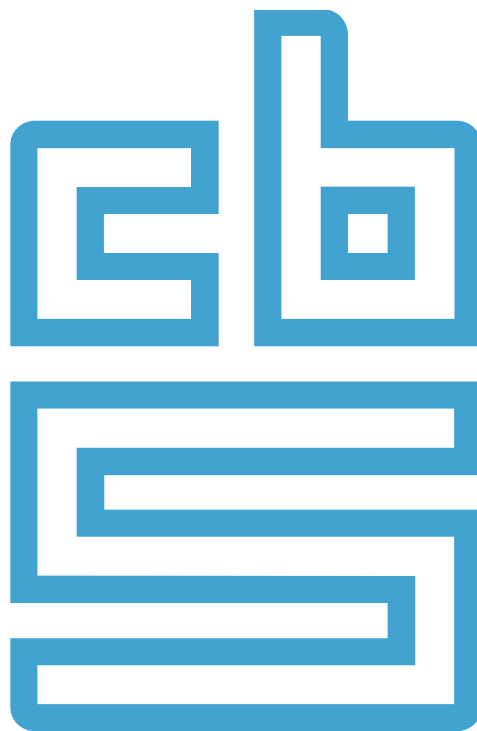






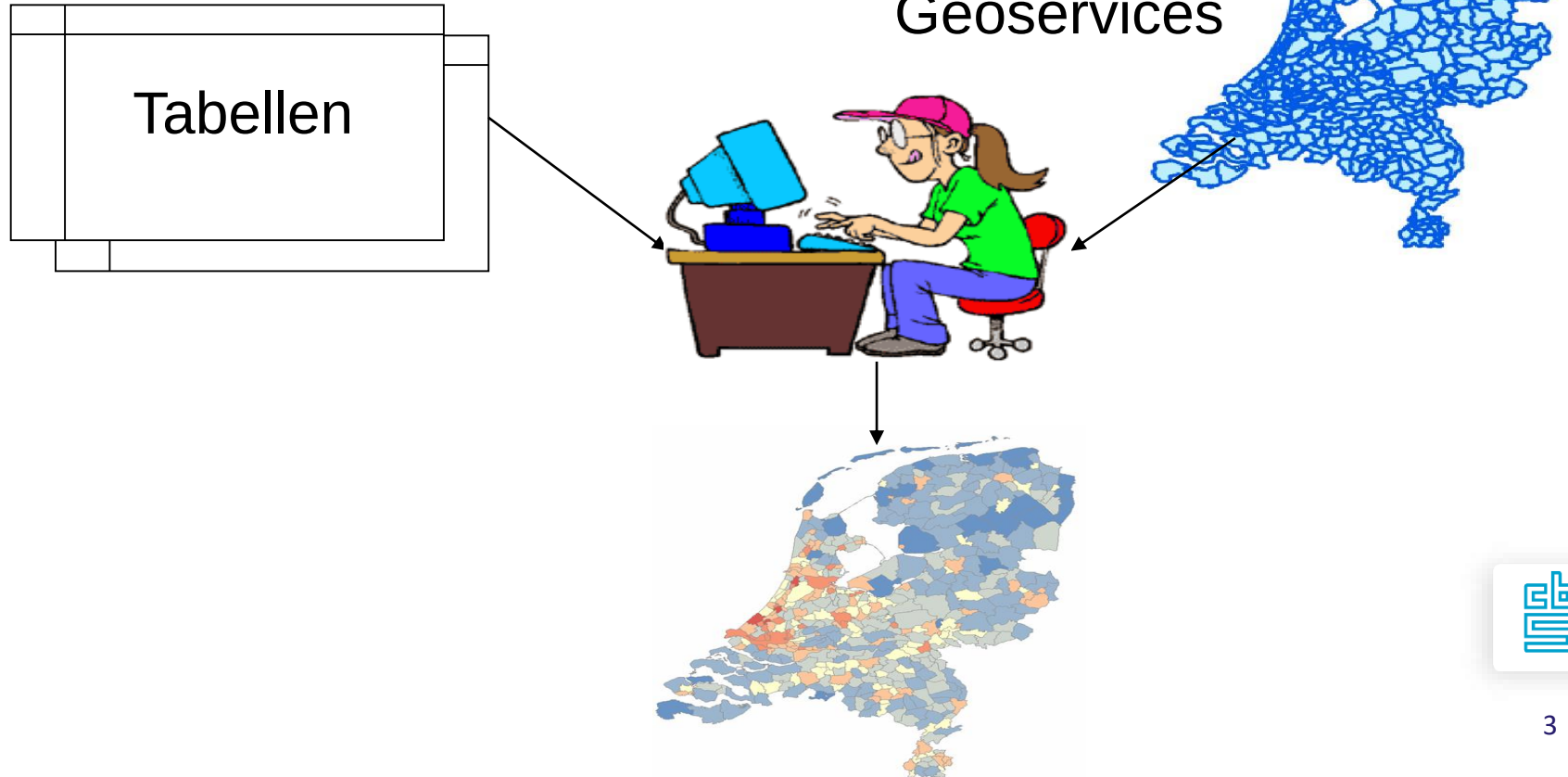
# Table Joining Service

Online koppelen tabellen met geografische data?

Pieter Bresters

17 juni 2019

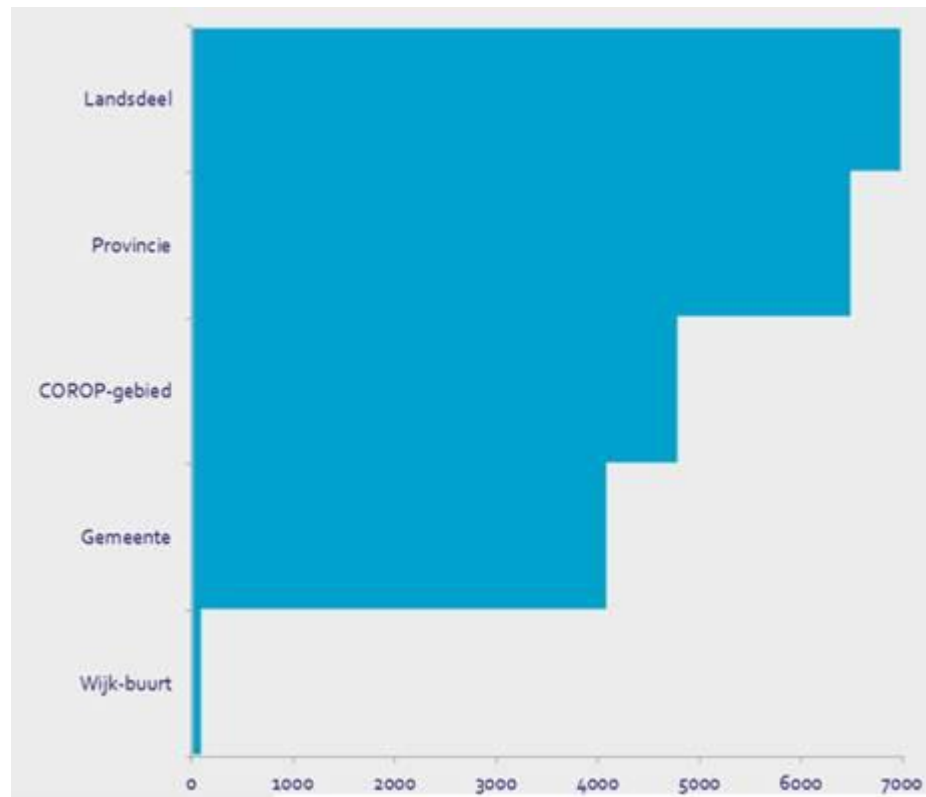
# Wat is het probleem?



# Statline

400 van de 2800 tabellen zijn ruimtelijk

← Grootte ruimtelijke indeling



Aantal variabelen →



# Inhoud

- Achtergrond
- Resultaten tot nu toe
- Scenariokeuze
- Toekomst
- Conclusies



# Achtergrond



# Motivatie

- INSPIRE: thema's zonder geometrie
- Flexibiliteit
- Actualiteit
- Geen onnodige kopieën van data



# Historie

- ELF
- 2 Eurostat Grants
- Opdracht aan PDOK
- Geostat 3



# Resultaten



# Geostat 3



<http://geodata.nationaalgeoregister.nl/inspire/su-grid/wms?&request=GetCapabilities>

In een browser

<http://geodata.nationaalgeoregister.nl/inspire/su-grid/wms?request=GetMap&CRS=epsg:3035&width=1500&Height=2000&layers=SU.StatisticalGridCell&Format=image/png&bbox=250000,0,1600000,5500000,5600000>



# SDMX tabel

```
<?xml version="1.0" encoding="UTF-8"?>
<!-- Created with SDMX Converter v4.5.0 -->
- <message:StructureSpecificData xsi:schemaLocation="http://www.SDMX.org/resources/SDMXML/schemas/v2_0/message
SDMXMessage.xsd urn:sdmx:org.sdmx.infomodel.datastructure.DataStructure=ESTAT:CENSUS-
GRID:1.0:ObsLevelDim:TIME_PERIOD ESTAT_CENSUS-GRID_StructureSpecific.xsd"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:cen="urn:sdmx:org.sdmx.infomodel.datastructure.DataStructure=ESTAT:CENSUS-GRID:1.0:ObsLevelDim:TIME_PERIOD"
xmlns:common="http://www.sdmx.org/resources/sdmxml/schemas/v2_1/common"
xmlns:message="http://www.sdmx.org/resources/sdmxml/schemas/v2_1/message">
  - <message:Header>
    <message:ID>geostat3testSDMX2</message:ID>
    <message:Test>true</message:Test>
    <message:Truncated>true</message:Truncated>
    <message:Prepared>2018-03-13T15:29:49.546+01:00</message:Prepared>
  - <message:Sender id="NL1">
    <message:Name xml:lang="en">Statistics Netherlands</message:Name>
    - <message:Contact>
      <message:Name xml:lang="en">Pieter Bresters</message:Name>
      <message:Department xml:lang="en">Regio en Ruimte</message:Department>
      <message:Role xml:lang="en">GIS Specialist</message:Role>
      <message:Telephone>0031703374521</message:Telephone>
    </message:Contact>
  </message:Sender>
  + <message:Receiver id="test">
  + <message:Structure dimensionAtObservation="TIME_PERIOD" structureID="ESTAT_CENSUS-GRID_1_0">
</message:Header>
- <message:DataSet structureRef="ESTAT_CENSUS-GRID_1_0" dataScope="DataStructure">
  - <cen:Series MEASURE="populationAtResidencePlace" STAT="CL_STAT" GM_SURFACE="GRD_ID" FREQ="A">
    <cen:Obs OBS_STATUS="A" OBS_VALUE="OBS_VALUE" PERIOD_OF_REFERENCE="YEAR"/>
  </cen:Series>
  - <cen:Series MEASURE="populationAtResidencePlace" STAT="T" GM_SURFACE="NL_CRS3035RES1000mN3079000E4028000"
  FREQ="A">
    <cen:Obs OBS_STATUS="A" OBS_VALUE="2" PERIOD_OF_REFERENCE="2012"/>
  </cen:Series>
  - <cen:Series MEASURE="populationAtResidencePlace" STAT="T" GM_SURFACE="NL_CRS3035RES1000mN3079000E4032000"
  FREQ="A">
    <cen:Obs OBS_STATUS="A" OBS_VALUE="14" PERIOD_OF_REFERENCE="2012"/>
  </cen:Series>
  - <cen:Series MEASURE="populationAtResidencePlace" STAT="T" GM_SURFACE="NL_CRS3035RES1000mN3079000E4033000"
  FREQ="A">
```



# PDOK Table Joining Service



http://geodata.nationaalgeoregister.nl/

Explore

## Table Joining Service API

TJS API

**activate**

Show/Hide | List Operations | Expand Operations

**deactivate**

Show/Hide | List Operations | Expand Operations

**info**

Show/Hide | List Operations | Expand Operations

**join**

Show/Hide | List Operations | Expand Operations

POST /join/csv

Joins CSV data with spatial data

POST /join/sdmx

Joins SDMX data with spatial data

**list**

Show/Hide | List Operations | Expand Operations

**remove**

Show/Hide | List Operations | Expand Operations



### Implementation Notes

A CSV datasource without a spatial component is joined with a dataset containing a geometry, from which OGC services are generated.

### Parameters

| Parameter     | Value                                                                                   | Description | Parameter Type | Data Type                                                                                                                                                                                                                                                     |
|---------------|-----------------------------------------------------------------------------------------|-------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| serviceconfig | <div><div></div></div> <div>Parameter content type: <span>application/json</span></div> |             | body           | <div>Model</div> <div>Example Value</div> <div><pre>{   "datasetcolumn": "datasetkolom",   "datasetname": "datasetnaam",   "fileurl": "http://website.nl/data.csv",   "seperator": ",",   "spatialcolumn": "gid",   "spatialdataset": "su-grid" }</pre></div> |

### Response Messages

| HTTP Status Code | Reason           | Response Model                                                                           | Headers |
|------------------|------------------|------------------------------------------------------------------------------------------|---------|
| 200              | Join response    |                                                                                          |         |
| default          | unexpected error | <div>Model</div> <div>Example Value</div> <div><pre>{   "status": "string" }</pre></div> |         |

[Try it out!](#)

# Resultaat Join

## Response Body

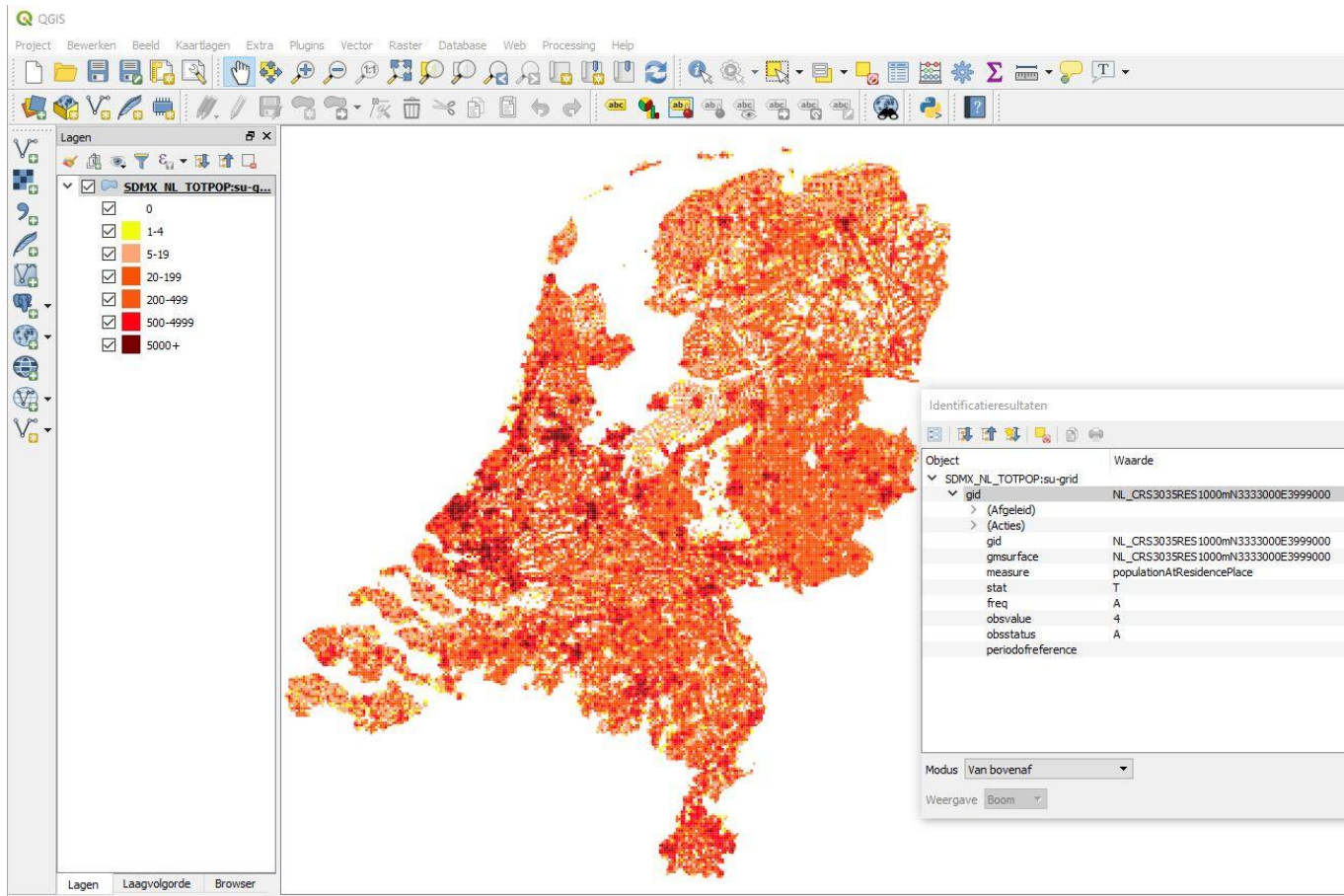
```
{
  "status": "activated",
  "wms": "https://geodata.nationaalgeoregister.nl/tjs/v1/dataset/SDMX_NL_TOTPOP/wms?",
  "wfs": "https://geodata.nationaalgeoregister.nl/tjs/v1/dataset/SDMX_NL_TOTPOP/wfs?"
}
```

## Response Code

200



# Output services in QGIS



## Resultaat Geostat 3



# Scenariokeuze

1. Open voor iedereen
2. Alleen open voor dataproviders



# Open voor iedereen

- Vraag gestuurd
- Diverse gebruikers
  - Studenten
  - Journalisten
  - Onderzoekers
- Wildgroei output services: onbeheersbaar → tijdelijk
- Goede gebruikersinterface nodig



# Alleen open voor dataproviders

- Aanbod gestuurd
- Data providers zijn gebruikers
  - CBS
  - RIVM
  - RVO
- Beheersbare output open voor iedereen
  - Permanente view en download services
  - Metadata → vindbaar
- Eenvoudige interface voldoet



# Toekomst

- Scenariokeuze maken
- Uitbreiden functionaliteit:
  - Meer input formats (Odata4)
  - Meer output formats
  - Meer info over resultaten (aantal (mis)matches)
- Aanpassen aan nieuwe OGC standard voor TJS
- We hopen op een Europese TJS voor INSPIRE
- Vervanging Wijk- en Buurtkaart



# Conclusies

- TJS is een flexibele oplossing voor INSPIRE verplichtingen voor statistische data, waardoor geoservices actueler en goedkoper gepubliceerd kunnen worden.
- Uitbreiding functionaliteit is nodig
- Scenariokeuze moet gemaakt worden



# Het probleem is al gedeeltelijk opgelost

