INSPIRE Annex II+III Data Specification Testing Report [GE-MR, NZ, ER, SO]

This report is a compilation of all Testing reports that BLA-Geo expert group has submitted on 21.october 2011 to the JRC. These reports were filled with a given template by the JRC.

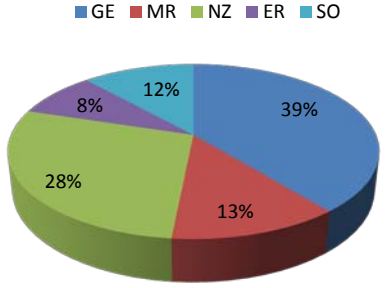
***Testing coordinator:** (Testing Contact Point)*	**BGR - Federal Institute for Geosciences and Natural Resources**
***Name**	Kristine
***Surname (Family name)**	Asch
***e-mail**	kristine.asch@bgr.de
***Tel.**	+49 (0) 511 643-3337
Fax	+49 (0) 511 643-53 3324

***What kind of test would you like to report?**	Feasibility Testing
How many participating Organizations do you want to add?	9 organizations including 3 group of the BGR

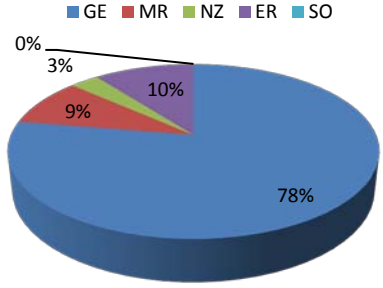
Deliverables of the BLA-Geo INSPIRE Expert Group for the INSPIRE Testing Phase, between 27 June 2011 and 21 October 2011:

	comment xls sheet	testing xls sheet	testing report
Geology	✓	✓	✓
- Borehole	✓	-	-
- Hdyrogeology	✓	✓	✓
- Geophysic	✓	✓	✓
MineralResources	✓	✓	✓
Soil	✓	✓	✓
NaturalRiskZones	✓	✓	✓
EnergyResources	✓	✓	✓

BLA-Geo INSPIRE Expert Group
Consultation comments per TWG



BLA-Geo INSPIRE Expert Group
Testing comments per TWG



Testing of GÜK200:

***Testing participant:** *(Testing Contact Point)*	**BGR - Federal Institute for Geosciences and Natural Resources**
***Name**	Kristine
***Surname (Family name)**	Asch
***e-mail**	kristine.asch@bgr.de
***Tel.**	+49 (0) 511 643-3337
Fax	+49 (0) 511 643-53 3324

Feasibility Testing [Step 1/4]

Reporting the results from feasibility testing aims at demonstrating the technical feasibility and the efforts related to transforming existing data (e.g., from Member States' organisations) into data compliant with the requirements and schemas proposed in the data specification documents.

Fields marked with * are mandatory

***Methodology used in the testing** *Short description of the methodology/process used in the testing*	The methodology of the feasibility testing is based on a complete manual / handmade transformation. At the beginning of the process transformation tables has been created (MS Excel) For the following featureTypes mapping tables were prepared: ConsolidationDegree, CompositionPart and Lithology. The reason for the generation of only 3 mapping tables is that there are very minor variations of the contents. The origin dataset / featureTypes were transformed by ESRI GIS Software. Mapping tables were joined into the proposed INSPIRE featureTypes and codelist. The other featureTypes of the core model were partly queried and manually entered with attributes. The transformed geological units were portrayed by using the RGB colour codes according to the portrayal rules from the OneGeology-Europe project. At the end of the transformation process a validation took place. In this validation process the effort to transform the German map information to the various INSPIRE featureTypes has been rated in relation to the resulting information content.
***Description of software and tools used in the testing** *Short description of software and tools used for feasibility testing*	MS Excel for generating mapping tables, ESRI-GIS for joining processes, validation and portrayal
***How many source/input datasets did you use in the testing.** *For each dataset you will be asked to provide the following information: Dataset name, description, URL and URL for metadata and data*	1

Feasibility Testing [Step 2/4]

INSPIRE Annex II+III Data Specification Testing Report [GE-MR, NZ, ER, SO]

***Dataset Name** *Title of the dataset (including the name of the dataset)Example: Biogeographical regions(biogeographick_regiony)*	General geological map of the Federal Republic of Germany, 1 : 200,000 (GÜK200), Sheet No. 3918, Region Northern Harz
***Dataset description** *Short description of the input dataset used for feasibility testing* *Example: Biogeographical regions of Slovakia*	General geological map of the Federal Republic of Germany, 1 : 200,000 (GÜK200). This service is based on rasterized data with a resolution of 300 dpi. The "Geological Map 1: 200 000 (GÜK200)" shows the geology of Germany on 55 sheets. It was created in cooperation between the BGR and the State Geological Surveys of the Federal Republic of Germany and neighboring countries. The map shows the regional distribution of different geological units and provides information on the rocks in a depth about 2 meters. The information about age, origin and composition of the rocks are used for questions of different disciplines.
URL for Metadata *If possible provide a URL of the metadata for the input.*	URL for metadata and data preview: http://geodak.geozentrum-hannover.de/mdm/jsp/simple.jsp?page=resultat_detail.jsp&request=showMDItemDetail&id=31&type=Metadata&detail=full
URL for Dataset *If metadata does not contain a direct link to the dataset, please provide a URL for direct access of the input dataset.*	URL for metadata and data preview: http://geodak.geozentrum-hannover.de/mdm/jsp/simple.jsp?page=resultat_detail.jsp&request=showMDItemDetail&id=31&type=Metadata&detail=full

Feasibility Testing [Step 3/4]

***Which INSPIRE Themes did you test?**	Geology

Feasibility Testing [Step 4/4]

***Which datasets did you use to test this theme?**	GÜK200
***Select the applicationschema(s) used for testing: Core; Grid ; NUTS; Urban Audit; Vector**	Core Model

***Feasibility of the transformation:**

Fully feasible (It was possible to transform all relevant spatial objects in the input data sets (and their attributes/relationships) into a corresponding structure of the proposed INSPIRE schemas, and all transformed objects are compliant with the requirements of the proposed INSPIRE schemas (e.g. multiplicity, voidability of attributes).	

Partly feasible (Some of the relevant spatial objects in the input data sets (and/or their attributes/relationships) could not be transformed into a corresponding structure of the proposed INSPIRE schema and/or some of the transformed objects are not fully compliant with the requirements of the proposed INSPIRE schemas (e.g. multiplicity, voidability of attributes)).	Very critical featureTypes of the transformed geological units are: • GeologicUnitExposureColour, • GeologicUnitOutcrop and • GeologicUnitThickness. These featureTypes are not derivable from available map data and should be optional, or these code lists must be extended by adding “non-specified”. Also “very critical” is the CompositionPart attribute: proportion. This information is not applicable or very uncertain for any map resolution – it is hardly possible to get any information. Code list GeologicalUnitComposition, the information it is also hardly derivable from the available map information (exception is carbonaceous). Our proposal: add term "not specified", otherwise it will mainly be guess work and information will often be wrong The below listed featureTypes and attributes of the INSPIRE schema are not absolutely critical, but the transformation needs very high efforts in relation to the results and final information: • ConsolidationDegree, • CompositionCategory, • GeneticCategory. The 28-term code list for lithology leads to a too condensed result, the transformation effort is much higher than the mapping onto the clearly defined SimpleLithology of the CGI Vocabulary. There is also an imbalance between the simple rock type terms and the other code lists (e.g. geomorphology).
Not feasible (None or hardly any of the relevant spatial objects in the input data sets (and/or their attributes/relationships) could not betransformed into a corresponding structure of the proposed INSPIRE schemas.)	Some (8 of 192) spatial objects could not be transformed to the INSPIRE featureType Lithology. The reason is that the geological information of GÜK 200 based on Lithostratigraphic units. These units are more an aggregation of stratigraphy units and lithology information.

If you selected 'partly feasible' or 'not feasible', please describe the issues and provide suggestions for improvements of the tested data specifications via ***Testing XLS spreadsheet*** for comments, which you can submit on the end of this webform.

***What are the feasibility testing outcomes?:**	The test mapping indicates that the input data can be transformed in general. However, the discussion in the German geological communities shows that there is a substantive worry that essential information for the users (lithology!) cannot be transformed, even though considerable effort must go into this (rather unsatisfactory) transformation.

Filled Matching Tables	
Transformed datasets/services	
Other If you selected "OTHER" please specify	

***How many output datasets/services were the results of the feasibility testing?** For each dataset/service you will be asked to provide following information: Name, Description, URL for metadata and dataset	No new datasets derived, as mapping has been performed with Excel sheets (see LMO_BGR_Testing_Consultation_material.zip file).

Costs and Benefits related to the feasibility testing

If possible please specify the effort required for each area of the feasibility testing activities.

Specify the effort in person days for the whole testing period

Training / Studying the Data Specifications (DS)	-
Identifying and collecting relevant input data sets	0,375
Creating the mapping rules (e.g. matching tables)	0,125
Setting up the testing infrastructure	0,01
Executing the data transformation	0,375
Validating the testing results	0,375
Documenting the testing results	0,25
Management and coordination of testing	0,25
Total	**2,25**

Testing of GK 25, Brandenburg:

*** Testing participant:**	**LBGR Brandenburg**
***Name**	Norbert
***Surname**	Hermsdorf
***e-mail**	Via: kristine.asch@bgr.de
***Tel.**	+49 (0) 511 643-3324
Fax	+49 (0) 511 643-53 3324

Feasibility Testing [Step 1/4]

***Methodology used in the testing**	The methodology of the feasibility testing is based on a complete manual / handmade transformation. At the beginning of the process transformation tables has been created (MS Excel) The origin dataset / featureTypes were transformed by ESRI GIS Software. Mapping tables were joined into the proposed INSPIRE featureTypes and codelist. The other featureTypes of the core model were partly queried and manually entered with attributes. The transformed geological units were portrayed by using the RGB colour codes according to the portrayal rules from the OneGeology-Europe project. At the end of the transformation process a validation took place. In this validation process the effort to transform the German map information to the various INSPIRE featureTypes has been rated in relation to the resulting information content.
***Description of software and tools used in the testing**	MS Excel for generating mapping tables, ESRI-GIS
***How many source/input datasets did you use in the testing.**	1

Feasibility Testing [Step 2/4]

***Dataset Name**	Geological map of Brandenburg, Germany in the scale 1 : 25,000 (GK25), Sheet No. 3644, Region “Mittelmark”
***Dataset description**	Geological map of Brandenburg at the scale 1 : 25,000 (GK25), it is a map product with large-scale, detailed geological unit descriptions.
URL for Metadata	No URL available
URL for Dataset	No URL available

Feasibility Testing [Step 3/4]

INSPIRE Annex II+III Data Specification Testing Report [GE-MR, NZ, ER, SO]

***Which INSPIRE Themes did you test?**	Geology

Feasibility Testing [Step 4/4]

***Which datasets did you use to test this theme?**	GK25
***Select the applicationschema(s) used for testing: Core; Grid ; NUTS; Urban Audit; Vector**	Core Model

***Feasibility of the transformation:**

Fully feasible	
Partly feasible	Very critical featureTypes of the transformed geological units are: outcrop character, proportion, consolidation degree, unit composition, exposure color, composition category, geomorphology These FeatureTypes are not derivable from available map data. The testbed extract map included 21 lithology, 10 genetic and 5 stratigraphical descriptions. After the transformation process these units were reduced into only 6 lithology units (out of 21), 3 genetic units (out of 10) and 4 stratigraphical units (out of 5). This is a critical reduction of the contents, in particular regarding the lithology and genesis. The information about lithology and genesis will be reduced to a little less than a third. Only the age (stratigraphy) information is not much effected. The testbed area is located in completely Quaternary/ glacial related sediments.
Not feasible	

***What are the feasibility testing outcomes?:**	For Quaternary geological units the INSPIRE transformation means a substantial loss (about 2/3) of information. Geological maps in Germany which show especially Holocene and Pleistocene sediments are portrayed in a three layer system. Starting with the base (often bedrock) on Level 1, it is overlayered by one or two younger sedimentary layers (e.g. aeolian sands over till). This means according to the INSPIRE DS that one Map sheet will be divided into three web service layers. This is an additional, effort not to be underestimated.
Filled Matching Tables	
Transformed datasets/services	

Other If you selected "OTHER" please specify	

***How many output datasets/services were the results of the feasibility testing?**	1

Costs and Benefits related to the feasibility testing

If possible please specify the effort required for each area of the feasibility testing activities.

Specify the effort in person days for the whole testing period

Training / Studying the Data Specifications (DS)	2,125
Identifying and collecting relevant input data sets	0,375
Creating the mapping rules (e.g. matching tables)	0,125
Setting up the testing infrastructure	0,125
Executing the data transformation	2
Validating the testing results	0,375
Documenting the testing results	0,25
Management and coordination of testing	0
Total	**5,375**

Testing of HÜK 200

* Testing participant:	BGR - Federal Institute for Geosciences and Natural Resources
*Name	Sandra
*Surname	Groth
*e-mail	Sandra.Groth@bgr.de
*Tel.	+49 (0) 511 643- 2422
Fax	+49 (0) 511 643-53 2422

Feasibility Testing [Step 1/4]

*Methodology used in the testing	• Creating a testing shapefile (using a clipped area of the entire dataset) • Creating matching tables • Adding new data fields for INSPIRE attributes to the testing shapefile • Filling these data fields according to the matching tables
*Description of software and tools used in the testing	• Microsoft Excel (Generating Matching Tables) ESRI ArcGIS (Creating the Testing Shapefile, Adding and Filling INSPIRE data fields)
*How many source/input datasets did you use in the testing.	Excerpt of sheet 3918 of the HÜK 200

Feasibility Testing [Step 2/4]

*Dataset Name	Hydrogeological Map of Germany at the scale of 1: 200,000 (HÜK200), Upper aquifer
*Dataset description	The HÜK200 provides hydrogeologically relevant attributes such as consolidation, type of porosity, permeability, type of rock and geochemical classification to describe the hydrogeological characteristics of the upper aquifers. In most areas the geological map of Germany 1: 200,000 (GÜK200) with its geological information on lithology, stratigraphy and genesis was used as basis. This information was evaluated and hydrogeologically interpreted by regional experts of the German State Geological Surveys or replaced and completed by other regional geological and hydrogeological maps and data.
URL for Metadata	http://geodak.geozentrum-hannover.de/mdm/jsp/simple.jsp?page=resultat_detail.jsp&request=showMDItemDetail&id=75&type=Metadata&detail=full

INSPIRE Annex II+III Data Specification Testing Report [GE-MR, NZ, ER, SO]

URL for Dataset	WMS: http://www.bgr.de/Service/grundwasser/huek200/?

Feasibility Testing [Step 3/4]

***Which INSPIRE Themes did you test?**	Geology, Hydrogeology

Feasibility Testing [Step 4/4]

***Which datasets did you use to test this theme ?**	huek200_v25_example_testing.shp
***Select the applicationschema(s) used for testing: Core; Grid ; NUTS; Urban Audit; Vector**	Core Model

***Feasibility of the transformation:**

Fully feasible	
Partly feasible	
Not feasible	• The HÜK200 illustrates the outcrop of hydrogeological units and their hydrogeological description (e.g. permeability). The assignment of these hydrogeological units to one of the spatial objects Aquifer, Aquitard or Aquiclude can be derived from the permeability coefficient. But there is no information about the relationships between these hydrogeological units and their assignment to aquifer systems. • The HÜK200 data contain no information about aquifer systems, groundwater flow systems or groundwater bodies • Most of the mandatory attributes aren't available in the HÜK200 data **We suggest a simpler core model for hydrogeology, which is described in a separate appendix, including an EA-diagram: Annex_Hydrogeology_testing_report.doc**

***What are the feasibility testing outcomes?:**	Not feasible
Filled Matching Tables	• PermeabilityCoefficient MediaType
Transformed datasets/services	Hydrogeological Map of Germany at the scale of 1: 200,000, upper aquifer
Other If you selected "OTHER" please specify	

***How many output datasets/services were the results of the feasibility testing?**	1

Costs and Benefits related to the feasibility testing

If possible please specify the effort required for each area of the feasibility testing activities.

Specify the effort in person days for the whole testing period

Training / Studying the Data Specifications (DS)	6,25
Identifying and collecting relevant input data sets	0,125
Creating the mapping rules (e.g. matching tables)	0,375
Setting up the testing infrastructure	0,25
Executing the data transformation	2
Validating the testing results	2,5
Documenting the testing results	0,25
Management and coordination of testing	0,5
Total	**10**

Testing of FIS GP, subsystem gravimetry / borehole geophysics

* Testing participant:	Leibniz Institute for Applied Geophysics (LIAG)
*Name	Klaus
*Surname	Kühne
*e-mail	Klaus.kuehne@liag-hannover.de
*Tel.	+49 (0)511 643 3481
Fax	+49 (0)511 643 3665

Feasibility Testing [Step 1/4]

*Methodology used in the testing	(a) The geophysical core model of the specification D.2.8.II.4 (Geology) has been tested with gravimetrical taken from LIAG's geophysics information system FIS GP. (b) The geophysical extension model has been tested with bore log measurement data taken from the same database.
*Description of software and tools used in the testing	(a) Intellectual transformation of some gravimetrical example data into core-model-compliant attribute tables for feature types Survey, GeophMeasurement/GeophStation and GeophModel. (b) Intellectual transformation of some bore log example data into extension-model-compliant attribute tables for feature types Project, Campaign and XGeophProfile.
*How many source/input datasets did you use in the testing.	2

Feasibility Testing [Step 2/4]

*Dataset Name	(a) LIAG's geophysics information system FIS GP, subsystem gravimetry (b) LIAG's geophysics information system FIS GP, subsystem borehole geophysics
*Dataset description	(a) FIS GP database subarea containing data about gravimetrical projects, campaigns, measurements, measurement devices, models etc. in Germany (b) FIS GP subarea containing data about borehole geophysics projects, campaigns, measurements, measurement devices etc. in Germany
URL for Metadata	(a) http://www.geophysics-database.de , interactive usage of subsystem Gravimetry in

	main menu (b) http://www.geophysics-database.de , interactive usage of subsystem Borehole Geophysics in main menu
URL for Dataset	See URL for metadata

Feasibility Testing [Step 3/4]

***Which INSPIRE Themes did you test?**	Geology, Geophysics

Feasibility Testing [Step 4/4]

***Which datasets did you use to test this theme?**	**(a)** http://www.geophysics-database.de , subsystem Gravimetry **(b)** http://www.geophysics-database.de , subsystem Borehole Geophysics
***Select the applicationschema(s) used for testing: Core; Grid ; NUTS; Urban Audit; Vector**	Extension

***Feasibility of the transformation:**

Fully feasible	
Partly feasible	(1) For log measurements, a link to the parent borehole is of great importance, regardless if one follows the geophysical core or extension model. However, in the geological subschema, there is no explicit inspireId attached to the borehole feature type. Moreover, there is attribute parentBoreId in the GeophMeasurement feature type of the geophysical subschema. (2) In the data specifications, it is not specified if depth values (e. g. GeophMeasurement.verticalExtent) have to be true vertical depths or borepath-related depths. For bore logs, we normally use borepath-related depths. (3) Transformation of a bore log into the extension model requires usage of O&M namedValue parameters, e.g. for the log type (density, gamma ray, …). However, there is no fixed catalogue (name + type + measurement unit + constraint) for such parameters, so data providers can choose different parameter names for the same attributes. (4) There is no entry "Borehole Geophysical Survey" in code list DataSetType. Thus, it is not possible to transform a log project into a feature of type GeophSurvey.

	(5) The extension model allows the submission of measurement and/or model data via files or online resources, e.g. of a “LAS-3” file or a “WITSML” file containing a log measurement . Currently, there is no fixed attribute to specify the file format.
Not feasible	

***What are the feasibility testing outcomes?:**	There are no really severe problems in serving the core model. The extension model suffers mainly from the lack of parameter catalogues ruling the usage of O&M parameters for the diversity of geophysical methods. As stated in the data specifications, this is a work which cannot be done within the INSPIRE time frame.
Filled Matching Tables	LIAG_GEOPHYSICS_TESTING_TABLES.DOC
Transformed datasets/services	see URL for dataset
Other If you selected "OTHER" please specify	

***How many output datasets/services were the results of the feasibility testing?**	No new datasets derived, as mapping has been performed with MS Word tables.

Costs and Benefits related to the feasibility testing

If possible please specify the effort required for each area of the feasibility testing activities.

Specify the effort in person days for the whole testing period

Training / Studying the Data Specifications (DS)	2,5
Identifying and collecting relevant input data sets	0,125
Creating the mapping rules (e.g. matching tables)	0,125
Setting up the testing infrastructure	0
Executing the data transformation	0,125
Validating the testing results	0
Documenting the testing results	0,25
Management and coordination of testing	0,125
Total	**3,25**

Testing of GeORG Seismics (Region Upper Rhine Graben)

*** Testing participant:**	**Landesamt für Geologie, Rohstoffe und Bergbau Freiburg**
***Name**	Heiko
***Surname**	Zumsprekel
***e-mail**	heiko.zumsprekel@rpf.bwl.de
***Tel.**	+49 (0)761 208 3062
Fax	+49 (0)761 208 3029

Feasibility Testing [Step 1/4]

***Methodology used in the testing**	The geophysical core model of the specification D.2.8.II.4 (Geology) has been tested with metadata information from seismic profiles (no geophysical measurements). The data has been available from the transnationally harmonized database of the GeORG project and has been ready for feasibility testing without prior processing / transformation.
***Description of software and tools used in the testing**	Layer and its attributes have been investigated within the Geoportal GeORG based on the OpenSource software GeoNetwork and GeoServer. Mapping has been performed using the application schemas provided by INSPIRE for direct import into Excel.
***How many source/input datasets did you use in the testing.**	1

Feasibility Testing [Step 2/4]

***Dataset Name**	GeORG Seismics (Region Upper Rhine Graben)
***Dataset description**	Vector layer showing the location and extent of reprocessed 2D seismic data used for interpretation and 3D modelling in the GeORG project.
URL for Metadata	http://132.230.99.27:8080/geonetwork/srv/en/main.home
URL for Dataset	http://132.230.99.27:8080/geoserver/wms? (registration required)

Feasibility Testing [Step 3/4]

***Which INSPIRE Themes did you test?**	Geology, Geophysics

Feasibility Testing [Step 4/4]

***Which datasets did you use to test this theme ?**	GeORG Seismics (details see above)
***Select the applicationschema(s) used for testing: Core; Grid ; NUTS; Urban Audit; Vector**	Core

***Feasibility of the transformation:**

Fully feasible	
Partly feasible	Mapping of testing data into the class GeophysicsCore (Seismic Lines): (1) It needs to be specified more clearly if the attribute scaleResolutions refers to the distance of CDPs. (2) As seismic profiles are in time domain, only time values (e.g. milliseconds) can be assigned to the attribute verticalExtent. It is not clear, if this assignment is intended or if an estimated value in depth domain should be given here. (3) The attribute shape and projectedGeometry have been regarded as redundant within the testing. Mapping of testing data into the class GeophysicsCore (Surveys) (1) It needs to be specified more clearly if the attribute scaleResolutions refers to the distance of CDPs. (2) As seismic profiles are in time domain, only time values (e.g. milliseconds) can be assigned to the attribute verticalExtent. It is not clear, if this assignment is intended or if an estimated value in depth domain should be given here. Moreover, the vertical extent in one campaign might vary from profile to profile. In these cases, it is not clear if a range value can be given in verticalExtent (3) Definition of attribute client is not clear. Mapping of principalInvestigator, dataOwner, custodian and contractor problematic in some cases, but this is due to information in the input data.
Not feasible	

***What are the feasibility testing outcomes?:**	Mapping indicates that the input data can be transformed without major loss of information. Some metadata attributes of testing data (multiple archive IDs, country) could not be mapped to GeophysicsCore. Information about the data format and processing cannot be given in GeophysicsCore (Seismic Line and Survey), but can be described with the Geophysics Extension Model).
Filled Matching Tables	testing_gc_seismic_georg.xml testing_gc_survey_georg.xml
Transformed datasets/services	see URL for dataset

Other If you selected "OTHER" please specify	No new datasets derived, as mapping has been performed with Excel sheets.
***How many output datasets/services were the results of the feasibility testing?**	No new datasets derived, as mapping has been performed with MS Word tables.

Costs and Benefits related to the feasibility testing

If possible please specify the effort required for each area of the feasibility testing activities.

Specify the effort in person days for the whole testing period

Training / Studying the Data Specifications (DS)	3,125
Identifying and collecting relevant input data sets	0,125
Creating the mapping rules (e.g. matching tables)	0,125
Setting up the testing infrastructure	0
Executing the data transformation	1
Validating the testing results	0,25
Documenting the testing results	0,5
Management and coordination of testing	0,25
Total	**5,375**

Testing of Soil BÜK200:

***Testing participant:**	**BGR - Federal Institute for Geosciences and Natural Resources**
***Name**	Eberhardt
***Surname**	Einar
***e-mail**	Einar.eberhardt@bgr.de
***Tel.**	+495116433733
Fax	+495116433662

Feasibility Testing [Step 1/4]

***Methodology used in the testing**	Object and codelist mapping using simple tables
***Description of software and tools used in the testing**	Only paper exercise: see point "methodology"
***How many source/input datasets did you use in the testing.**	1

Feasibility Testing [Step 2/4]

***Dataset Name**	"Bodenübersichtskarte 1:200.000 von Deutschland" (BUEK200) / "Soil Map 1:200.000 of Germany"
***Dataset description**	Soil map showing soil form associations, that is soil type according to the German Soil System (= soil types) combined with substrate (material) information. Any soil mapping unit has a set of derived soil profiles with qualitative and semi-quantitative attribute parameters.
URL for Metadata *If possible provide a URL of the metadata for the input.*	http://www.bgr.de/app/FISBoBGR_Produktauswahl/Produktkatalog/metadata.php?fcni=bk200_1518mg_v10_gk3_polygon&lang=en
URL for Dataset *If metadata does not contain a direct link to the dataset, please provide a URL for direct access of the input dataset.*	None

Feasibility Testing [Step 3/4]

***Which INSPIRE Themes did you test?**	Soil

Feasibility Testing [Step 4/4]

***Which datasets did you use to test this theme?**	Soil Map of Germany 1:200.000
***Select the applicationschema(s) used for testing: Core; Grid ; NUTS; Urban Audit; Vector**	Core Model

***Feasibility of the transformation:**

Fully feasible	
Partly feasible	Partly feasible (it was feasible to transform the source data set(s) into the INSPIRE model) As there is no concept like soil form (see dataset description) implementable using the localSoilType (which is on soil types, but not combinations with substrate information), the mapping units can only be designated with soil type information. Some codelists are not consistent with those provided by INSPIRE.
Not feasible	

***What are the feasibility testing outcomes?:**	
Filled Matching Tables	
Transformed datasets/services	
Other If you selected "OTHER" please specify	

***How many output datasets/services were the results of the feasibility testing?**	

Costs and Benefits related to the feasibility testing

If possible please specify the effort required for each area of the feasibility testing activities.

Specify the effort in person days for the whole testing period

Training / Studying the Data Specifications (DS)	-
Identifying and collecting relevant input data sets	-
Creating the mapping rules (e.g. matching tables)	-
Setting up the testing infrastructure	-
Executing the data transformation	-
Validating the testing results	-
Documenting the testing results	-
Management and coordination of testing	-
Total	-

Testing of Natural Risk Zones, Georisk elements

*** Testing participant:** *(Testing Contact Point)*	**Landesamt für Geologie, Rohstoffe und Bergbau Freiburg**
***Name**	Dominik
***Surname (Family name)**	Ehret
***e-mail**	dominik.ehret@rpf.bwl.de
***Tel.**	+49 (0)761 208-3288
Fax	+49 (0)761 208 3029

Feasibility Testing [Step 1/4]

***Methodology used in the testing**	The feasibility testing was done with different georisk-datasets from the State Office for Geology, Resources and Mining for the State of Baden-Württemberg by filling matching tables for each of the tested datasets and by documenting the difficulties and results.
***Description of software and tools used in the testing**	MS Excel to generate the mapping tables
***How many source/input datasets did you use in the testing.**	6

Feasibility Testing [Step 2/4]

***Dataset Name 1**	Dataset "OA 1300, dolines" collected and maintained by the State Office for Geology, Resources and Mining for the State of Baden-Württemberg.
***Dataset description**	The dataset „OA 1300, dolines" comprises sinkholes/dolines within the State of Baden-Württemberg that were either observed and/or indirectly determined from a precise digital elevation model.
URL for Metadata	Metadata are not provided in the internet.
URL for Dataset	Dataset is not provided in the internet.

***Dataset Name 2**	Dataset "OA 5100: geology induced subsidence hazard" collected and maintained by the State Office for Geology, Resources and Mining for the State of Baden-Württemberg.
***Dataset description**	The dataset "OA 5100: geology induced subsidence hazard" comprises areas within the State of Baden-

	Württemberg for which a geology induced subsidence hazard was modelled.
URL for Metadata	Metadata are not provided in the internet.
URL for Dataset	Dataset is not provided in the internet.

***Dataset Name 3**	Dataset "OA 5200: geology induced ground heaving hazard" collected and maintained by the State Office for Geology, Resources and Mining for the State of Baden-Württemberg.
***Dataset description**	The dataset „ OA 5200: geology induced ground heaving hazard" comprises areas within the State of Baden-Württemberg for which a geology induced ground heaving hazard was modelled.
URL for Metadata	Metadata are not provided in the internet.
URL for Dataset	Dataset is not provided in the internet.

***Dataset Name 3**	Dataset "OA 5200: geology induced ground heaving hazard" collected and maintained by the State Office for Geology, Resources and Mining for the State of Baden-Württemberg.
***Dataset description**	The dataset „ OA 5200: geology induced ground heaving hazard" comprises areas within the State of Baden-Württemberg for which a geology induced ground heaving hazard was modelled.
URL for Metadata	Metadata are not provided in the internet.
URL for Dataset	Dataset is not provided in the internet.

***Dataset Name 3**	Dataset "OA 5200: geology induced ground heaving hazard" collected and maintained by the State Office for Geology, Resources and Mining for the State of Baden-Württemberg.
***Dataset description**	The dataset „ OA 5200: geology induced ground heaving hazard" comprises areas within the State of Baden-Württemberg for which a geology induced ground heaving hazard was modelled.
URL for Metadata	Metadata are not provided in the internet.
URL for Dataset	Dataset is not provided in the internet.

***Dataset Name 4**	Dataset "OA 5300: geology induced mass movement hazard (determined)" collected and maintained by the State Office for Geology, Resources and Mining for the State of Baden-Württemberg.
***Dataset description**	The dataset „ OA 5300: geology induced mass movement hazard (determined)" comprises areas within the State of Baden-Württemberg for which a geology induced mass movement hazard was indirectly determined.
URL for Metadata	Metadata are not provided in the internet.
URL for Dataset	Dataset is not provided in the internet.

***Dataset Name 5**	Dataset "OA 5350: geology induced mass movement hazard (modelled)" collected and maintained by the State Office for Geology, Resources and Mining for the State of Baden-Württemberg.
***Dataset description**	The dataset „ OA 5350: geology induced mass movement hazard (modelled)" comprises areas within the State of Baden-Württemberg for which a geology induced mass movement hazard was modelled.
URL for Metadata	Metadata are not provided in the internet.
URL for Dataset	Dataset is not provided in the internet.

***Dataset Name 6**	Dataset "OA 5400 geology induced karstification/subrosion hazard" collected and maintained by the State Office for Geology, Resources and Mining for the State of Baden-Württemberg.
***Dataset description**	The dataset „ OA 5400 geology induced karstification/subrosion hazard" comprises areas within the State of Baden-Württemberg for which a geology induced karstification/subrosion hazard was modelled.
URL for Metadata	Metadata are not provided in the internet.
URL for Dataset	Dataset is not provided in the internet.

Feasibility Testing [Step 3/4]

***Which INSPIRE Themes did you test?**	Natural Risk Zones, Georisk

Feasibility Testing [Step 4/4]

***Which datasets did you use to test this theme?**	Datasets 1 to 6
***Select the applicationschema(s) used for testing: Core; Grid ; NUTS; Urban Audit; Vector**	Core

***Feasibility of the transformation:**

Fully feasible	
Partly feasible	
Not feasible	Mapping not possible or only limited mapping possible due to a non applicable NaturalRiskOrHazardClassification and/or due to a lack of definitions for the possible NaturalRiskOrHazardClassification values. Mapping of observed hazards not possible as it is not possible or not common practice to quantify the likelihood of occurrence for hazards like sinkholes/dolines or mass movements that have already happened.

***What are the feasibility testing outcomes?:**	
Filled Matching Tables	Yes
Transformed datasets/services	No
Other If you selected "OTHER" please specify	No

***How many output datasets/services were the results of the feasibility testing?**	None

Costs and Benefits related to the feasibility testing

If possible please specify the effort required for each area of the feasibility testing activities.

Specify the effort in person days for the whole testing period

Training / Studying the Data Specifications (DS)	1,875
Identifying and collecting relevant input data sets	0,25
Creating the mapping rules (e.g. matching tables)	0,625
Setting up the testing infrastructure	0,125
Executing the data transformation	0,125
Validating the testing results	0,25
Documenting the testing results	3,75
Management and coordination of testing	0
Total	**3,625**

Testing of Energy Resources

*** Testing participant:** *(Testing Contact Point)*	**LBEG Hannover**
***Name**	Hans-Jürgen
***Surname (Family name)**	Brauner
***e-mail**	Hans-juergen.brauner@lbeg.niedersachsen.de
***Tel.**	+49 511 643 3499
Fax	

Feasibility Testing [Step 1/4]

***Methodology used in the testing**	Transformation from existing data (database and GIS) into a GIS-Shape with attributes are defined by INSPIRE Data Specifications ER
***Description of software and tools used in the testing**	MS-Access, ESRI-GIS
***How many source/input datasets did you use in the testing.**	Oil & Gas fields: 465 datasets

Feasibility Testing [Step 2/4]

***Dataset Name**	Oil and Gas fields in Germany
***Dataset description**	Oil and Gas fields in Germany
URL for Metadata	http://nibis.lbeg.de/cardomap3/ Rohstoffe
URL for Dataset	http://nibis.lbeg.de/cardomap3/ Rohstoffe

Feasibility Testing [Step 3/4]

***Which INSPIRE Themes did you test?**	Energy Resources

Feasibility Testing [Step 4/4]

***Which datasets did you use to test this theme ?**	Oil and Gas fields in Germany
***Select the applicationschema(s) used for testing: Core; Grid ; NUTS; Urban Audit; Vector**	Core

***Feasibility of the transformation:**

Fully feasible	

Partly feasible	Following attributes: *volatile oil, dryGas, wetGas* which are described in the corresponding TESTING Excel-sheet couldn't be filled because of missing or definitions. For the attributes: *tightGas, shaleGas, associatedGas*, definitions are ambiguous. Refer to Excel spreadsheet (Template_AnnexII-III_Testing_ER_LMO_BGR.xlsx) .
Not feasible	

***What are the feasibility testing outcomes?:**	Oil and Gas fields in Gemany could be generally transferred into the INSPIRE data specifications.
Filled Matching Tables	
Transformed datasets/services	Oil and Gas fields in Germany
Other If you selected "OTHER" please specify	

***How many output datasets/services were the results of the feasibility testing?**	1

Costs and Benefits related to the feasibility testing

If possible please specify the effort required for each area of the feasibility testing activities.

Specify the effort in person days for the whole testing period

Training / Studying the Data Specifications (DS)	3,75
Identifying and collecting relevant input data sets	0,625
Creating the mapping rules (e.g. matching tables)	1,25
Setting up the testing infrastructure	0,625
Executing the data transformation	0,625
Validating the testing results	0,625
Documenting the testing results	0,625
Management and coordination of testing	0,625
Total	**8,75**

Testing of Mineral Resources IS RK 100

* Testing participant:	Geological Survey of Northrhine-Westfalia
*Name	Bernd
*Surname	Linder
*e-mail	linder@gd.nrw.de
*Tel.	+49-2151-897301
Fax	+49-2151-897505

Feasibility Testing [Step 1/4]

*Methodology used in the testing	Transformation from existing GIS-data into GIS-data with attributes which are defined by INSPIRE Data Specifications MR
*Description of software and tools used in the testing	ArcGIS to extract the data, Excel to generate the mapping tables
*How many source/input datasets did you use in the testing.	1

Feasibility Testing [Step 2/4]

*Dataset Name	Mineral Resources of North-Rhine Westfalia 1:100.000 (IS RK 100)
*Dataset description	Information system showing occurrences of industrial minerals and construction minerals in North-Rhine Westfalia in the scale of 1:100.000
URL for Metadata	http://www.portalu.de/portal/_ns:YTU4fGMwfGQwfGVwbHVnaWQ9MT0va3VnLWdyb3VwOmt1Zy1pcGx1Zy11ZGstZGJfbnd8ZWRvY3V1aWQ9MT03MkRDQjY2Qy1DMThELTExRDYtQTI0RS0wMDYwQjBGMUU1QzQ_/search-detail.psml
URL for Dataset	Doesn't exist

Feasibility Testing [Step 3/4]

*Which INSPIRE Themes did you test?	Mineral Resources

Feasibility Testing [Step 4/4]

*Which datasets did you use to test this theme ?	IS RK 100 (details see above)
*Select the applicationschema(s) used for testing: Core; Grid ; NUTS; Urban Audit; Vector	Core

Feasibility of the transformation:

Fully feasible	
Partly feasible	There are a lot of fields in the INSPIRE schema, where there exist no corresponding data in the input data set (f.e. ExplorationActivity, MiningFeature, OreMeasure, properties shape, linear, planar orientation etc.) On the other hand, most of the information from the input data set could be transformed into the INSPIRE schema.. Only a few terms, which are described in the corresponding TESTING Excel-sheet, were difficult to transfer because of missing or not unique definitions. Refer to Excel spreadsheet.
Not feasible	

***What are the feasibility testing outcomes?:**	It was possible to transfer the dataset IS RK 100 into the INSPIRE data specifications with only minor loss of information.
Filled Matching Tables	3
Transformed datasets/services	see URL for dataset
Other If you selected "OTHER" please specify	Mineral Resources of North-Rhine Westfalia 1:100.000 (IS RK 100)

***How many output datasets/services were the results of the feasibility testing?** For each dataset/service you will be asked to provide following information:Name, Description, URL for metadata and dataset	No new datasets derived, as mapping has been performed with MS Word tables.

Costs and Benefits related to the feasibility testing

If possible please specify the effort required for each area of the feasibility testing activities.

Specify the effort in person days for the whole testing period

Training / Studying the Data Specifications (DS)	1,875
Identifying and collecting relevant input data sets	0,25
Creating the mapping rules (e.g. matching tables)	0,625
Setting up the testing infrastructure	0,125
Executing the data transformation	0,125
Validating the testing results	0,25
Documenting the testing results	3,75
Management and coordination of testing	0
Total	**3,625**

MINERAL RESOURCES