

SUPPLYING INSPIRE COMPLIANT DATA AND SERVICES

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THE GENERIC SOLUTION BY THE OFFICIAL STATISTICS OF GERMANY FOR REGIONAL DATA

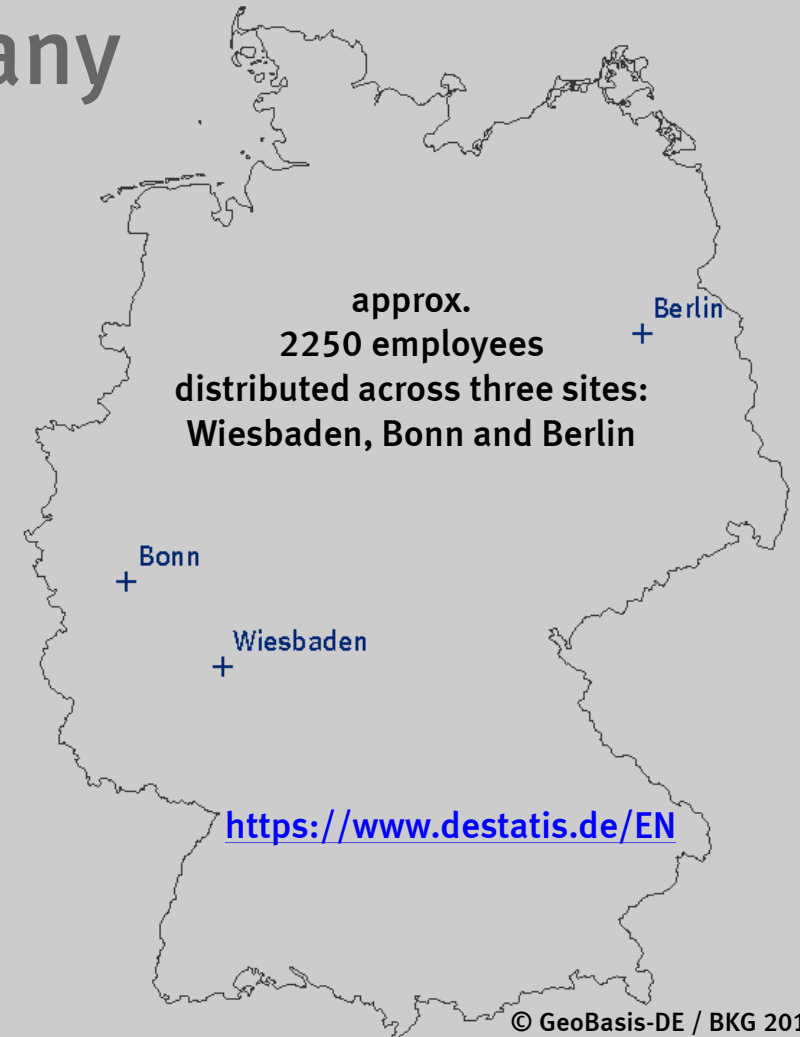
INSPIRE Conference, Strasbourg, September 6, 2017

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Federal Statistical Office of Germany**

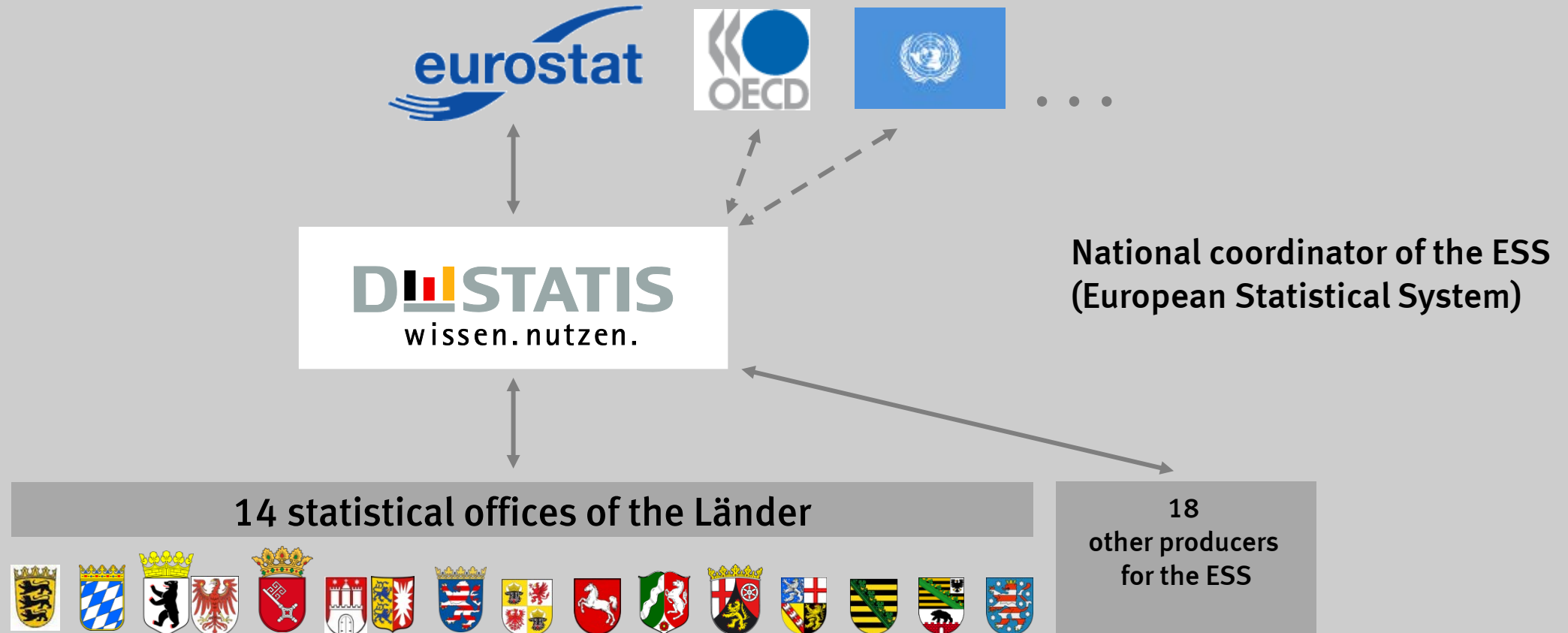
Federal Statistical Office of Germany



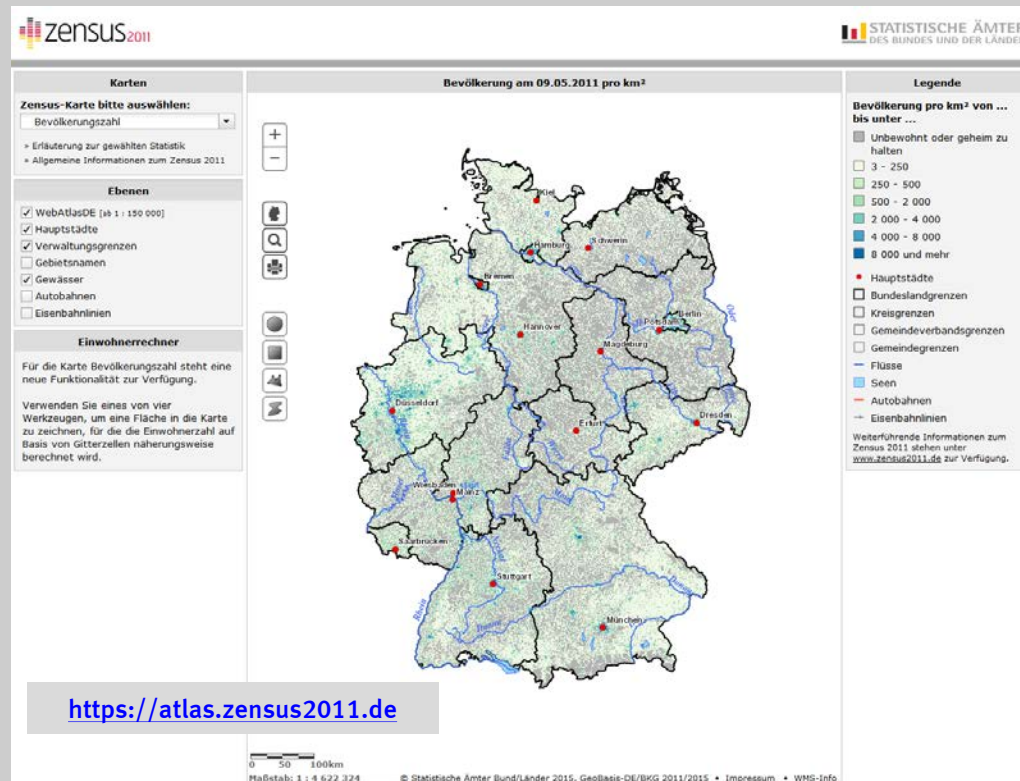
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Federal Statistical Office of Germany



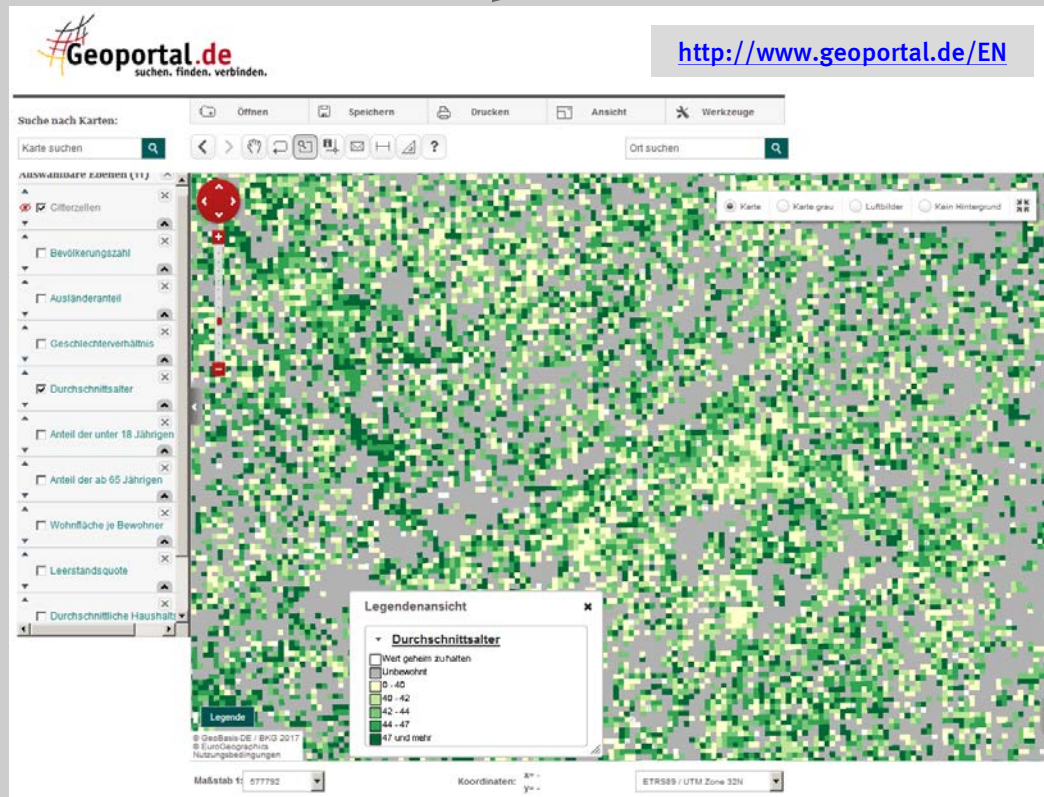
INSPIRE compliant supply of census data related to 1 km squares



The census atlas 2011 includes ten grid maps visualizing the spatial distribution of statistical results on demography resp. buildings and housing.

These datasets are described by INSPIRE compliant metadata. INSPIRE view and download services are provided.

INSPIRE compliant supply of census data related to 1 km squares



View service comprising the grid map layers of the census atlas 2011 in the viewer of the geo-portal hosted by the German SDI (GDI-DE)

INSPIRE compliant supply of census data related to 1 km squares

INSPIRE Dataset Feed: Zensusatlas 2011 – Bundesweite kleinräumige Daten (1 km²-Raster) der amtlichen Statistik zu Bevölkerung, Gebäude und Wohnungen

Der Atlas zum Zensus 2011 enthält sieben Rasterkarten zur Bevölkerung und drei Rasterkarten zu Gebäuden und Wohnungen mit einer Auflösung (Rasterweite) von 1 km. Stichtag der bundesweit und flächendeckend vorliegenden Daten ist der 9. Mai 2011.

[INSPIRE Dataset: ZensusKlassiert1km-Gitter #EPSG:3035 \(text/csv\)](#)

27. Juni 2017, 00:00

[INSPIRE Dataset: Anteilab65 #EPSG:3035 \(image/tiff\)](#)

27. Juni 2017, 00:00

[INSPIRE Dataset: Anteilunter18 #EPSG:3035 \(image/tiff\)](#)

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[INSPIRE Dataset: Auslaenderanteil #EPSG:3035 \(image/tiff\)](#)

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[INSPIRE Dataset: Bevoelkerungszahl #EPSG:3035 \(image/tiff\)](#)

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[INSPIRE Dataset: Durchschnittsalter #EPSG:3035 \(image/tiff\)](#)

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[INSPIRE Dataset: Frauenanteil #EPSG:3035 \(image/tiff\)](#)

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[INSPIRE Dataset: Haushaltsgroesse #EPSG:3035 \(image/tiff\)](#)

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[INSPIRE Dataset: Leerstandsquote #EPSG:3035 \(image/tiff\)](#)

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[INSPIRE Dataset: WohnflaecheBev #EPSG:3035 \(image/tiff\)](#)

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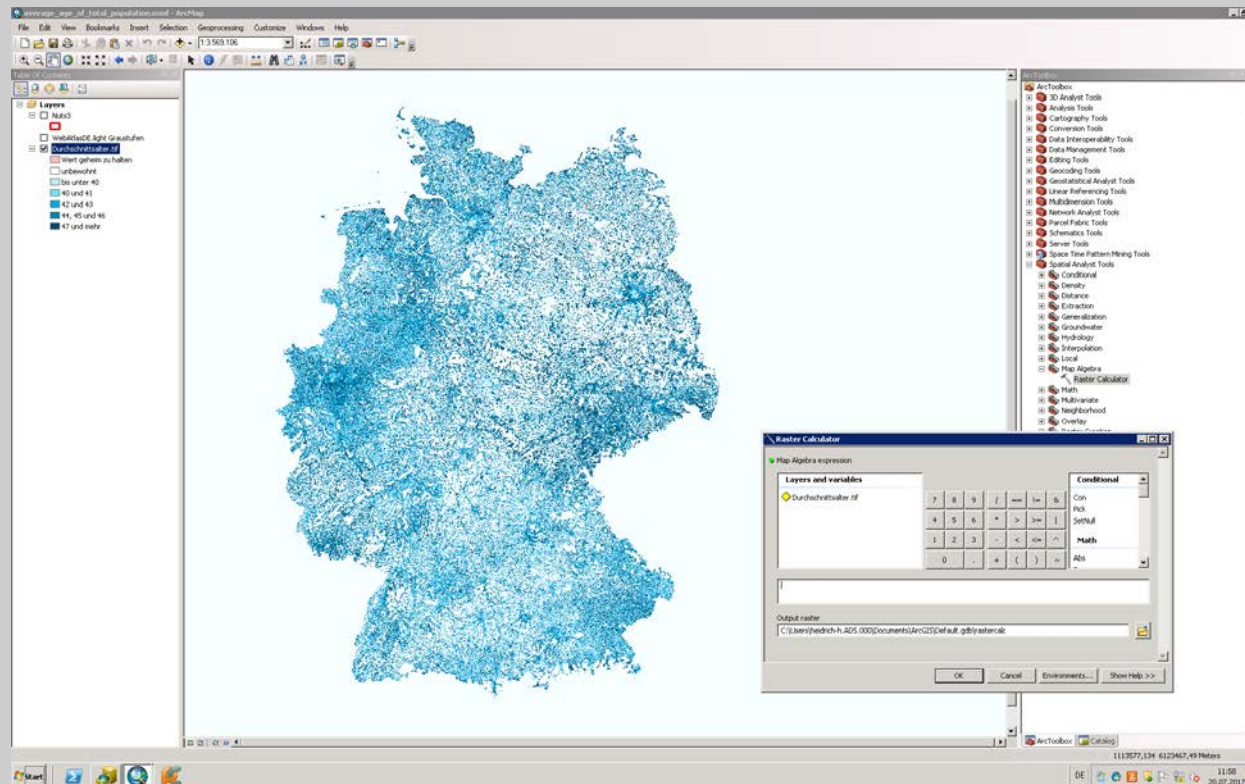
[INSPIRE Dataset: WohnflaecheWhg #EPSG:3035 \(image/tiff\)](#)

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Functionality
for downloading
dataset feeds
provided by the German
[GovData portal](#)^{*)}

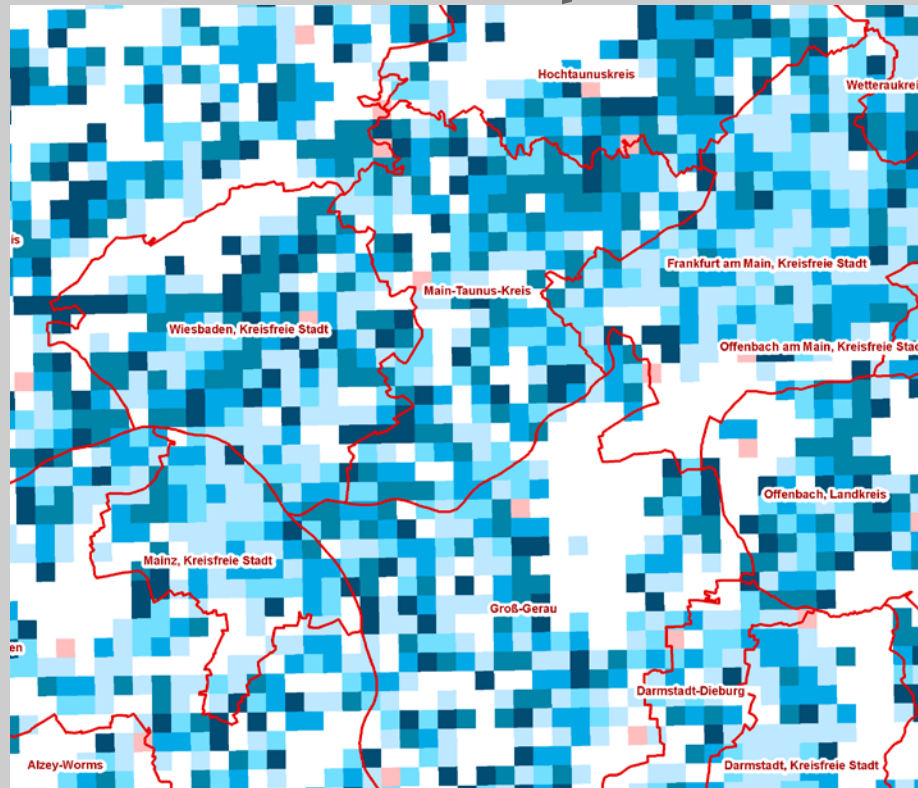
^{*)} Uniform and central German access point for administrative data from all administrative levels.

INSPIRE compliant supply of census data related to 1 km squares



Downloaded data can immediately be used with full functionality of spatial analysis tools provided by GIS-Software.

INSPIRE compliant supply of census data related to 1 km squares



Example:

Average age of the total population

The white shaded cells are uninhabited, the values of the red shaded cells are kept in confidence and the values of all other cells are classified into five classes (higher values darker coloured than lower ones).

Geometry of the NUTS-3-regions:
© GeoBasis-DE / BKG 2015

Generic solution for regional data

- **Official statistics are concerned by INSPIRE**
 - **Hence the results of official statistics always have at least an indirect reference to a specific location or geographical area, datasets from official statistics are in principle concerned by INSPIRE, if the following three conditions apply:**
 - **The related statistical field is mentioned within the Annexes I, II or III of the INSPIRE directive.**
 - **The dataset is the reference version.**
 - **The dataset is checked to be not confidential, which at the end means the data are already published or prepared for publishing.**

Generic solution for regional data

- **INSPIRE data specification**

- **Regarding data modeling the theme *population distribution – demography* defines the prototype for official statistics.**

- **See for example the following excerpt of the document “Data Specification on Population Distribution – Technical Guidelines (D2.8.III.10_v3.0)”, page 21:**

The **domain** attribute provides information about the domain of statistical knowledge.

The naming of the domains is not harmonised over Europe. Each provider should use the naming according his existing structure.

Example: List of domains from Eurostat’s database:

- Population and social conditions
- Economy and finance
- Agriculture, forestry and fisheries
- Industry, trade and services
- External Trade
- Transport
- Environment and energy
- Science and technology

Generic solution for regional data

- **INSPIRE data specification**
 - The theme *statistical units*, which for statistical purposes extends the theme *administrative units*, takes a special role.
 - However, in Germany the difference between administrative units and statistical units as used by the official statistics of the federation and the federal states is not very large. There are only a few statistical units on NUTS-2- and possibly NUTS-3-level which are not administrative units as well.
 - In Germany the official statistics cooperates with the National Mapping and Cadastral Agency to fulfill the requirements of INSPIRE concerning statistical units.

Generic solution for regional data

- The statistical offices of the federation and the federal states have decided to tackle the challenges of INSPIRE in common and to develop a joint strategy.
- The INSPIRE discovery service is centrally realized by the spatial data catalogue of the German SDI.
 - Hence the metadata only have to be prepared for harvesting by the central catalogue.
 - The interface to the central catalogue is provided by using the Software GeoNetwork as metadata information system.

Generic solution for regional data

- **The implementation of the generic solution is based on the following principles (I):**
 - **Data supply for INSPIRE is completely integrated within data supply for the German SDI, whose architecture fully takes account of INSPIRE.**
 - **The information databases [GENESIS-Online](#) and [Regional Database Germany](#) are the primary data sources for the publication of regional statistics. Each so-called publicised table provided by these databases is defined as a pre-defined spatial data set.**
 - **Selected tables from the Regional Database Germany are classified as INSPIRE relevant.**
 - **Currently 73 tables are ‘inspireidentified’, covering the following statistical domains: Demography, buildings and housing, education, health and social statistics, tourism and manufacturing.**

Generic solution for regional data

- **The implementation of the generic solution is based on the following principles (II):**
 - **View and download services as well as metadata on data and services are generated in a generic way for each publicised table.**
 - **To satisfy both, the goals of the SDI of the federation as well as the goals of the sixteen federal states, for each table metadata and services are generated once for the complete dataset and moreover for each dataset restricted to every federal state by selection via the regional code (if the data content is appropriate to do so).**

Generic solution for regional data

- **The implementation of the generic solution is based on the following principles (III):**
 - **In general the output is based on the GENESIS object model for data and metadata. Any desired XML scheme can be derived:**
 - **The metadata are mainly generated from metadata already existing in GENESIS resp. in the Regional Database.**
 - **The view services are realized by using MapServer functionality. The data format GenML (GENESIS XML) is used as interface format.**
 - **The download services are realized as pre-defined atoms using GENESIS Webservice functionality.**
 - **Concerning INSPIRE requirements on availability and access speed all of these resources are cached and automatically updated in a daily or weekly period.**

Generic solution for regional data

■ Example

■ Dataset characteristics

- Data source: GENESIS Online
publicised table [12411-0009](#) (Population: Länder, reference date)
- Regions covered: All federal states

■ Uniform Resource Identifier of the dataset:

- <https://registry.gdi-de.org/id/de.bund.destatis/DE-30303031-3234-4031-312d-303030390000>

■ Link to the view service

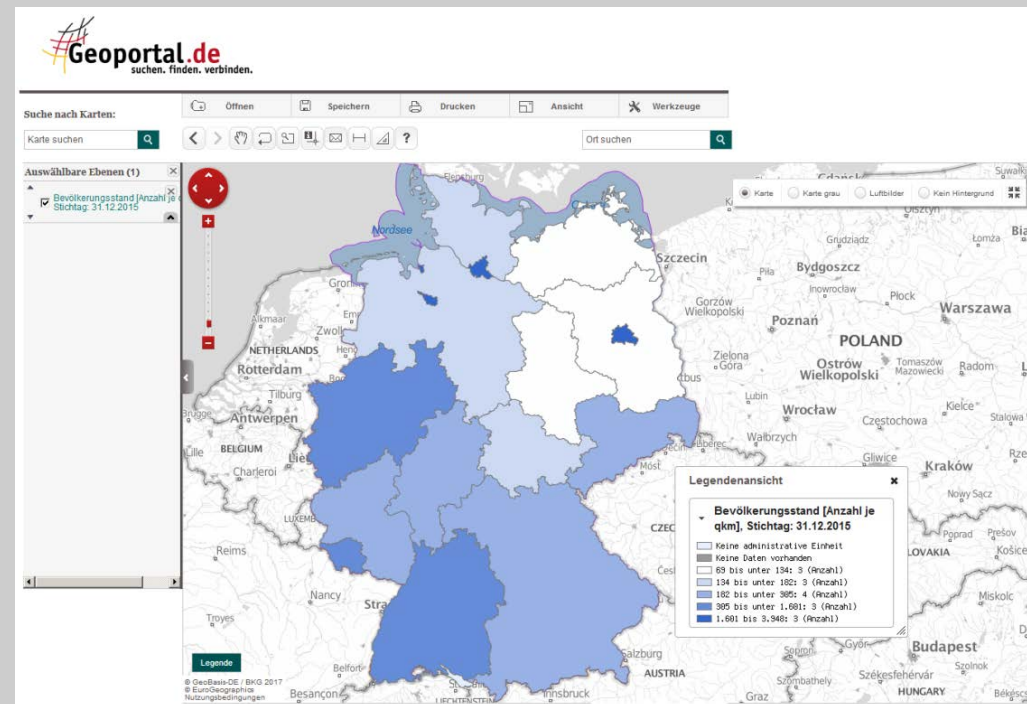
- <https://registry.gdi-de.org/id/de.bund.destatis/12411-0009/00>

■ Link to the download service as pre-defined atom

- https://registry.gdi-de.org/id/de.bund.destatis/sf_12411-0009/00

Generic solution for regional data

- Example
 - The corresponding map delivered by the view service



THANK YOU FOR YOUR ATTENTION!

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