

INSPIRE harmonization experiences by Statistics Netherlands

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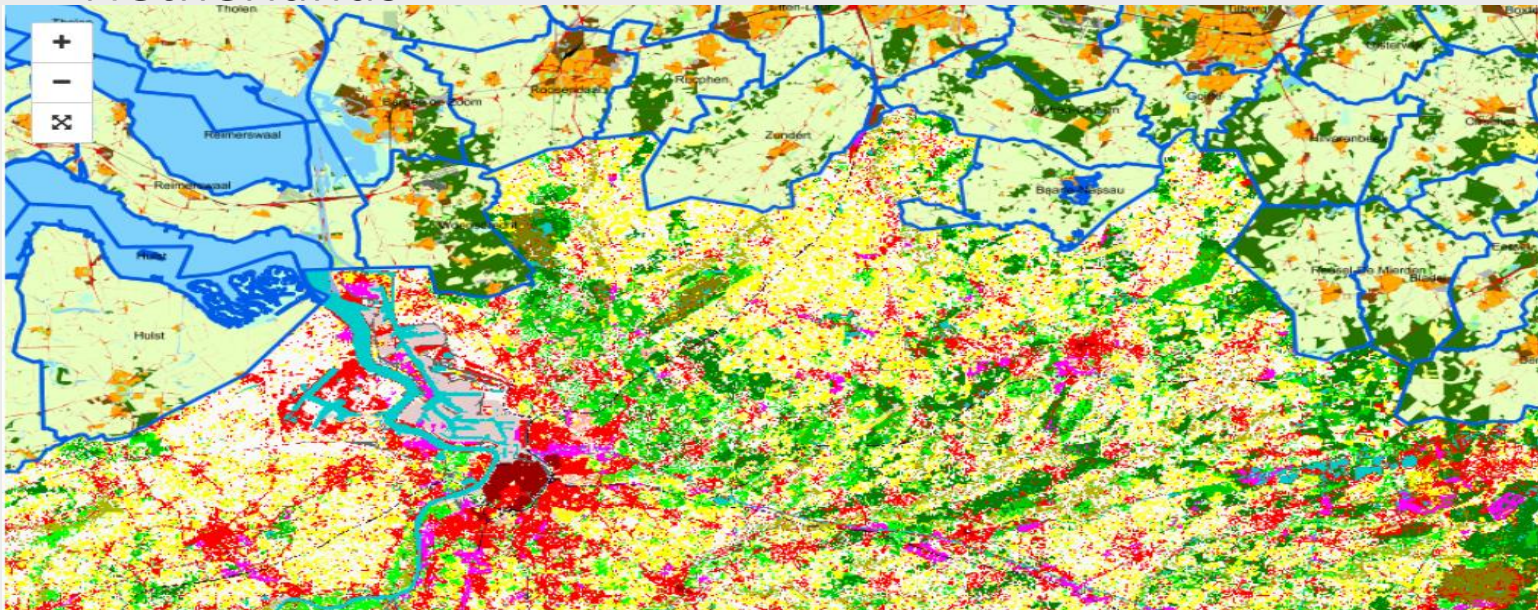
Why INSPIRE?



- Better data interoperability throughout Europe
 - Findable
 - Available, as open as possible
 - Viewable
 - Downloadable
- More usage of the data
- When harmonized, cross border mapping becomes possible

Why INSPIRE?

Netherlands



Belgium

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

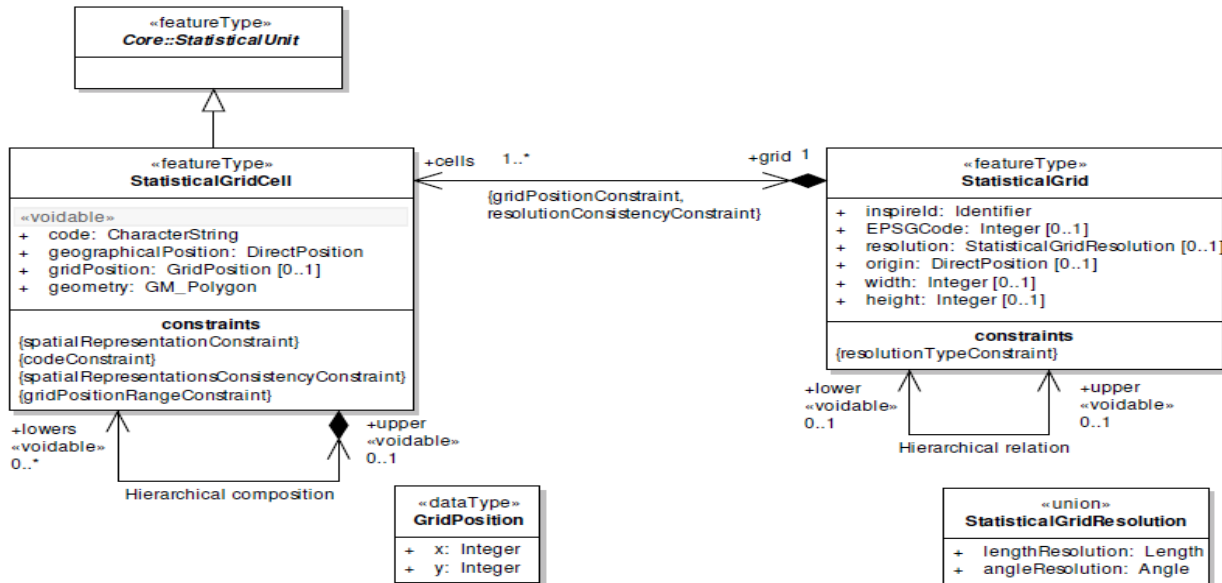


Figure 5 - UML class diagram of the Grid package

Define transformation with HALE

The screenshot displays the HUMBOLDT Alignment Editor 2.8.0 interface. The window title is "HUMBOLDT Alignment Editor 2.8.0 - Texel - C:\pieter\INSPIRE\Texelgrid.halez". The menu bar includes File, Transformation, Edit, Window, and Help. The toolbar contains various icons for file operations and alignment actions.

The interface is divided into three main panes:

- Source:** A tree view showing the schema for `uitQgisTexel`. The `GRD_NEWID` property is highlighted in green.
- Target:** A tree view showing the schema for `StatisticalGridCell`. The `id` property is highlighted in green.
- Alignment:** A diagram showing the transformation rule. It features two main nodes: `uitQgisTexel` (left) and `StatisticalGridCell` (right). The `GRD_NEWID` property of the source is mapped to the `id` property of the target via a `Retype` operation. The `geometry` property of the source is mapped to the `geometry` property of the target via a `Rename` operation. The `geometry` property of the source is also mapped to the `grid.href` property of the target via an `Assign` operation. The `geometry` property of the source is also mapped to the `code` property of the target via a `Formatted string` operation.

The `StatisticalGridCell` schema in the target pane includes the following properties:

- location (0..1)
- boundedBy (0..1)
- code ×231
- description (0..1)
- descriptionReference (0..1)
- geographicalPosition
- geometry ×231
- grid ×231
- gridPosition (0..1)
- id ×231
- identifier (0..1)
- lowers (0..n)
- metaDataProperty (0..n)
- name (0..n)
- upper (0..1)

Vector Statistical Units

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?>

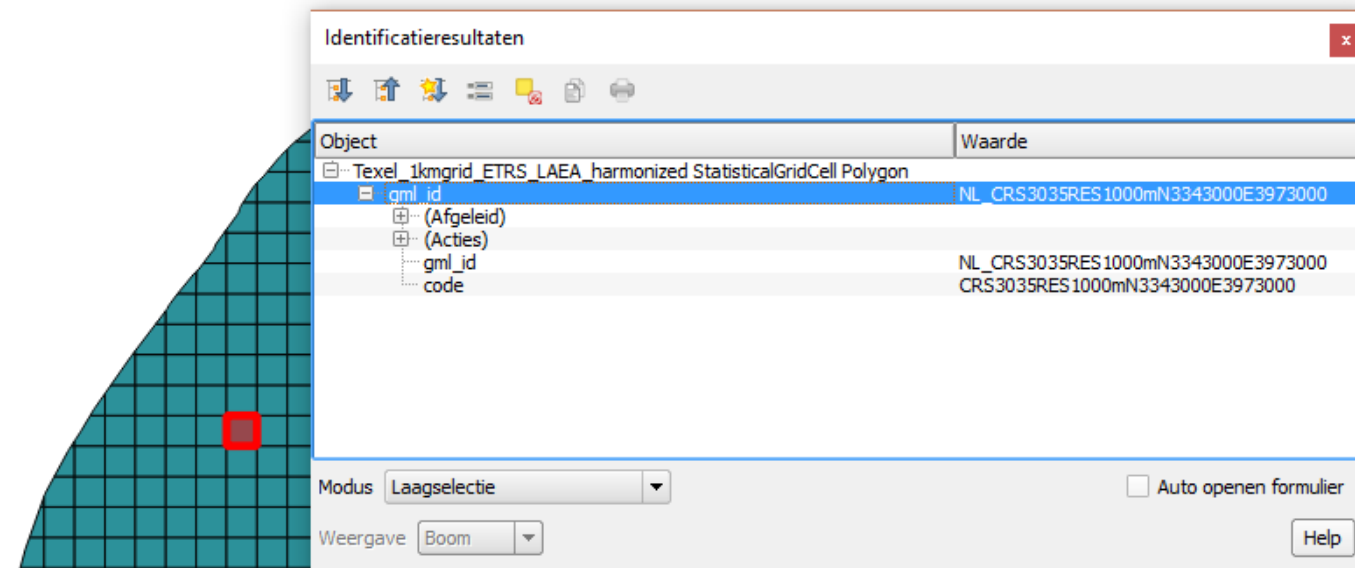


SU GRID

- In Geostat 3 we are testing the 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



The screenshot shows a GIS application interface. On the left, a map displays a teal grid overlay on a landmass. A red square highlights a specific cell in the grid. On the right, a window titled 'Identificatieresultaten' is open, displaying a table of identification results. The table has two columns: 'Object' and 'Waarde'. The table content is as follows:

Object	Waarde
[-] Texel_1kmgrid_ETRS_LAEA_harmonized StatisticalGridCell Polygon	
[-] gml_id	NL_CRS3035RES1000mN3343000E3973000
[-] (Afgeleid)	
[-] (Acties)	
gml_id	NL_CRS3035RES1000mN3343000E3973000
code	CRS3035RES1000mN3343000E3973000

Below the table, the 'Modus' dropdown is set to 'Laagselectie' and the 'Weergave' dropdown is set to 'Boom'. There is an unchecked checkbox for 'Auto openen formulier' and a 'Help' button.

Population Distribution and Human Health

Problem: No geometry results in useless GML-files

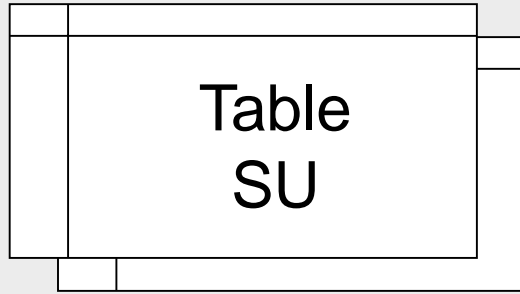
Why not use SDMX files as we already deliver to Eurostat?

- They are already harmonized: semantically and technically
- They are machine readable: <http://ec.europa.eu/eurostat/web/sdmx-web-services>
- It would save all European Statistical offices a lot of money

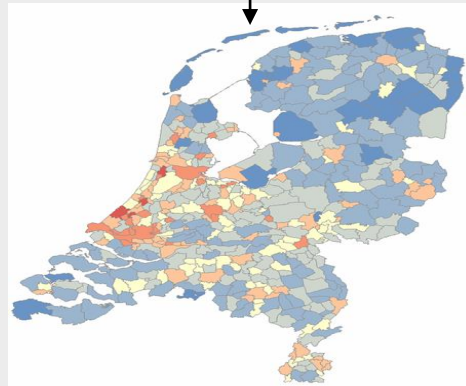
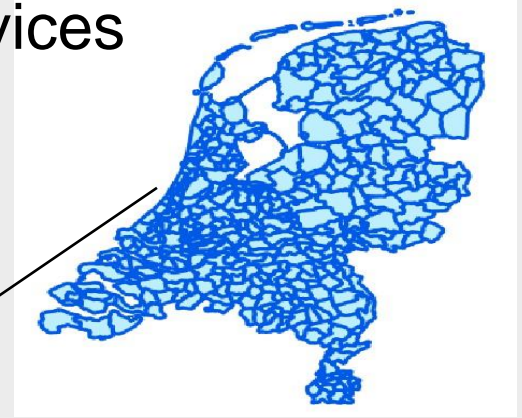
Only for new data sets it makes sense to use PD model

- But.... Stick to SDMX for encoding
- Census 2021 grid is a good example

Table Joining Service



Geoservices
SU



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 possible.
- 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

