

BEV - Digital Landscape Model



Imprint

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What is the Digital Landscape Model (DLM)?

The Digital Landscape Model (DLM) is a concrete representation of the natural, anthropogenic depiction of the landscape and contains objects and information about the surface of the earth. These are primary data acquisition data that are described in more detail by names and attributes.

The DLM provides all information that is depicted in the national maps. These maps are updated by means of the updates of the DLM.

The DLM is suitable as a basic model for different derived models describing landscapes and as a basis for geographic information systems. The geometry and the attributes are highly accurate and the topics and the graphics are flexible.

It is nearly scale-free. The geometric accuracy of the information depends on the accuracy of the data capture basis and method. Nearly all objects have the standard attribute "Erfassungsart" to identify data capture method and the positional accuracy.

Each record has metadata that provide information about the quality, up-to-dateness and origin.

The point objects, if available, have additional specific attributes.

Thanks to different updating tools all data are available very quickly as the data processing is done directly after the data acquisition.

Especially important for the user are nationally uniform, area-wide and complete data that are managed objectively and independently in a central database. They are up-dated in three different cycles and made available digitally in different data distribution formats.

The DLM is improved all the time and the objects and attributes are extended constantly.

At the moment the DLM mostly is available as a 2D model. In the future more and more objects will also be available in 3D.

Structure of the DLM

Geometric Modeling

The position and geometry of the DLM-Objects are modeled as vector data (point, line, area). Georeferencing is standardized in the system of the Austrian national survey. (geodetic projection: Gauß-Krüger, geodetic reference system: MGI), transformation into other systems is possible anytime.



Section Digital Orthophoto



Modeling of the line objects



Modeling of the area objects

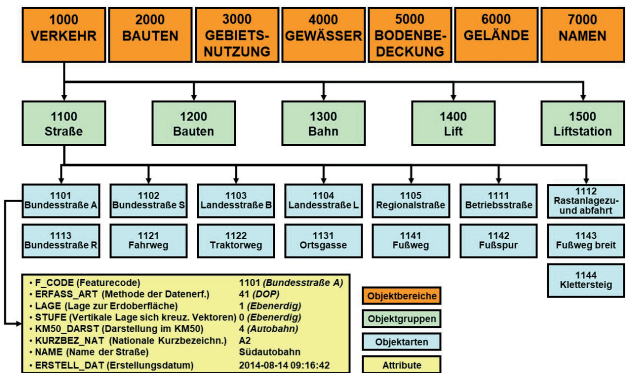


Modeling of the point objects

Thematic Modeling

The thematic modeling of the DLM is done by structuring the DLM objects in a hierarchic, semantic-logical tree. An object forms the smallest depicted DLM unit.

Similar objects form object types, several related object types form object groups and finally the highest level the object range. The 4 digit object key represents the object identifier of each object type.



In addition to the geographic position the additional attributes describe the objects in more detail and thus facilitate the application in areas such as economy, research and administration.

Presently the DLM is divided into 7 Object Ranges:



1000
Traffic



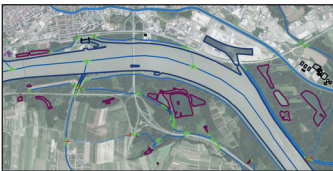
2000
Buildings



3000
Land Use



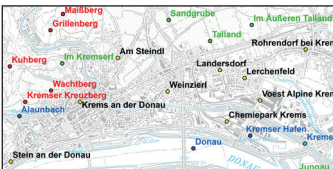
4000
Hydrography



5000
Land Cover



6000
Terrain



7000
Names

Updating

The data of the DLM are updated case-specifically (continuously) and at regular intervals (cyclically).

The continuous data updating (LAKT) is case-specific. The trigger for such an update is a change in the landscape (e.g. a major construction site is completed). Mostly it is about the Austrian superior road network.

The annual update (JAKT) concerns those point objects of the DLM that have a postal address (e.g. police, municipal office, fire brigade,...).

The area-wide update (FAKT) basically follows a 3 year cycle.

Each object has the standard attribute „Erstellungsdatum“ (date of initial data capturing) and „Bearbeitungsdatum“ (date of last update in the database).

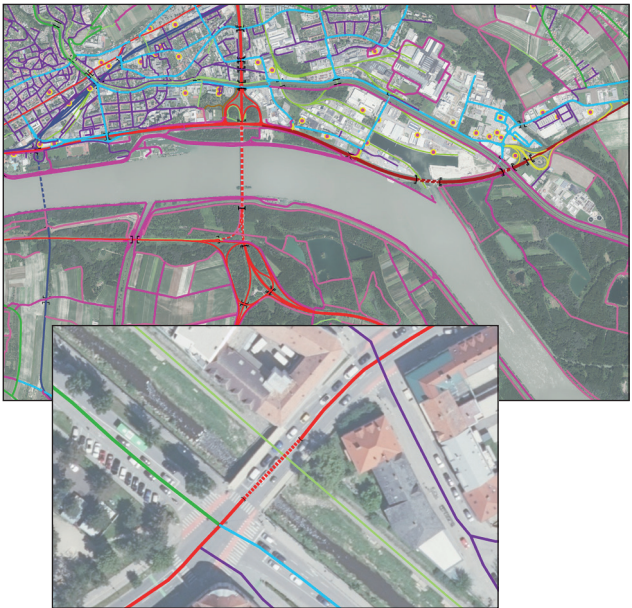
Object Range Traffic

The Object Range Traffic comprises all of Austria

- Road network
- Railway Tracks (public and private)
- Lifts for transporting persons and goods

In addition to capturing the center line of the above objects other important traffic objects are captured as points. These Points Of Interest (“POI”) are available such as:

- Roads, train lines, air traffic, shipping, facilities and buildings for communication and supply



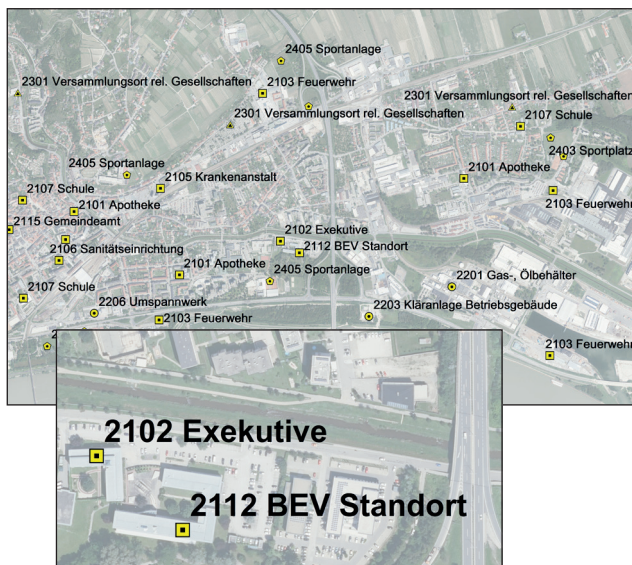
Object Range Buildings

The Object Range Buildings comprises high-precision point information with attributes of:

- Municipal facilities
- Operating facilities
- Culture
- Leisure and sports
- Civil protection
- Power supply lines and power poles
- Other line objects
(e.g. sledge way, bobsleighs track)

In addition to the point-shaped information we provide the related areas of land use such as operating, leisure, protection and traffic facilities.

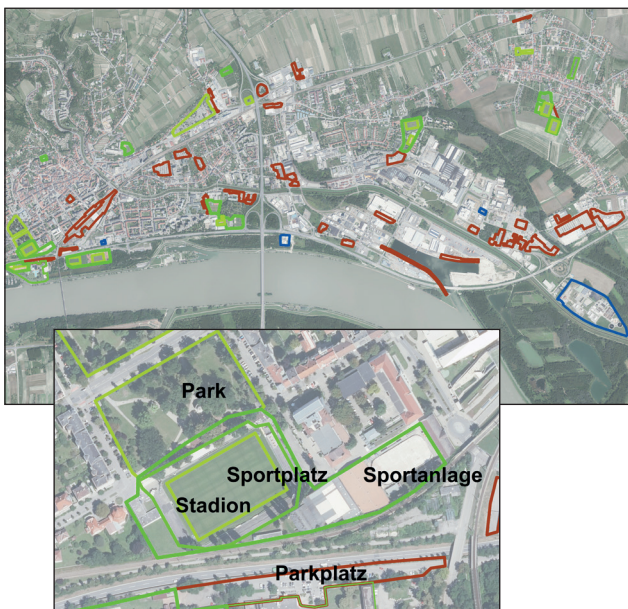
Many objects of the Object Range Buildings also have matching information about the elevation.



Object Range Land Use

The Object Range Land Use covers the following areas:

- Protected areas
- Recreational facilities
- Traffic facilities
- Operating facilities

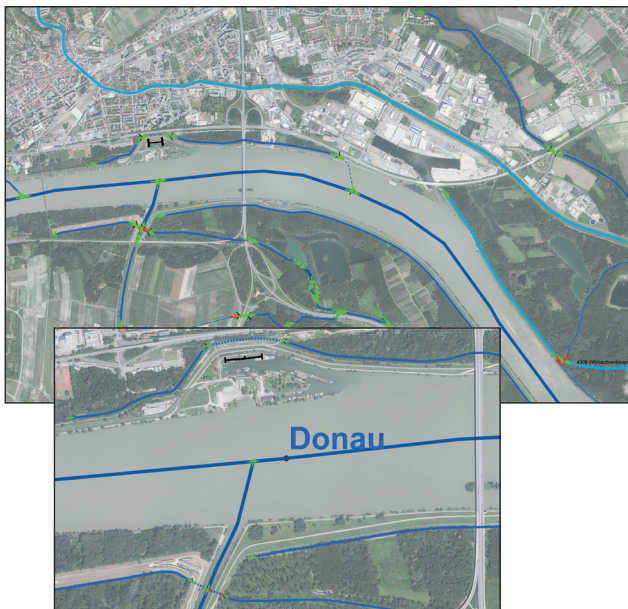


Object Range Hydrography

The Object Range Hydrography covers the following objects as detailed vector graphics with attributes :

- The center line of all flowing waters (permanently or temporarily water-bearing)
- Buildings for water supply (mountain spring pipelines, pressure pipelines)
- Point and line shaped buildings (Springs, waterfalls, piers, sluices and so on)

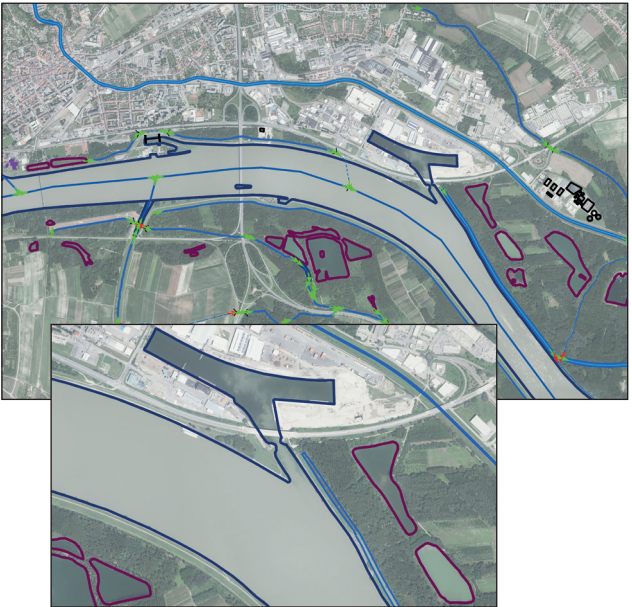
All standing waters (lake, pond rivers > 5 m) are covered by the Object Range Land Cover.



Object Range Land Cover

The Object Range Land Cover covers

- Rivers, wide > 5 m,
- all standing waters (lake, pond),
- Glaciers and
- Swimming pools, clarifiers and so on.



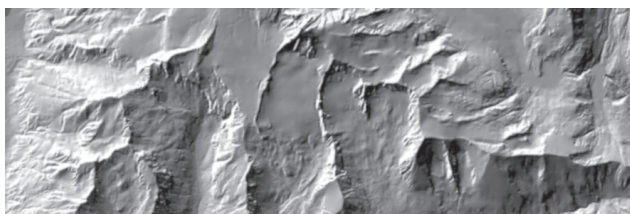
Object Range Terrain

Together the Digital Terrain Model (DTM) and the Digital Surface Model (DSM) form the Digital Elevation Models (DEM) of the BEV. They describe the surface of the earth with (DSM) and without (DTM) its natural and artificial objects in a georeferenced elevation grid.

The DSM is available in a raster of 0,5 meters and is derived from aerial images by image matching.



The DTM (raster 10 meters) is based on photogrammetric processing, especially from measurements of additional terrain structures. The data are updated regularly.



DSM and DTM are available for all of Austria. The responsible department is "Remote Sensing". For further information and product description please see Broschüre BEV – Fernerkundung and bev.gv.at .

Object Range Names

The Object Range Names at present covers the coordinates of reference points (with attributes) of more than 220.000 names in Austria:

- Settlement names (cities, markets, villages,..)
- Area names
- Mountain names
- Glacier names
- Waters names
- Field names

The data set „Namen“ is the official Austrian database for geographic names (toponyms).



Potential Applications

The data of the Digital Landscape Model are particularly suited as spatial reference basis and as basic information for the linkage of subject specific data as well as the intersection with thematic information and their analyses due to the extremely accurate vector graphics with attributes and reference points with coordinates and attributes (nationwide uniform geometric system).

In general the DLM serves as a nationwide uniform and authentic basis for Geographic Information Systems (GIS).

Used amongst others for:

- Traffic
- Traffic management systems
- Route planning
- Navigation
- Road administration
- Fleet management
- Agriculture and forestry
- Environmental protection
- Civil protection
- Crises management
- Regional management and planning
- Water management (hydrographic examinations, water quality,)
- Energy supply
- National defense
- Geology
- Tourism

References

Amongst the national and international users of the DLM there are:

- Statistik Austria
- ÖVDAT-GIP
- The Lake Constance Countries (Bavaria, Baden-Württemberg, Switzerland, Austria)
- Providers of navigation systems
- National and federal authorities, municipalities
- Universities for research and scientific work
- GIS providers of tourist maps and other GIS products
- Civil engineers
- Energy suppliers
- Transport companies
- Logistics companies
- Forestry operations
- Cartographic publishers
- Private customers

Delivery and Up-to-dateness

The up-to-date Digital Landscape Model is available for the entire area of Austria (depending on the updating cycles) and is available via two channels:

- BEV Shop:

The data of the Object Ranges Traffic, Buildings, Hydrography and Land Cover can be bought. It is possible to choose areas and object groups | different variations.

- Free-of-Charge Products – Geoportal des BEV:


All Object Ranges (Traffic, Buildings, Hydrography, Land Use and Names) are predefined for all of Austria and can be downloaded free-of -charge from the Geoportal data.bev.gv.at.

For further details about the data, up-to-dateness, delivery and product examples please see bev.gv.at.

Shops and Services

The section Shops und Services -> Shop Plus on bev.gv.at provides extensive search functions:

Search for products or areas:

 **Bundesamt
für Eich- und
Vermessungswesen**


[bmdw.gv.at](https://www.bmdw.gv.at) / 

BEV Shop Plus


Schritt 1 Gebiet und Produkt festlegen

Wählen Sie ein geographisches Gebiet sowie ein Basisprodukt

Suchen mit:


--- Bitte wählen --- 

Gewähltes Interessensgebiet:


 Rechteck grafisch
Bedeckte Fläche: 138,8017 km²

Basisprodukt wählen:

Dig. Landschaftsmodell u. DG 

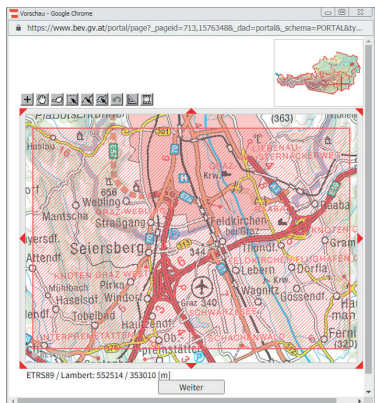
- DLM Verkehr 
- DGM Höhenraster
- DGM Höhenschichtlinien
- DGM Struktur- und Formenlinien
- DLM Bauten
- DLM Bodenbedeckung
- DLM Gebietsnutzung
- DLM Gewässer
- DLM Verkehr**
- DOM Oberflächenmodell

Gewähltes Basisprodukt:

 DLM Verkehr

Vorschau

Weiter



Select product:

BEV Shop Plus

Schritt 2
Ausgabeoptionen festlegen

Gewähltes Gebiet: Rechteck grafisch
Bedeckte Fläche: 138,8017 km²

Gewähltes Basisprodukt: DLM Verkehr

Inhalte:

- Straße
- Bauten
- Bahn
- Lift
- Liftstation
- Produktinformation

Abgabeinformationen:

Abgabemedium:

Digitale Formate:

Lieferung:

Qualitätsinformationen:

Koordinatensystem:

Abgabeeinheit:

Blattschnitt:

Sonstige:

Interne Nutzung:

Konfigurationsstatus: Die Kombination Ihrer Auswahl ist möglich!

Obige Abfrage speichern: Speichern der Abfragedaten für Benutzung als Vorlage oder zur Wiederholung der Abfrage.

Name:

Search result:

Suchergebnisse für das aktuelle Gebiet:

Anzahl gefundene: 1

Angezeigte Seite: 1 von 1, 10 Produkte pro Seite

| Produkt | Datum | Verfügbar | Größe | Funktionen | Stk | Preis |
|--|-------|-----------|--------|--|-----|-------|
| <input checked="" type="checkbox"/> 1 DLM Verkehr Blattschnittfrei | | JA | 0,3 MB | WK Meta Hist | 1 | 21,64 |

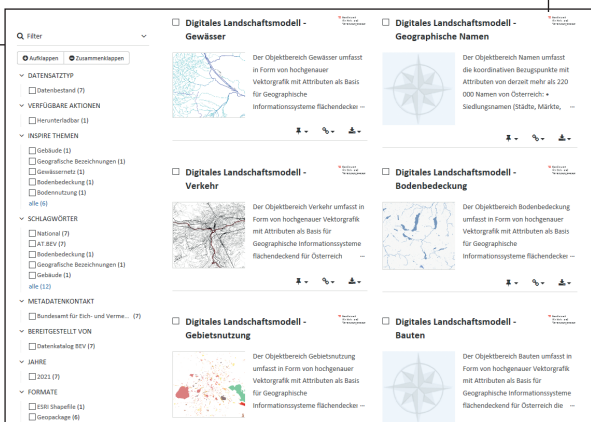
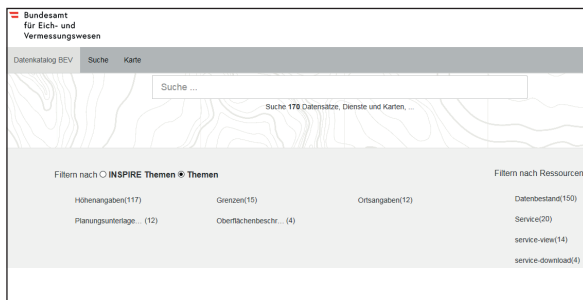
Kommentar:

Verfügbare Produkte bis .

Products free-of-charge – BEV Geoportal

For products free-of-charge of the DLM see download link data.bev.gv.at:

-> Datenkatalog BEV



Standard Charges

Object Range Traffic

| Object Groups | Price in € per km ² |
|----------------------|--------------------------------|
| Street | 0,120 |
| Buildings | 0,012 |
| Train | 0,012 |
| Ski lift | 0,012 |
| Ski lift station | 0,006 |

Object Range Buildings

| Object Groups | Price in € per km ² |
|----------------------|--------------------------------|
| Municipal facilities | 0,012 |
| Operating facilities | 0,012 |
| Culture | 0,012 |
| Leisure | 0,012 |
| Miscellaneous | 0,002 |
| Civil protection | 0,002 |
| Energy supply | 0,002 |
| Power pole | 0,002 |

Object Range Land Use

| Object Groups | Price in € per km ² |
|----------------------|--------------------------------|
| Civil protection | 0,002 |
| Leisure | 0,006 |
| Traffic | 0,006 |
| Operating facilities | 0,002 |

Object Range Hydrography

| Object Groups | Price in € per km ² |
|-------------------------------|--------------------------------|
| Flowing | 0,012 |
| Supply | 0,002 |
| Buildings (point information) | 0,006 |
| Buildings | 0,002 |

Object Range Land Cover

| Object Groups | Price in € per km ² |
|---------------|--------------------------------|
| Water | 0,006 |

Object Range Names

| Object Groups | Price in € per km ² |
|---------------|--------------------------------|
| Settlement | unentgeltlich |
| Area | unentgeltlich |
| Mountain | unentgeltlich |
| Glacier | unentgeltlich |
| Hydrography | unentgeltlich |
| Field | unentgeltlich |

Stand: March 2022

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Terms and Licensing Conditions

The price and licensing conditions for the products of the BEV are regulated in the “Standard Charges and Licensing conditions of the BEV“. The current version is published in the “Amtsblatt für Vermessungswesen“ (official journal for surveying) and can be found on bev.gv.at.

Contact

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Mon - Fri 8:00 to 12:00

