

GIS Products and Services

Dipl.-Ing. Christian Zieske, 12.03.2019, Amsterdam

About us



atene KOM GmbH, Agency for Communication, Organisation and Management, is a European consulting and project development company based in Berlin, with field offices in Leipzig, Osterholz-Scharmbeck, Bonn, Wiesbaden, Munich, Schwerin, Stuttgart und Brussels.



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Core Competencies

✓ **Business Fields**

Organisational Development,
Technology and Funding Consultancy,
Project Management,
Studies, Evaluations.

✓ **Network**

ATeNe GmbH, Initiative D21,
European Institute for Innovation,
...

✓ **Team**

We assume responsibility and we place
great value on an experienced team.

✓ **Experience**

10 years of experience in subsidy consultancy
and communal consultation.

✓ **Portfolio**

We offer pan-european consulting services on
the following topics: regional development,
digitization and renewable energies.

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Agenda items

- The Federal Funding Programme (FFP) Database
- Geonode
- Project DIHK
- Project BISH
- Routing
- Tracking of the Infomobile

atene KOM Federal Funding Programme

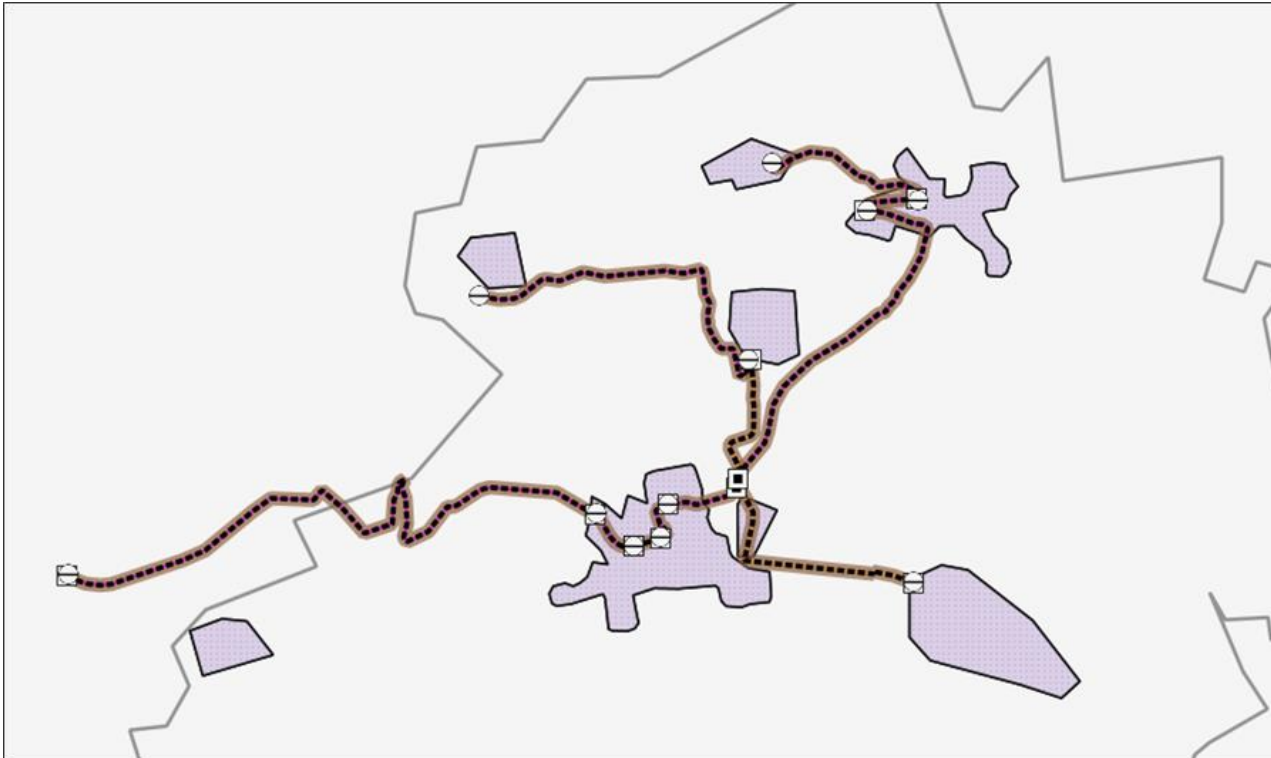
Breitband-Ausschreibungen											
<div>  </div>											
<div> <div> <div>Übersicht über laufende und abgeschlossene Verfahren</div> <div>zurück</div> </div> <div> <div>Filtern nach Bundesland: Alle Bundesländer</div> <div>Suche</div> </div> </div>											
Projektinformationen				Bedarfsermittlung		Markterkundung		Interessenbekundungsverfahren		Ausschreibung	
Bundesland	Organisation	Projektname	Ansprechpartner	Veröffentlichung	Ergebnis	Veröffentlichung	Ergebnis	Veröffentlichung	Ergebnis	Veröffentlichung	Ergebnis
Baden-Württemberg	Althengstett	Markterkundung Gemeinde Althengstett	Herr Maier-Nagel			15.02.2017	17.03.2017				
Baden-Württemberg	Bad Mergentheim	Netzbetreiberabfrage Stadt Bad Mergentheim	Herr Stephan			24.11.2015	28.12.2015				
Baden-Württemberg	Baiert	Baiert - Gewerbegebiete - FTTB-Ausbau	Herr Abele			09.03.2017		14.04.2014 14.03.2017 stop	14.04.2014 14.04.2017		
Baden-Württemberg	Biberach	Breitbandausbau Gemeinde Biberach (Baden)	Frau Bruder			18.09.2015	19.10.2015				
Baden-Württemberg	Bissingen an der Teck	Stadt Bissingen an der Teck - Markterkundungsverfahren	Herr Hommel			18.02.2016	31.03.2016				
Baden-Württemberg	Breitbandversorgung im Landkreis Ravensburg	Markterkundung	Herr Fuchs			15.09.2015	16.10.2015				
Baden-Württemberg	Breitbandversorgung im Landkreis Ravensburg	Markterkundung	Herr Fuchs			03.11.2015	04.12.2015				
Baden-Württemberg	Breitbandversorgungsgesellschaft im Landkreis Sigmaringen mbH & Co. KG	FTTC Ausbau Hohenstein	Herr Gräfe							16.01.2017 27.03.2017 stop 27.03.2017 27.03.2017 27.03.2017	
Baden-Württemberg	Breitbandversorgungsgesellschaft im Landkreis Sigmaringen mbH & Co. KG	Markterkundung Beuron	Herr Gräfe			09.11.2016	12.12.2016				
Baden-Württemberg	Breitbandversorgungsgesellschaft im Landkreis Sigmaringen mbH & Co. KG	Markterkundung Sigmaringen Ortsteil Gutenstein	Herr Gräfe					27.10.2016	21.11.2016		
Baden-Württemberg	Breitbandversorgungsgesellschaft im Landkreis Sigmaringen mbH & Co. KG	Netzbetreiberausschreibung	Herr Zimmermann							14.06.2016	
Baden-Württemberg	Bürgermeisteramt Großbottlingen	Breitbandausbau Gemeinde Großbottlingen	Herr Fritz			20.03.2017	21.04.2017				
Baden-Württemberg	Bürgermeisteramt Königheim	Breitbandausbau in Königheim	Herr Keller					30.10.2014	08.12.2014		
Baden-Württemberg	Bürgermeisteramt Kirschheim	Breitbandausbau in Kirschheim	Frau Kiefer			01.08.2015	07.08.2015				

Source: atene KOM GmbH

- Application via www.breitbandausschreibungen.de
- Applicants' network maps are to be uploaded to a tendering platform

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Network maps





Source: atene KOM GmbH

- Applicants have to hand in spatial data in order to pass a number of different process gateways
- Content and technical specifications of the network maps are defined in so-called GIS annotations
- The following layers need to be uploaded:
 - Applicant, White Spots
 - Development Areas FFP
 - Buildings, Network Technology
 - Sections, Ductworks, Connections
- The network maps are presented and evaluated in a WebGIS, Geonode

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Federal Funding Programme

Bundesministerium
für Verkehr und
digitale Infrastruktur

Bundesförderung Breitband

Breitband-
Ausschreibungen

[Arbeitsbereiche](#) [Förderprogramme und Richtlinien](#) [Ansprechpartner](#) [Administrationsbereich](#) [Öffentlicher Bereich](#) [Passwort ändern](#)

[zurück](#)

Netzplan hinzufügen

Neuen Netzplanlayer hinzufügen bzw. ersetzen

Hinweis: Laden Sie hier die Netzpläne gemäß der [GIS-Nebenbestimmungen zur Breitband-Förderrichtlinie](#) hoch. Vergewissern Sie sich bitte insbesondere, dass Sie das richtige Dateiformat, die korrekten Sachattribute und das Koordinatenreferenzsystem ETRS89 (EPSG:4259) verwenden. Als Datenformat wird für jeden Upload jeweils eine GeoJSON-Datei oder eine ZIP-komprimierte ESRI-Shape akzeptiert (z. B. Leerrohre.geojson oder Leerrohre.zip bestehend aus Leerrohre.shp, Leerrohre.shx, Leerrohre.dbf, Leerrohre.prj ...).

Vor dem Upload ist im Auswahlfeld anzugeben, um welche Daten es sich handelt. Wenn eine Datei für einen bereits bestehenden Layer hochgeladen wird, werden die alten Daten des jeweiligen Layers überschrieben. Maximale Dateigröße pro Upload: 80 MB.

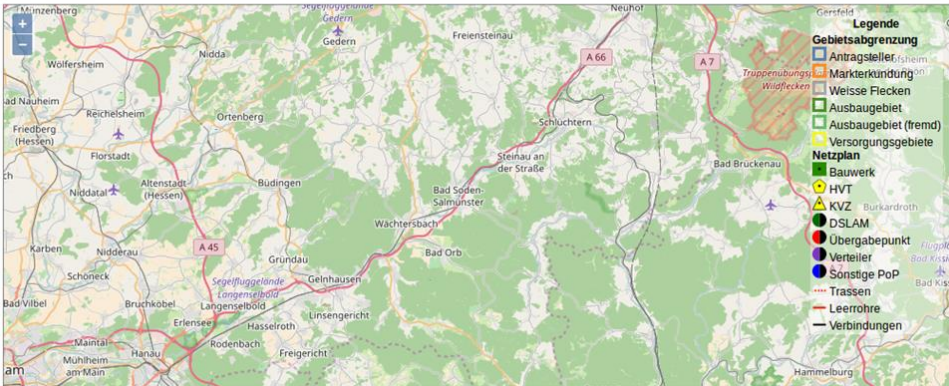
Für diesen Upload verlangte Version der GIS-Nebenbestimmungen: 3.1

3.1.1 Antragsteller

Durchsuchen...

Keine Datei ausgewählt.

Prüfe



- Upload form

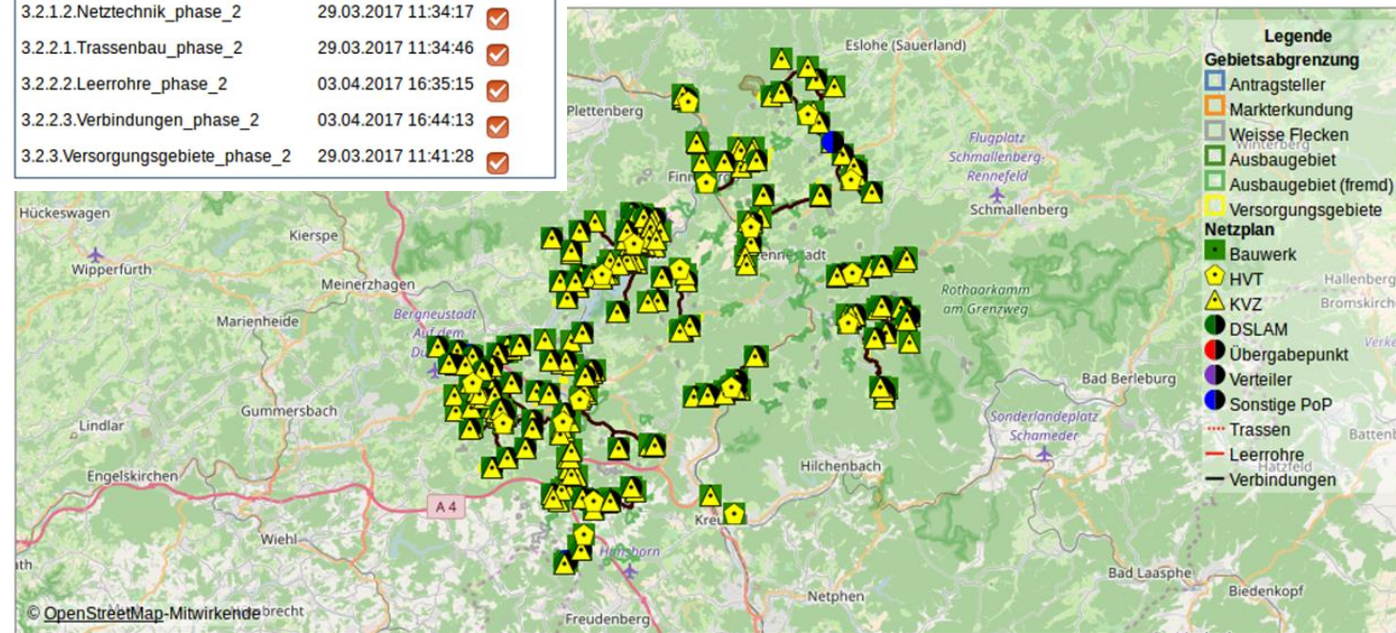
Source: atene KOM GmbH

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Federal Funding Programme

Bereits hochgeladene Netzpläne

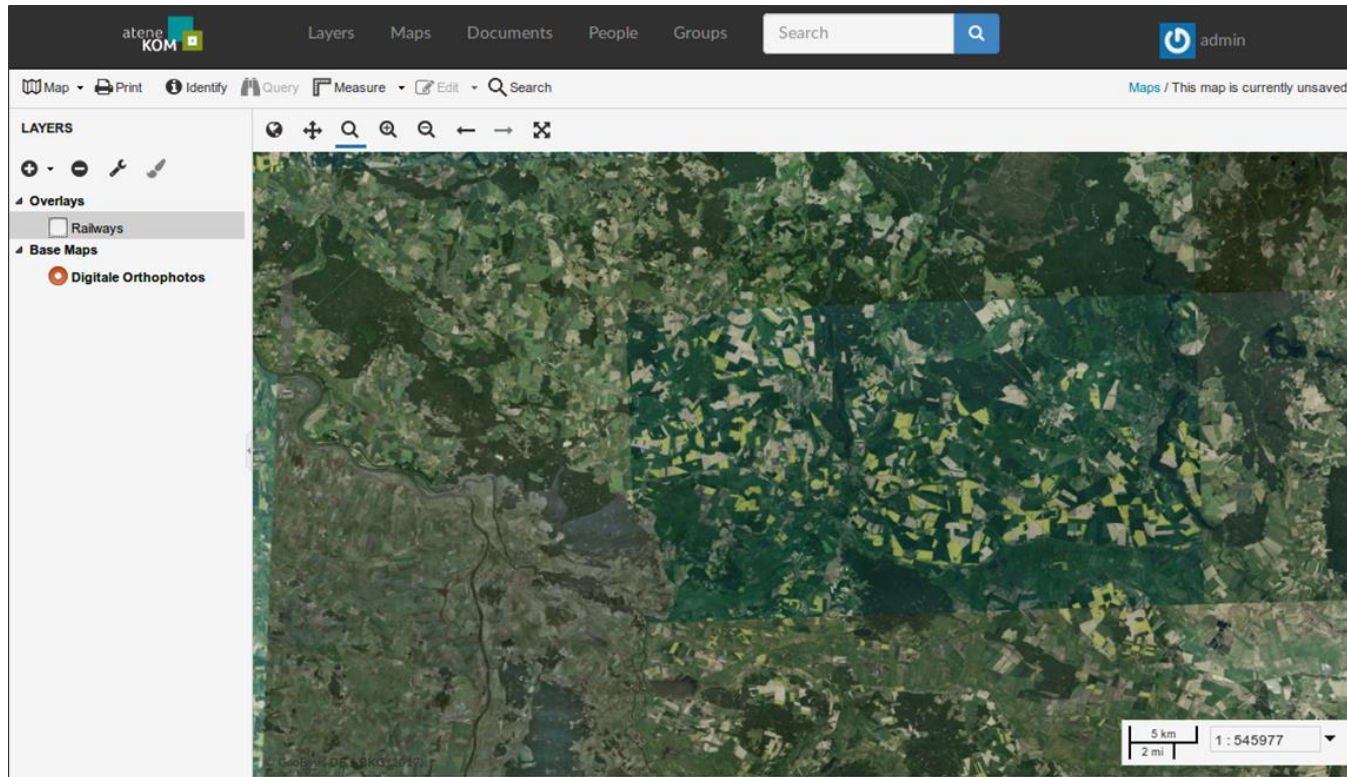
Layer	Hochgeladen am	Anzeige
3.1.3.Weisse_Flecken_phase_2	29.03.2017 11:24:05	✓
3.1.4.Ausbauggebiete_BFP_phase_2	29.03.2017 11:33:42	✓
3.1.5.Ausbauggebiete_fremd_phase_2	29.03.2017 12:09:01	✓
3.2.1.1.Bauten_phase_2	14.03.2017 16:22:49	✓
3.2.1.2.Netztechnik_phase_2	29.03.2017 11:34:17	✓
3.2.2.1.Trassenbau_phase_2	29.03.2017 11:34:46	✓
3.2.2.2.Leerrohre_phase_2	03.04.2017 16:35:15	✓
3.2.2.3.Verbindungen_phase_2	03.04.2017 16:44:13	✓
3.2.3.Versorgungsgebiete_phase_2	29.03.2017 11:41:28	✓



Source: atene KOM GmbH

- Overview of uploaded layers
- List of names and timestamps
- Overview map to display uploaded map data

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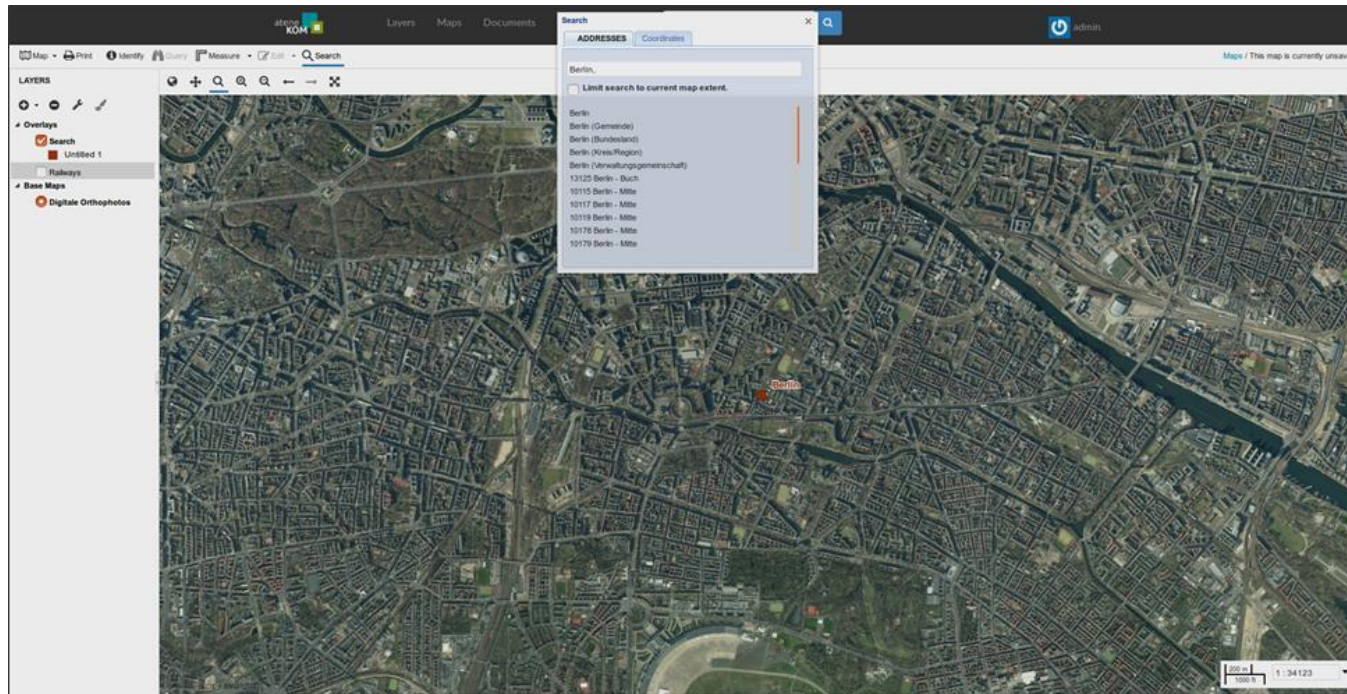


Source: atene KOM GmbH

- Geonode is an open source platform for the display and administration of spatial data
- It is being developed further in-house and adapted to the respective projects' requirements

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Geonode - functions



Source: atene KOM GmbH

- External data is implemented via WMS, e.g. aerial photos as background maps
- Data is managed via open source software (Geoserver)
- An address search tool based on a geocoding service by the Federal Administration of Cartography and Geodetics (BKG) is integrated

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Geonode - functions

The screenshot displays the Geonode web interface. On the left, a 'Style file' editor shows XML SLD code for a layer named 'Absichtserklärung'. The code includes a filter for 'status' and a fill color of '#CCFFCC'. Below the editor are buttons for 'Validate', 'Preview legend', 'Submit', and 'Cancel'. On the right, a map view shows a street map with a query tool overlay. The query tool has two sections: 'Query by current map extent' and 'Query by attributes'. The 'Query by attributes' section is active, showing a search for 'id' less than or equal to '352'. A table on the right lists the results: id 159, 288, 125, and 352.

```
<?xml version="1.0" encoding="UTF-8"?>
<sld:UserStyle xmlns="http://www.opengis.net/sld" xmlns:sld="http://www.opengis.net/sld" xmlns:gml="http://www.opengis.net/gml" xmlns:ogc="http://www.opengis.net/ogc">
  <sld:Name>AtlasStyler 1.9</sld:Name>
  <sld:Title/>
  <sld:FeatureTypeStyle>
    <sld:Name>UNIQUE VALUE POLYGON</sld:Name>
    <sld:Title>UniqueValuesPolygonRuleList</sld:Title>
    <sld:FeatureTypeName>Feature</sld:FeatureTypeName>
    <sld:Rule>
      <sld:Title>Absichtserklärung</sld:Title>
      <ogc:Filter>
        <ogc:PropertyIsEqualTo>
          <ogc:PropertyName>status</ogc:PropertyName>
          <ogc:Literal>1</ogc:Literal>
        </ogc:PropertyIsEqualTo>
      </ogc:Filter>
      <sld:MaxScaleDenominator>1.0E20</sld:MaxScaleDenominator>
      <sld:PolygonSymbolizer>
        <sld:Geometry>
          <ogc:PropertyName>the_geom</ogc:PropertyName>
        </sld:Geometry>
        <sld:Fill>
          <sld:CssParameter name="fill">#CCFFCC</sld:CssParameter>
        </sld:Fill>
        <sld:Stroke/>
      </sld:PolygonSymbolizer>
    </sld:Rule>
  </sld:FeatureTypeStyle>
</sld:UserStyle>
```

Style file

Durchsuchen... Keine Datei ausgewählt. Upload ...

Validate Preview legend Submit Cancel

Query

☒ Query by current map extent

☒ Query by attributes

Match any of the following:

id <= 352

+ add condition

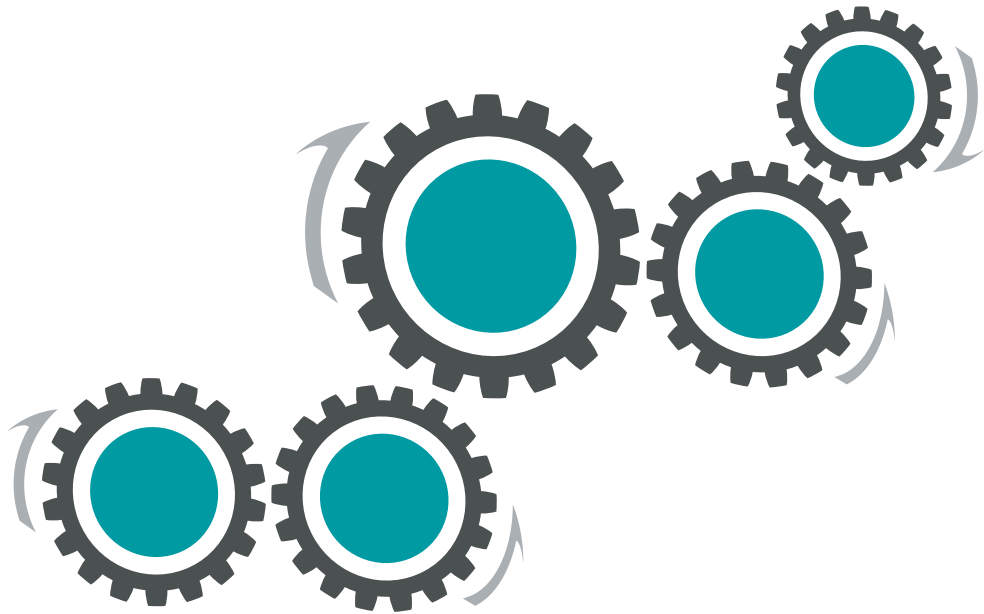
Cancel Query

id
159
288
125
352

Source: atene KOM GmbH

- The styling of layers along SLD allows for a flexible adaptation
- As the common structure of layers for use with the FFP is defined in the GIS annotations, it is possible to use a uniform styling of basic attributes granting a quick pick-up and easy comparison
- Thus it is possible to query the data more comprehensively

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- Network maps are checked for consistent form and content during the uploading process, in accordance with the GIS annotations
- Applicants' data is stored in a Postgresql-database
- Publishing of data is automated by using python scripts
- As soon as a network map is completely uploaded, it is published in Geonode
- Data is made available by OGC defined standards such as WMS, WFS
- Geoserver can read and create various formats
- Tables and queries may be published in Geonode using Geoserver

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Photo documentation

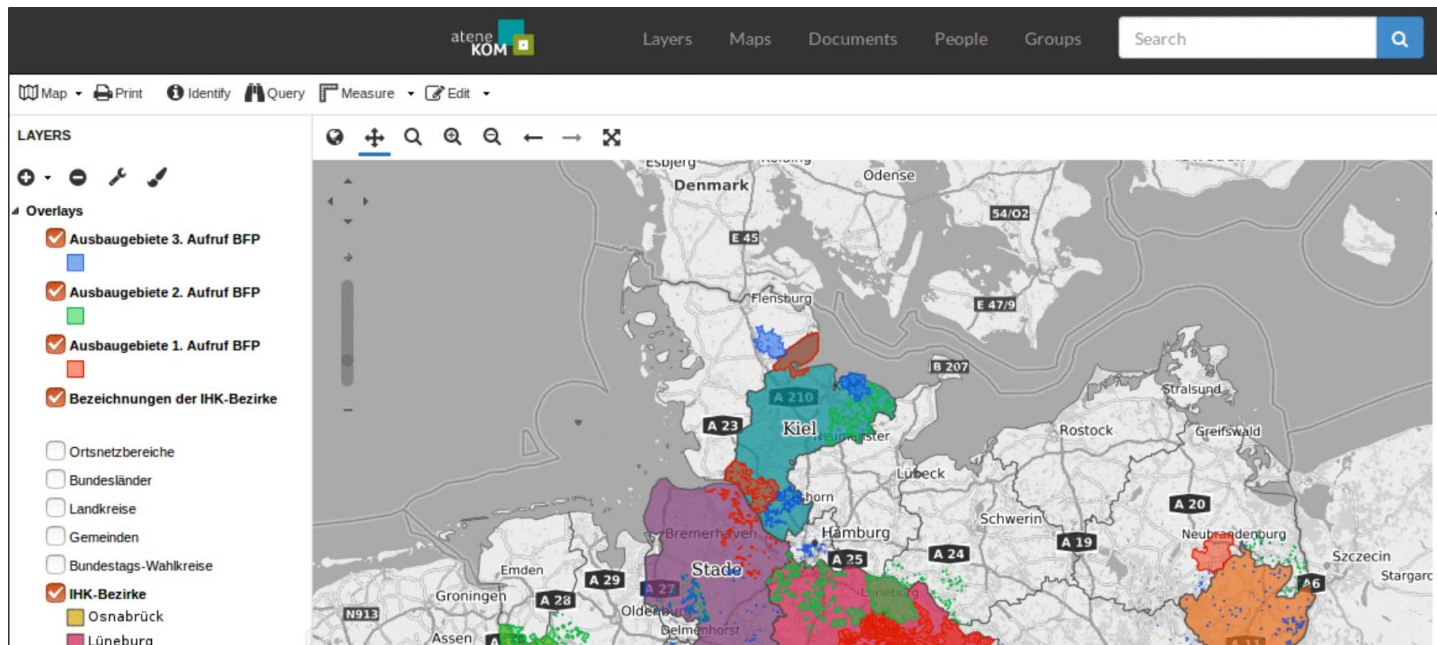


Source: atene KOM GmbH

- Applicants need to supply proof of their infrastructure development of their infrastructure in photos taken on-site
- It is possible to upload geotagged photos on the tendering platform
- They can be assigned to elements in the network map
- Documentation on various stages of development possible

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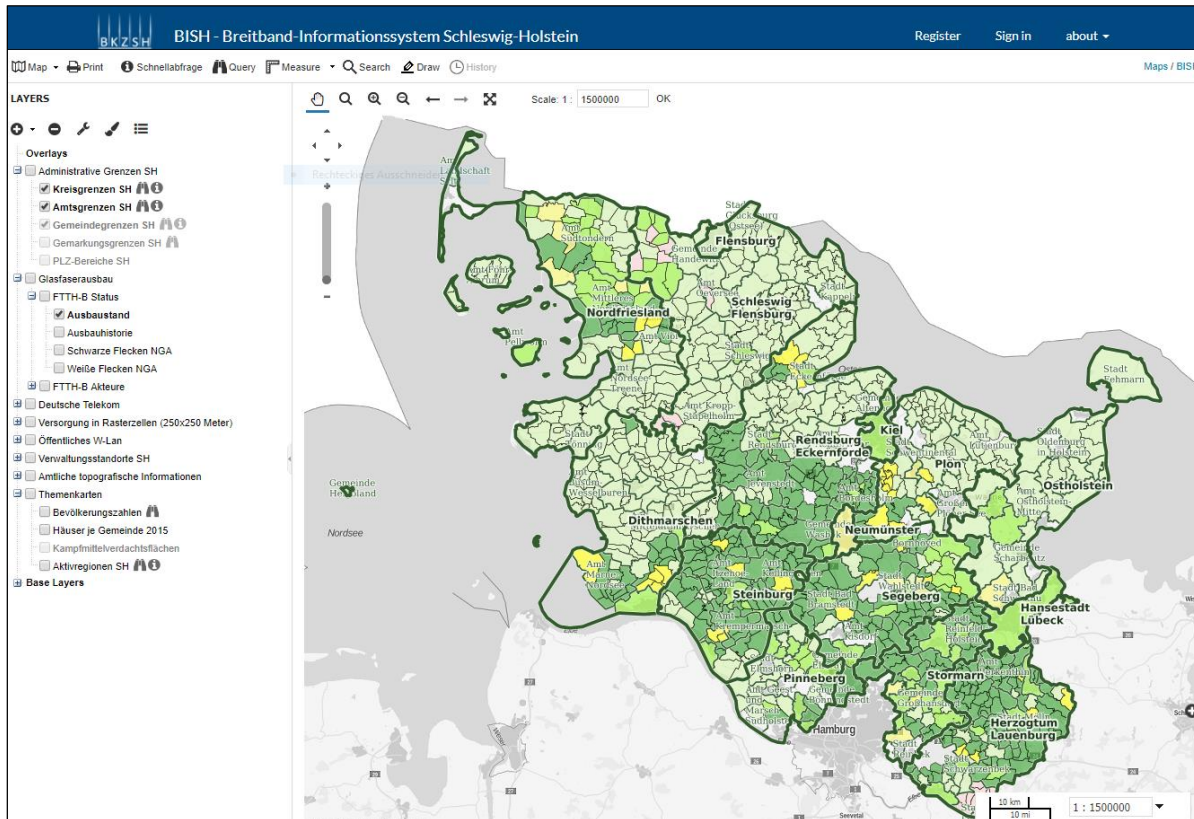
DIHK Project



Source: atene KOM GmbH

- DIHK: The German head Chamber of Industry and Commerce
- The initiative by DIHK and atene KOM is to provide regional industry and chambers of industry and commerce with information on where broadband development is planned in commercial or industrial zones
- Members of local chambers have access to various thematic maps in Geonode
- So far, atene KOM has set up user accounts for all project participants
- Data such as addresses, points of contact and commercial or industrial zones is gathered from local chambers and made available in Geonode
- Data on development areas from the Federal Funding Programme is made available for respective regions

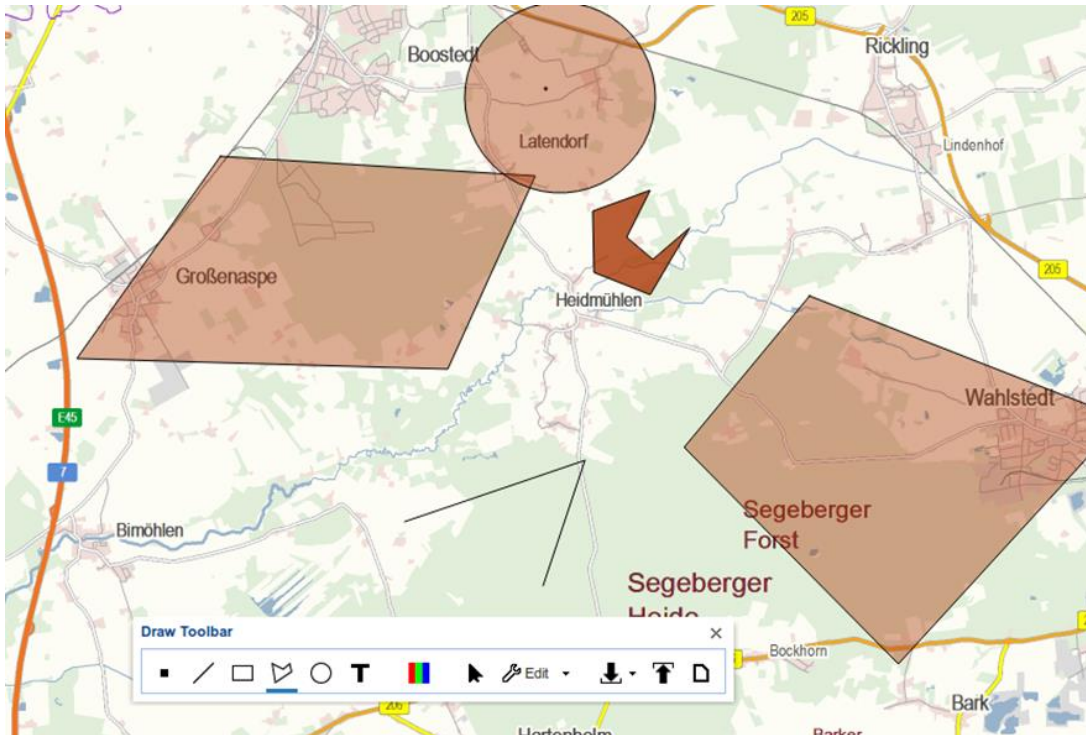
atene KOM BISH Project



Source: atene KOM GmbH

- atene KOM is setting up an extensive spatial data infrastructure for BKZSH (Broadband Centre of Competence Schleswig-Holstein)

atene KOM BISH Project

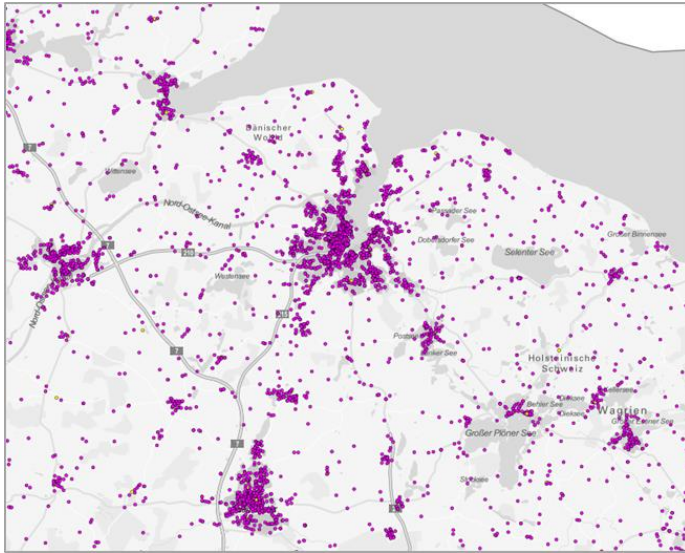


Source: atene KOM GmbH

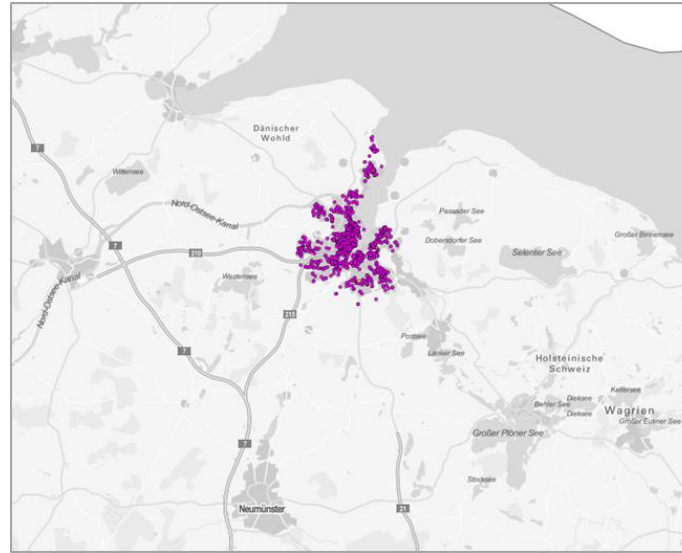
- The old BISH, the Broadband Information System Schleswig-Holstein, will be replaced
- The new system is based on Geonode
- Various adaptations are necessary, such as
 - Drawing tools
 - Definition of the spatial extent of data
 - Distinct user profiles
 - Display of data history
 - Data export and map production

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BISH – Spatial Restriction



Administrators view



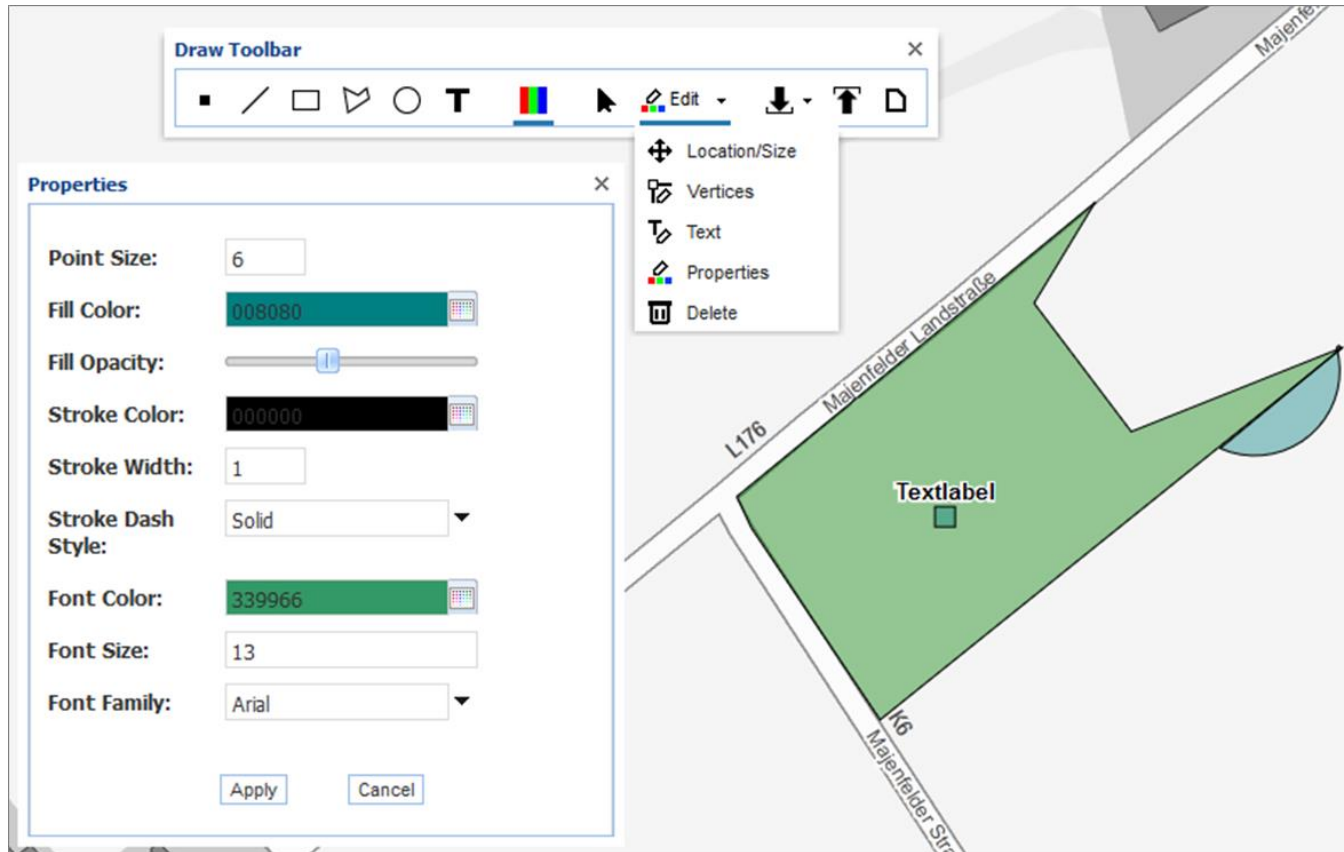
Userprofile with restrictions

- Individual views for different users / groups
- Feature is also applicable to all vector layers

Source: atene KOM GmbH

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BISH – Drawing Tools

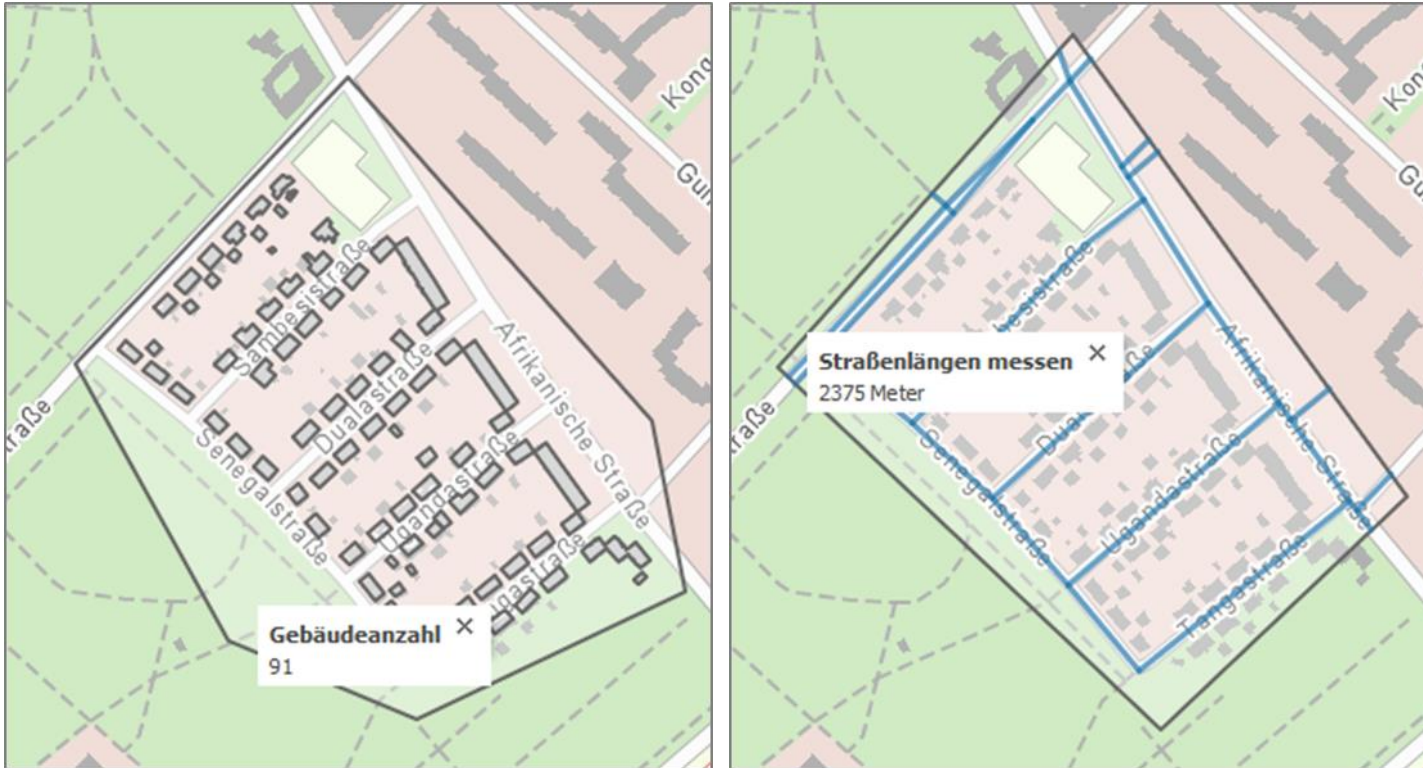


Source: atene KOM GmbH

- Extensive annotation and editing functions
- Areas and lengths can be measured
- Technical drawings can be saved and restored

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BISH – Measuring Queries

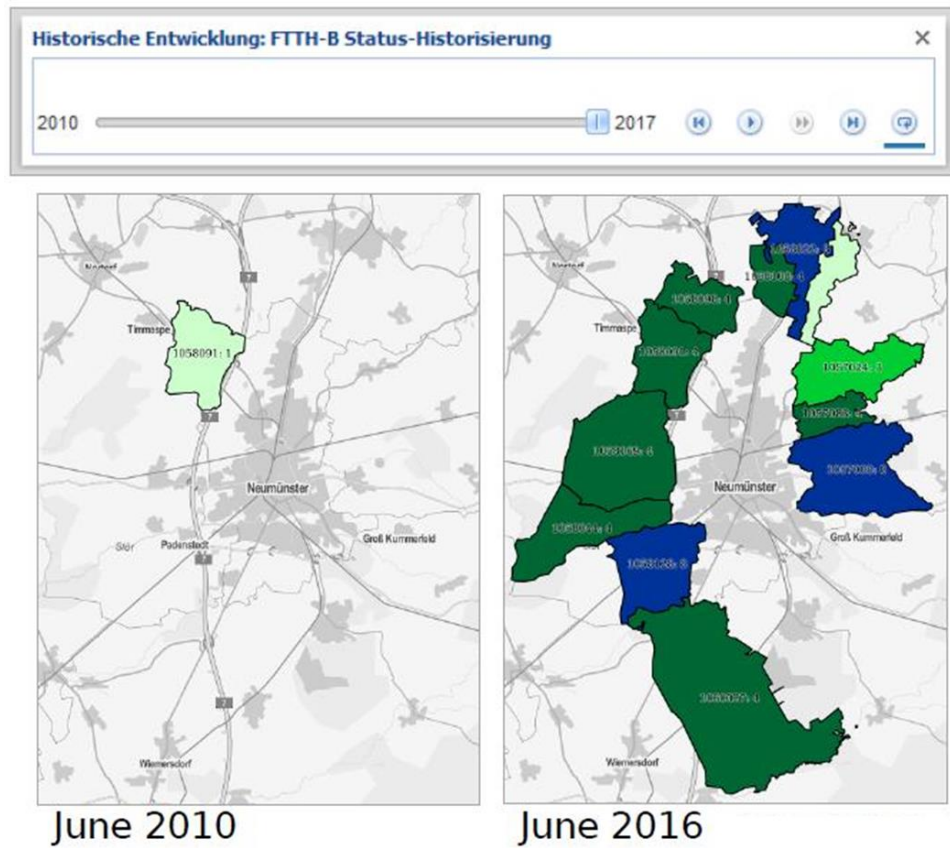


Source: atene KOM GmbH

- Count or measure features in a polygon
- Different datasources are possible (in this case OpenStreetMap is used)

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BISH – Time Slider

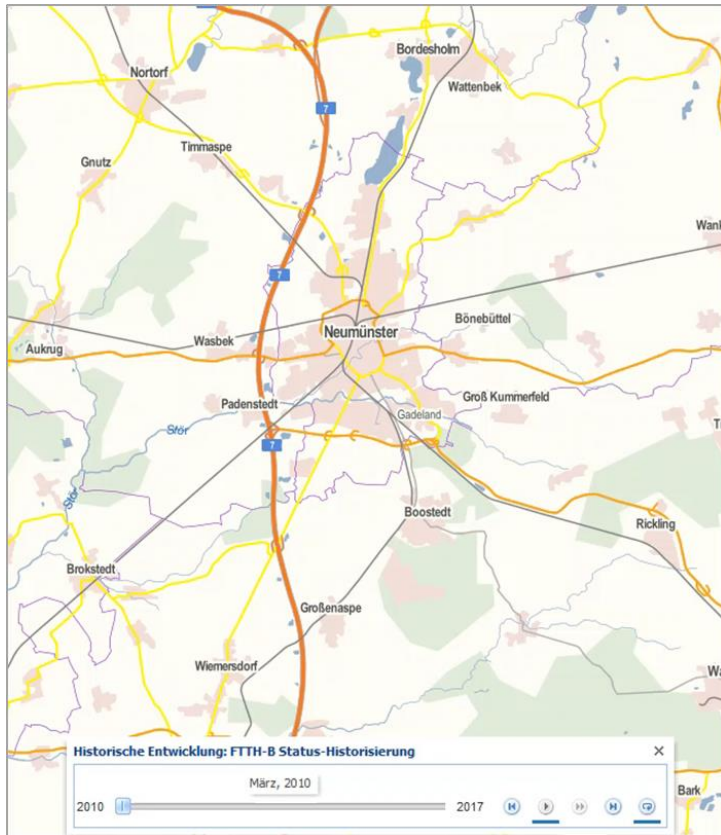


Source: atene KOM GmbH

- Visualize various development stages
- Usable with all kinds of datasets (data needs to provide timestamps)

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BISH – Time Slider



Source: atene KOM GmbH

- Select a specific date or run an animation

01

Goal: determination of areas eligible for funding for broadband access via satellite

02

Calculation of accessibility of buildings from existing broadband infrastructure

03

Building points were retrieved from OpenStreetMap and cadastral land register

04

Broadband infrastructure: various distribution units such as (main) distribution frames, LTE locations, stations on electrified tracks and optical fibre networks

01

Determination of the next accessible infrastructure and calculation of distance.

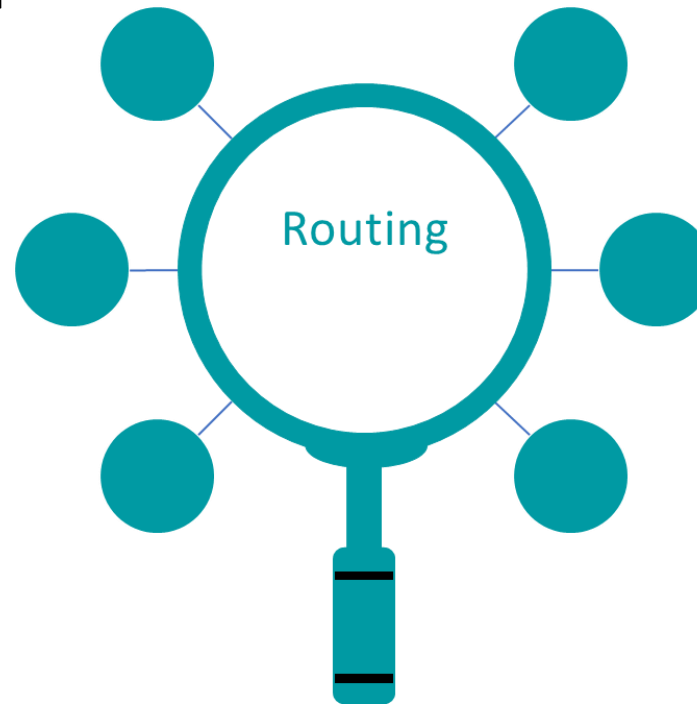
02

Distance is used to estimate development costs and identify undersupplied buildings

03

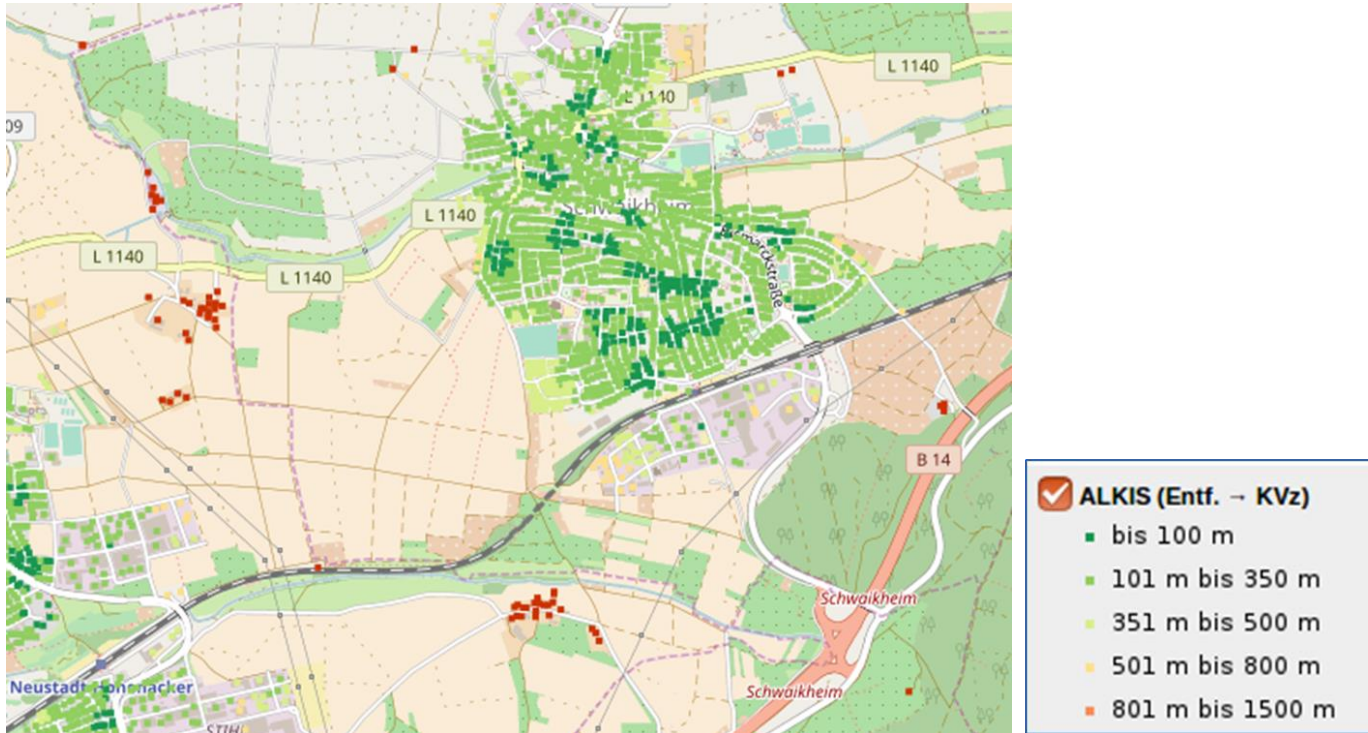
Results were joined with a municipalities dataset from the Federal Agency for Cartography and Geodesy (BKG)

- Use of a Ring-Search algorithm
- The script calculates routes from each member of a Source Geometry dataset to each member of a Target Geometry Dataset within a given radius within specific areas
- Routing is done by either distance or costs.



- Sources can be points, targets can be any geometry supported by PostGIS.
- An area is to be a polygon
- Costs are estimated by $\text{distance} * \text{street density} * \text{street density factors} * \text{street type factors}$

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Source: atene KOM GmbH

Final outputs:

- Number of homes passed
- Number/share of homes to connect
- Average distances between buildings and access points, cabinets etc.

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Tracking the Infomobile

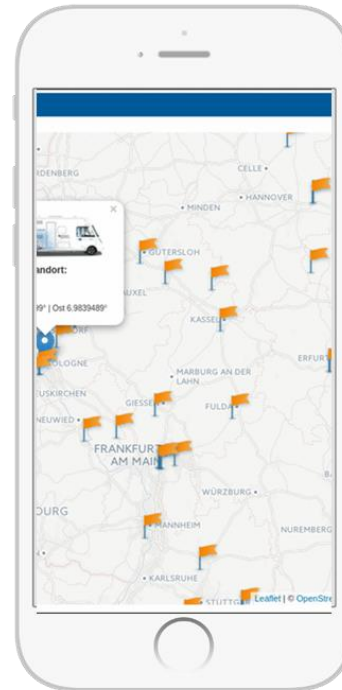
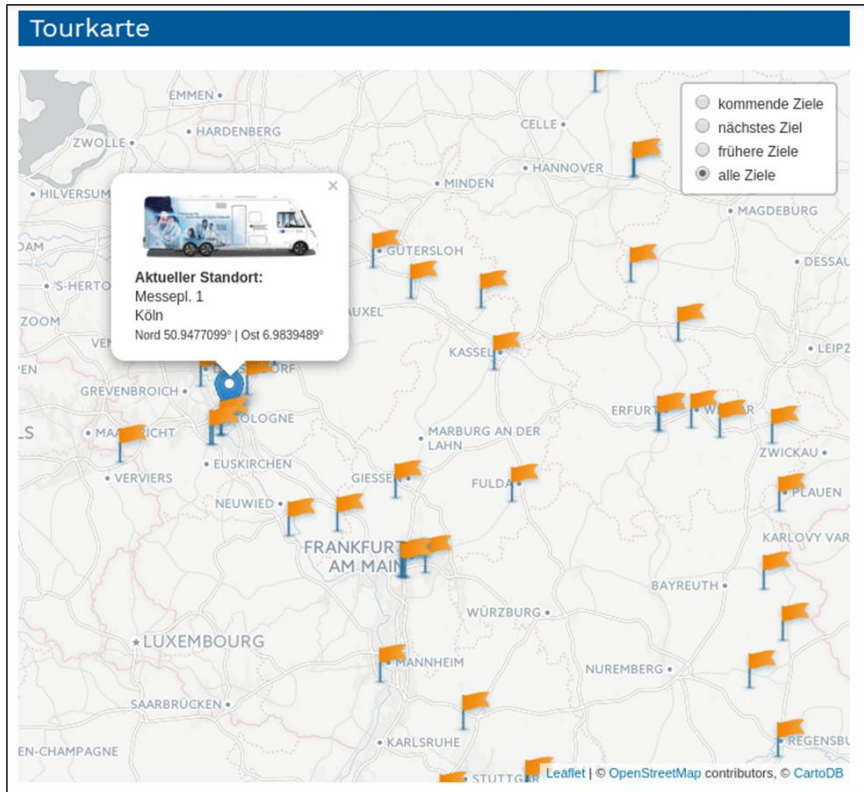


Source: Florian Schuh (BBB)

- Information campaign on broadband access for businesses
- A transferred mobile home (Infomobil) works as a roadshow
- For tracking the Infomobil, a web map was placed on the Federal Broadband Bureau web site (www.breitbandbuero.de)
- The map shows actual, previous and future locations of the bus as well as addresses and coordinates
- The web map was produced with open source webmapping tool Carto-DB

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Tracking the Infomobile



- A zooming down to building level is possible
- The map can be filtered by destinations past, present and future
- Included is a real-time tracking

Source: atene KOM GmbH

atene KOM GmbH
Agency for Communication, Organisation and
Management

Invalidenstraße 91
10115 Berlin

Tel. +49 (0)30 60 98 990-0

Fax +49 (0)30 60 98 990-99

www.atenekom.eu