INSPIRE Data Specification
Geographical Names

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Report on INSPIRE Annex I data specifications,
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UNGEGN (United Nations Group of Experts on Geographical Names)

important liaisons:

**TWG GN**
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- Andreas Illert
- Kent-Jacob Jonsrud
- Teemu Leskinen
- Sébastien Mustière
- Miquel Parella
- Katalin Toth
- Kathleen Van Doren
- Pier-Giorgio Zaccheddu

**EuroGeoNames**
(Econtent+ project)
Use case development

As-is analysis

Gap analysis

Identification of user requirements and spatial object types

Data specification development

Implementation, testing and validation

Cost-benefit analysis

situation as-is:
• multilingual countries,
• minority languages
• different scripts

modelling:
  a) dedicated name databases
  b) names as attributes to spatial objects

prominent use case:
place names as a search key in GeoPortals
**Key concepts:**
- language
- script

**Example:**

“the city of Athens”

- language = Greek
- text = Αθήνα
- script = Greek

- language = English
- text = Athens
- script = Latin

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**INSPIRE UML model “Geographical Names”**

- **Language**: Greek
- **Text**: Athína
- **Script**: Greek

- **Language**: English
- **Text**: Athens
- **Script**: Latin
INSPIRE GN application schema: components

**mandatory**
- name(s) *(as character string „spellingOfName“,)*
- geometry
- unique identifier

**‘voidable’**
- language *(three letter codes from ISO 639-3 or -5)*
- nameStatus *(official, standardised, historical, other)*
- link to relatedSpatialObject
- script *(four letters codes defined in ISO 15924)*
- nativeness *(endonym, exonym)*
- transliterationScheme
- grammatical gender *(masc., fem., neuter, common)*
- grammatical number *(singular, plural, dual)*
- pronunciation
- sourceOfName
- type
- typeLocal
- lifeCycleInfo *(begin/end of the object in the source DB)*
- …
Two options for implementation

1. **Full model** stand-alone, to be used for the publication of dedicated name databases

2. **Data type** can be used by other themes
Type of Named Place
(e.g. Administrative unit, Mountain range)

<table>
<thead>
<tr>
<th>CodeList</th>
<th>TWG-GN::FeatureTypeForNames</th>
</tr>
</thead>
<tbody>
<tr>
<td>COUNTRIES, ADMINISTRATIVE UNITS AND OTHER AREAS</td>
<td></td>
</tr>
<tr>
<td>Country</td>
<td></td>
</tr>
<tr>
<td>Administrative units</td>
<td></td>
</tr>
<tr>
<td>Other non-administrative units</td>
<td></td>
</tr>
<tr>
<td>POPULATED PLACES</td>
<td></td>
</tr>
<tr>
<td>Administrative capitals</td>
<td></td>
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<tr>
<td>Other populated places</td>
<td></td>
</tr>
<tr>
<td>Houses</td>
<td></td>
</tr>
<tr>
<td>NON-RESIDENTIAL STRUCTURES AND BUILDINGS</td>
<td></td>
</tr>
<tr>
<td>Economic activity facilities</td>
<td></td>
</tr>
<tr>
<td>Social facilities, administrative buildings and monuments</td>
<td></td>
</tr>
<tr>
<td>Other non-residential structures</td>
<td></td>
</tr>
<tr>
<td>Transports and telecommunications features</td>
<td></td>
</tr>
<tr>
<td>Air transport</td>
<td></td>
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<tr>
<td>Waterborne transport</td>
<td></td>
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<tr>
<td>Land transport</td>
<td></td>
</tr>
<tr>
<td>Telecommunications</td>
<td></td>
</tr>
<tr>
<td>TERRAIN FEATURE</td>
<td></td>
</tr>
<tr>
<td>Islands</td>
<td></td>
</tr>
<tr>
<td>Coastal and shore relieves</td>
<td></td>
</tr>
<tr>
<td>Elevations</td>
<td></td>
</tr>
<tr>
<td>Natural terrain areas or regions</td>
<td></td>
</tr>
<tr>
<td>Point terrain feature</td>
<td></td>
</tr>
<tr>
<td>HYDROGRAPHIC FEATURES</td>
<td></td>
</tr>
<tr>
<td>Seas and part of them</td>
<td></td>
</tr>
<tr>
<td>Standing water features</td>
<td></td>
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<tr>
<td>Permanent water features</td>
<td></td>
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<tr>
<td>Hydrographic point feature</td>
<td></td>
</tr>
<tr>
<td>Diverse hydrographic feature</td>
<td></td>
</tr>
<tr>
<td>Other hydrographic and underground features</td>
<td></td>
</tr>
<tr>
<td>CONSERVATION AREA</td>
<td></td>
</tr>
<tr>
<td>World Heritage sites</td>
<td></td>
</tr>
<tr>
<td>Conservation areas of natural environment</td>
<td></td>
</tr>
<tr>
<td>MISCELLANEOUS</td>
<td></td>
</tr>
<tr>
<td>Miscellaneous</td>
<td></td>
</tr>
</tbody>
</table>

Harmonisation

Issues
Example:
Consistency within INSPIRE

Feasibility

Proposal v1.0:
List of feature types from EuroGeoNames project

Problem:
classification not consistent with other INSPIRE themes
Harmonisation

Issues

Example:

Feasibility
Consistency within INSPIRE

Type of Named Place
(e.g. Administrative unit, Mountain range)

proposal v2.0: themes and spatial objects from INSPIRE Feature Concept Dictionary

Problem: classification not adequate for the Geographical names domain
### Type of Named Place
(e.g. Administrative unit, Mountain range)

<table>
<thead>
<tr>
<th>Category</th>
<th>Subcategories</th>
</tr>
</thead>
<tbody>
<tr>
<td>COUNTRIES, ADMINISTRATIVE UNITS AND OTHER AREAS</td>
<td>Administrative unit, Administrative unit lowest level, Country, Administrative units, Other non-administrative units, Administrative capitals, Other populated places, Houses, Economic activity facilities, Social facilities, administrative, Other non-residential str</td>
</tr>
<tr>
<td>POPULATED PLACES</td>
<td>Administrative capitals, Address Area, Thoroughfare, Surface water, Watercourse, Glacier or Snowfield, Wetland, Shore, Basin, Catchment area, Watercourse, Watercourse, Constriction, Lake, River, Aggregated Term, Aggregated Term, Transport Link, Transport Link, Transport Network, Transport Network, Seaward and part of them, Standing water features, Artificial water feature, Permanent water features, Hydrographic point feature, Diverse hydrographic features, Other hydrographic and hydrological features, Island, Coastal and shore relief, Elevations, Natural terrain areas or complex, Point terrain feature, Hydrographic point feature, Diverse hydrographic features, Other hydrographic and hydrological features, CONSERVATION AREA</td>
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<tr>
<td>TRANSPORT AND TELECOMMUNICATIONS</td>
<td>Air transport, Waterborne transport, Land transport, Telecommunications, TERRAIN FEATURE, Islands, Coastal and shore relief, Elevations, Natural terrain areas or complex, Point terrain feature, HYDROGRAPHIC FEATURE, Seaward and part of them, Standing water features, Artificial water feature, Permanent water features, Hydrographic point feature, Diverse hydrographic features, Other hydrographic and hydrological features, CONSERVATION AREA</td>
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</table>

**Final codelist:**

- compromises names of selected themes, plus „landform“ and „populatedPlace“
- very simple
- is it sufficient / useful?

```xml
<codeList>
  <NamedPlaceTypeValue>
    + administrativeUnit
    + building
    + hydrography
    + landcover
    + landform
    + populatedPlace
    + protectedSite
    + transportNetwork
    + other
  </NamedPlaceTypeValue>
</codeList>
```
Issues

• Type of Named Place:
  (e.g. Administrative unit, Mountain range)
  TWG tried to adopt feature types from INSPIRE, but had to
  simplify, modify and amend the list for this purpose.
  > revise codelist based on experience from implementation
    at Member States

• Language codes:
  difficulties with inconsistent codelists from ISO 639
  > approach ISO

• Multiplicity & voidable:
  TWG has concerns that current approach is too complex and
  demanding, e.g. for WFS queries
  > revise concept based on experience from implementation
    at Member States