INSPIRE harmonization experiences by Statistics Netherlands

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INSPIRE in the Netherlands

- Geonovum coordinates responsibility for INSPIRE themes

- Statistics Netherlands is considered responsible for:
  - Statistical Units, SU
  - Population Distribution, PD
  - Human Health, HH
  - Land Use, LU
Harmonization

Fitting data into INSPIRE data models

Figure 5 - UML class diagram of the Grid package
Method

– Used HALE to design

– SU-vector and LU: provider (PDOK) performs the harmonization on the As-Is data and serves both As-Is and harmonized data via OGC geoservices.

– SU-grid: deliver harmonized GML to provider
Define transformation with HALE
Harmonization Planning

- First SU:
  - VectorStatisticalUnits: 2015-2017
  - Grid (cells): 2017

- Secondly LU: 2018

- Finally, if considered useful: PD and HH
VectorStatisticalUnits

As Is: 23 years X 20 types of units makes 460 layers

SU-vector model: only one layer is accepted and there is no SU-type field to separate them.

How to filter them out as a user?
- Misused tessellation attribute in AreaStatisticalUnit
- We might start using stored queries
- Group layers → validation error

Result:
https://geodata.nationaalgeoregister.nl/inspire/su-vector/wfs?
Figure 8 - UML class diagram of the Vector package
In Geostat 3 we are testing the EE-SGF on census 2021 grid

Can’t use As Is grids, because they are in local projections

So we used 1km2 grids in LAEA shape files: http://www.efgs.info/data/

Result: Harmonized GMLs for 7 of the participating countries.

Geoservices (WMS, WFS) are expected by the end of this year.
SU-Grid Harmonized
Problem: No geometry results in useless GML-files

Why not use SDMX files as we already deliver to Eurostat?
– They are already harmonized
  - semantically and technically
  – They are machine readable:
  – It would save all European Statistical offices a lot of money

Only for new data sets it makes sense to use PD model
  - But…. Stick to SDMX for encoding
  - Census 2021 grid is a good example
Table Joining Service

Table

Geoservices
Motivation

- No unnecessary copies of data. Data remains at its source.

- Actuality is higher, because table updates can be made visible directly in the online maps

- Too large amount of tables to create maps in advance → so why not create online maps on demand with TJS

- Interoperable with existing INSPIRE services and standards

- Online mapping becomes available for non GIS-specialist when applied in user-friendly applications.
Conclusions

– SU-vector needs a type attribute or group layers should be accepted.

– We should continue using existing SDMX services for PD and HH instead of re-harmonizing them

– We need tools like a TJS to join PD and HH with SU to make INSPIRE useful for geo-minded statistical users