Data** and encourage UN European Member States to produce and supply it
  – Common requirements → common (minimum) content

• **Define priorities** for producing new data or for improving existing data
  – Recommendations for Content: meant for decision-makers and data providers
The Two Steps of the Working Group “A” on European Core Data

• **First Step**
  – Selecting Core Data Themes

• **Second Step**
  – Defining Content of Core Data Themes
1st Step: Selecting Themes
Relation between European Core Themes and Global Fundamental Themes
Methodology
1) Delimiting Themes

• Core data
  – European context
  – Used INSPIRE terminology as starting point
  – Tried to stay as close as possible to it

• Fundamental data
  – International context:
    no obligation to “stick to” INSPIRE
  – Has not been so close to INSPIRE
    • e.g. functional areas, buildings and settlements, land parcels, water
Methodology

2) Theme Selection Process

- Both working groups
  - Selection process based on user requirements with focus on SDGs
- European core data
  - Detailed analysis of SDG requirements
- Global fundamental data
  - High level investigation of SDG requirements
- Collaboration between the two working groups
Selected Themes

- Lots of commonalities in selected themes
- Global Fundamental WG more ambitious than European Core Data WG
Selected Themes
European Core Data

Annex I
Coordinate Reference Systems
Geographical Grid Systems
Geographical Names
Administrative Units
Addresses
Cadastral Parcels
Transport Networks
Hydrography
Protected Sites

Annex II
Elevation
Land Cover
OrthoImagery
Geology

Annex III
Statistical units
Buildings
Soil
Land use
Human health and safety
Utility and governmental services
Environmental monitoring facilities
Production and industrial facilities
Agricultural and aquaculture facilities
Population distribution - demography
Area management/restriction/regulation
Natural risk zones
Atmospheric conditions
Meteorological geographical features
Oceanographic geographical features
Sea regions
Bio-geographical regions
Habitats and biotopes
Species distribution
Utility and governmental services
Energy resources
Mineral resources
## Commonalities in Selected Themes

<table>
<thead>
<tr>
<th>Eur. Core Data Themes</th>
<th>Global Fundamental Data Themes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Global Geodetic Reference Frame</strong></td>
<td></td>
</tr>
<tr>
<td>Geographical Names</td>
<td>Geographical Names</td>
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<tr>
<td>Addresses</td>
<td>Addresses</td>
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<tr>
<td>Administrative Units + Statistical units + Area management</td>
<td>Functional areas</td>
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<tr>
<td>Buildings</td>
<td>Buildings <strong>and Settlements</strong></td>
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<tr>
<td>Cadastral Parcels</td>
<td>Land parcels</td>
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<tr>
<td>Transport Networks</td>
<td>Transport Networks</td>
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<tr>
<td>Elevation</td>
<td>Elevation and depth</td>
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<tr>
<td><strong>Population demographics</strong></td>
<td></td>
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<tr>
<td>Land Cover &amp; Land use</td>
<td>Land Cover and Use</td>
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<tr>
<td><strong>Geology/Soils</strong></td>
<td></td>
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<tr>
<td>Basic services</td>
<td>Physical infrastructure (Utility and Governmental</td>
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<td></td>
<td>Services + <strong>Production Facilities</strong></td>
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<tr>
<td>OrthoImagery</td>
<td>Imagery</td>
</tr>
<tr>
<td>Hydrography</td>
<td>Water (Hydrography + <strong>Oceanography</strong> + Sea regions)</td>
</tr>
</tbody>
</table>
Selected Themes
Global Fundamental Data WG
More ambitious than European Core Data WG “A”

Global WG selected more themes:

• Reference Frame
  – WG A: Important theme, but not a “data theme”

• Population Distribution
  – WG A: Important theme, but not geospatial theme

→ 2 important themes, but not in core data scope
• Global WG selected more themes (cont.)
  – Geology-Soils
  – Water (incl. marine water)

• European WG dealing with themes Geology, Oceanography, Meteorology
  – Many discussions
  – Well scored during selection process
→ Agreement:
  • First stage: not core
  • Subsequently: to re-consider (core themes in future?)
    – UN-GGIM being a young initiative, don’t do everything at once
    – To be done later by relevant communities
    – Should not be on NMCA-NSI responsibility to decide for these themes
• Global WG selected more themes (cont.)
  – Physical Infrastructure (incl. **industrial production facilities**)
• Main disagreement with European WG view:
  – Industrial facilities:
    • not core
    • geocoding Business Registers may be sufficient
    • theme Address as a proxy for production facilities

• Conclusion
  – European WG Workplan
    ↳ « recommendations for content »
  → Incited mode modest choices
Second Step: Defining Content of Global Fundamental Data Themes & European Core Data Themes
Respective Objectives

• WG European Core Data
  – Detailed « recommendations for content »
    • Features and Attributes
    • Quality, Level of Detail

• WG Global Fundamental Data
  – High level (one-pagers) theme descriptions
Cooperation between the two working groups

- Common participants in the two 2 WGs
- Global Fundamental Theme Descriptions were reviewed by WG A
Commonalities

- Global WG: Structure of One-Pagers
  - Theme title
  - Description
  - Why is this theme fundamental?
  - Which SDGs will it help to meet?
  - Geospatial data features in more detail
    - Possible sources of data
    - Existing data standards

欧洲WG输出广泛用于全球WG
Examples of Commonalities (1)

Why is *Elevation* theme fundamental /
Map of use cases for *Elevation* core theme

Elevation is essential to help determine **appropriate places for human developments and activities**, to map relief in **2D maps** and to build **3D models**, to delimitate **drainage basins** in hydrology, to map floodplain areas, to support national forest inventories, to forecast the **propagation of physical phenomena** (such as pollution, flooding, landslide risks, etc.), to understand **ecosystems**, **climate change**.

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**UN-GGIM: EUROPE**

**UNITED NATIONS INITIATIVE ON GLOBAL GEOSPATIAL INFORMATION MANAGEMENT**
Examples of Commonalities (3)

Address fundamental data features in more detail

List of attributes of Address core theme

The addresses fundamental 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.

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.
Examples of Commonalities (4)

Land Parcel fundamental data features in more detail

/ List of attributes of Cadastral Parcel core theme

The Land Parcels fundamental theme mainly comprises the feature land parcel with three basic attributes:

- The **geographic location**
- A **unique identification** of the parcel
- The type of parcel (may be implicit)

Core attributes are **geometry** and **national cadastral reference**
Examples of Commonalities (5)

**Land Parcel fundamental theme recommendations** / **Cadastral Parcel core theme recommendations**

• Land parcels may be **associated with land registries**.

• Cadastral parcels allowing easy and reliable **link to cadastral registry**.

• It is recommended managing the land parcel’s **temporal information**.

• It is recommended to manage the **history of features**, using the mechanism provided by the **INSPIRE data specifications**: versioning and life-cycle attributes.
Examples of Commonalities (6)
Geographical Names

Fundamental Theme / Core Theme

Recommendations

• Many named features have indeterminate boundaries but, where feasible, their **delineation** should be included.

• Capture the “**true**” **geometry** of named places.
Conclusions
Conclusion

• **Different Contexts and Targets**
  – Global: High level recommendations
  – Europe: Detailed recommendations
    → common (minimum) content for SDGs

• Results are overall **consistent**

→ **Implementation** can be **unified**
  in European UN Member States