



Bundesamt für  
Kartographie und Geodäsie

# Connecting SDI to an Open Data Portal – The German Technical Adapter

INSPIRE-Geospatial World Forum, 28 May 2015, Lisbon

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# Outline

- Why participating in the Open Government Portal Germany (govdata)?
- Architecture of govdata network
- Nature of open data / spatial data
- Architecture of SDI metadata network
- Mapping ISO 19139 – Govdata json
- The German Technical Adapter
- Process of transfer
- Construction sites

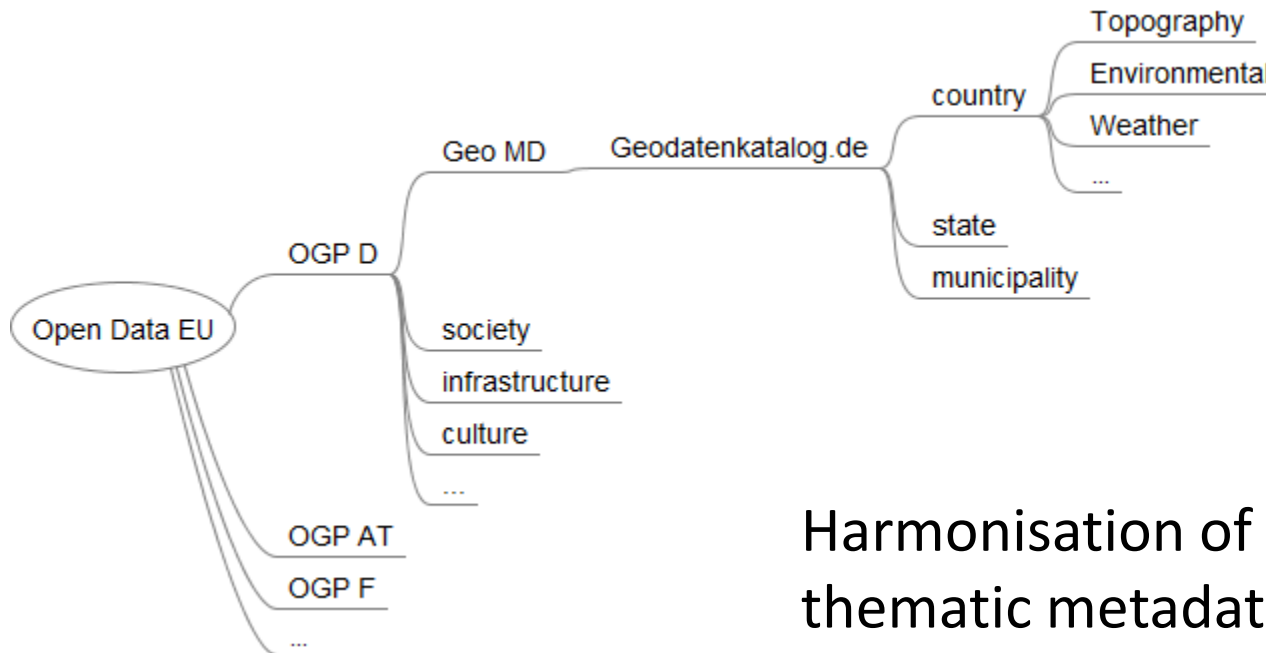
# Why participating in govdata?

- Govdata brings data into use
- More and more spatial data become open data in germany
- Open data are elementary for an information society, transparency
- Strengthen confidence between society and politics
- Huge potential for economy

# Nature of open data / spatial data

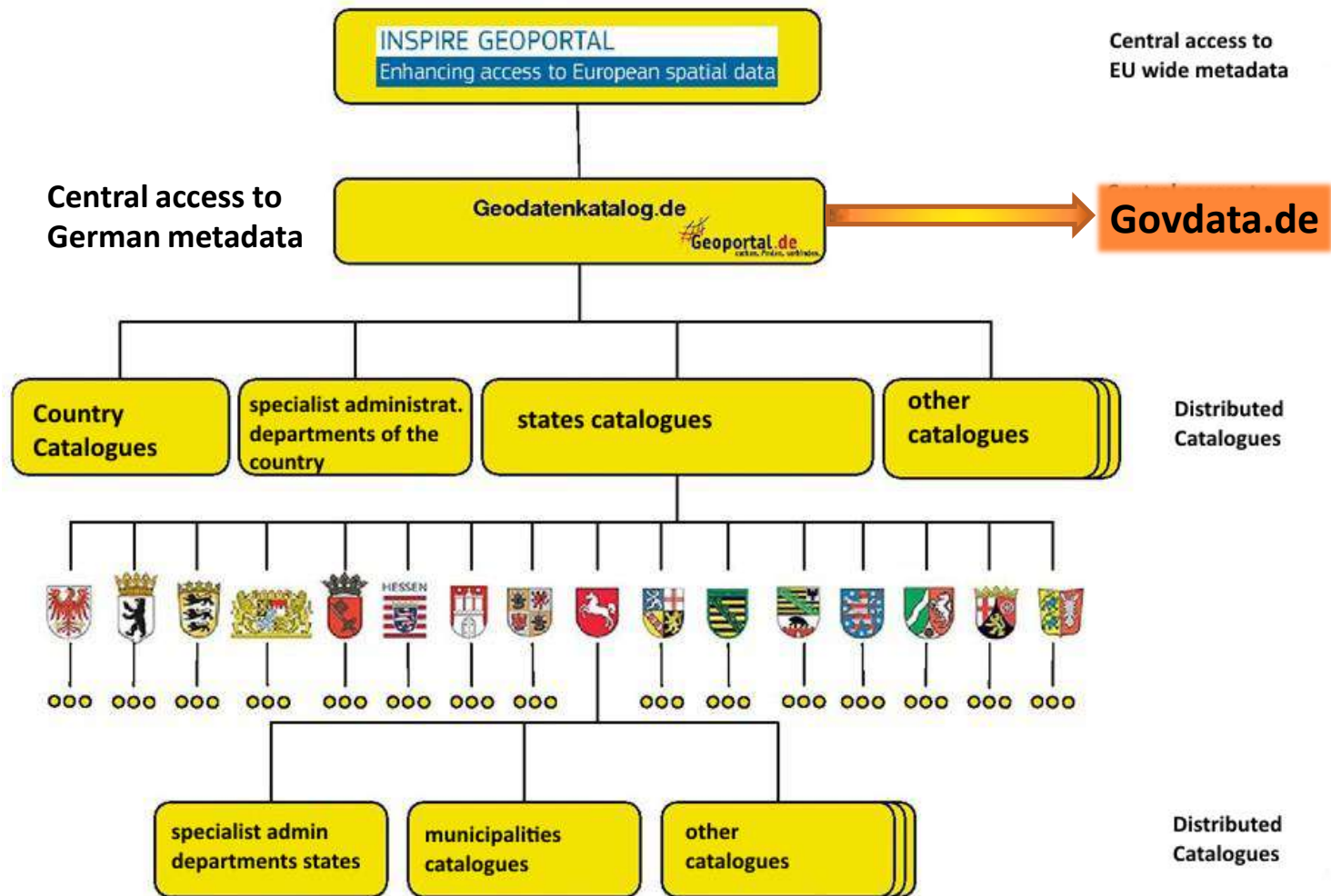
- open data:
  - free access to data via download or Webservices
  - often heterogenous
  - metadata small and simple
  - open data licences usually simple and reasonable
- Spatial data:
  - lots of data and services are charged
  - often homogenous
  - metadata enormous and complex
  - licences heterogenous and complex

# Architecture of govdata network



Harmonisation of different thematic metadata at country level

# Architecture of SDI metadata network (harvesting architecture)



# Mapping ISO 19139 – Govdata json

<u>Required elements (govdata):</u>	<u>ISO 19139</u>
<i>name, human readable designator</i>	fileIdentifier
title	title
author, <i>agency providing the data</i>	organisationName
<i>groups, categories, eg. Geo, health</i>	“geo“, topicCateg
type, <i>dataset, document, App</i>	hierarchyLevel
<i>license, open data licence</i>	MD_LegalConstraints
extras (contacts - <i>metadata</i> (role, name))	ResponsibleParty organisationName
dates (role, date)	dateType date
resources (url, format)	coupling dataset-service

# Mapping ISO 19139 – Govdata json : license

- Required elements (govdata):  
*license, open data licence*
- ISO 19139  
*MD\_LegalConstraints*

Required Metadataelements in german SDI:

- Information about **useLimitations** (ISO 19115; 68.: limitation affecting the **fitness for use** of the resource or metadata. Example, “not to be used for navigation“)
- Information about **LegalConstraints/licence** (ISO 19115; 69: **restrictions and legal prerequisites** for accessing and using the resource or metadata)

Elements in ISO 19115 (Xpath):

- MD\_Metadata/identificationInfo//resourceConstraints//**useLimitation** → incorrect interpretation in INSPIRE TG metadata, probably to be discussed in MIG subgroup metadata.
- identificationInfo[1]\*/**resourceConstraints**\*/otherConstraints



# Mapping ISO 19139 – Govdata json: license

- Required elements (govdata): *license, open data licence* ISO 19139 *MD\_LegalConstraints*

## Realisation in germany:

MD\_Metadata/identificationInfo//resourceConstraints//*useLimitation*: **Nutzungseinschränkungen: Dieser Datensatz ist für Navigationszwecke nicht geeignet (ISO)**

MD\_Metadata/identificationInfo//resourceConstraints//*useLimitation*: **Nutzungsbedingungen: Dieser Datensatz kann gemäß der „Nutzungsbestimmungen für die Bereitstellung von Geodaten des Bundes“ (<http://www.geodatenzentrum.de/docpdf/geonutzv.pdf>) genutzt werden. (INSPIRE)**

MD\_Metadata/identificationInfo//resourceConstraints//**accessConstraints**/MD\_RestrictionCode" codeListValue="license"/

MD\_Metadata/identificationInfo//resourceConstraints//*accessConstraints*/MD\_RestrictionCode" codeListValue="otherRestrictions"

MD\_Metadata/identificationInfo//resourceConstraints//*accessConstraints*/otherConstraints/ Nutzungsbedingungen: Dieser Datensatz kann gemäß der „Nutzungsbestimmungen für die Bereitstellung von Geodaten des Bundes“

(<http://www.geodatenzentrum.de/docpdf/geonutzv.pdf>) genutzt werden.

/identificationInfo//resourceConstraints//*accessConstraints*/otherConstraints/gco:CharacterString {

"id": "geonutzv-de-2013-03-19" ,

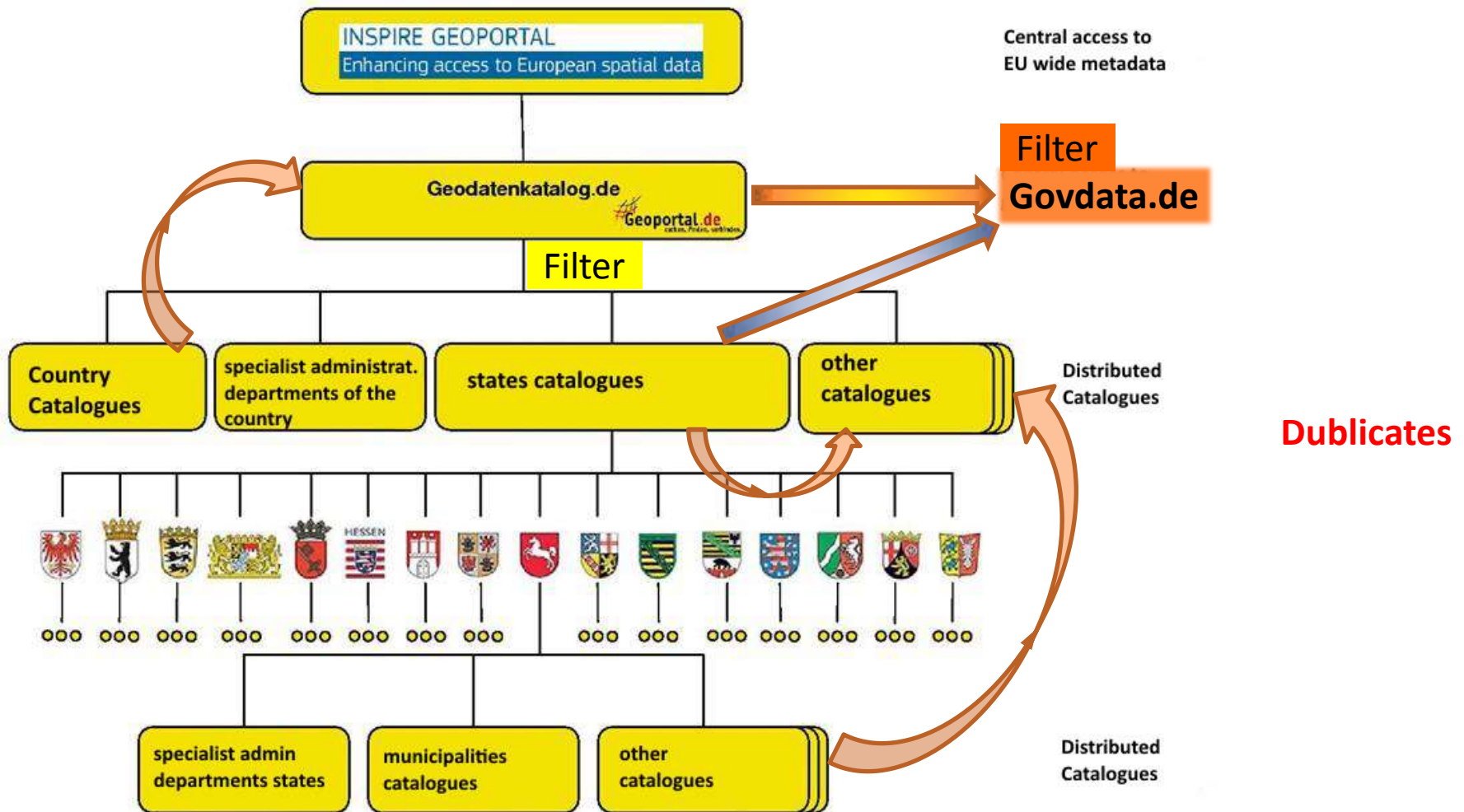
"name": "Nutzungsbestimmungen für die Bereitstellung von Geodaten des Bundes",

"url": "http://www.geodatenzentrum.de/docpdf/geonutzv.pdf",

"quelle": "Quelle: © GeoBasis-DE / BKG, 2013"

}

# Mapping ISO 19139 – Govdata json: duplicates harvesting architecture



# Mapping ISO 19139 – Govdata json: duplicates

- Not required (govdata) among others:  
Spatial (coordinates),  
geographical granularity,  
metadata\_original\_portal,  
metadata\_original\_id,  
metadata\_original\_xml,  
metadata\_transformer  
(author, harvester)
- ISO 19139  
EX\_GeographicBoundingBox  
country, state, municipality  
url to original portal  
fileIdentifier  
url to original MD xml (GDK)  
„harvester“

# The German Technical Adapter

- Python script
- Developed by Federal Agency for Cartography and Geodesy
- Converting ISO 19139 (AP ISO) to Govdata json based on mapping table  
→ dataset metadata and Service information via coupling (MD-Identifier <-> operatesOn)
- Quality inspection (check, if compliant with schema)
- Software hosting at BKG
- Further development, configuration by operator Govdata

# Process of transfer

1. Daily database dmp from Geodatenkatalog (at night)
2. Import into postgres DB
3. Selecting „opendata“ (keyword) datasets
4. Converting dataset metadata with BKG tool, incl. quality management
5. Save json files in zip archive and make available for download on http – site
6. Govdata executes the download of the zip archive and imports it into the portal
7. Sorting of duplicates based on timestamp and „metadata\_transformer“ (author, harvester)

# Construction sites

- Tool: development is finished, productive since nov. 2014
- Further development regarding metadata profile (govdata)
- Quality of metadata often not sufficient
- File download (e.g. Atom Feed) not for every dataset
- Standards and conventions are not stable enough, e.g. INSPIRE constraint informations, new ISO 19115, OGC Catalogue Service Specification
- Govdata metadata are heterogenous → content presentation on portal is different

# Thanx for your attention

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[www.geoportal.de](http://www.geoportal.de)

[www.geodatenzentrum.de](http://www.geodatenzentrum.de)

# Mapping ISO 19139 – Govdata json

```
{
  "_gdk_file_identifizier": "siehe extras/metadata_original_id",
  "_gdk_liste_hierarchy_level": [ "dataset" ],
  "_gdk_liste_dienst_service_types": [],
  "_gdk_liste_dienst_operation_names": [],
  "_gdk_liste_dienst_capability_urls": [],
  "_gdk_dienst_capability_url_parameter_service": "",
  "_gdk_dienst_capability_url": "",
  "_gdk_liste_dienst_xlink_hrefs": [],
  "_gdk_liste_datensatz_identifizier_namensraeume": [],
  "_gdk_liste_datensatz_identifizier_codes": ["http://www.geodatenzentrum.de/advmis#DEBK00M00000103"],
  "_gdk_liste_datensatz_wird_genutzt_in": [ "DEBK00M00000165", "DEBK00M00000120" ],
  "name": "debkg00m00000103",
  "title": "Digitale Topographische Karte 1:200.000, Vorl\u00e4ufige Ausgabe",
  "author": "Bundesamt f\u00fcr Kartographie und Geod\u00e4sie",
  "author_email": "mailbox@bkg.bund.de",
  "maintainer": "Dienstleistungszentrum des Bundes f\u00fcr Geoinformation und Geod\u00e4sie",
  "maintainer_email": "dlz@bkg.bund.de",
  "notes": "Georeferenzierte Rasterdaten der gescannten und digital fortgef\u00chrten Topographischen \u00dcbersichtskarte 1:200.000 (T\u00dck 200).\n\nDer Kartenti",
  "groups": [ "geo" ],
  "tags": [ "Weg", "Wohnplatz", "Binnensee", ..., "opendata" ],
  "url": "http://www.geoportal.de/gds/xml.php?uuid=DEBK00M00000103",
  "type": "datensatz",
  "resources": [
    { "url": "http://sg.geodatenzentrum.de/web_download", "format": "ATOM", "description": "ATOM: INSPIRE Download Service" },
    { "url": "http://sg.geodatenzentrum.de/wms_dtk200?REQUEST=GetCapabilities&SERVICE=WMS", "format": "WMS", "description": "WMS-Capabilities: Web Map Service Dig"
  ],
  "license_id": "geonutzv-de-2013-03-19",
  "extras": {
    "contacts": [
      { "role": "vertrieb", "name": "Dienstleistungszentrum des Bundes f\u00fcr Geoinformation und Geod\u00e4sie", "url": "www.geodatenzentrum.de", "em" },
      { "role": "vertrieb", "name": "Dienstleistungszentrum des Bundes f\u00fcr Geoinformation und Geod\u00e4sie", "email": "dlz@bkg.bund.de" } ],
    "dates": [
      { "date": "1996-10-09T00:00:00+02:00", "role": "erstellt" },
      { "date": "2014-08-01T00:00:00+02:00", "role": "aktualisiert" } ],
    "terms_of_use": { "licence_url": "http://www.geodatenzentrum.de/docpdf/geonutzv.pdf" },
    "metadata_original_id": "DEBK00M00000103",
    "metadata_transformer": "harvester",
    "spatial": { "type": "polygon", "coordinates": [ [ [ 15.0, 47.0 ], [ 15.0, 55.0 ], [ 6.0, 55.0 ], [ 6.0, 47.0 ], [ 15.0, 47.0 ] ] ] }
  }
}
```