



# CELINE JANSEN

## A CHANGE OF VIEW:

Usable interface design  
propositions for geoportals.



*Dr. ir. B. van Loenen*  
*Dr.ir. F.M. Welle Donker*





route

[SEARCH](#)

## DATA CATALOGUE

### SEARCH RESULTS.

[3 DATASET\(S\)](#)**NTA - PUBLIC TRANSPORT**

Feature Service showing public transport routes and stops in Ireland as published by the National Transport Authority through <https://data.gov.ie/data>. Services included are Bus Éireann, Dublin Bus & Ntelink, Luas, and Irish Rail. Some layers only display at certain zoom scales. Data published by the National Transport Authority has been provided by various transport operators across Ireland. The contents of this dataset reflects the public transport stops and routes dated from Oct 1st 2015.

[ENDPOINT](#)**ROUTE PROTECTION CORRIDORS, CORK COUNTY COUNCIL**

The key national roads infrastructure projects are listed in Objective TM3-1 of the Cork County Development Plan 2014. Many of these are focussed on improving accessibility in and around the Gateways and Hubs designated in the National Spatial Strategy.

The Council, in consultation with the National Roads Authority, will protect proposed national road route corridors where the route selection process has been completed/approved and where preferred route corridors have been identified. For more information on this dataset please contact the data provider here.

#### NATURE AND ENVIRONMENT.

- [Agriculture](#)
- [Environment, Conservation and Heritage](#)
- [Geology](#)
- [Hydrography](#)

#### POPULATION AND ECONOMY.

- [Census 2016 Open Data](#)
- [Education](#)
- [Health](#)
- [Planning and Development](#)
- [Population Statistics](#)
- [Public/Government Services](#)
- [Transport](#)





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**MYGDX VIEWER**

## Search

Results 1-10 of 11 record(s)

[1](#)[2](#)[>](#)[Last](#) Records shown from: This Site[Click here to select different site or configure search.](#)

### Additional Options

[Clear](#)

### WHERE

 Anywhere  Intersecting  Fully within [Expand results](#) [Zoom To Results](#) [Zoom To Searched Area](#) [PSP CABLE ROUTE LINE](#) [COLLECTION ROUTE LINE](#) [TP TRUNK ROUTE](#) [WATER ROUTE LINE](#) [TRANSPORTATION ROUTE LINE](#) [TP JUNCTION ROUTE](#) [PETRONAS PIPELINE FOR SABAH AND SARAWAK GAS PIPELINE ROUTE \(SSGP\) - FROM SABAH TO SARAWAK](#) [PETRONAS ONSHORE GAS PIPELINE KILOMETER POST \(KP\) FOR PENINSULAR MALAYSIA GAS PIPELINE UTILIZATION ROUTE.](#) [CADASTRAL LOT FOR PETRONAS GAS BERHAD \(PGB\) LANDS](#) [SGDC MELAKA - LALUAN AIR 2010 \(POLYLINE\)](#)

See results through REST

API: [GEORSS](#) [ATOM](#) [HTML](#) [FRAGMENT](#) [KML](#) [JSON](#) [CSV](#)

Like



Share

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<http://www.geohive.ie/>

The screenshot shows the homepage of the GeoHive website. At the top, there's a navigation bar with links for HOME, ABOUT, MAKE YOUR MAP, GALLERY, CATALOGUE, HELP, and NIMA USER. Below this is a search bar with a 'route' placeholder and a 'SEARCH' button. The main content area has a title 'DATA CATALOGUE' and a sub-section 'SEARCH RESULTS.' which says '3 DATASETS'. There are two preview images: one for 'NTA - PUBLIC TRANSPORT' showing a purple network on a map, and another for 'ROUTE PROTECTION CORRIDORE, CORK COUNTY COUNCIL' showing a green network on a map. On the left sidebar, there are two sections: 'NATURE AND ENVIRONMENT' (listing Agriculture, Environment, Conservation and Heritage, Geology, and Hydrography) and 'POPULATION AND ECONOMY' (listing Census 2016 Open Data, Education, Health, Planning and Development, Population Statistics, Public/Government Services, and Transport). A note at the bottom states: 'Feature Service showing public transport routes and stops in Ireland as published by the National Transport Authority through https://data.gov.ie/datasets. Services included are Bus Éireann, Dublin Bus & Luas, and National Transport Authority. The data is provided by the National Transport Authority. The National Transport Authority has been provided by various transport operators across Ireland. The contents of this dataset reflects the public transport stops and routes dated from Oct 1st 2015.'

<http://mygdix.mygeoportal.gov.my/>

The screenshot shows the MYGDIX Explorer website. At the top, there's a navigation bar with links for HOME, SEARCH, BROWSE, MyGeoportal, Login, Register, Video Tutorials, User Manual, About, and Feedback. Below this is a search bar with a 'route' placeholder and a 'Search' button. The main content area has a title 'Search' and a note: 'Results 1-10 of 11 record(s) 1 2 3 4 5'. It includes a 'Records shown from: This Site' link and a 'Click here to select different site or configure search.' link. There are several search filters: 'Additional Options' (set to 'Near'), 'Search' (radio button selected), and 'Intersecting' (radio button). Below these are two radio buttons: 'Anywhere' (selected) and 'Fully within'. A list of 11 records is displayed, each with a small icon and a link: 'PSP CABLE ROUTE LINE', 'COLLECTION ROUTE LINE', 'TP TRUNK ROUTE', 'WATER ROUTE LINE', 'TRANSMISSION ROUTE LINE', 'PFT JUNCTION ROUTE', 'PETRONAS PIPELINE FOR SARAWAK AND SABAH GAS PIPELINE ROUTE (SSGP) - FROM SARAWAK TO SARAWAK', 'PETRONAS ONSHORE GAS PIPELINE KILOMETER POST (KPM) FOR PENINSULAR MALAYSIA GAS PIPELINE UTILIZATION ROUTE.', 'CADASTRAL LOT FOR PETRONAS GAS BERHAD (PGB) LANDS', and 'SGC MELAKA - LALUAN AIR 2010 (POLYLINE)'. At the bottom, there are social sharing links for Like and Share, and a note: '50 people like this. Sign Up to see what your friends like.' The footer includes a 'Visits: 80005337' link.

A

B

← → C http://www.geoportail.lu/ 5

LE GOUVERNEMENT  
DU GRAND-DUCHÉ DE LUXEMBOURG

# LAYERS

Background layer Road map

MY LAYERS (1) CATALOG THEME: MAIN CHANGE

GEOGRAPHICAL LOCATION

POINTS OF INTEREST (EDITUS)

INFRASTRUCTURE AND COMMUNICATION

Buildings +

Transport networks -

Road Network

Road Names

Public Transport - Stops

Public Transport Network

Public transport network by operator +

Charge stations

CFL train stations

Park + Ride

Bike sharing

Bike sharing (live data)

National cycling paths

X LAYERS MY MAPS LEGENDS

Road Network

Name Layer infrastructure - road data

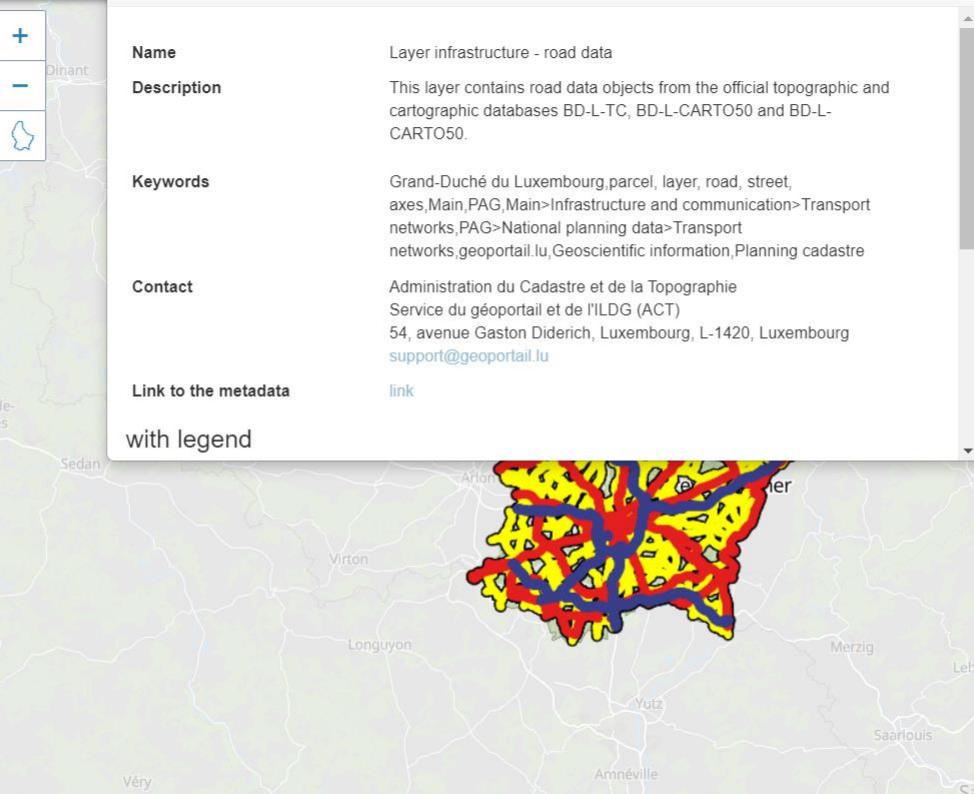
Description This layer contains road data objects from the official topographic and cartographic databases BD-L-TC, BD-L-CARTO50 and BD-L-CARTO50.

Keywords Grand-Duché du Luxembourg,parcels,layer,road,street,axes,Main,PAG,Main>Infrastructure and communication>Transport networks,PAG>National planning data>Transport networks,geoportail.lu,Geoscientific information,Planning cadastral

Contact Administration du Cadastre et de la Topographie  
Service du géoportail et de l'ILDG (ACT)  
54, avenue Gaston Diderich, Luxembourg, L-1420, Luxembourg  
[support@geoportail.lu](mailto:support@geoportail.lu)

Link to the metadata [link](#)

with legend



MAIN GLOBE PERSON

3D

DRAW MEASURE PRINT SHARE

GOCATALOGUE FEEDBACK ABOUT US HELP CONTACT T & C ACT

← → C https://nationalmap.gov.au/ 6

NATIONAL MAP Australian Government

Search for locations

Add Data

DATA SETS [1] Remove All

Roads

Zoom To Extent About This Data Split Remove

Opacity: 60 %

All Roads

- Major Road Network
- Dual Carriageway
- Principal Road
- Secondary Road
- Dual Carriageway
- Dual Carriageway
- Minor Road
- Vehicular Track

DATA CATALOGUE My Data

Search the catalogue

- Statistical Boundaries
- Transport
  - Airfields
  - Bridges
  - Ferries
  - Key Freight Routes
  - Rail
- Roads
  - Foot Tracks
  - Road Bridges and Fords
  - Road Crossing Lines
  - Roads
    - Route Number Labels - National

DATA PREVIEW Remove from the map

OCEANIA

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Roads

Data Description

These data are best suited to graphical applications. These data may vary greatly in quality depending on the method of capture and digitising specifications in place at the time of capture. All features have been included from the 250K data capture. 250K Specification Description - Dual Carriageway - Divided Highway, Freeway, Tollway, or other road with a physical separation of carriageways via remnant land, significant carriageway height variation or constructed barrier preventing movement of vehicles between carriageways. Each carriageway has opposite directions of traffic flow but the same name and other common core attributes. Standard Road - A route for the movement of vehicles contained within a single carriageway. These roads have sufficient levels of maintenance (eg grading) or construction for two wheel drive access in normal weather conditions for the region. Traffic flow may be one or two way and vehicles are able to cross between traffic lanes.

Lat 11.03384°S Lon 95.46641°E Elev 0m 500 km

terria CESIUM ion

Disclaimer: NationalMap must not be used for navigation or precise spatial analysis • Data61 • CESIUM Data attribution

<http://www.geoportail.lu/>

The screenshot shows the Geoportail Luxembourg interface. On the left, there's a sidebar with 'LAYER' and 'CATALOG' sections, and a main area for 'INFRASTRUCTURE AND COMMUNICATION'. Under 'Road Network', detailed information is provided: Name (Layer infrastructure - road data), Description (This layer contains road data objects from the official topographic and cartographic databases BD-L-TC, BD-L-CART050 and BD-L-CART050), Keywords (Grand-Duché de Luxembourg-parcel, layer, road, street, eGéo, Map, PAGO, Main-infrastructure and communication, Transport networks, PAGO-National planning data, Transport networks, geoportail.lu, Geoscientific information Planning cadastre), Contact (Administration du Cadastre et de la Topographie, Service du géoportail et de l'IODO (ACT)), and Link to the metadata (http://geoportail.lu). Below this is a 'with legend' link. The right side features a map of Luxembourg with various road networks highlighted in different colors (red, blue, green) across the country. The map includes labels for towns like Luxembourg, Differdange, Esch-sur-Alzette, and Kirchberg, and regions like Luxembourg, Diekirch, Grevenmacher, Remich, Echternach, Clervaux, and Wiltz.

A

The screenshot shows the NationalMap Australia website's Data Catalogue interface. At the top, there is a search bar labeled "Search for locations" and a "Add Data" button. Below the search bar, a sidebar titled "DATA SETS [1]" shows a single entry: "Roads". The main content area is titled "Data Catalogue" and contains a search bar "Search the catalogue". A tree view on the left lists categories like "Statistical Boundaries", "Transport", and "Roads", with "Roads" expanded to show sub-categories such as "Major Road Network", "Dual Carriageway", and "Minor Road". To the right, a "DATA PREVIEW" section shows a map of Oceania with a highlighted area over Australia, labeled "Indian Ocean". Below the preview, a "Data Description" section provides details about the road data, mentioning its suitability for graphical applications and its quality depending on capture and digitising methods. It also describes the data as being suited for traffic management systems.

B



Search for map data



Menu

Geonorge ▶ Map Catalogue ▶ File download

# File download - order

Downloading files requires that you choose the area, format, and coordinate system for each data set.

Should multiple files be downloaded, common options can be made at the top. Individual choices can be made for each dataset.

Symbols indicate whether data from your selection is available.

If an area is not displayed in a public choice, it must be individually selected for the data sets to download.

## ▼ National roads database - road network for routing



Area

Hele landet ✕

Projection

EUREF89 UTM sone 33, 2d ✕

Format

FGDB 10.0 ✕

Select usergroup: \*

Navigation

Select purpose: \*

Knowledge and expertise ✕

Remove all

Order more

Download

This XML file does not appear to have any style information associated with it. The document tree is shown below.

```
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  <subtitle type="text" xml:lang="nl">Voorgedefinieerde dataset INSPIRE download service</subtitle>
  <link href="http://geodata.nationaalgeoregister.nl/nwbwegen/atom/nwbwegen_wegvakken.xml" rel="self" type="application/atom+xml" title="Dataset Feed" hreflang="nl"/>
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  ▼<author>
    <name>Servicedesk Data</name>
    <email>servicedesk-data@rws.nl</email>
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    <georss:polygon>50.6 3.1 50.6 7.3 53.7 7.3 53.7 3.1 50.6 3.1</georss:polygon>
  </entry>
</feed>
```

<http://www.geonorge.no/>

**GEONORGE** Search for map data

Geonorge • Map Catalogue • File download

## File download - order

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▼ National roads database - road network for routing

Area: Hele landet ▾ Projection: EUREF99 UTM sone 33, 2d ▾ Format: FGDB 10.0 ▾

Select usergroup: \* Navigation ▾ Select purpose: \* Knowledge and expertise ▾

Remove all Order more Download

A

<http://www.pdk.nl/>

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  <author>
    <name>Servicedesk Data nl</name>
    <email>servicedesk-data@nl.nl</email>
  </author>
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    <content type="application/x-compressed" href="http://geodata.nationalgeoregister.nl/nieuwegen/extract/nieuwegen.zip" length="129792088" />
    <georss:polygon>50.6 3.1 50.6 7.3 53.7 7.3 53.7 5.1 50.6 3.1</georss:polygon>
  </entry>
</feed>
```

B



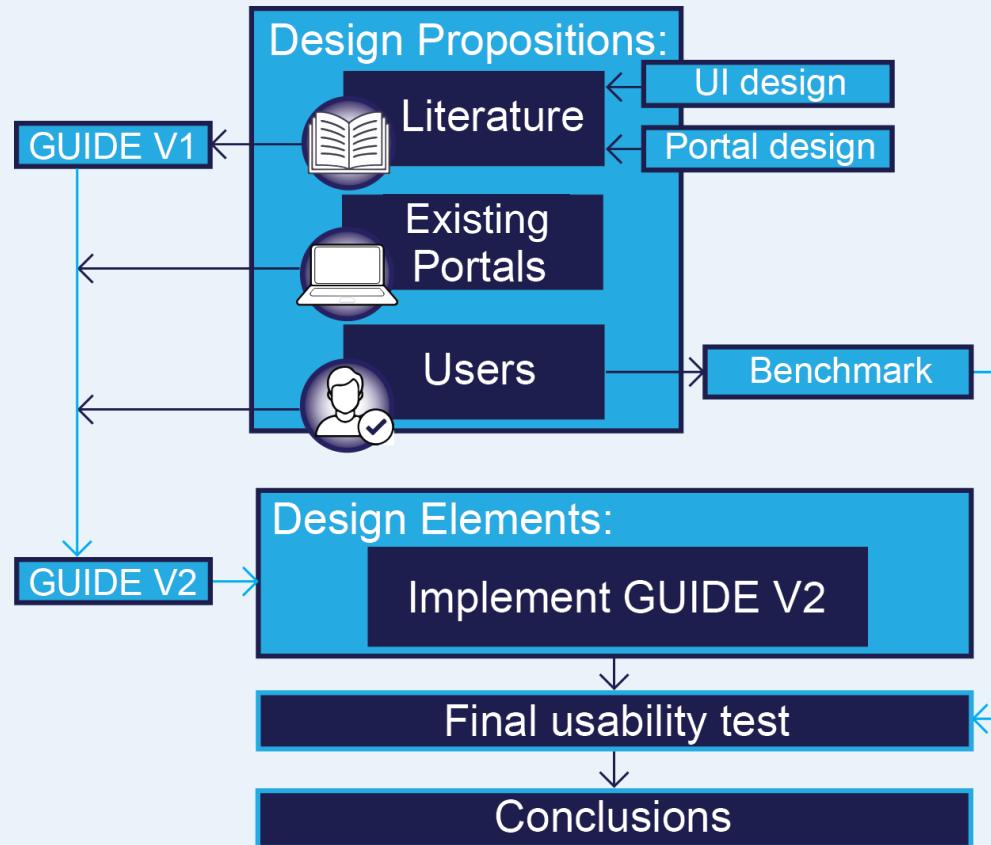
# CELINE JANSEN

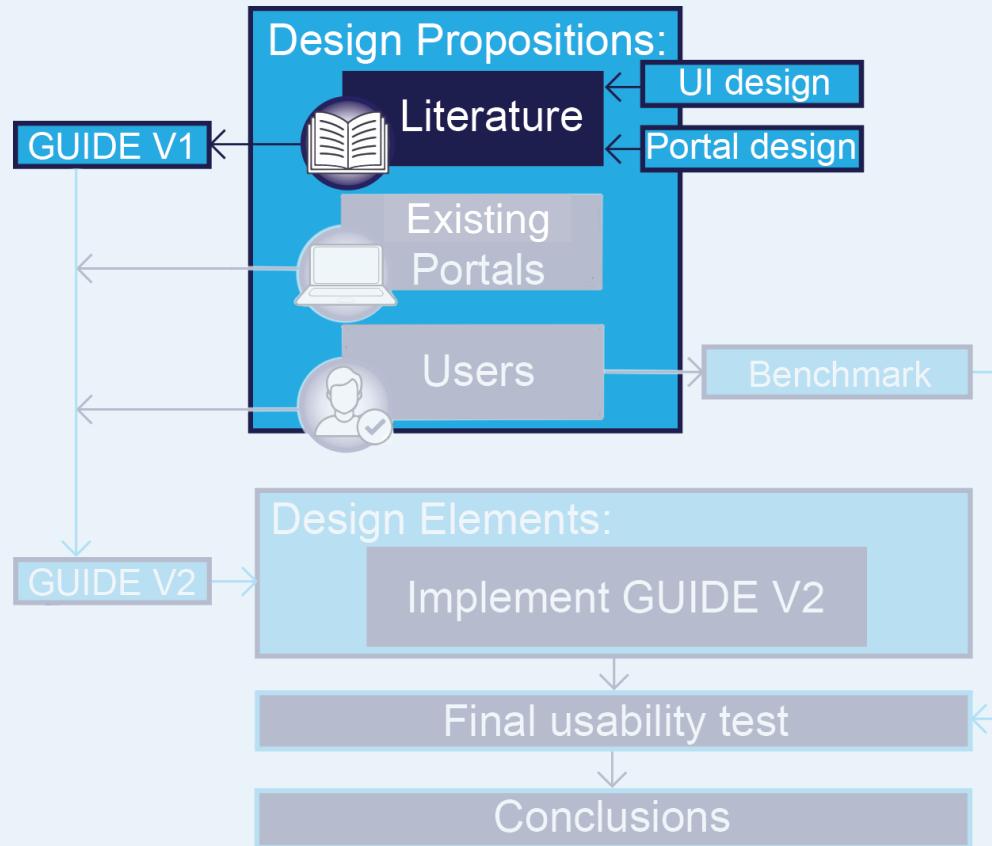
## A CHANGE OF VIEW:

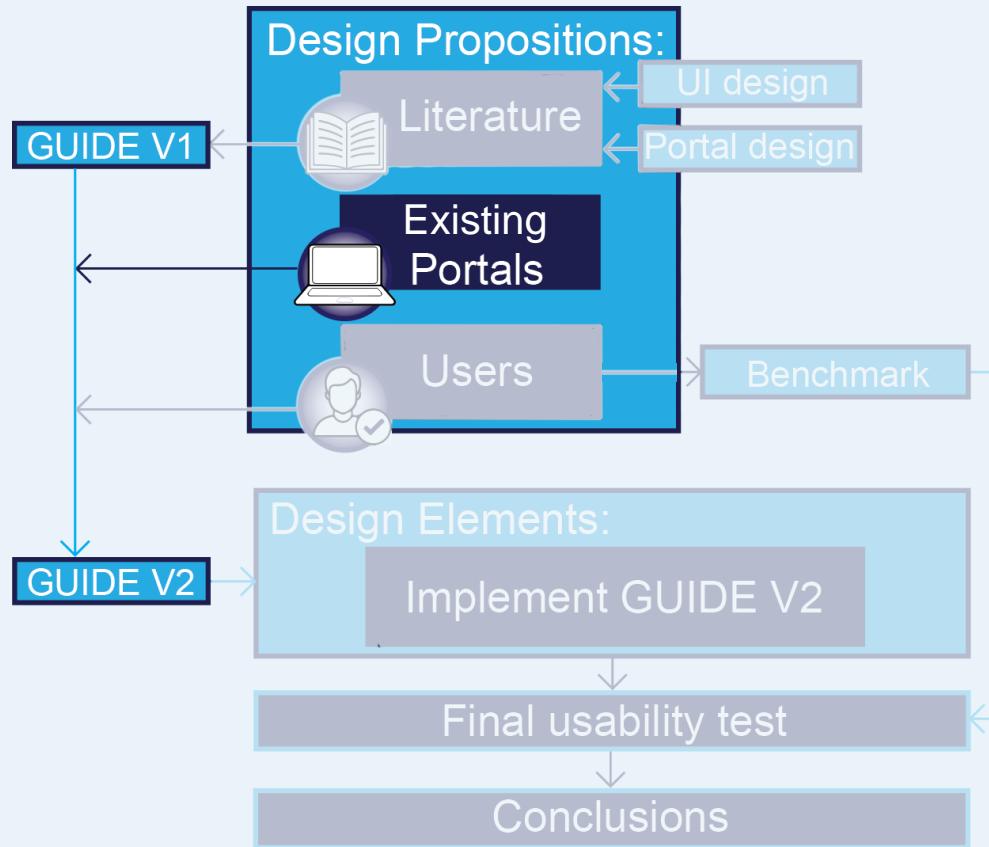
Usable interface design  
propositions for geoportals.

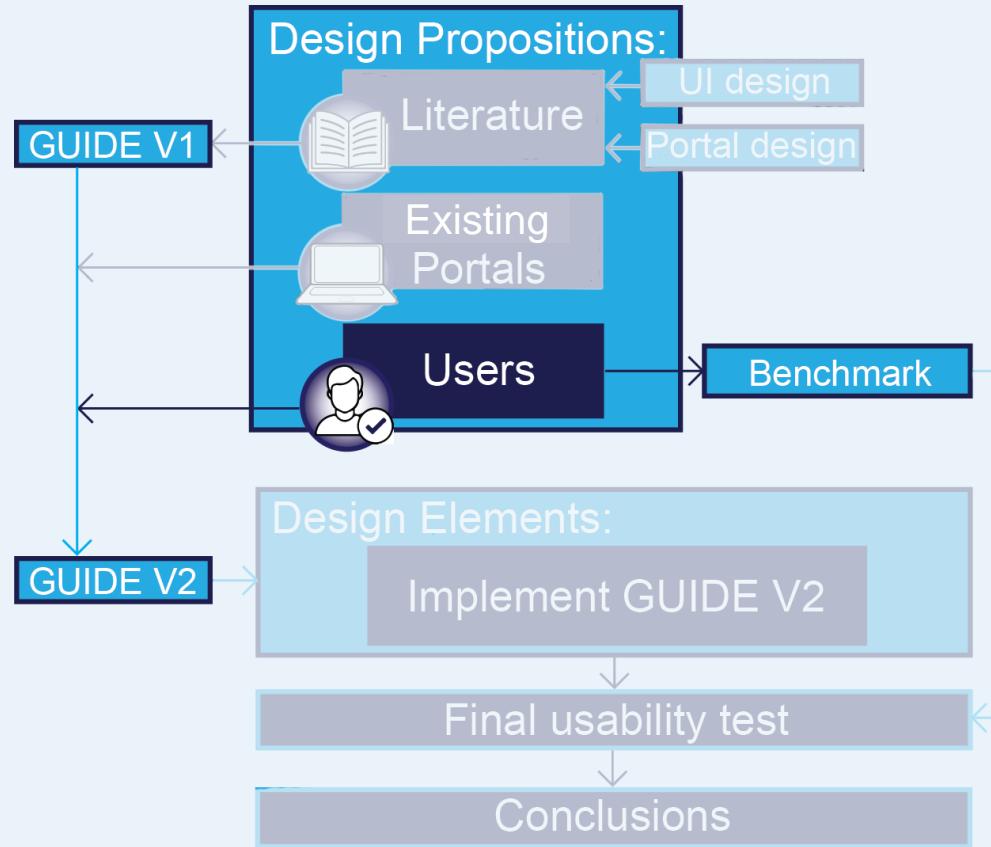


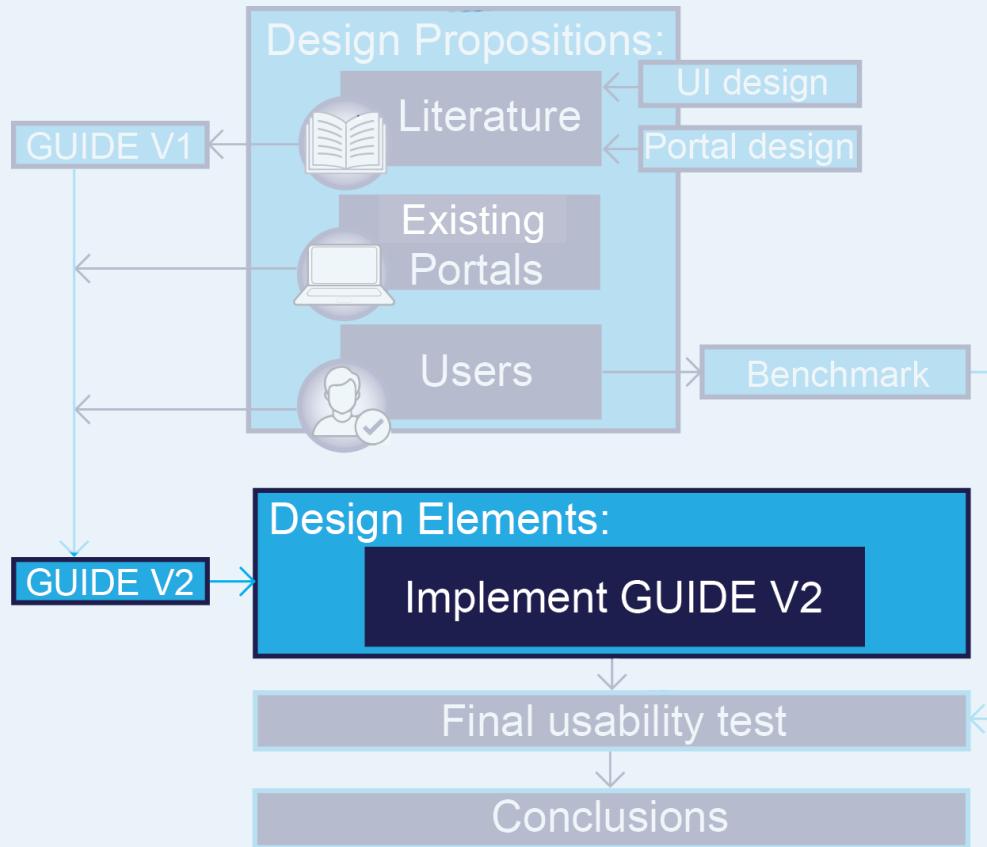
*Dr. ir. B. van Loenen*  
*Dr.ir. F.M. Welle Donker*

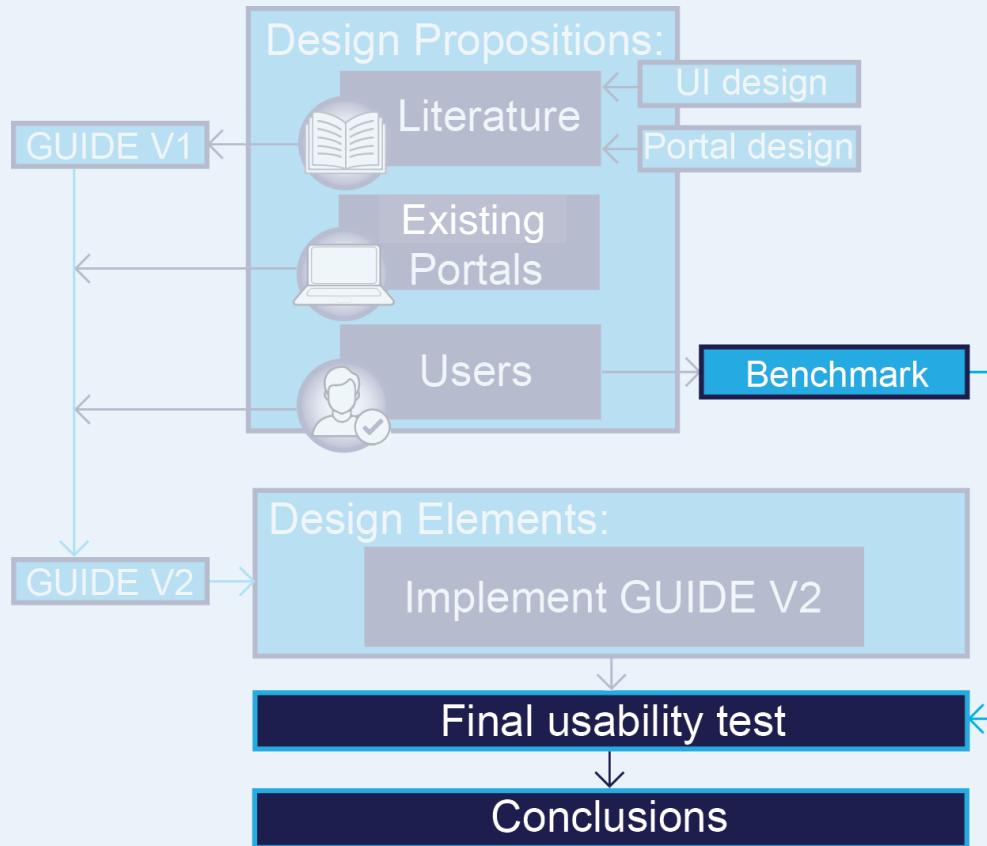














CP

Content presentation



SI

System interaction



M

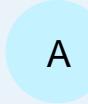
Metadata



Navigation



Search mechanisms



Access mechanisms



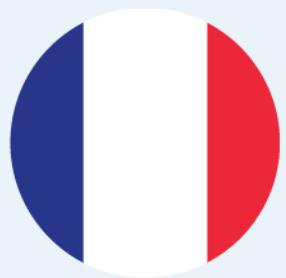
Communication mechanisms

H

Help mechanisms

C

Consistency





Search for map data and articles



Map catalog (6604)  
Articles (21)



[Geonorge](#) > Map Catalogue

# Kartkatalogen

▲ Type

- Dataset (5329)
- Dataset series (3)
- Service (556)
- Servicelayer (488)
- Application (228)

▼ Topic

▼ Organization

▼ Cooperation and laws

▼ Distribution form

▼ Area

## [Administrative units municipalities](#)

Dataset by [Norwegian Mapping Authority](#)



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## [Species of national priority](#)

Dataset by [Norwegian Environment Agency](#)



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## [Cultural heritage - Fire contagion area](#)

Dataset by [Directorate for Cultural Heritage](#)



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## [Corine Landcover 2012](#)

Dataset by [Norwegian Institute of Bioeconomy Research](#)



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Geonorge > Map Catalogue

# Kartkatalogen

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S

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Search for map data and articles

Map catalog (6604)  
Articles (21)

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Geonorge &gt; Map Catalogue

# Kartkatalogen

## ▲ Type

- Dataset (5329)
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- Service (556)
- Servicelayer (488)
- Application (228)

## ▼ Topic

## ▼ Organization

## ▼ Cooperation and laws

## ▼ Distribution form

## ▼ Area

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## [Corine Landcover 2012](#)

 Dataset by [Norwegian Institute of Bioeconomy Research](#)[Download](#)[Add to map](#)

← → C <https://www.GraduationCelineJansen4438205.com/> 15

LE GOUVERNEMENT  
DU GRAND-DUCHÉ DE LUXEMBOURG

# LAYERS

Background layer Road map ▾

MY LAYERS CATALOG

No layer selected

+ Add layers + Add external WM(T)S

Search addresses, parcels, layers ...

Durbuy, Ciney, Marche-en-Famenne, Dinant, Rochefort, Libramont-Chevigny, Neufchâteau, Bouillon, Sedan, Bastogne, Arlon, Virton, Longuyon, Aubange, Thionville, Hillesheim, Prüm, Gerolstein, Daun, Ulmen, Mayen, Münstermaifeld, Boppard, Nastätten, Cochem, Kastellaun, Simmern, Ingelheim, Bad Kreuznach, Idar-Oberstein, Trier, Morbach, Schweich, Speicher, Bitburg, Wittlich, Traben-Trarbach, Bernkastel-Kues, Kirschweiler, Hermeskeil, Saarburg, Merzig, Beckingen, Lebach, Ottweiler, Ramstein-Miesenbach, Landstuhl, Kaiserslautern, Eisenach, Homburg, Dirmstein, Annweiler am Trifels.

1 : 750'000 ▾ 20 km Lon/Lat WGS84 ▾ 6.09215 E | 50.05606 N Elevation: 427.06 m

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LAYERS MY MAPS INFO LEGENDS ROUTING DRAW MEASURE PRINT SHARE

MAIN KOBLENZ

3D

DE

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← → C <https://www.GraduationCelineJansen4438205.com/> 15

LE GOUVERNEMENT  
DU GRAND-DUCHÉ DE LUXEMBOURG

LAYERS X

Background layer Road map ▾

MY LAYERS CATALOG

No layer selected

+ Add layers + Add external WM(T)S

S

Search addresses, parcels, layers ...

Durbuy Ciney Marche-en-Famenne Dinant Rochefort Bastogne Libramont-Chevigny Neufchâteau Bouillon Sedan Virton Longuyon Arlon Aubange Gapellen Esch-sur-Alzette Remich Grevenmacher Luxembourg Diekirch Echternach Mersch Wiltz Vianden Redange Clervaux Hillesheim Prüm Gerolstein Daun Ulmen Mayen Münstermaifeld Boppard Nastätten Cochem Kastellaun Simmern Rheinböllen Ingelheim Bad Kreuznach Kirm Bad Sobernheim Idar-Oberstein Kirchheimboland Rockenhausen Eiser (Pf.) Trier Morbach Hermskell Hermeskeil Saarburg Beckingen Lebach Ottweiler Sankt Wendel Ramstein-Miesenbach Landstuhl Kaiserslautern Homburg

1 : 750'000 ▾ 20 km Lon/Lat WGS84 ▾ 6.09215 E | 50.05606 N Elevation: 427.06 m

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LAYERS MY MAPS INFO LEGENDS ROUTING DRAW MEASURE PRINT SHARE

MAIN KOBLENZ

3D

SHARE

Feedback ABOUT US HELP CONTACT T & C ACT

← → C <https://www.GraduationCelineJansen4438205.com/> 15

LE GOUVERNEMENT  
DU GRAND-DUCHÉ DE LUXEMBOURG

## LAYERS

Background layer Road map ▾

MY LAYERS CATALOG

No layer selected

+ Add layers + Add external WMTS

Search addresses, parcels, layers ...

Durbuy, Ciney, Marche-en-Famenne, Dinant, Rochefort, Bastogne, Libramont-Chevigny, Neufchâteau, Bouillon, Sedan, Virton, Longuyon, Arlon, Aubange, Gapellen, Esch-sur-Alzette, Remich, Luxembourg, Clervaux, Vianden, Diekirch, Redange, Mersch, Echternach, Grevenmacher, Sankt Vith, Hillesheim, Prüm, Gerolstein, Daun, Ulmen, Cochem, Kastellaun, Wittlich, Traben-Trarbach, Bernkastel-Kues, Bitburg, Speicher, Trier, Schweich, Morbach, Kirm, Bad Kreuznach, Idar-Oberstein, Ida-Kirche, Hermeskeil, Saarburg, Beckingen, Lebach, Merzig, Ottweiler, Ramstein-Miesenbach, Landstuhl, Kaiserslautern, Mayen, Münstermaifeld, Boppard, Nastätten, Simmern, Rheinböllen, Ingelheim, Bad Sobernheim, Rockenhausen, Kirchheimbolanden, Eisen (Pfalz), 3D, A

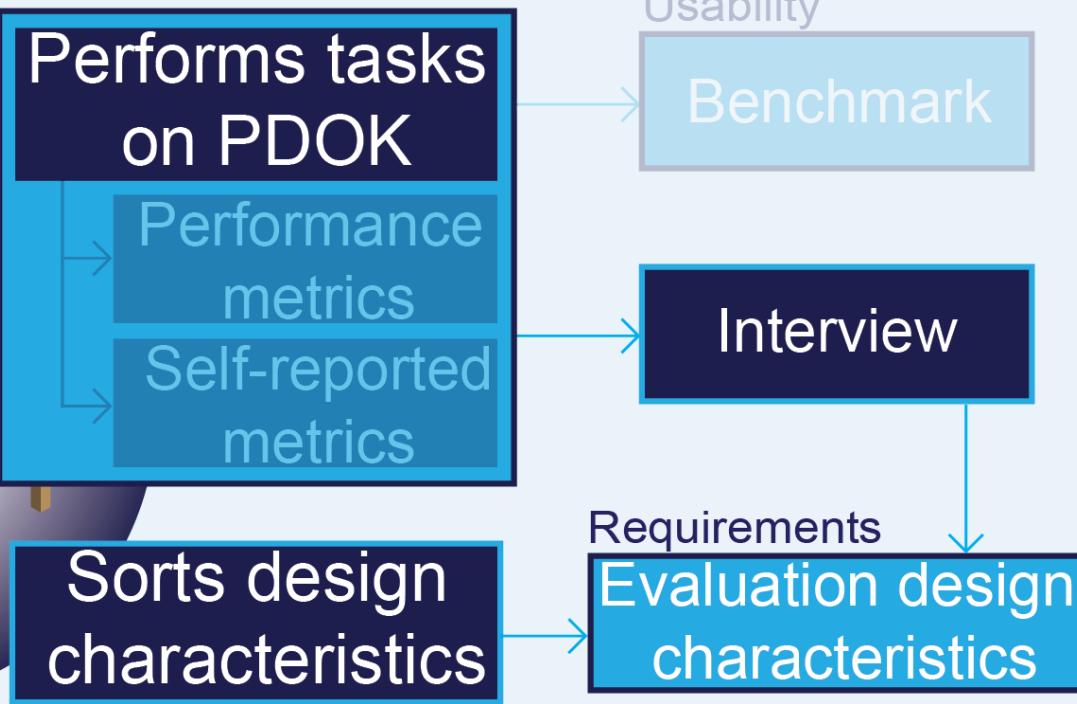
1:750'000 ▾ 20 km Lon/Lat WGS84 ▾ 6.09215 E | 50.05606 N Elevation: 427.06 m

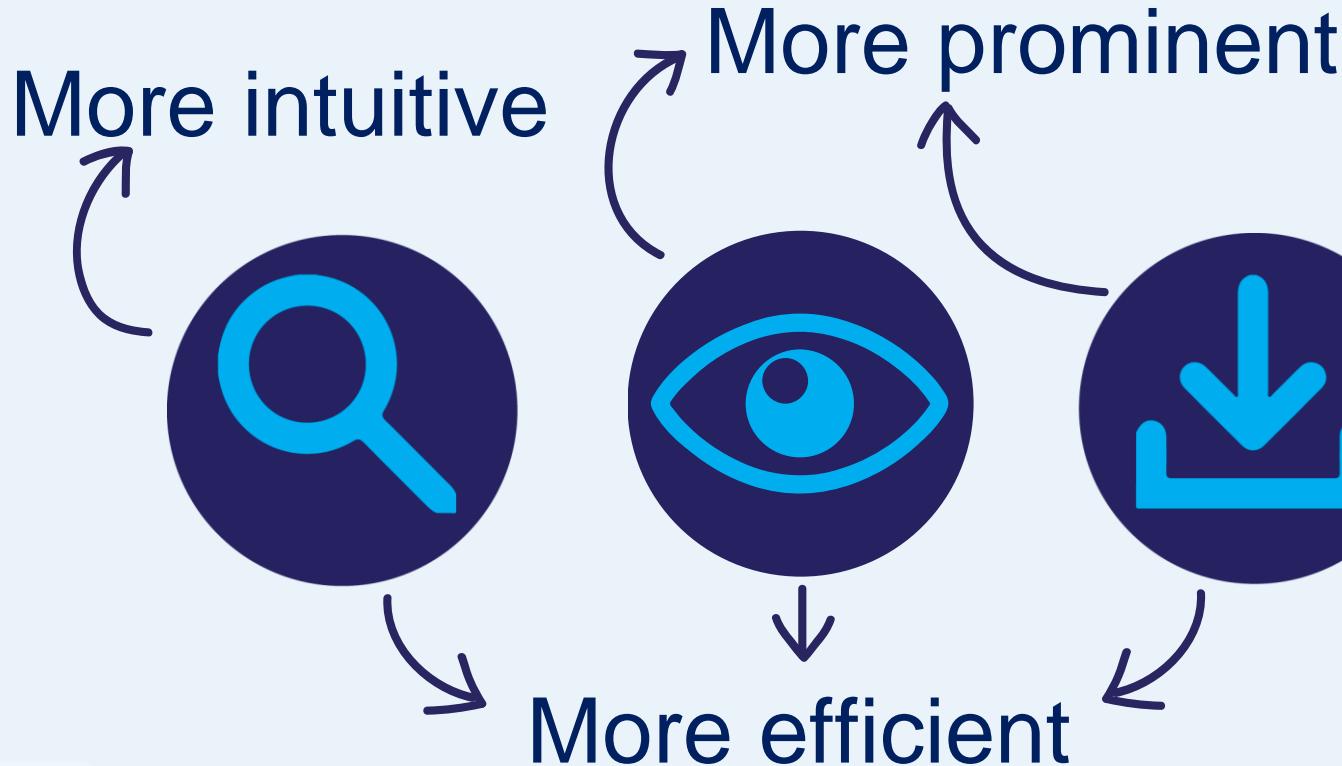
© CARTO © OpenStreetMap contributors for data outside of Luxembourg

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# USER





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BGT Standard

**PRODUCT SPECIFICATION**    **PRODUCT SHEET**    **WEBPAGE**

We think maps are awesome! And if you agree, you have come to the right place! On this amazing portal, you can search, assess and access all kinds of epic data.

Isn't that amazing? This specific dataset for example is all about topography, you might know what a topographic map is already... If not you can click [here](#) or [here](#).

To access the data from this page, you can click [here](#) for a download option, [here](#) for a different format, [here](#) for the WMTS service, [here](#) for the TMS service. We do not offer APIs at the moment, APIs are a wonderful thing. If you are interested in APIs you can click [here](#).



Every dataset on this portal has something called metadata. We do not list the metadata on this page but you can access all kinds of information by clicking the Product specification, Product sheet, or Webpage links on the top of this view. This dataset is put together with very much care and we are glad we can share it with you here on this portal ...

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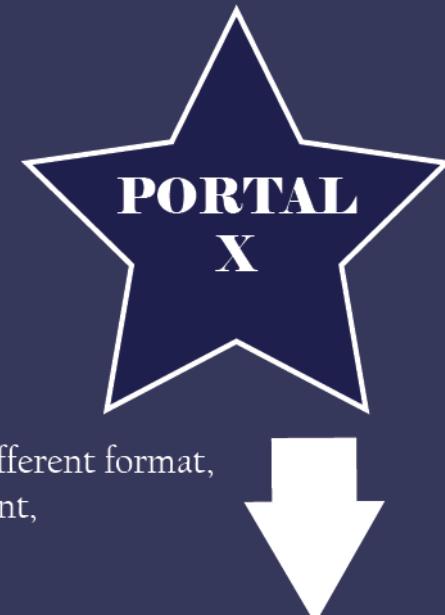
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## BGT - Standaard

Product specification   Product sheet   Webpage



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To access the data from this page, you can click here for a download option, here for a different format, here for the WMTS service, here for the TMS service. We do not offer APIs at the moment, APIs are a wonderful thing. If you are interested in APIs you can click here.



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Click to copy the Tile Map Service (TMS) URL. You can load this in GIS for an image representation of the BGT.

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Basisregistratie  
Grootschalige Topografie (BGT)

[Link WMTS](#)

More info:  
[BGT.nl](http://BGT.nl)

[Link TMS](#)[Download GML](#)



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Basisregistratie  
Grootschalige Topografie (BGT)

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## BGT - Standaard

Basisregistratie  
Grootschalige Topografie (BGT)



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## BGT - Standaard

Basisregistratie  
Grootschalige Topografie (BGT)

Displays the location of objects such as buildings, roads, water, and farm land.

**Most recent update:**  
01-01-2020

**Organisation:**  
Kadaster ([email@kadaster.nl](mailto:email@kadaster.nl))

**More info:**  
[BGT.nl](http://BGT.nl)

[BGT - Standaard](#)[BGT - Omtrek](#)

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Use case examples

**BGT - Standaard**

basisregistratie  
Algemene Topografie (BGT)

The location of objects  
such as buildings, roads,  
water, and farm land.

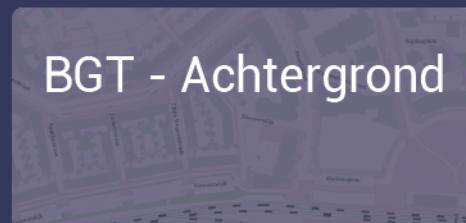
**Most recent update:**

01-01-2020

**Organisation:**  
Kadaster (email@kadaster.nl)

**More info:**  
[BGT.nl](http://BGT.nl)

BGT - Standaard



BGT - Omtrek





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**More info:**  
[BGT.nl](http://BGT.nl)

### BGT - Standaard



### BGT - Omtrek





Bekijk deze data in de viewer

[Link WMTS](#)

[Link WMS](#)

[Link WFS](#)

[Link TMS](#)

[API service pagina](#)

[Linked data](#)

## Basisregistratie Adressen en Gebouwen (BAG)



Gegevens van alle adressen en gebouwen in Nederland, zoals bouwjaar, oppervlakte, gebruiksdool en locatie op de kaart.

**Datum** (laatst geüpdatet): 20-03-2020

**Herzieningsfrequentie:** dagelijks

**Update geschiedenis:** [klik voor PDF](#)

**Contactgegevens data eigenaar**

**Naam:** Kadaster

**Email:** bag@kadaster.nl

**Website basisregistratie:**

[kadaster.nl/bag](#)

**Doel:** identificeren en aanduiden van

adresseerbare objecten en panden

**Objecten:** gebouwen; pand;

adresseerbare objecten: ligplaats,

standplaats, verblijfsobject; Adres:

woonplaats, nummeraanduiding,  
openbare ruimte ...

**Inwinning:** gemeentes zijn bronhouders

**Licentie:** CC-PD Mark 1.0

**Ruimtelijke dekking:**



**CRS:** RD –

EPSG:28992

**Schaal:** panden, ligplaatsen, standplaatsen en verblijfsobjecten vanaf 1:12000  
**Relatieve puntprecisie:**

**omtrek:** woonplaatsen, standplaatsen en ligplaatsen 60 cm, panden 30 cm ...

**Meer informatie en tools**

**Data model:** [klik om te bekijken](#)

**Data Catalogus:** [klik voor PDF](#)

**Direct data in GIS?** Naar de QGIS plugin

**BAG Viewer:** [naar de BAG viewer](#)

**Volledige metadata:** [naar NGR](#)

Basisregistratie Adressen en Gebouwen (BAG)

Kadaster

20 maart 2020

WMS, WFS, WMTS, TMS, RESTful API, Linked Data

**BGT Standaard**

Basisregistratie Grootschalige Topografie (BGT)

Kadaster

18 maart 2020

WMPS, TMS, Download

**BGT Achtergrond**

Basisregistratie Grootschalige Topografie (BGT)

Kadaster

18 maart 2020

WMPS, TMS

**BGT Omtrekgericht**

Basisregistratie Grootschalige Topografie (BGT)

Kadaster

[Support](#) ▾[Kaart Viewer](#)[Dataset Catalogus](#)

**Welkom op PDOK**

Wij zijn hét platform voor hoogwaardige, open geo datasets!

Zoek een dataset...

Ga naar de viewer



1:1.617.453

30 km

Cursor coördinaten lat 52.50172 : lng 9.16337



|

KRW - Oppervlaktewaterlichamen Lijnen  
Kaderrichtlijn Water  
Meer opties en informatie ▼

KRW - Oppervlaktewaterlichamen Vlakken  
Kaderrichtlijn Water  
Meer opties en informatie ▼

Noordzeeaarwegmarkeringen vast  
Meer opties en informatie ▼

### Currently active layer(s)

- BRT-A Achtergrondkaart standaard  
Basistratieve Topografie (BRT)

Opacity:  To front:  To back:

: No legend information

### More information and access:

→ Go to the dataset page of the BRT



# USER



Usability

Benchmark

Interview

Requirements

Evaluation design  
characteristics





Does the user-friendliness of the mock-up exceed the benchmark?





Does the user-friendliness of the mock-up exceed the benchmark?







# ONE-SIZE FITS NONE



ONE-SIZE FITS NONE

MOST ↗



<https://www.GraduationCelineJansen4438205.com/>

**Basisregistratie Adressen en Gebouwen (BAG)**

Gegevens van alle adressen en gebouwen in Nederland, zoals bouwjaar, oppervlakte, gebruiksoel en locatie op de kaart.

Datum (laatst geüpdate): 20-03-2020  
Herzieningsfrequentie: dagelijks  
Update geschiedenis: klik voor PDF

**Contactgegevens data eigenaar**  
Naam: Kadaster  
Email: bag@kadaster.nl

**Website basisregistratie**  
kadaster.nl/bag

**Ruimtelijke dekking**  
CRS: RD – EPSG:28992  
Schaal: panden, ligplaatsen, adressen en verblifobjecten vanaf 1:12000  
Relatieve hoogtegraad: puntsgenauigheid  
omtrek: woonplaatsen, woonplaatsen en ligplaatsen 60 cm, panden 30 cm ...

**Meer informatie en tools**  
Data model: klik om te bekijken  
Data download: klik voor PDF  
Direct data in GIST: voor de QGIS plugin BAG Viewer  
Volledige metadata: naar NGR

**BGT Achtergrond**  
Basisregistratie Grootchalige Topografie (BGT)  
Kadaster  
18 maart 2020  
WMTS,TMS,Download

**BGT Omtrekgericht**  
Basisregistratie Grootchalige Topografie (BGT)  
Kadaster

**Gebruiksoel:**  
Inwinning: gemeentes zijn bronhouders  
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Link WMS | i  
Link WFS | i  
Link TMS | i  
API service pagina | i  
Linked data | i

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<http://www.geohive.ie/>

**GeoHive**

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Zoek een dataset...

**Basisregistratie Adressen en Gebouwen (BAG)**

T Kadaster  
20-03-2020  
WMS, WFS, WMSTS, TMS, RESTful API, Linked Data

**NATURE AND ENVIRONMENT**  
Agriculture  
Environment, Conservation and Heritage  
Geology  
Hydrography

**POPULATION AND ECONOMY**  
Census 2016 Open Data  
Education  
Health  
Planning and Development  
Population Statistics  
Public/Government Services  
Transport

**ROUTE PROTECTION CORRIDORS, CORK COUNTY COUNCIL**  
The key national roads infrastructure projects are listed in Objective TM-4 of the Cork County Development Plan 2014-2020. These are focused on the major road network in and around the Cork area, and have been informed by the National Spatial Strategy.  
The Council, in consultation with the National Roads Authority, will protect proposed national road route corridors where the route selection process has been completed/approved and where preferred route corridors have been identified. For more information on this dataset please contact the data provider here.

route  SEARCH

DATA CATALOGUE

SEARCH RESULTS  DATASETS

**NTA - PUBLIC TRANSPORT**  
  
Feature Service showing public transport routes and stops in Ireland as published by the National Transport Authority through <https://data.gov.ie/data>. Services included are Bus Éireann, Dublin Bus & National Express. The data is provided under the Open Government Licence Version 3.0. The data published by the National Transport Authority has been provided by various transport operators across Ireland. The contents of this dataset reflects the public transport stops and routes dated from Oct 1st 2015.

ENDPOINT

B



# CELINE JANSEN

## A CHANGE OF VIEW:

Usable interface design  
propositions for geoportals.



*Dr. ir. B. van Loenen*  
*Dr.ir. F.M. Welle Donker*

# ANNEX

Content presentation	Score
Colour harmony: aesthetically pleasing colour combinations	CP1 Yes (2) / No (0)
Distribute content in a balanced way: balance around the optical centre, golden section ratio, or rule of thirds	CP2 Yes (3) if at least one is used, else (0)
Ergonomics & legibility (WCAG 2.1 compliant): <ul style="list-style-type: none"><li>• Communication should not solely rely on colour</li><li>• Equivalent text for non-tekst elements</li><li>• Large button (44 by 44 CSS pixels), icon &amp; text size (14 point bold)</li><li>• No animations without confirmative user action</li><li>• Readable maps (for example through full-screen availability)</li><li>• Sans-serif font</li><li>• Strong contrast back / foreground (7:1)</li></ul>	CP3 <ul style="list-style-type: none"><li>• Yes (0.25) / No (0)</li><li>• Yes (0.25) / No (0)</li><li>• Yes (0.5) / No (0)</li></ul>
Increase “scannability” of the content: <ul style="list-style-type: none"><li>• Conveying a visual hierarchy using: (contrasting) colours, contours, fonts (spacing, size, boldness), Gestalt laws, intensity, location, markers (e.g. arrows), shape, size</li><li>• Present content as indented lists or tables instead of linear text</li><li>• Prevent scrolling (use collapsibles, in case scrolling is required, it is possible to show what is captured on a page with an index)</li><li>• Simple presentation &amp; visualization (no cluttering):<ul style="list-style-type: none"><li>- Avoid long texts: use collapsible if necessary</li><li>- Incorporate graphics</li><li>- Fitts' presentation in a grid: minimise the number of text rows &amp; columns</li><li>- Only show essentials</li><li>- White space</li></ul></li></ul>	CP4 <ul style="list-style-type: none"><li>• Yes (1), if at least two are used, if one is used (0.5), else (0)</li><li>• Yes (1) / No (0)</li><li>• Advisable (0)</li><li>• Yes (1) / No (0)</li></ul>
Support flexible background maps (including a white background)	CP5 Yes (2) / No (0)
Visualise data (e.g. previews)	CP6 Yes (3) / No (0)

System interaction (SI)	Score
<p>Error handling &amp; preventing:</p> <ul style="list-style-type: none"><li>• Easy reversal of actions ((de)activating layers)</li><li>• Informative error messages: show how to fix the problem (feedback if a search keyword does not lead to any hits)</li><li>• Limit (redundant) user actions or entry (check box vs string input, test user input immediately rather than at task completion)</li><li>• Provide warnings (prompt to postpone interruptions, be clear about redirections from the portal, and warn for long download times)</li></ul>	<ul style="list-style-type: none"><li>• Yes (1) / No (0)</li><li>• Yes (1) / No (0)</li><li>• Yes (0.5) / No (0)</li><li>• Yes (0.5) / No (0)</li></ul>
<p>Responsiveness &amp; system status visibility (system feedback on actions):</p> <ul style="list-style-type: none"><li>• Show state of the interface (differentiate active icons, change the cursor in different modes, show active datasets in the viewer)</li><li>• Provide progress indicators and yield closure (dialogue messages, progress bar, or other visible indicators)</li><li>• Display the active search criteria</li></ul>	<ul style="list-style-type: none"><li>• Yes (1) if at least two are used, (-0.25) for each not used until (0)</li><li>• Yes (1) if at least one is used, else (0)</li><li>• Yes (1) / No (0)</li></ul>
<p>Use of relatable semantics (correspondence to mental model):</p> <ul style="list-style-type: none"><li>• Buttons &amp; symbols should be clear (unambiguous, simple to interpret) &amp; recognisable (universal or standardised, expected location)</li><li>• Linguistic clarity: avoid acronyms and unfamiliar jargon, multi-linguality (at least English / Google translate options)</li><li>• Relatable, standardised (map) controls and procedures: actions lead to expected results (e.g. Google maps, conventional web search engines)</li></ul>	<ul style="list-style-type: none"><li>• Yes (1) / No (0)</li><li>• Yes (1) / No (0)</li><li>• Yes (1) / No (0)</li></ul>

Navigation (N)	Score
<p>Provide direct ways to do a task (allow shortcuts):</p> <ul style="list-style-type: none"><li>Include most important (most used) pages to the menu bar: (for portals this are the map viewer and the catalogue page)</li><li>Link to a dataset landing page from the viewer and catalogue page</li><li>Link to view datasets from the catalogue and dataset landing page</li><li>Search bar prominently visible on all pages (incl. map viewer)</li></ul>	<ul style="list-style-type: none"><li>Yes (0.5) / No (0)</li><li>Yes (0.5) / No (0)</li><li>Yes (0.5) / No (0)</li><li>Yes (0.5) / No (0)</li></ul>
<p>Provide sufficient navigational aids:</p> <ul style="list-style-type: none"><li>Breadcrumbs: show current page position related to full sitemap to show previous steps in the interaction and to provide options to go back, including a prominent “home” button and a sitemap</li><li>If scrolling is required: show the content of the page with an index, show menu bar and / or utility links regardless of scrolling, and provide an option to go back from the bottom to the top of the page</li><li>Prevent dead ends (prevent 404 errors, provide options to go back)</li><li>Show utility links at the bottom of each page, if these are not already visible elsewhere on the page: about page, accessibility (WCAG compliance), catalogue page, contact information, privacy and cookies, related (governmental) portals, sitemap, support / help pages, update service, usage policy, viewer page (Optional: audience-oriented sections, community, different language options, home page, information regarding \ac{inspire} or open data, inspiration gallery, news, popular portal elements such as services, tools, or specific types of data, producers, themes)</li></ul>	<ul style="list-style-type: none"><li>Yes (1) / No (0)</li><li>Possible (0)</li><li>Yes (1) / No (0)</li><li>Yes (1), if all these are available, else (-0.25) for each missing link until (0) Optional (0), (-0.25) for each additional link over 13 until (0)</li></ul>

Search (S)	Scores
Allow keyword searches for: <ul style="list-style-type: none"><li>• (Meta)data in both viewer and catalogue</li><li>• Location (address, coordinates) in both viewer and catalogue</li><li>• Portal functionalities</li></ul>	<ul style="list-style-type: none"><li>• Yes (2) / No (0)</li><li>• Yes (1) / No (0)</li><li>• Possible (0)</li></ul> <span>s1</span>
Different (meta)data search possibilities: <ul style="list-style-type: none"><li>• Keywords (free text)</li><li>• Map search (visually supported search)</li><li>• Themes</li></ul>	<ul style="list-style-type: none"><li>• Yes (2) / No (0)</li><li>• Yes (0.5) / No (0)</li><li>• Yes (0.5) / No (0)</li></ul> <span>s2</span>
Suggestion functionality (more flexible & intuitive search): <ul style="list-style-type: none"><li>• Auto-completion of the search keyword</li><li>• Handling synonyms</li><li>• Handling typos ("did-you-mean" suggestions)</li></ul>	<ul style="list-style-type: none"><li>• Yes (0.5) / No (0)</li><li>• Yes (0.75) / No (0)</li><li>• Yes (0.75) / No (0)</li></ul> <span>s3</span>
Filter results based on: <ul style="list-style-type: none"><li>• Access service type (download, API, geo-web service)</li><li>• Format (GML, SHP, CSV)</li><li>• License (accessibility)</li><li>• Location (regions of a country)</li><li>• Organisation (data owners)</li><li>• Spatial scope (country-wide, provinces, municipalities)</li><li>• Time range (update date, optional: publish or creation date)</li><li>• Optional: depth, scale, metadata language, cooperation and laws</li></ul>	Yes (2) if all non-optional filters are available, else (-0.25) for each missing filter until (0)  Possible (0) <span>s4</span>
Sort results based on: <ul style="list-style-type: none"><li>• Alphabetical order</li><li>• Popularity: number of downloads or views, or ratings</li><li>• Relevance</li><li>• Scale</li><li>• Upload date (most recent)</li></ul>	<ul style="list-style-type: none"><li>• Yes (0.25) / No (0)</li><li>• Optional (0)</li><li>• Yes (0.5) / No (0)</li><li>• Possible (0)</li><li>• Yes (0.25) / No (0)</li></ul> <span>s5</span>

Access mechanisms	Scores
Provide data access: view service, downloads, (internationally standardised) APIs, geo-web services	Yes (3) if all available, else (-1) for each missing service until (0) A1
Provide (meta)data in various formats: <ul style="list-style-type: none"><li>• Metadata: machine-readable, proprietary, and human-readable formats</li><li>• Data: machine-readable, both non-proprietary and proprietary formats, and lightweight alternatives</li></ul>	• Yes (1) if both, if only one (0.5), else (0) • Yes (2) if all available, else (0.5) for each A2
Provide tools for data analysis and processing that allow: <ul style="list-style-type: none"><li>• Direct measurements in the map viewer (areas, azimuth, distances, height profiles, isochrones, routes)</li><li>• Clicking map features for more information</li><li>• Show coordinates of the mouse cursor (in applicable CRSs) and scale</li><li>• Conversion of the format of a dataset</li><li>• Combining data (overlaying layers (changing the transparency, send layer to the back or fore-ground), layer slider, uploading local layers)</li><li>• Drawing on the map (add placemarkers)</li><li>• Querying (selective area coverage or features)</li></ul>	• Yes (0.25) / No (0) • Yes (0.5) / No (0) • Yes (0.5) / No (0) • Optional (0) • Yes (0.25) / No (0) • Yes (0.25) / No (0) • Yes (0.25) / No (0) A3
Provide tools for system integration: <ul style="list-style-type: none"><li>• HTML code to embed the created map layers on a website</li><li>• Linked open data</li><li>• Plug-ins for GIS</li></ul>	If three are available (2), if two are available (1), if one is available (0.5), else (0) A4
Subscribe for updates of datasets or news via email, ATOM or RSS feed	Yes (2) if both, if one is available (1), else (0) A5
Allow users to register for an advanced user account: <ul style="list-style-type: none"><li>• Provide possibility for data and preference storage (bookmarking)</li><li>• User authentication</li></ul>	Optional (0), do not make registration mandatory
Minimise memory loading of the UI: <ul style="list-style-type: none"><li>• Minimise the size of graphics (thumbnail images for preview)</li><li>• Prevent redundancy</li></ul>	Advisable (0)

Communication mechanisms (CM)	Scores
Allow link sharing of the (map view) pages (via social media or email)	CM1 Yes (2) / No (0)
Collaboration system / forum to allow communication between users, portal owners, and providers about the data and portal functionalities	CM2 Yes (1) / No (0)
Contact information (to report problems, ask questions & make requests): • Phone number, address, email, social media of the data owner • Phone number, address, email, social media of the portal owner	CM3 <ul style="list-style-type: none"><li>Yes (1.5) if all, else (-0.5) until (0)</li><li>Yes (1.5) if all, else (-0.5) until (0)</li></ul>
Contextual contact button linked to form or chat (in map viewer or on dataset landing page to report problems, ask questions & make requests): • To portal owners regarding the portal • To data owners regarding the data, including an upload button for rectification purposes	CM4 <ul style="list-style-type: none"><li>Yes (1) / No (0)</li><li>Yes (2) including upload button, (1) without upload button, else (0)</li></ul>

Metadata (M)	Scores
Accessibility (license conditions & their meaning)	M1 Yes (2) / No (0)
Available according to international standards	M2 Yes (3) / No (0)
Data governance model: <ul style="list-style-type: none"> <li>• Collection method, aggregation level or processing</li> <li>• Data context (original purpose)</li> <li>• Data editors, including the original creator</li> <li>• Version management: overview of data update history, methods to track changes &amp; update frequency (sustainability)</li> </ul>	M3 <ul style="list-style-type: none"> <li>• Yes (0.5) / No (0)</li> <li>• Yes (0.5) / No (0)</li> <li>• Yes (1) / No (0)</li> <li>• Yes (1) if all available, (0.5) if one missing element, else (0)</li> </ul>
Information about the portal (on an about page or utility links): <ul style="list-style-type: none"> <li>• Statistics about the dataset offering (indices of offered datasets)</li> <li>• Textual explanation about what the portal is, and (promotion of) the service levels and functionalities that are offered</li> <li>• Up-time of services</li> </ul>	M4 <ul style="list-style-type: none"> <li>• Yes (0.75) / No (0)</li> <li>• Yes (1.25) if all available, (-0.5) for missing elements</li> <li>• Yes (1) / No (0)</li> </ul>
Linking sources: <ul style="list-style-type: none"> <li>• Link to other access &amp; information channels (data sheets)</li> <li>• Link to all data editors or producers, including contact info</li> <li>• Link to related applications (conversions, data dumps, software, tools)</li> </ul>	M5 <ul style="list-style-type: none"> <li>• Yes (1) / No (0)</li> <li>• Yes (1) / No (0)</li> <li>• Yes (1) / No (0)</li> </ul>
Quality indicators: <ul style="list-style-type: none"> <li>• Accuracy (correctness) / precision</li> <li>• Completeness: <ul style="list-style-type: none"> <li>- no missing values</li> <li>- coverage</li> <li>- granularity / scale</li> </ul> </li> <li>• Timeliness (update date or creation date)</li> </ul>	M6 <ul style="list-style-type: none"> <li>• Yes (1) / No (0)</li> <li>• Yes (1) / No (0)</li> <li>• Yes (1) / No (0)</li> </ul>
Semantics: <ul style="list-style-type: none"> <li>• Layer legends</li> <li>• What are the data attributes &amp; what do they mean</li> </ul>	M7 <ul style="list-style-type: none"> <li>• Yes (1.5) / No (0)</li> <li>• Yes (1.5) / No (0)</li> </ul>
Structure of the data: CRS, data model, format, size, service level (view service, downloads, APIs, geo-web services)	M8 Yes (3) if all, else (0.5) for each element
Topic & distinctive description of the data (about 30 words)	M9 Yes (3) / No (0)

Help mechanisms (H)	Scores
Audience-oriented sections (covering functions for different types of users)	Yes (1) / No (0)
Support for data use (including relevant analysis & tools): <ul style="list-style-type: none"><li>• Examples of data applications &amp; use</li><li>• FAQ</li><li>• Manual</li><li>• Tutorials (step by step pictures or videos, e.g. loading data in GIS)</li></ul>	H1 If any is available (1), if more (2), else (0)
Support for geomatics related knowledge: <ul style="list-style-type: none"><li>• FAQ</li><li>• Glossary with terms and definitions</li><li>• Tips &amp; hints (in context, no pop-ups): mechanism to identify definition (hovering, i button)</li></ul>	H2 If any is available (1), if more (2), else (0)
Support for portal use: <ul style="list-style-type: none"><li>• FAQ</li><li>• Manual</li><li>• Tutorials (step by step pictures or videos)</li><li>• Tips &amp; hints (in context, no pop-ups):<ul style="list-style-type: none"><li>- Mechanism to identify functionality (hovering, i button)</li><li>- Visual clues about functionality</li></ul></li><li>(put function in the search bar, textual description of the control)</li></ul>	H3 H4 If any is available (1), if more (2), else (0)

Consistency (C)	Scores
Consistent appearance: <ul style="list-style-type: none"><li>• Colours</li><li>• Font type &amp; size</li><li>• Placement of page elements (lay-out header, footer, menus)</li></ul>	Yes (3), for each inconsistency in the appearance of similar elements (- 0.5) until (0) c1
Consistent behaviour (for similar procedures and situations): <ul style="list-style-type: none"><li>• Homogeneous formats</li><li>• Identification of functionality</li><li>• Interaction: consistent style system feedback, perform similar tasks in a similar way (order yes / no buttons), standardised task sequence</li></ul>	Yes (3), for each inconsistency in the behaviour (- 0.5) until (0) c2
Consistent semantics: <ul style="list-style-type: none"><li>• Graphics &amp; icons</li><li>• Terminology homogeneity (controlled vocabularies &amp; standardised abbreviations)</li></ul>	Yes (3), for each inconsistency in the semantics (- 0.5) until (0) c3

X

### Sorteren op:

Titel (A → Z) Meest relevant Meest recent

### Filters:

Geen filters

Thema's:

Natuur en Milieu (Civiele) structuren Geo wetenschappelijke data Binnenwater Hoogte Grenzen   
Locatie Oceanen Referentie Materiaal Aardbedekking Transport

Ontsluitingstype: Organisatie: Bestandsformaat: Time range:

<input type="checkbox"/> API	<input type="checkbox"/> CBS	<input type="checkbox"/> CSV	Vanaf: <span style="color: #0070C0;">juni 2016</span>	Tot: <span style="color: #0070C0;">maart 2020</span>
<input type="checkbox"/> ATOM	<input type="checkbox"/> Ministerie van BZK	<input checked="" type="checkbox"/> GML		
<input checked="" type="checkbox"/> Download	<input type="checkbox"/> Ministerie van EZ	<input type="checkbox"/> JSON		
<input type="checkbox"/> WMS	<input checked="" type="checkbox"/> Kadaster	<input type="checkbox"/> RDF		
<input type="checkbox"/> WFS	<input type="checkbox"/> Rijkswaterstaat	<input checked="" type="checkbox"/> SHP		
<input type="checkbox"/> WMPS		<input type="checkbox"/> TIFF		
<input type="checkbox"/> WCS				
<input type="checkbox"/> TMS	Dekking:	Licentie:		
	<input type="checkbox"/> Landelijk	<input type="checkbox"/> CC BY		

Locatie:

Zoek een locatie...

Groningen  
 Den Helder

[Support ▾](#)[Kaart Viewer](#)[Dataset Catalogus](#)[bag](#)

## Basisregistratie Adressen en Gebouwen (BAG) Report problems, ask questions or make requests

Contact information Kadaster - BAG:

088-183 34 00 - bag@kadaster.nl - kadaster.nl/bag

Message:

Add attachment to describe or rectify (optionally)

[Select from computer](#)

No file selected

Your E-mail:

[Send](#)[FAQ](#)[Tutorials](#)[GeoForum](#)

To contact PDOK

[Over PDOK](#)[Contact](#)[Attenderingsservice](#)[Gebruiksbeleid](#)[Privacy and cookies](#)[Toegankelijkheid](#)[Sitemap](#)

Browse currently known issues  
and possible corresponding solutions  
for "Dataset Title":

[View feedback map on full screen](#)

Basisregistratie Adressen en Gebouwen  
(BAG)

Kadaster

20 maart 2020

WMS, WFS, WMTS, TMS,  
RESTful API, Linked Data

Basisregistratie adressen en gebouwen  
Terugmeldingen  
Basisregistratie Adressen en Gebouwen (BAG)

Kadaster

20 maart 2020

WMS, WFS



[Support ▾](#)[Kaart Viewer](#)[Dataset Catalogus](#)

Report problems,  
ask questions or  
make requests

[bag](#)<pdok-ngr.readthedocs.io/services.html>More info about  
the services[Link WMTS](#)WM(T)S and TMS links  
can be opened in GIS  
for a raster view[Link WMS](#)[Link TMS](#)[Link WFS](#)WFS links can be  
opened in GIS  
for a vector view[API service pagina](#)Call data in applications  
and test in the Postman editor[Linked data](#)Query data in  
the SPARQL editor

## Basisregistratie Adressen en Gebouwen (BAG)

The address and building information from  
the BAG can be used in statistical analysis,  
or to enrich or validate other address data.

[Tutorials](#)[FAQ](#)

### How to use the BAG?

Terminology list:  
Service desk:

Open manual in a new tab  
click for PDF  
to the BAG service desk

### Example use cases for the BAG

Leefbarometer:

open website in a new tab

Nieuwbouwmonitor:

open website in a new tab

Sportgids.nl:

open website in a new tab

More examples: view other use cases in a new tab

### Recent discussions on the GeoForum

No info available for two buildings 1 response, 0 likes  
Last response on 20-04-2020, 13:28

Maintenance BAG2.0 URLs

4 responses, 2 likes  
Last response on 18-04-2020, 19:03

Or make your own post: go to the Geoforum

Basisregistratie Adressen en Gebouwen  
(BAG)

Kadaster

20 maart 2020

WMS, WFS, WMTS, TMS,  
RESTful API, Linked Data

Basisregistratie adressen en gebouwen  
Terugmeldingen  
Basisregistratie Adressen en Gebouwen (BAG)

Kadaster

20 maart 2020

WMS, WFS

<i>Lower values are more usable</i>		<b>Absolute time</b>	<b>Time more than optimal</b>	<b>Absolute clicks</b>	<b>Clicks more than optimal</b>	<b>Lostness</b>	<b>Errors</b>	<b>Ease of use</b>	<b>Sensibility</b>
<b>T1.1</b>	Median	B: 01:54 M: 00:26	B: 01:32 M: 00:18	B: 8 M: 3	B: 2 M: 0	B: 0,17 M: 0	B: 1 M: 0	B: 2,5 M: 1	B: 3,5 M: 1
	Total	B: 10:56 M: 02:25	B: 08:44 M: 01:37	B: 51 M: 16	B: 15 M: 0	B: 1,11 M: 0	B: 5 M: 0	B: 16 M: 7	B: 20 M: 6
<b>T1.2</b>	Median	B: 00:08 M: 00:05	B: 00:02 M: 00:02	B: 1 M: 1	B: 0 M: 0	B: 0 M: 0	B: 0 M: 0	B: 1 M: 1	B: 1 M: 1
	Total	B: 00:48 M: 00:43	B: 00:12 M: 00:25	B: 6 M: 7	B: 0 M: 1	B: 0 M: 0	B: 0 M: 0	B: 6 M: 6	B: 6 M: 6
<b>T2.1</b>	Median	B: 00:24 M: 00:17	B: 00:15 M: 00:12	B: 7,5 M: 3	B: 2,5 M: 0,5	B: 0 M: 0	B: 0 M: 0	B: 1,5 M: 1	B: 2 M: 1
	Total	B: 04:31 M: 03:38	B: 03:37 M: 02:08	B: 46 M: 22	B: 16 M: 7	B: 0,66 M: 0	B: 0 M: 0	B: 11 M: 8	B: 13 M: 8
<b>T2.2</b>	Median	B: 00:50 M: 00:40	B: 00:37 M: 00:27	B: 7 M: 3	B: 4 M: 0	B: 0 M: 0	B: 0 M: 0	B: 1,5 M: 1	B: 2,5 M: 1
	Total	B: 08:35 M: 03:52	B: 07:17 M: 02:34	B: 44 M: 20	B: 26 M: 4	B: 0 M: 0	B: 1 M: 0	B: 10 M: 8	B: 15 M: 9
<b>T3.1</b>	Median	B: 02:17 M: 01:02	B: 01:57 M: 00:55	B: 9 M: 4,5	B: 3 M: 1,5	B: 0 M: 0	B: 1 M: 0	B: 3 M: 1	B: 4,5 M: 1
	Total	B: 12:50 M: 06:03	B: 10:50 M: 05:21	B: 53 M: 28	B: 17 M: 10	B: 0,57 M: 0,2	B: 8 M: 0	B: 20 M: 8	B: 26 M: 9
<b>T3.2</b>	Median	B: 00:42 M: 00:03	B: 00:25 M: 00:00	B: 5,5 M: 1	B: 0,5 M: 0	B: 0 M: 0	B: 0 M: 0	B: 1,5 M: 1	B: 1 M: 1
	Total	B: 05:50 M: 00:38	B: 04:08 M: 00:20	B: 38 M: 7	B: 8 M: 0	B: 0 M: 0	B: 2 M: 0	B: 10 M: 6	B: 10 M: 6
<b>T4.1</b>	Median	B: 02:52 M: 01:17	B: 02:39 M: 01:10	B: 5,5 M: 4	B: 1,5 M: 2	B: 0,1 M: 0	B: 0 M: 0	B: 2 M: 2	B: 2 M: 2
	Total	B: 18:03 M: 09:11	B: 16:45 M: 08:29	B: 40 M: 31	B: 16 M: 19	B: 1,04 M: 0,75	B: 2 M: 2	B: 13 M: 12	B: 13 M: 10
<b>T4.2</b>	Median	B: 01:38 M: 00:04	B: 01:27 M: 00:01	B: 5,5 M: 1	B: 1,5 M: 0	B: 0 M: 0	B: 0 M: 0	B: 2,5 M: 1	B: 2,5 M: 1
	Total	B: 08:55 M: 00:30	B: 07:49 M: 00:12	B: 41 M: 6	B: 19 M: 0	B: 1,12 M: 0	B: 1 M: 0	B: 13 M: 6	B: 16 M: 6

## Boxplots displaying the usability merit for the benchmark and the follow up

