Administrative Areas 1 : 1 000 000
VG1000 and *VG1000-EW*

Product as of 31.12.2019 /01.01.2020
Status of documentation: 08.07.2020

Contents

1   Overview of the dataset

Product	VG1000 and VG1000-EW
Contents	The dataset includes the administrative units of the hierarchical administrative levels from the country (state) down to the "Kreise" (districts) with: - administrative boundaries, - key-numbers - names as well as - designations.

The product VG1000-EW additionally contains population numbers and the cadastral area.

The geometry of the boundaries is with respect to accuracy and resolution designed to the DLM1000 (Digital Landscape Model 1000). The lines are of the type "SingleLine".

The areas are of the type "MultiPolygone" (also "Multipart"). Each area can comprise several single areas, such as regular area with exclaves or inset areas, each of these MultiPolygones corresponding to a dataset in the attribute table.

The dataset is available in two specifications:

Compact

The geometry of the administrative units lies redundancy-free in one level and is basically classified via separate attribute tables.

Levels

The data are structured according to levels (country/state, Länder (federal states), Regierungsbezirke (administrative districts), Kreise (districts/counties), whereby the areas contained are directly carrying the attributive information.

Area	Bundesrepublik Deutschland (Federal Republic of Germany)
Geographical classification	None, extent of data allows to keep complete dataset without spatial decomposition
Georeferencing	- Gauss-Krüger projection in the 3rd, 4th or 5th meridional strip, Bessel Ellipsoid, Potsdam Datum (central point Rauenberg) - UTM projection in zone 32 or 33, Ellipsoid GRS80, Datum ETRS89 - Geographic coordinates in decimal degrees, Ellipsoid GRS80, Datum ETRS89
Topicality	1-year revision cycle with the statuses 31.12. and 01.01. of each year. (see www.geodatenzentrum.de → Produkte & Services → Digitale Geodaten → Verwaltungsgebiete → here under the respective VG version → at topic Beschreibung → Aktualität)
Source	*First production:* Analog and digital primary data of the Land survey and cadastral institutions. Scale of acquisition depending on each individual Land 1: 5 000 to 1: 200 000. *Updating:* Municipal directories and originals of acquisition on the basis of the Land Offices of Statistics, the Federal Statistical Office as well as the Land Survey Offices.

Production method	*First creation of the specification COMPACT:*
	- Collection and editing of the original datasets of the individual federal states
	- Manual digitization by BKG of areas still lacking
	- Harmonization of the common Länder boundaries
	- Interactive post-processing to preserve the topology
	- Linkage of the attributes with the data of the statistical offices
	Updating of the specification COMPACT:
	- Interactive revision by Land (state) on the basis of data from the data of the Land Offices of Statistics, the Federal Statistical Office (www.destatis.de) as well as of the Land Survey Offices
	Derivation of the specification LEVELS:
	- Integration of the boundary geometries with equal hierarchical meaning
	- Formation of the topology and attributisation of the areas
Data formats	SHAPE
Character set	Unicode UTF-8
Data supply	dataset via download or data carrier Web Map Service (WMS) Web Feature Service (WFS)

Note	In 2019, the previous Territorial key - RS was renamed into ARS in official statistics. The previous attributes RS, SDV_RS and RS_0 are changed analogously and are now called ARS, SDV_ARS and ARS_0.
	In the issues of December 31, 2019 and January 1, 2020, the old attribute names will also be used temporarily.

2   General information

The dataset includes the administrative units of the Federal Republic of Germany from the national down to the district level.

With the exception of the administrative district level, the administrative levels have been created on a nationwide basis. On the national and Land levels also the area of the respective territorial sea (12 nautical-mile-zone) is included.

Delimitation of boundaries in Lake Constance is of a technical nature (see **Annex C.1.2**).

The hierarchical structure of the administrative levels is represented by the Amtliche Regionalschlüssel (ARS) (territorial code). In addition, the Amtliche Gemeindeschlüssel (AGS) (Official Municipality Key) is kept with the data, which is derived from the ARS through omission of the administrative association.

ARS and AGS constitute the keys of the products of the statistical offices of the Federal Government and of the Länder. Thus, the integration of statistical data and data synchronization, respectively, can easily be performed (cf. also htpp://www.destatis.de).

The complex administrative structure is shown country-specifically in the PDF file `Verwaltungsgliederung_VG.pdf` (see Annex).

The lines are of the geometry type "SingleLine".

The areas are of the type "MultiPolygone" (also "Multipart"). Each area can comprise several single areas, such as regular area with exclaves or inset areas, each of these MultiPolygones corresponding to a dataset in the attribute table.

Each administrative unit has precisely one record entry with the GF value 4. In addition, an administrative unit may have a record entry with further GF values. For more information, see **item 3.2.2**for the attribute GF.

For each municipality is also included a point object in the dataset.

The appendices mentioned in this document with further information can be found in the file `annex_vg.pdf` (see Annex).

Territorial code

The territorial code (TC/ARS) is broken down as follows:

1. – 2. digit	=	identification number of the Land
3. digit	=	identification number of the administrative district
4. – 5. digit	=	identification number of the district (county)
6. – 9. digit	=	identification number of the administrative association
10. – 12. digit	=	community identification number

2.1.1   Key number of the administrative association

In this VG-product there are no Verwaltungsgemeinschaften (administrative associations) contained, therefore this point is meaningless for the product described.

2.2   Official municipality key

The official municipality key is analogously to the territorial code subdivided as follows:

1. – 2.	digit	=	identification number of the Land
3.	digit	=	identification number of the administrative district
4. – 5.	digit	=	identification number of the district (county)
6. – 8.	digit	=	community identification number

Through omission of the administrative association key the official municipality key can be formed from the territorial code. In the converse case knowledge of the key number of the administrative association is absolutely necessary.

2.3   Specifics in the administrative structure

Specifics in the administrative structure result in the following exceptions.

2.3.1   Unincorporated areas in Schleswig-Holstein

In this VG-product there are no gemeindefreie Gebiete (unincorporated areas) contained, therefore this point is meaningless for the product described.

2.3.2   Inter-district association of administrations (Schleswig-Holstein)

In this VG-product there are no Verwaltungsgemeinschaften (administrative associations) contained, therefore this point is meaningless for the product described.

2.3.3   Unincorporated areas in Bayern (Bavaria)

In this VG-product there are no gemeindefreie Gebiete (unincorporated areas) contained, therefore this point is meaningless for the product described.

2.3.4   Former Regierungsbezirke (administrative districts)

In Niedersachsen, Rheinland-Pfalz and Sachsen the 3rd digit of the ARS (TC) and the AGS (OMK) (administrative district), respectively, serves only to clearly identify the district level. In these Länder (states) administratively there are no more administrative districts existant. The attribute FK_S3 characterizes these cases by the value K.

2.3.5   Common German-Luxembourgish territory

For reasons of generalization the common territory is not available in the dataset. This concerns the German-Luxembourgish boundary line in the rivers Our, Sauer and Mosel. Within the area of the Luxembourgish city of Vianden the otherwise jointly managed territory is interrupted. A list of the parts of the joint territory is given in **Annex E**.

2.4   Undetermined boundary sections

Not mutually agreed sections of national and state (Länder) boundary sections are labelled at the line geometry by the attribute value RDG 2 (legally not defined boundary). The relevant boundary sections constitute a technical delimitation and are illustrated in **Annex C**.

2.5   Incommunalized waters

Administrative units whose territory also extends over the North Sea or the Baltic Sea or Lake Constance are separated along the coast. A distinction between the two parts of the management units concerned is possible via the attribute GF (geofactor). The partial area on the waters referred to above has the GF value 2. On the other hand, the land areas have the GF value 4. (Description GF see **point 3.2.2**)

3 Description of the dataset

3.1 Specification

The VG product is available in the two data structures "Compact" and "Levels". In **Annex A** a short overview of the two structures including the respective allocation of structures of the attributes is contained.

3.1.1 Specification Compact

The dataset describes for the whole area the administrative units of each of the lowest administrative levels. All superior administrative units can be derived from the lowest administrative units. The geometry of the administrative units lies redundancy-free in one level and is basically classified via separate attribute tables.

In the attribute tables AT1 and AT9, respectively, the attributes of the areas of the respective lowest levels and the units to be accordingly derived are contained. The corresponding table depends in each case on the value of the attribute BSG of the area of the relevant lowest level.

> BSG 1 → table AT1 for (the normal case) Germany
> BSG 9 → table AT9 for Lake Constance

The hierarchical administrative structure can be seen from the Amtliche Regionalschlüssel (ARS) (Territorial Code) (TC) (see **item 0).** Through the territorial code, linkage of the areas with the respective lowest administrative level is also possible.

Via the attribute IBZ it is possible to establish a connection from the attribute tables to the information of the administrative structure given in the table IBZ (see **table 3.3**). The attributes BEZ and BEM are not included in the attribute tables, but in the IBZ table.

In addition, the boundary lines of the respective highest level are included in the dataset.

Verknüpfungsschema der Flächen und Tabellen:
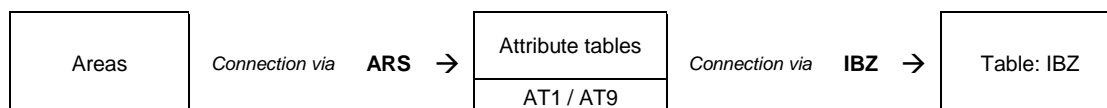
3.1.2 Specification levels

The dataset is divided into the different administrative levels of Germany:

- Staat (country)   STA
- Länder (states)   LAN
- Administrative districts   RBZ
- Districts   KRS

Each of these levels forms an object class containing the area geometry of the administrative units. Except for the administrative district level, all other levels constitute in each case a nationwide dataset, in which the areas contained directly carry the attributive information.

Also, in the dataset are comprised:

- Boundary lines   LI

In each case the respective highest level is included.

3.2 Attributes

3.2.1 Lines

AGZ   Type of boundary

Survey of values

1 = National border
2 = Federal State boundary
3 = Boundary of an administrative district
4 = Boundary of a Kreis (district/county)
9 = Coastline

In each case the respective highest level is meant of the administrative unit limited by the boundary section.

This means: For example for the illustration of all district boundaries all higher boundaries are needed as well. (AGZ values 1, 2, 3 and 4)

The coast line (value 9) comprises the separation of land and water areas within an administrative unit and has no meaning as a dividing line between different administrative units, nor with regard to the foreign shores of Lake Constance and the non-German national border running through this lake.

RDG   Legal definition of the boundary section

Survey of values

1 = defined
2 = not defined
9 = coast line

For the purpose of this attribute "defined" means that the relevant boundary section has been precisely defined in a legal act, or taken from a representation serving cartographic needs.

GM5   Boundary feature of the AGZ 5

Survey of values

8 = boundary not limiting an association
0 = boundary feature according to AGZ

The attribute GM5 describes the function of the boundaries of administrative associations (AGZ 5). This attribute carries the value 0 in general, since the boundary layer 5 is not present in this VG-product.

DEBKG_ID DLM-Identifikator

Identifikator of the DLM1000.

3.2.2   *Areas*

In the specification Compact only the attributes GF, BSG and ARS exist with the areas. The other attributes are included in the attribute tables. The respective table depends on the attribute BSG (see **item 3.1.1**) and is connected with the area via the attribute ARS. Furthermore, the attributes BEZ and BEM are found in the IBZ table, linked via the attribute IBZ to the attribute tables (see **item 3.3**).

ADE   Administrative level

            Survey of values

            1   =   Country
            2   =   State
            3   =   Administrative district
            4   =   District

            In the specification Compact in each case only the lowest one of the existing administrative levels is specified (see also item **3.1.1**).

GF   Geofactor

            Survey of values

            1   =   Waters without structures
            2   =   Waters with structures
            3   =   Land without structure
            4   =   Land with structure

            The areas for which below the Land (state) level there exist no further levels are assigned the designation "without structure". The indication "waters" refers to the North and Baltic Seas as well as to Lake Constance.

            Administrative units whose territory also extends over the North Sea or the Baltic Sea or Lake Constance are separated along the coast. A distinction between the two parts of the administrative units concerned is possible with the attribute GF (Geofactor). The partial area on the mentioned waters has the GF value 2. On the other hand, the land areas have the GF value 4.

            For the exclusive representation without the areas on the North Sea, Baltic Sea or Lake Constance filter on GF = 4. The coastal form is thus retained.

            Basically:
            Each administrative unit has precisely one record entry with the GF value 4.
            In addition, an administrative unit may have a record entry with the GF value of 2.

BSG   Particular areas

            Survey of values

            1   =   Germany
            9   =   Lake Constance

            In the specification Compact this term defines the corresponding attribute table (see also item **3.1.1**).

            BSG 1 → Table AT1 for (the normal case) Germany
            BSG 9 → Table AT9 for Lake Constance

ARS Territorial Code (TC)

This key is the statistical key. It is structured hierarchically and reflects the different administrative levels as existing in the Federal Republic of Germany.

The territorial code (ARS) is broken down as follows:

1. – 2. digit	=	identification number of the Land
3. digit	=	identification number of the administrative district
4. – 5. digit	=	identification number of the district (county)
6. – 9. digit	=	identification number of the administrative association
10. – 12. digit	=	community identification number

In the specification Compact the ARS serves as a logic field to the respective attribute table.

AGS Official municipality key

The key is structured hierarchically and is derived from the ARS shortened by the key number of the administrative association.

The AGS is broken down as follows:

1. – 2. digit	=	identification number of the Land
3. digit	=	identification number of the administrative district
4. – 5. digit	=	identification number of the district (county)
6. – 8. digit	=	community identification number

SDV_ARS Seat of the administration (territorial code)

ARS of the municipality representing the seat of the municipality (for ADE identical with ARS)

GEN Geographical name

BEZ Designation of the administrative unit

In the specification Compact this attribute is included in the IBZ table (see IBZ).

IBZ Identificator

The identificator is a product-specific identification number for the BEZ attribute.
In the specification Compact the IBZ attribute acts as a link to the information on the administrative structure in the IBZ table (see **item 3.3**)

BEM Note

The note constitutes a differential description for the BEZ attribute.
In the specification Compact this attribute is included in the IBZ table (see IBZ).

NBD Generation of names

Survey of values

ja = designation is part of the name
nein = designation is not part of the name

The attribute indicates whether the BEZ attribute should be used for the full name formation.

IBZ	BEZ	GEN	NBD	full name	*not*
42	Kreis	Oberbergischer Kreis	nein	Oberbergischer Kreis	*Kreis Oberbergischer Kreis*
43	Landkreis	Salzlandkreis	nein	Salzlandkreis	*Landkreis Salzlandkreis*
42	Kreis	Dithmarschen	ja	Kreis Dithmarschen	
43	Landkreis	Prignitz	ja	Landkreis Prignitz	

In the specification Compact the BEZ attribute is linked via the IBZ table.

NUTS   European statistics key

for further details, see **Annex F**

Prepared NUTS regions are found in the NUTS1000 product
(see www.geodatenzentrum.de → Open Data → Administrative areas (VG) or Verwaltungsgebiete).

ARS_0   filled territorial code

basically 12-digit ARS (filled in with zeros on the right side)

AGS_0   filled Official Municipality Key

basically 8-digit AGS (filled in with zeros on the right side)

WSK   Effectiveness

The attribute describes the legally relevant date for the effectiveness of the change. This date is not communicated by all sources, so that there is no entitlement to completeness.

Further attributes include structural key number fractions of the keys ARS and AGS:

SN_L	=	Land (state)
SN_R	=	administrative district
SN_K	=	district
SN_V1	=	administrative association – front part
SN_V2	=	administrative association – rear part
SN_G	=	municipality

FK_S3   Function of the 3rd key digit

R = administrative district
K = district

In the case of Länder (states) with administrative districts the attribute is assigned the value R. Länder without an administrative district or 3-digit district key are also assigned the value R, and the 3rd key digit the value 0, respectively. In the case of the Länder with a 3-digit district key number the third key digit only serves to unambiguously mark the Kreis (district) level, and the attribute is assigned the value K. In these Länder there exist no longer any administrative districts.

DEBKG_ID DLM identificator

By means of this key the administrative units can be linked with the data stock of the DLM1000.

In addition, the product VG1000-EW comprises:

EWZ   Population

The population numbers of the Statistisches Bundesamt (www.destatis.de) (Federal Statistical Office) with the status of 31 December of the year in question.

KFL   Cadastral area in km²

Specification of the cadastral areas in km² from the area statistics of the Statistisches Bundesamt (www.destatis.de) with the status of 31 December of the year in question.
By accumulation rounded values slight inaccuracies are possible.

The annually updated administrative areas are published contemporaneously in the product VG1000 (without population and without cadastral areas) with the topicality statuses 31 December and 1 January. Upon receipt of the population numbers and the cadastral areas from the Statistisches Bundesamt the dataset is provided as the product VG1000-EW (including population and cadastral areas) with the status of topicality 31 December of the respective year.

3.3 Information on the administrative structure

In the specification Compact additional information on the administrative structure is included in the IBZ table. Moreover, the IBZ table comprises the attributes BEZ and BEM, which are linked with the attribute tables through the IBZ attribute.

For each administrative unit the Länder-specific structure and designation are given. This part of the dataset can be seen as a table, in which each line and a quantity of successive lines, respectively, contains the relevant information on the administrative unit.

The IBZ table is a component only of the specification Compact and comprises the following attributes:

IBZ   Identificator

      The identificator is a product-specific identification number for the BEZ attribute, through which the IBZ table is connected to the attribute tables.

ISS   Identificator of the substructure

      ISS acts as a pointer to the IBZ column of another line of the IBZ table.
      If there exists no other substructure the pointer has the value 97.

LGS   Length of the key

      Number of the digits counted from the left of the territorial code not filled with zeros to 12 digits, which identifies the units.

AWS   Number of digits to be omitted

      Number of digits to be rounded down from the right from the 12-digit territorial code filled with zeros (ARS_0) to obtain the non-filled territorial code (ARS), which identifies the units.

BEZ   Designation of the administrative unit

BEM   Note

      The note constitutes a differential description for the BEZ attribute.

Example of the hierarchical structure of the Land of Brandenburg:

IBZ	ISS	LGS	AWS	BEZ	BEM
10	20	0	12	Bundesrepublik	
20	40	2	10	Land	
20	43	2	10	Land	
40	97	5	7	Kreisfreie Stadt	
43	97	5	7	Landkreis	
43	97	5	7	Landkreis	

4 Description of the data formats

4.1 SHAPE format

The SHAPE data format constitutes as a de facto industry standard a very widespread and suitable data exchange format for the exchange of geodata.

Each dataset consists of the following files in UTF-8 character coding (Unicode).

4.1.1 Specification Compact

Administrative areas	`VG1000_F.SHP`	Geometry
	`VG1000_F.SHX`	Geometry index
	`VG1000_F.PRJ`	Projection
	`VG1000_F.DBF`	Attributes
	`VG1000_F.CPG`	Character set
Boundary lines	`VG1000_L.SHP`	Geometry
	`VG1000_L.SHX`	Geometry index
	`VG1000_L.PRJ`	Projection
	`VG1000_L.DBF`	Attributes
	`VG1000_L.CPG`	Character set
Attribute tables	`VG1000_AT1.DBF`	AT table Germany
	`VG1000_AT9.DBF`	AT table Lake Constance
	`VG1000_AT1.CPG`	Character set of table AT1
	`VG1000_AT9.CPG`	Character set of table AT9
IBZ table	`VG1000_IBZ.DBF`	Table of the hierarchical structure
	`VG1000_IBZ.CPG`	Character set of table IBZ
Information tables	`VG_DATEN.DBF`	Data structure and attributes (see also **Annex A.1**)
	`VG_WERTE.DBF`	Values of the attributes (see also **Annex A.2**)
	`VG_DATEN.CPG`	Character set of the data table
	`VG_WERTE.CPG`	Character set of the value table

For the purpose of a quick overview the data of all dBase tables (DBF tables) are provided additionally in the Excel-97-2003 format in the file `Struktur_und_Attribute_VG1000.XLS`.

4.1.2 Specification Levels

Administrative areas	`VG1000_###.SHP`	Geometry
	`VG1000_###.SHX`	Geometry index
	`VG1000_###.PRJ`	Projection
	`VG1000_###.DBF`	Attributes
	`VG1000_###.CPG`	Character set

`###` stands for the respective administrative level (see item **3.1.2**)

Boundary lines	`VG1000_LI.SHP`	Geometry
	`VG1000_LI.SHX`	Geometry index
	`VG1000_LI.PRJ`	Projection
	`VG1000_LI.DBF`	Attributes
	`VG1000_LI.CPG`	Character set
Information tables	`VG_DATEN.DBF`	Data structure and attributes (see also **Annex A.1**)
	`VG_WERTE.DBF`	Values of the attributes (see also **Annex A.2**)
	`VG_DATEN.CPG`	Character set of the data table
	`VG_WERTE.CPG`	Character set of the value table

For the purpose of a quick overview the data of all dBase tables (DBF tables) are provided additionally in the Excel-97-2003 format in the file `Struktur_und_Attribute_VG1000.XLS.`

5   Data volume

Data format	Specification	Data volume	Files
SHAPE	Compact	ca. 7 MB	21
	Levels	ca. 9 MB	30

6   Annexes

Further information can be found in the above-mentioned enclosed appendix for documentation, which can be found in the attached file `annex_vg.pdf`.

There is also a country-by-country representation of the complex administrative structure in the file `verwaltungsgliederung_vg.pdf` (administrative structure). At the end of the file there is also a brief overview of the data model of the VG data.

They can be found on our homepage <u>www.bkg.bund.de</u> under the heading „Products & Services" →
"Digitale Geodaten".

7   Terms of use and copyright

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Source reference and indication of alteration have to be formulated as follows. The source reference has to be linked with the URL "http://www.bkg.bund.de" for the representation at a website.

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