Operation manual

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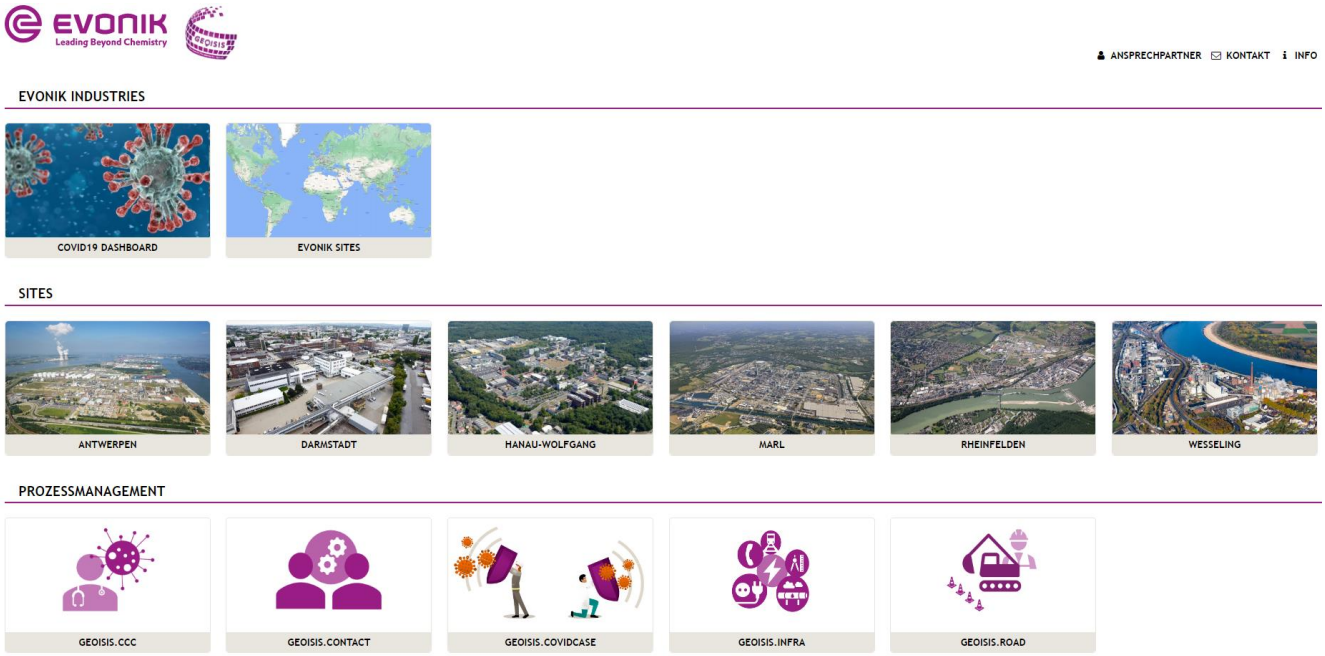
Content

1.0 Structure of GEOISIS

When you call up the site information system, you receive an overview page with all the applications for which you have been granted access. GEOISIS works bifunctionally, i.e. it is possible to perform graphical queries directly via the geoportal on the one hand and alphanumeric queries via the search page on the other. The results of the alphanumeric queries can be displayed graphically in the geoportal.

Furthermore, you can display *contact persons who* you can get in touch with if you have any questions or you can send a direct inquiry via the *Contact* button.



By clicking on the respective application, the application starts in GEOISIS.

2.0 GEOISIS Geoportal

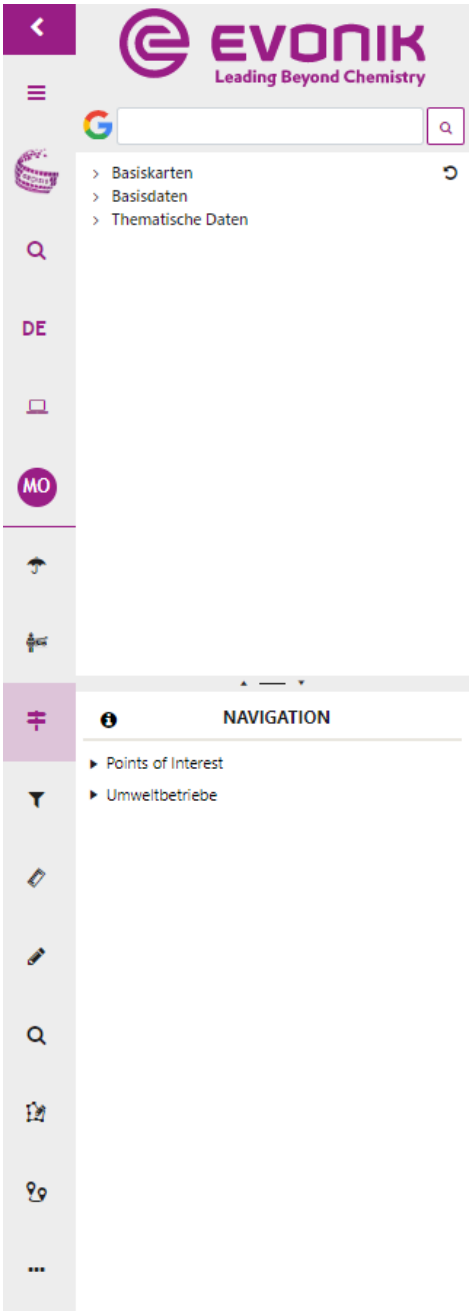
2.1 Navigating within the aerial photo

Within the aerial photo you have different functions. At the bottom left you can see which part of the map you are currently in, at the bottom right you have zoom levels with which you can zoom in and out of the map via plus and minus. With a double click in the aerial photo, the selected point is centered and it is zoomed one step into the picture. Right-clicking within the map opens the Map Interactions window. Here you will find the coordinates of the targeted point, two shortcuts from the Measure section and two sliders with which you can control the opacity and, if available, a timeslider in which you can display the location and its changes over the years.

In addition, the scale of the aerial photo and also the coordinate system, which can be changed, is displayed in the lower part of the photo. Available are WGS 84, ETRS89 / UTM Zone 32N, Pseudo Mercator and Gauss-Krüger 2 and also the exact coordinate points where the mouse cursor is currently located.

The sites are aligned horizontally, which should serve for better drawing in or also measuring. The respective map can always be aligned via the arrow in the upper left area of the aerial photo. In addition, you can switch to 3D mode and oblique mode via the 2D button, for example, to make better height measurements on buildings. With the Reset button you can always reset the map to its original state.

2.2 Legend



The legend is the central information area where alphanumeric and graphic data are linked and can be visualized in the aerial photo.

The content of the legend in the Base Maps, Thematic Data and 3D Topics section depends on the logged in user and their authorizations. By clicking on the arrow, a drop-down list opens from which you can choose what to display.

In addition to the GEOISIS functions, there is a search window above the legend, with which you can jump from the system to search providers such as Google or OpenStreetMap.

By swiping the mouse cursor over the icons on the left edge of the screen, a description of the respective icon is displayed. While the alpha search, a language selection - English or German - and the jump to the portal are available in the upper area, you can select the function tools you want to work with in the lower area of the legend. The contents of the selected function tool are located in the lower area of the legend and a short explanation of the function is provided via the symbol .ℹ

In addition to functions such as navigation to, for example, gates or buildings on the sites and the saving or printing of work statuses, the GEOISIS geoportal offers the user the possibility of redlining within the selected map, distance or area measurement, as well as editing geometries.

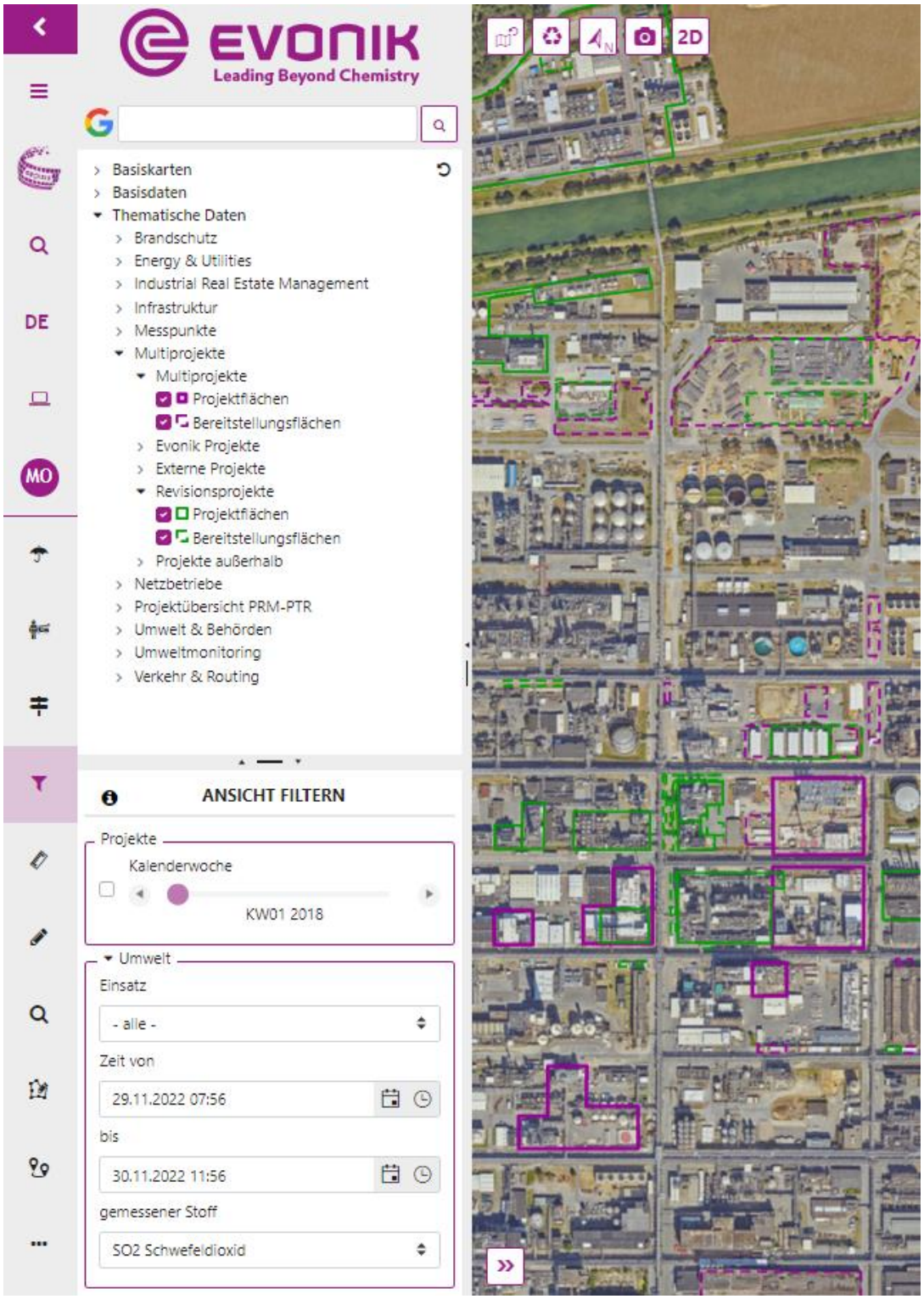
Please note: The applications especially at the bottom of the legend that are available to users are site dependent and therefore the applications described below may not be available at all Evonik sites. In addition, you must have the respective authorizations.

2.2.1 Navigation

The quick navigation takes you directly to a predefined map section. At the Marl Chemical Park, you can choose between port, gates and buildings. The desired object is displayed directly by clicking on it in the map, as here the high-bay warehouse in Marl.

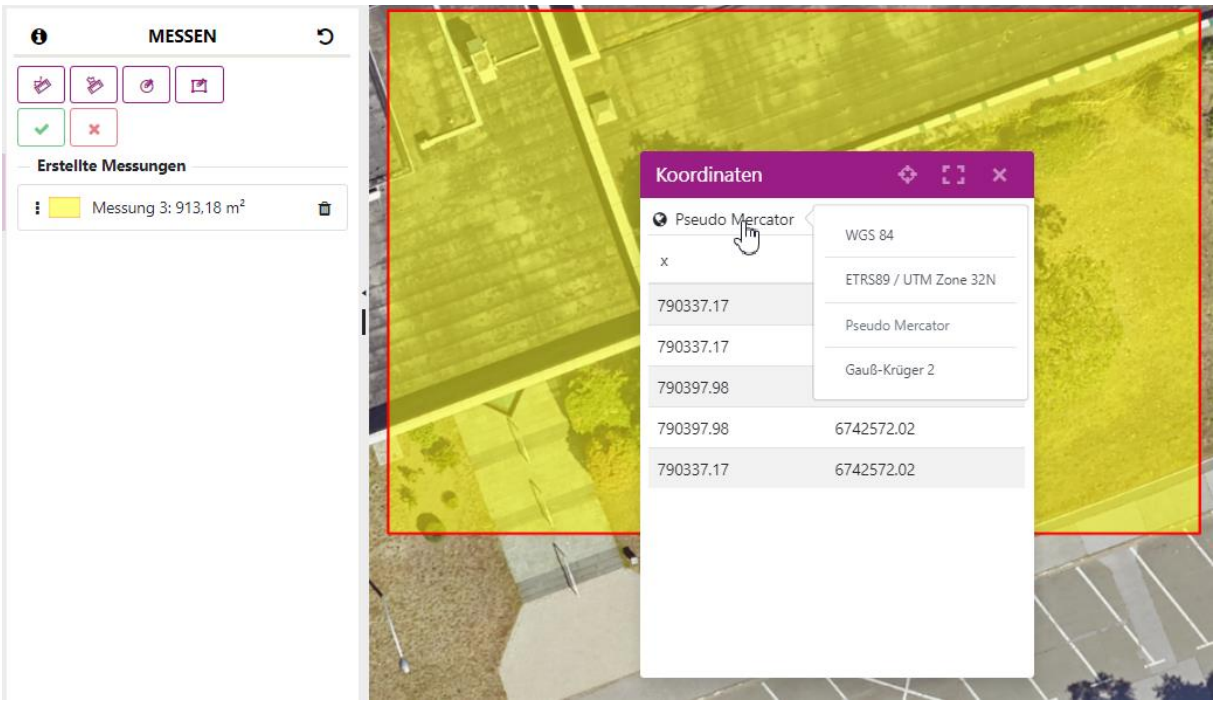
2.2.2 Filter view

To see the status of projects at the selected site, here Marl, this tool is helpful. To do this, you need to select the respective project and then you can either use the slider to see the projects or directly view the project area on a specific date.



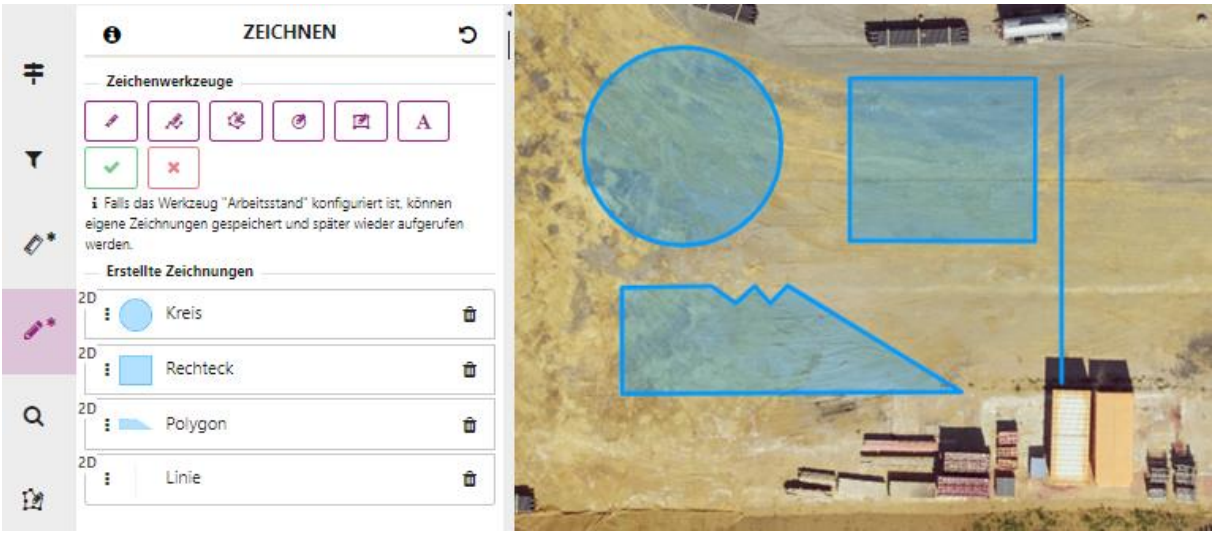
2.2.3 Measurement

This function tool can be used to measure distances and areas, as well as circles and rectangles. For this purpose, the corresponding tool is selected and the measurements can be defined by any number of click points in the map. By clicking into the measurement, the coordinate points can be displayed. Again, several coordinate systems are predefined from which one can choose. The trash bin next to the created measurement can be used to delete it. Here you can also display all functions and symbols by moving the mouse cursor over the symbols to be selected.



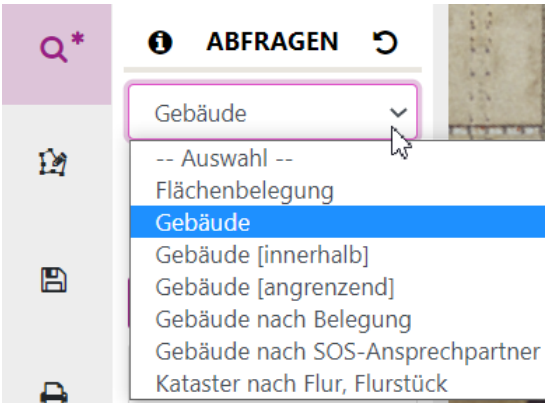
2.2.4 Drawing

Drawing is a good functional tool for planning. With the help of various drawing tools, both temporary drawings and texts can be placed within the map. You can choose between Draw point, Draw line, Draw polygon, Draw circle, Draw rectangle and Draw text. Drawings are completed with the right mouse button and a circle can be placed with the left mouse button held down. Furthermore, it is possible to choose between different colors, so that the drawings stand out from each other in terms of color, and it is also possible to display the dimensions, if desired. Drawings can be saved via the Workspace - see 2.2.7 Workspace.



2.2.5 Query

With this function tool the user can start a query in GEOISIS. For example, the following attributes can be selected from a predefined drop-down list:

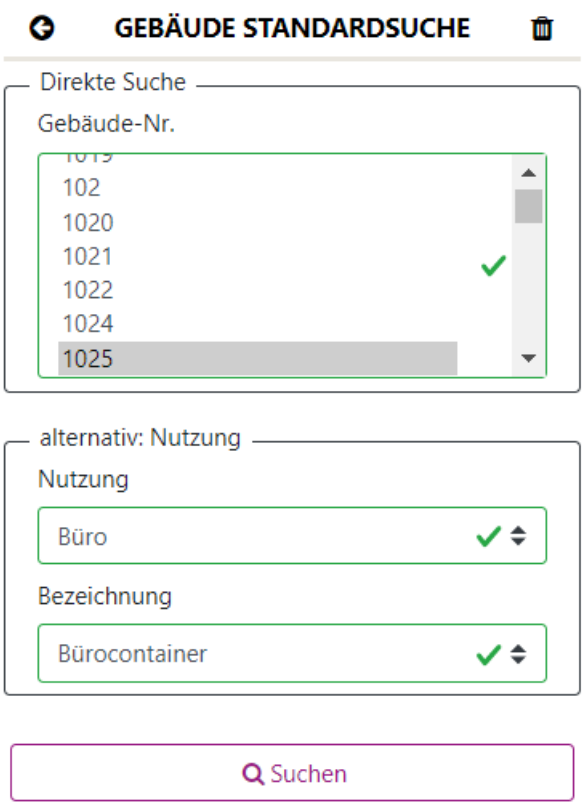


With the Execute button you start the query and the result is displayed in the aerial photo. When you click on the marked area, you will receive additional information about the selection via an information box, such as the size of the occupied area, the number of the construction area or even the use or designation of the respective building.

Furthermore, GEOISIS offers the possibility of an alphanumeric query, to be found in the legend under this symbol: A

Within the dynamic query attributes can be queried topic-related and displayed or output in tabular form. After selecting the desired topic from a list, another selection box is opened, in which additional attributes can be selected. Several attributes can also be selected; to do this, only the CTRL key must be pressed.

The search is activated by pressing the Search button.



The user then receives a list with the results of his query. This can then be exported to an Excel spreadsheet, the results can be displayed on the map and a detailed data sheet can be called up in which all the important information is summarized.

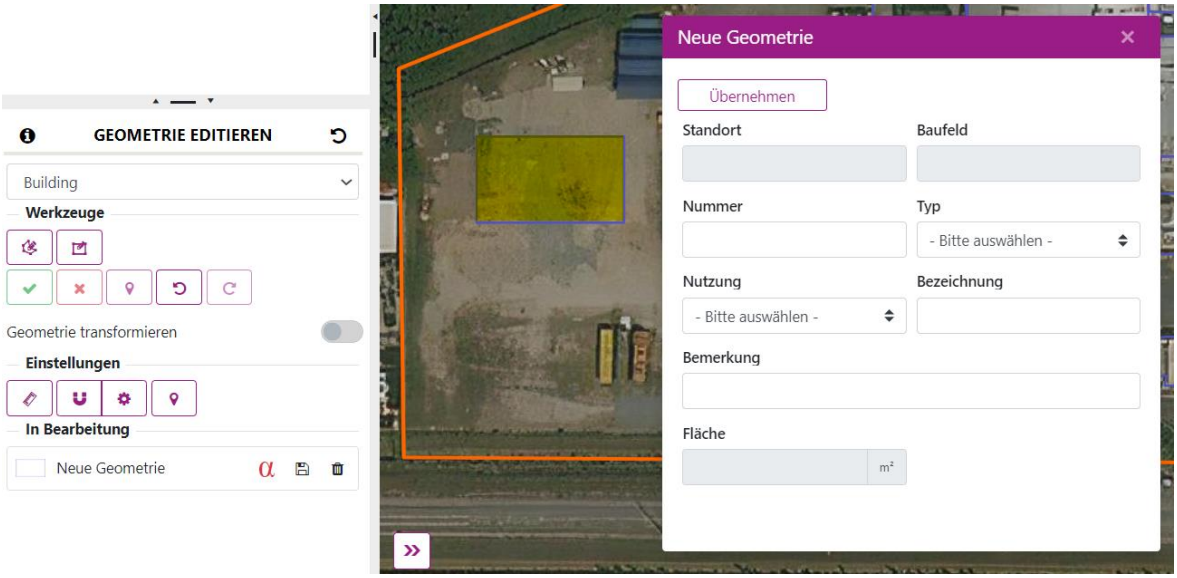
Exportieren als Excel

Details	Karte	Stand...	Gebäude...	Gebäudebezeichn...	Gebäudetyp	Gebäudenutzung	Fläche (m²)
		Marl	1025	Verwaltungsgebäude	Hauptgebäude IRE	Büro	1.337,07
		Marl	1990	Bürocontainer	Hauptgebäude	Büro	235,59
		Marl	2314A	Bürocontainer	Hauptgebäude	Büro	30,18
		Marl	2314B	Bürocontainer	Hauptgebäude	Büro	30,35

2.2.6 Edit geometry

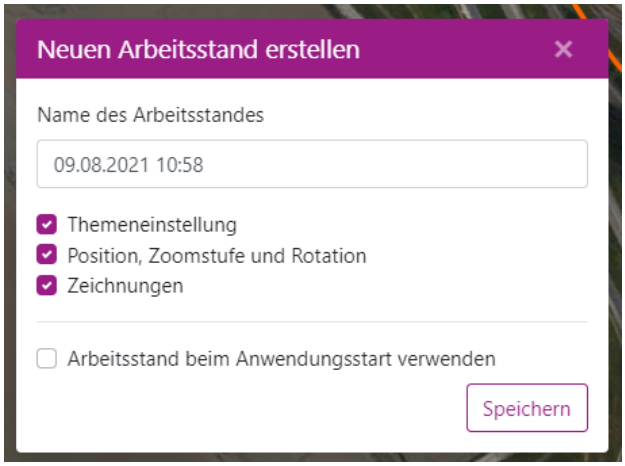
The Edit Geometry tool can be used to capture new objects as well as to edit existing objects. To capture objects, you can choose between polygons and rectangles. The geometry is then placed at the desired position on the map and an information window opens in which relevant data can be entered. The object then appears under the entry *New Geometry in the* legend and you can then save it or remove it again.

Furthermore, you can edit existing objects. To do this, select the geometry to be changed, which is highlighted in the map window, in the map. A change is now possible by drag and drop - for lines and polygons also outside the existing points. The geometry is displayed in the *In Process* section and can be saved or deleted there.

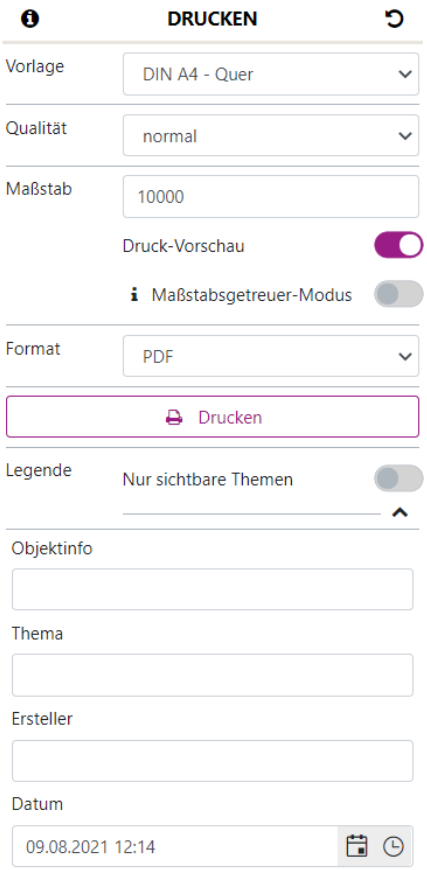


2.2.7 Workspace

In the function tool Workspace the user can predefine his own workspace for later use. Clicking the Workspace button opens the Create new workspace window. Several workspaces can be saved for each application. In addition, it is possible to specify whether and if so, which workspace should be loaded when the application is started. This is also the section where previously created drawings can be saved.



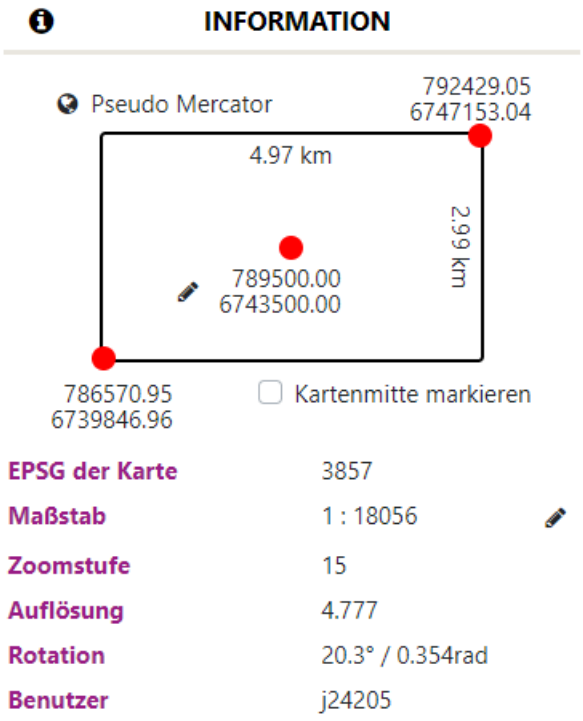
2.2.8 Print



The tool of map printing in GEOISIS offers the possibility to print map sections in a predefined format, either A4 or A3 both as landscape and portrait. Moreover, it is possible to add an object information, a theme and also the name of the creator to the printout.

2.2.9 Information

The *Information* button of the Geoportal provides general information about the displayed aerial photo section. This includes right and up value of the lower left and upper right corner of the image section, the width and height of the section as well as the selected zoom level. Furthermore, the predefined coordinate reference system can be seen in the worldwide unique EPSG code, here it is Pseudo Mercator, but it can be changed to WGS 84, ETRS89 or Gauss-Krüger 2. In addition, this button contains information about the rotation. This shows the angle of orientation of the map image with respect to geographic north in degrees and radians. Here, the value zero corresponds to the north orientation.



2.3 General symbols

In GEOISIS some symbols are always found in the applications, these are independent of the site or the applications.

Information button: here you can get more information about the individual tools

Undo button: with this you can undo drawings or also settings

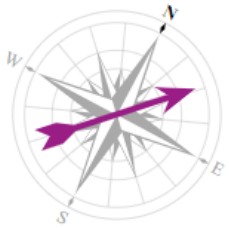
With a right click on the **three points,** further functions open up, such as the opacity within an aerial photo, which can be adjusted as desired, or you can switch on labels for the respective topic in order to obtain a description. Also in the area of redlining you have the possibility of further functions via the three points.

2.4 Weather data

In the GEOISIS application, in addition to the standard tools, there is also the Weather Data Tool.

The weather data is regularly updated every 5 minutes, so you can directly see the temperature, wind direction and also the wind speed at the site, among other things:

Aktuelle Wetterdaten



Temperatur	19,1 °C
Windrichtung	SW (224 °)
Windgeschwindigkeit	5,3 m/s
Böen	8 m/s
Windhoek	11,9 °
Luftdruck	1015,8 hPa
Luftfeuchtigkeit	68,8 %
Sonnenstrahlung	185 W/m²

Stand: 09.08.2021 14:30:00

In addition, one has the possibility to filter historical weather data. This function is especially useful in retrospect, if there was an incident at the site and you want to see what the wind speed was at that time, but also from which direction the wind came, for example.

2.5 3D function

At some sites, there are already other geospatial features and also analytics tools that you can use.

2.5.1 Elevation profile

The elevation profile function within GEOSIS offers you the possibility to create a linear section through any terrain in the Marl Chemical Park.
By clicking on the button *New elevation profile* and further clicks in the map you select both the start and end point. A diagram is then output in which the elevation profile is visible. This diagram can then be exported as an SVG file, PDF file or PNG file.

2.5.2 Visibility analysis

In addition to the elevation profile, you can create a visibility analysis, which is another form of GIS analysis function, in GEOISIS. With the help of the visibility analysis you can calculate which area you can see from a certain point or object.
Again, you start the analysis by clicking on the *New Visibility Analysis* button, another click starts the analysis. Here the click should be inside the map where you want to perform the visibility analysis.

In addition, other settings open from which you can choose. These are shown on the left side of the map.

3.0 Contact persons

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