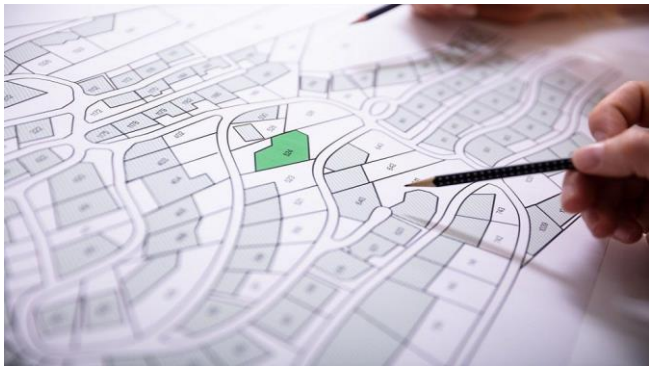


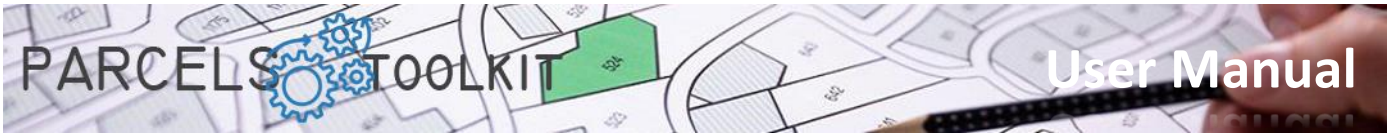
PARCELS

TOOLKIT

DESCRIPTION

System Operation Manual

MTB SOFTWARE



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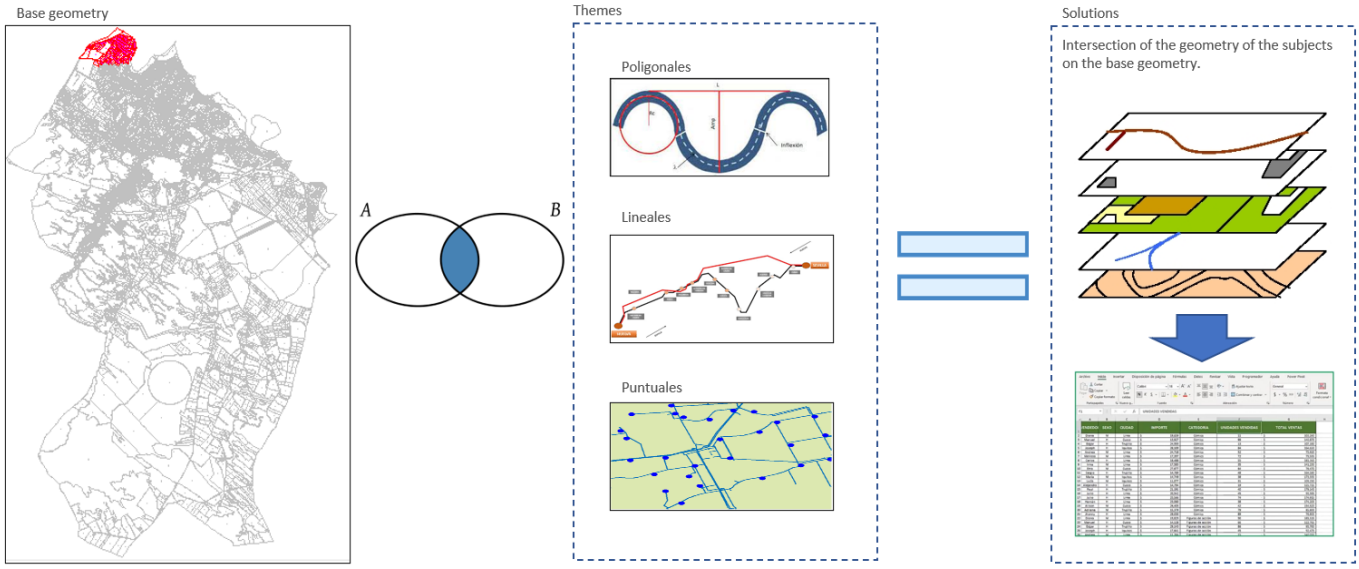
General concepts

Solution logic

The digitalisation of parcels offers a number of benefits, such as improved access and availability, efficient land management, data transparency and security, informed decision-making and support for economic development. These reasons make it essential to consider implementing digital systems to maintain and manage these records efficiently in the digital age.

The system defines three basic elements:

1. The base geometry. These are the base parcels on which the set of operations are to be carried out.
2. The themes. A theme specifies and stores a geometry type. The geometry of the themes is crossed with the base geometry in order to obtain what part of the theme is affected by each of the parcels contained in the base geometry. We have three types of themes:
    a. Polygonal. Closed polylines or circles. Use cases: Amount of territory to be expropriated to make a road, amount of territory affected by the placement of a wind generator, rafts or water tanks, etc.
    b. Linear. Open polylines and/or arches that cross the territory. Use cases: Water pipes, electricity, high voltage lines, waterways, etc. It is intended to know what length of each of the elements is affected by each plot.
    c. Specific. Blocks, texts or points. Use cases: Control points at certain dimensions, light points, etc. It is intended to know how many elements would be framed within each plot.
3. The solutions. Each topic has a calculation process that results in a solution. The geometry of the solution will always be of the same type as the geometry of the subject.



All three elements expose automatic drawing capabilities of your geometry, so you don't need to save the results to a drawing.

Both base geometry and themes also expose data export and import capabilities so that you can retrieve it in the context of a project or add it in the context of a new project. The results are exportable, but not importable. They are always the result of applying the calculation process of the subject on the base geometry.

The format for exports and imports is always Microsoft Excel, so they can be used in contexts other than the application.

The base geometry also exposes control tools to verify the quality of the digitization of the parcels by controlling the cases in which one plot infers in another.

The parcels of a population can be extremely extensive, if your goal is to have a digital inventory of the parcels you must arm yourself with patience and capture the entire set of parcels, this is an operation that we suggest be carried

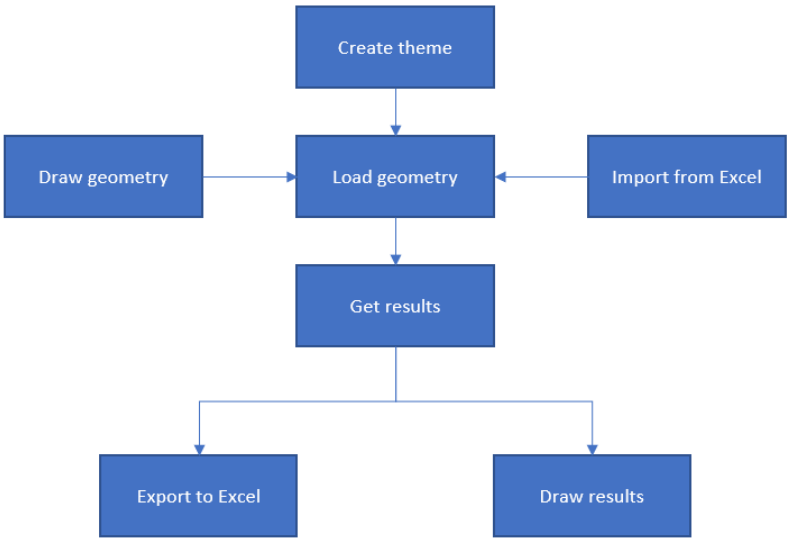
out in small phases gradually incorporating the parcels into the system. Once they are all saved you will not need to save more drawings, you can reproduce all that geometry from the base data of the project.

If the case is limited to managing a part of the territory on which the issues are going to be applied, it is not necessary to capture the entire parcel of the population, it would be enough to incorporate into the project only those parcels that will be likely to be affected by the issues.

Also, if you already have the entire parcel of the population, you can export only the set of parcels that may be affected and import them into a new project. When you have the geometry of the parcel you will no longer need to reload it into other projects, just import it from Microsoft Excel.

Thus, in the context of a project you can create as many topics as you deem necessary to meet the calculation needs that your project requires.

The workflow would be as follows:



You can modify and update the geometry of the topics as many times as necessary and relaunch the calculation.

Loading the solution

You have several ways to load the application into BricsCAD. You can choose the one that is most comfortable for you. After the solution is loaded, you will notice that it has a new collection of commands. They all start with the chain "PRC_". Throughout this manual all available commands will be listed specifying the functionality they execute.

Using the NETLOAD command:

Type or load the command into BricsCAD. When the standard BricsCAD dialog box appears, navigate on your computer to select the Parcels file.dll

Running the Parcels.scr script:

To do this you can execute the BricsCAD SCRIPT command by selecting this file. Basically what it does is call the NETLOAD command to force the loading of the library into the system.

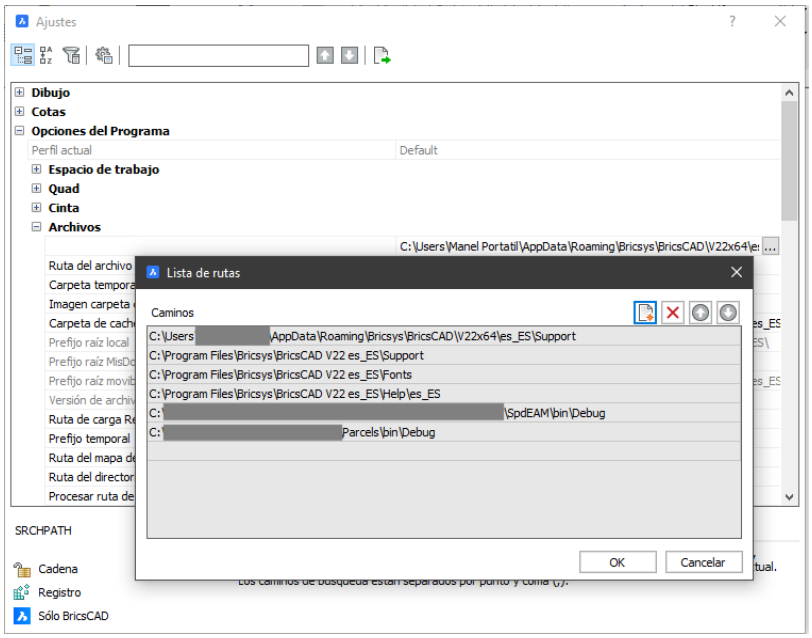
Forcing script loading when starting BricsCAD:

Another solution is to write a batch file that starts BricsCAD by forcing the script to run first. The file would contain a single command whose format would be similar to the following: "C:\Bricsys\Bricscad\bricscad.exe" /b "Parcels" Being the BricsCAD path the one you have defined in your system. You can also use this string in the context of a shortcut to BricsCAD.

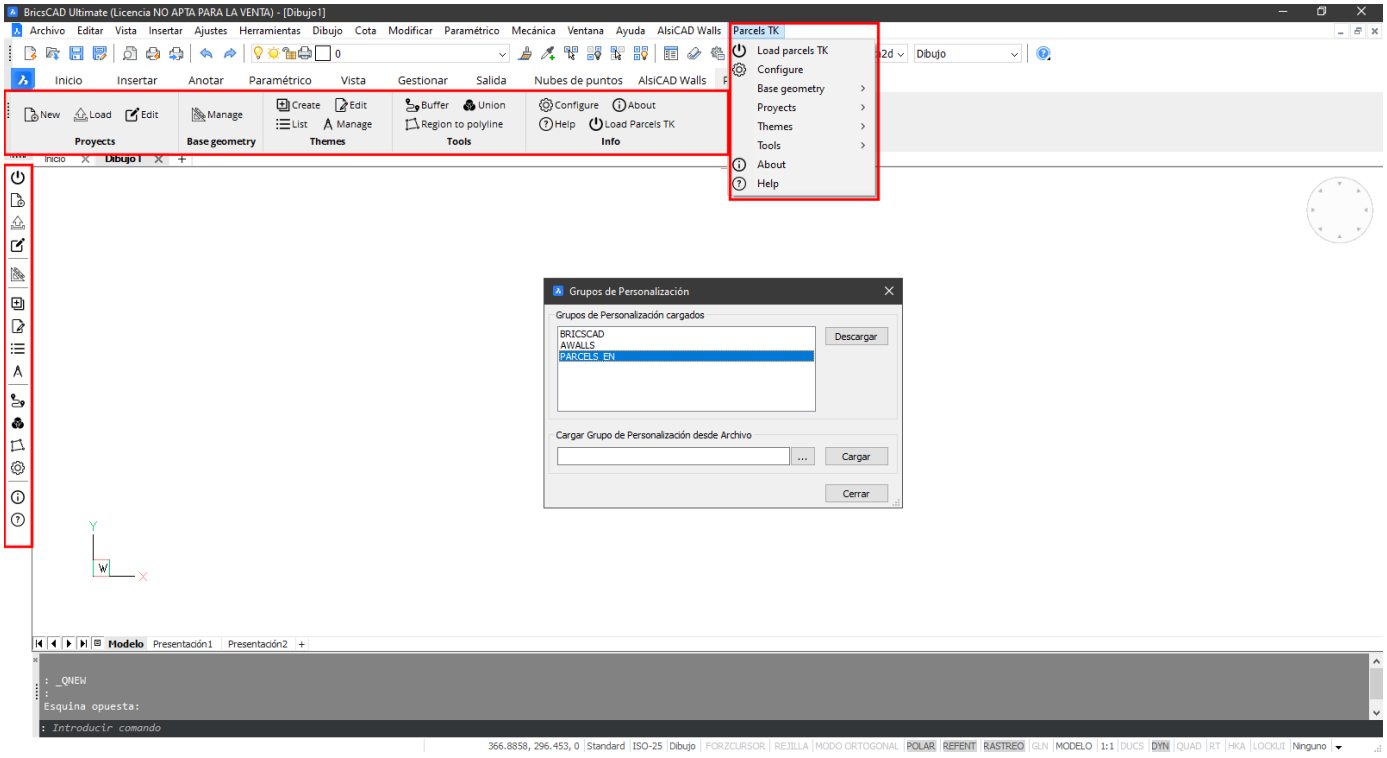
Creating a menu entry that invokes the script.

You can also customize your menu or toolbars to add an option that invokes the SCRIPT command by launching the application. The application menu incorporates a load button that will allow you to call the script without further problems.

Do not forget to add the path where you have installed the application to the BricsCAD paths so that you have no difficulty in finding the files for execution.



Do not forget to add any of the menus available for your application. To do this, you can run the _MENULOAD command and select one of the existing CUI files in the application menu folder.



Application folder structure

The installation is done by deploying the set of distributed files to a local folder on your computer.

A set of folders is created within this folder. You should not rename or delete any of those folders to ensure proper operation of the application.

The list of application folders is as follows:

Folder	Description
help	Contains the help pdf files . Among them this same document
languages	Contains the translation files for the different languages that you can use in your application.
menu	Contains the CUI menu files for each of the different languages you can use in the application.
projects	Default folder where to store the projects created by the user. It is not mandatory to save them in it, but it is the default folder when requesting the upload of a project.
template	Contains a *ParcelsTemplate.prc* project file that is used as a template for creating new projects. You can modify the parameters of a project and over write the template file. New projects will be created with the new parameters.
x64 / x86	Contains application-specific internal control files.

Significant application files

In addition to the set of libraries and assemblies necessary for the operation of the application components, there is a set of relevant files that we will detail:

File	Description
Parcels.dll	The main DLL of the application. It is the one that must be loaded using the NETLOAD command.
Parcels.cfg	Contains information about the general settings of the application.
Parcels.scr	A script file that will be used to perform an automated load of the application.
Parcels.lic	License file required to activate the application.
ParcelsTemplate.prc	A project template file that is used as a model for creating new projects. It is stored in the *template* folder.
*. trn	Translation files for each of the languages of the application. They are stored in the *languages* folder.
*.cui	Application menu files for each of the application languages. They are stored in the *menu* folder.

Loading the application

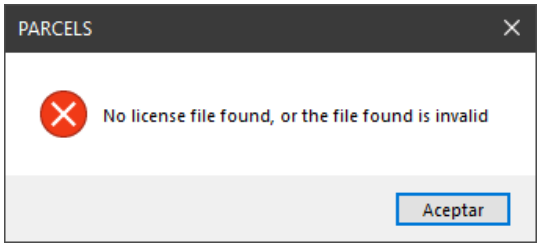
Launches the script that ships with the app to make it easier for the app to load.

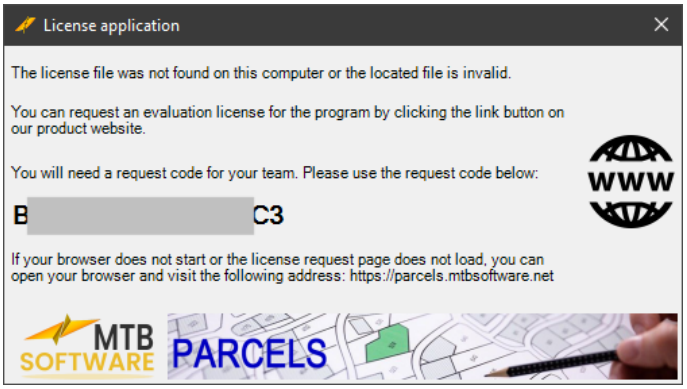
The upload process handles the loading of general application parameters, translation file, license file verification, and other information needed to initialize the application.

If everything has been done correctly, the system loads a splash form welcoming the application.

Obtaining a license

During application loading, the available license file is verified. If it is absent or invalid, a notice is given to the user and a form is loaded indicating the necessary steps to obtain a license for their computer.





Clicking on the "*www*" button will load the trial request or license purchase page. Following the instructions of the same you will get a *parcels.lic* file for your computer.

The form will display a request code associated with your computer. You will need that code to complete your license application. By double-clicking on it it will be saved in your clipboard and then used on the web.

Project files

A project file exposes the extension *"*.prc"*.

A project file stores:

1. The parcels, or base geometry, on which the crossing processes with the themes will be carried out. The information also includes the geometry of the same, so it is possible to dump all or part of the parcel in the current drawing.
2. The themes created for the project. It includes the geometry associated with each of them, so it is possible to dump all or part of the geometry associated with the theme into the current drawing.
3. The results of the executed crossings of each topic with the base geometry. It is also possible to dump the results obtained to the current drawing.

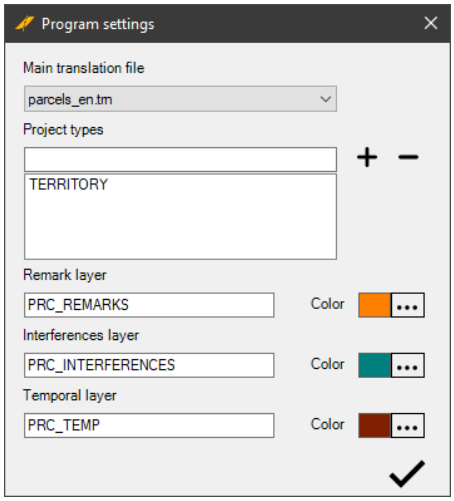
You can create as many projects as you need including the same or different base geometries. In cases of land management, where the parcels are usually extraordinarily extensive, we would recommend having a project that manages to store all the parcels, with all the correct identifiers and with the verified geometry that serves as a basis for exporting parts of it that serve as base geometry for new projects.

Within a project you can also create as many topics as you need to get all the information you may need in your land management operations.

Your projects will serve as repositories of your parcels and as a tool to carry out analysis processes on them.

Application configuration command

PRC_CONFIG



Upload the general project configuration form. The information that is displayed and updated with it is stored in the *Parcels.cfg* file. This is a json structure that you can edit with Notepad , although it is not recommended to avoid unintentional errors.

If the file does not exist, when you load the application, a configuration file is created with some default values.

Main translation file. Select one of the translation files available in the languages folder. By default, the file for Spanish is selected.

Project types. It manages a list of project types that it will then serve to select when creating a project. By default there is the term "*TERRITORY*" which translates as *"Territory Management"*. You can create as many as you need. It is only a descriptive attribute that will be used in projects, without any implication in the operation. Use the icons to add or remove project types.

Layer for remarks. This is the layer that the application will use to represent the remarques. A remarque consists of coloring a polygon with solid shading. The location of these features is set to the layer specified in this parameter.

Layer for interference. It is the layer where the possible interferences detected by the application between the parcels that form their base geometry will be highlighted.

Temporary layer. Some processes perform drawing operations on a temporary basis, the objects resulting from these processes will be drawn on the layer specified in that parameter.

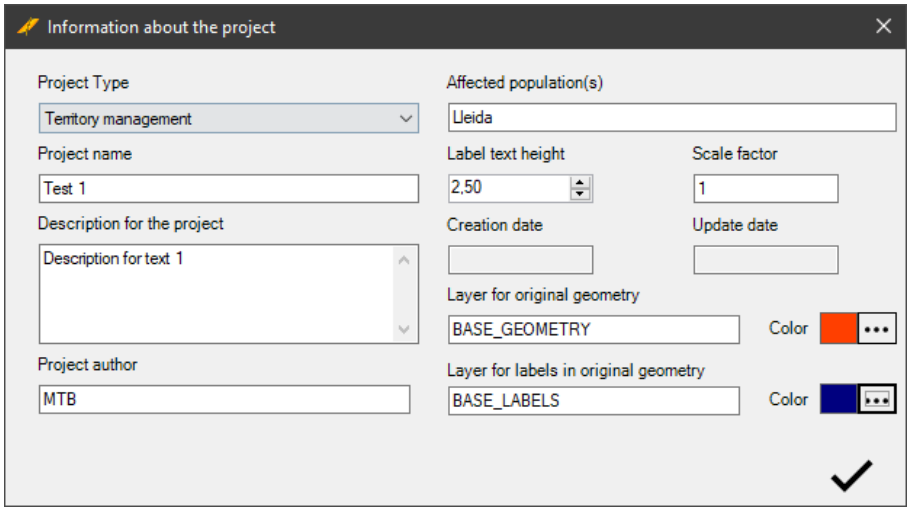
In the three previous cases the application will create and configure the layers and colors automatically for you.

Commands for projects

New project. PRC_NEW_PROJECT

Create a new project.

To do this, upload a form that you must complete:



Type of project. Allows you to set a project rating from the list of project types specified in the application settings.

The name of the project. Sets the name for the project to create.

Description for the project. Establish a description that allows you to better understand the objective of the project you are creating.

Author of the project. You can type the name of the person who creates the project, but it can be used for any other purpose.

Population(s) affected. You can type the name of the town or populations that the project will affect. You can also use this field for any other purpose.
Height for label texts.

Height label texts. When parcels are drawn in the current drawing, parcel labels are also included. This field sets the height of the texts (in drawing units) with which the polygon labels will be represented. This affects both the base geometry and the geometry of topics and results.

Scale factor. The values of area, perimeter of the parcels (or polygonal elements) as well as the length in the linear elements obtained in the drawing will always be multiplied by the value indicated in this parameter. If you have loaded your geometry from a full-scale parcel (1:1) the value you should indicate would be 1, but your base geometry may be loaded from scaled models, in these cases you must establish a value with which, when analyzing the results, you obtain area and length values according to the scale at which the base geometry is loaded.

As a recommendation, the ideal would always be to work on a real scale, this will greatly facilitate the tasks of drawing geometry for the topics.

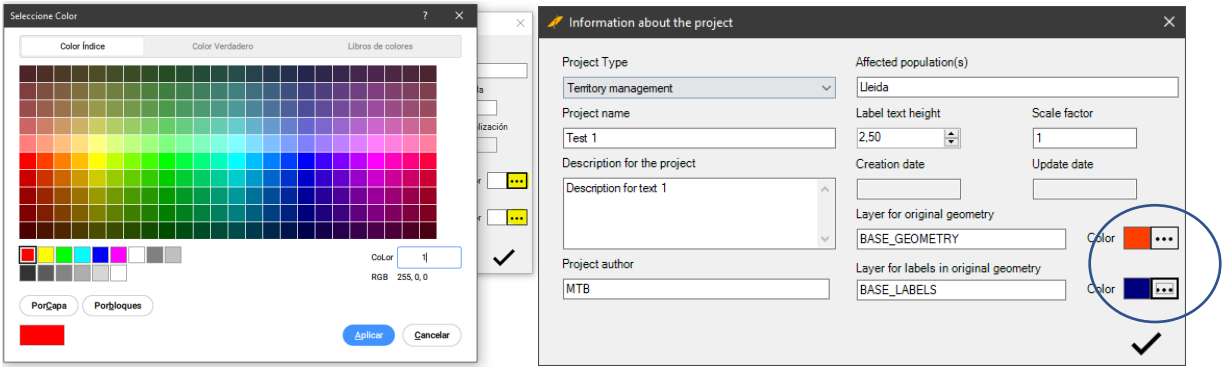
Date created. Sets the date the project was created. It is an automatic value and is only displayed when the form is loaded in edit mode.

Date updated. Indicates the date the project information was last updated. It is also an automatic value that is displayed when the form is loaded in edit mode.

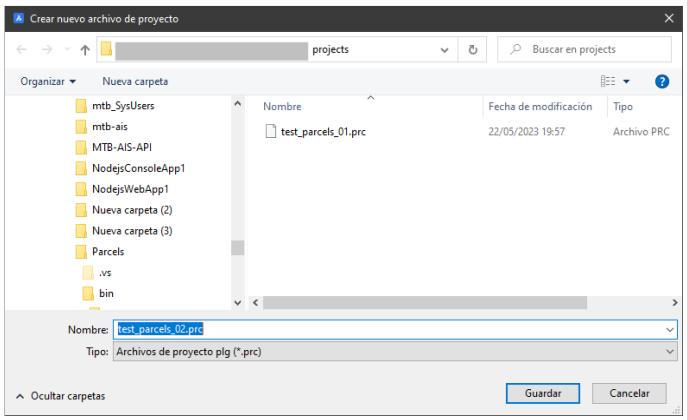
Layer for the original geometry. Once the geometry is captured you can dump it or draw it in the current drawing, the layer where the polygons are going to be drawn will be the one indicated in the parameter. The color for the layer will be as indicated in the color parameter for the base geometry layer. Polylines are always drawn with the color property set to *"ByLayer"*.

Layer for labels in the original geometry. When drawing the base geometry, the texts with the labels associated with each of the parcels are also included. With this parameter you set the layer and color where the texts will be represented. Texts are always drawn with the color property set to *"ByLayer"*.

By clicking on the "..." Regarding the color you can choose one of the ACI colors of BricsCAD that will be shown on the label to the left of it.



Clicking on the confirmation button checks the data contained in the form and asks where it will be stored.



The default folder is "*projects*", located in the same folder as the application, although you can choose any other location to store the new project.

Load project. PRC_LOAD_PROJECT

Load a project to the system.

The user is prompted to select the project file to set as current.

A file selection form is loaded for "*.PRC" files. Once the selection is made, the program loads the set of parameters established in the selected project.

If the upload was successful, a message is displayed on the command line.

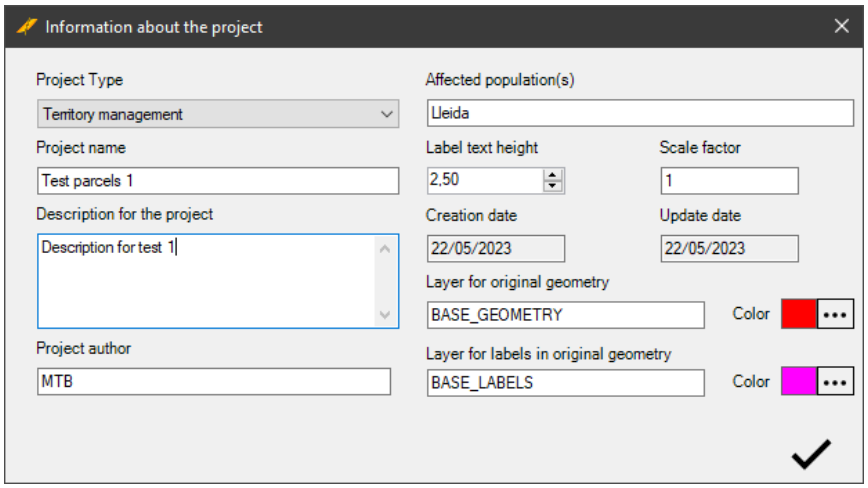
```
: PRC_LOAD_PROJECT
Established project: Test parcels 1
: Introducir comando
```

It is imperative that a project is loaded for the set of operations exposed by the application to function correctly.

Edit the current project. PRC_EDIT_CURRENT_PROJECT

Allows you to edit information about the current project.

To do this, load the form corresponding to the current project in edit mode.



Once the properties of the current project have been edited, by clicking on the OK button, and after checking the validity of the data, the values in the current project are updated, as well as in the project source file.

If everything worked correctly, a message is displayed on the command line:

```
: PRC_EDIT_CURRENT_PROJECT
Updating parameters...

Parameters updated successfully: C:\parcels\PARCELS Toolkit\projects\test_parcels_01.prc
: Introducir comando
```

Manage base geometry

The base geometry are the parcels on which the whole set of operations will be performed.

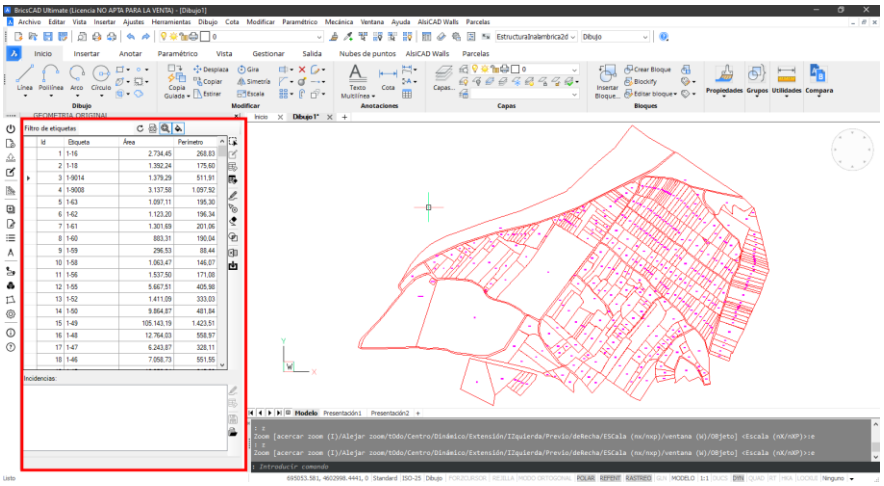
A project can simply consist of a general inventory of the parcels of a population, with the particularity that it has been able to receive processes of verification of interferences between parcels (digitization errors), with the assurance that all existing parcels have a label with a unique value, which makes them uniquely locatable in searches.

The geometry of the parcels is also stored in the project, so once the geometry is captured and purified, it no longer needs the original files with the cartographies. It is enough to draw its geometry in the current drawing.

Base geometry is managed entirely from a single pane of glass

Manage base geometry. PRC_BASE_GEOMETRY

Loads the dashboard from which you will be able to manage all the information related to the base geometry of the current project.



The panel displays two lists:

1. The list of available parcels. This list can show all parcels or it can obey a filter set at the top.

2. The list of incidents that can occur in the following operations:

    a. Loading the geometry from the original cartographies. The possible incidents for this type of operation would be the following:

        i. Polygon without internal labels
        ii. Polygon with duplicate tag value
        iii. Geometry storage process failed

    b. Control of interferences between parcels. It obtains the polygons that form these interferences, in addition to also exposing their area. These cases allow to locate possible digitization errors (misaligned parcels, vertices that invade collateral parcels, etc.). The interference area is exposed, if it is very small it may not deserve the retouching of the original geometry to correct the error. It all depends on the degree of precision in the results that will be required in the project.

At the top it exposes a toolbar that affects general aspects of the panel, they are buttons of the *"check"* type that are activated or deactivated and condition the behavior of other buttons located in the side toolbar.

On the right side it exposes a toolbar with the set of options available for the management operations of the base geometry, and a second toolbar with a set of options for the management of the incidents received in the processes.

At the bottom it exposes a line of messages where the system exposes indications and results of operations.

Loading the panel automatically reloads the list of parcels available in the current project.

The top bar

Tag filter:

If you type a chain, clicking the reload button will load the parcel list with those whose label begins with the specified string.

Perform only error handling on selection.

If it is enabled, when you perform the operation of capturing polygons of the drawing, the system, instead of incorporating them, will only check if they expose any of the expected incidents. The list of these issues will be displayed in the list box at the bottom of the panel.

It can be a good practice that, before starting to incorporate geometry, check for errors in it, make corrections and then incorporate the geometry into the project.

It is disabled, when performing the operation of capturing polygons of the drawing the system will store those that do not present incidents. Those that you detect with incidents will not be incorporated into the project, but will be displayed in the list box at the bottom of the panel to locate and recognize them.

Zoom to selection.

If activated, when you select rows in the grid where the parcels are exposed, the system will calculate their extension and zoom in on them.

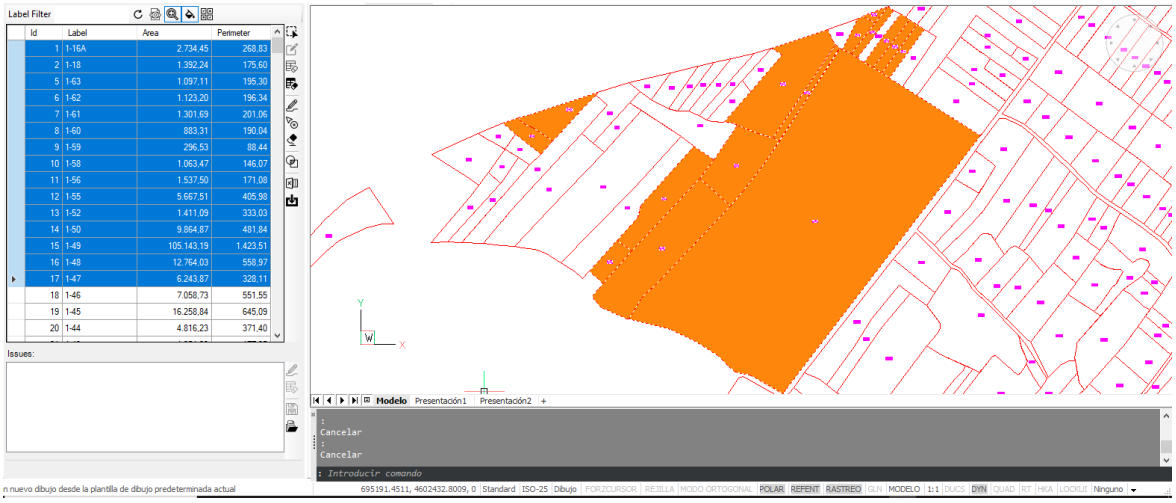
The zoom operation will only be performed on those rows of the grid whose geometry has been dumped to the current drawing. If there is no project geometry drawn, the selection on the grid has no effect on the drawing.

Highlight to selection.

If enabled, when you select rows in the grid where the parcels are exposed, the system will try to locate them in the drawing and make a solid shading on them.

The remarque operation will only be performed on those rows of the grid whose geometry has been dumped to the current drawing. If there is no project geometry drawn, the selection on the grid has no effect on the drawing.
The following is an example of selecting rows in the parcel grid and its effect on the current drawing.

Keep in mind that, previously, the geometry of the project has been dumped in the drawing so that it is findable.



Selection of parcels from the drawing

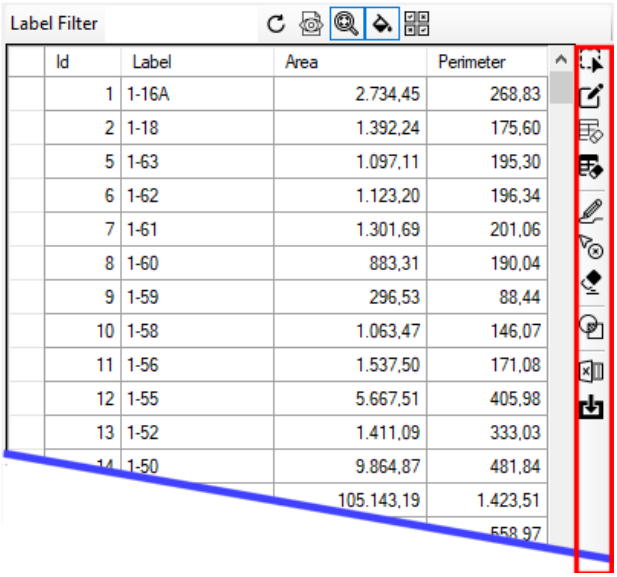
Select rows in the grid from a graphical selection in the drawing.

This option can be particularly useful in cases where you intend to make a selection using strictly graphical criteria

Clicking on the button requires you to select the objects you want to locate in the grid. Once the selection is ready you can apply the associated functionalities in the side toolbar.

The selection can be explicit, that is, by selecting the objects after clicking the button, or implicit, that is, by applying the previously selected objects in the drawing.

The sidebar of the parcels grid



Capture geometry from the current drawing.

Prompts the user for a selection of objects in the current drawing. Even if you select all types of entities, they are automatically filtered to process only closed polylines, circles, and text.

The validation of a parcel polyline is subject to compliance with the following conditions:

1. The polyline must be closed. In the case of circles that is evident.
2. It must have at least one text inserted inside the polyline. If there are more texts, the system concatenates them by placing a hyphen between them. Sorting is carried out by the y-coordinate of the insertion points.
3. The content of the label (after the concatenation process) must be unique in the system. No two identical tags can be supported in the same project.

If the conditions are met, the plot is added to the project, otherwise the incident is exposed in the list box located at the bottom of the panel. The insertion coordinate for the label is calculated based on the insertion points of the texts that compose it.

If the CheckButton that requests only the detection of errors is active, the system does not perform the last operation of incorporation of the parcel if it meets the conditions, it only adds the corresponding incident to those parcels that do not meet.

The tasks of digitizing the original planes, those from which we are going to extract the geometry, sometimes have not been completely refined so it may happen that we receive false positives in terms of absence of label, usually because the insertion point is not located inside the polygon. This case usually occurs on roads and canals. It can also happen that the construction of the label text is wrong, if a text of a plot was inserted by mistake in the adjacent plot this may be the case: A plot with the label badly composed and another without a label (or also with the label badly composed). This could also produce cases of duplicate labels by not having a correct composition.

All this should not worry you. The program offers tools so that you can control these incidents and solve them without too much effort.

In the case of the example shown in the original plan there are two texts in each polygon, the first of them represents the polygon to which the plot belongs, the second the plot number. There were equal

plot numbers but belonging to different polygons. The concatenation of texts solves the problem of the uniqueness of this data in most cases.

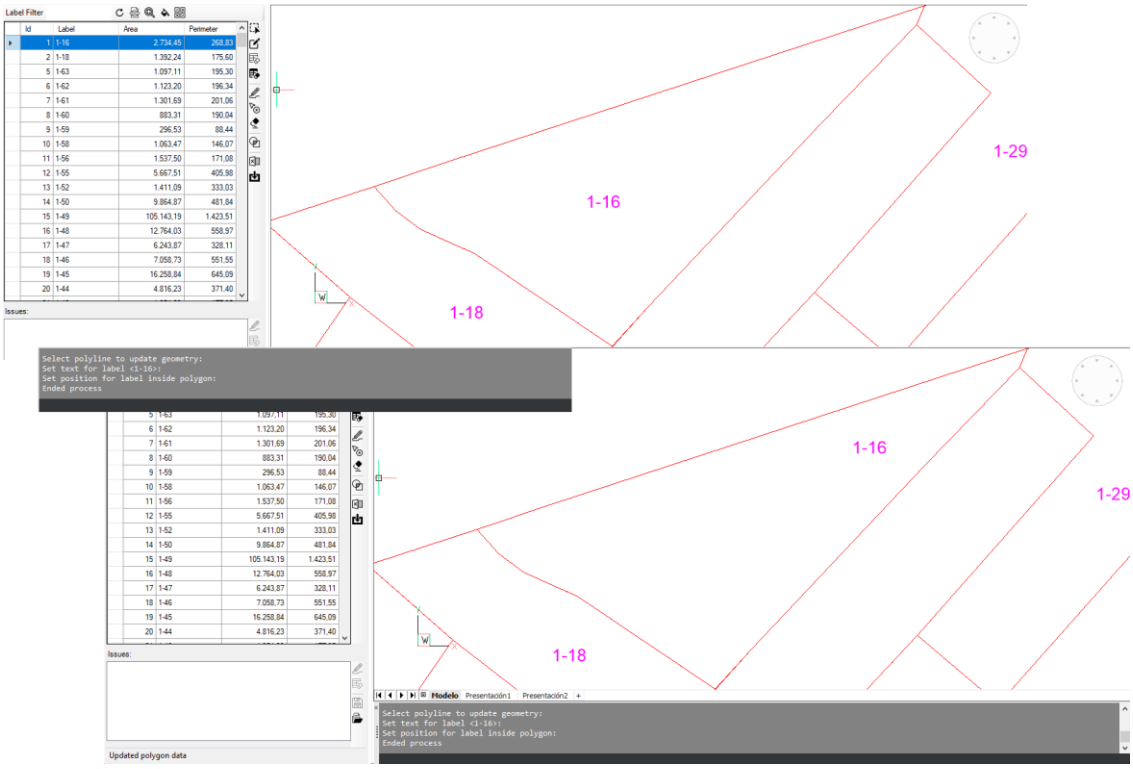
Edit a parcel

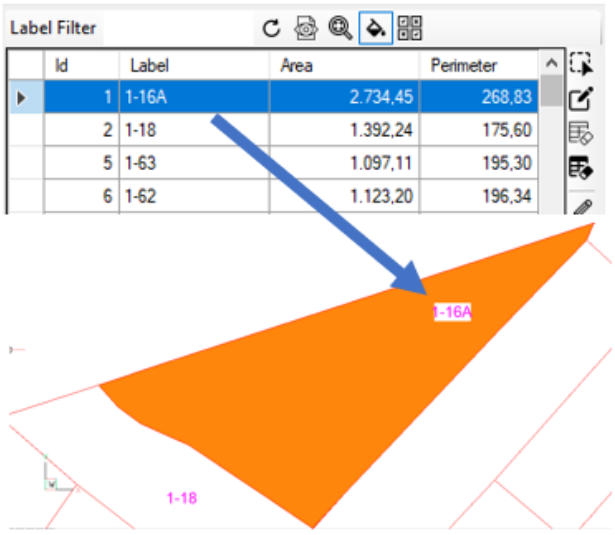
This button is only enabled when only one row is selected. It allows to completely edit a plot: Its geometry, the content of the label, as well as its position in the drawing.

Through the command line it is requested:

1. Select a closed polyline that will be from which the new geometry of the plot will be taken.
2. The contents of the label. Remember that the value must be unique in the system, otherwise it will reject your entry.
3. The position of the label inside the polygon.

With this option you can correct possible errors in the loading of the base geometry.





This example selected the same existing geometry, respected the same value for the label, but repositioned the label in the drawing. From now on, when you dump this plot in the drawing the label will appear in the new position.

You can also directly edit the contents of a label on the grid itself. Simply type the appropriate value in the corresponding cell. Before validating your entry, the system will check the uniqueness of the content. In case the content already exists in the project, the entry will be rejected.

Delete all parcels from the project

Deletes all existing parcels in the current project.

Be very careful with this option as it is irreversible. To recover the parcels you must reload or import them from a previous export.

It is useful while you are performing load and hazardous tests when the final parcels are already loaded in the project.

However, you should not worry if you are careful to protect your parcels by exporting them to Microsoft Excel, as you will see later.

Delete selected parcels from the project

Deletes the selected parcels in the grid of the current project.

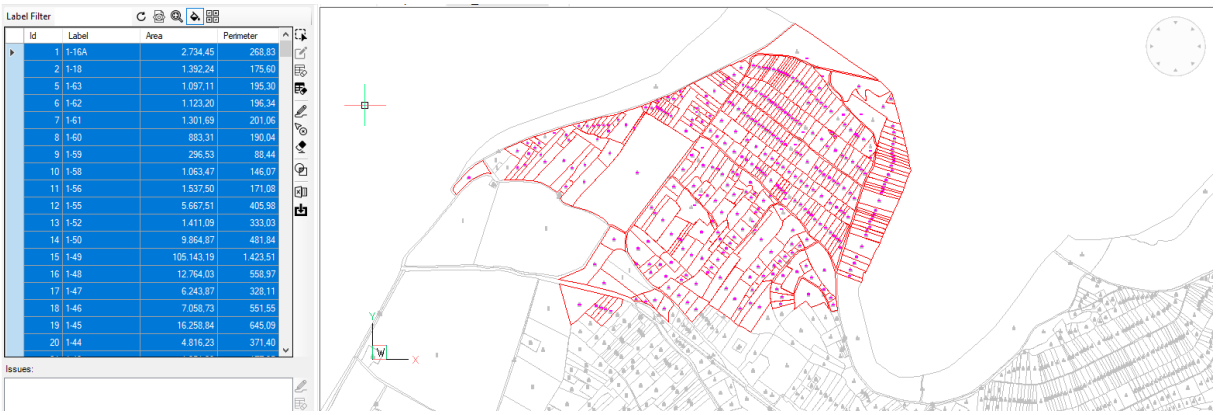
Like the previous case, this operation is irreversible.

Also, as in the previous case, you should not worry if you have the precaution of protecting your parcels to Microsoft Excel, as you will see later.

Dump the selected parcels to the current drawing

Draw the geometry and labels corresponding to the selected parcels on the grid. Each time the process is launched, the plot is erased in the drawing in the event that it already exists, thus avoiding duplicate parcels in the drawing.

A common practice is to dump the geometry of the project on the original drawing itself, from which we extract the geometry. With this we can check what part of the plot we have covered or not.

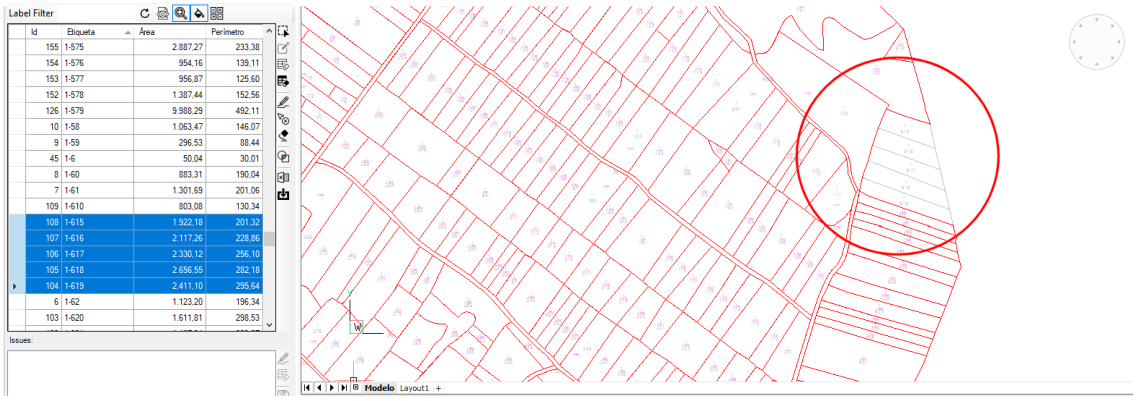


Delete the selected parcels from the drawing.

You can select a set of parcels and delete them from the current drawing.

This has no effect on the parcels stored in the project, since you can redraw them whenever you want, it has a strictly graphic objective.

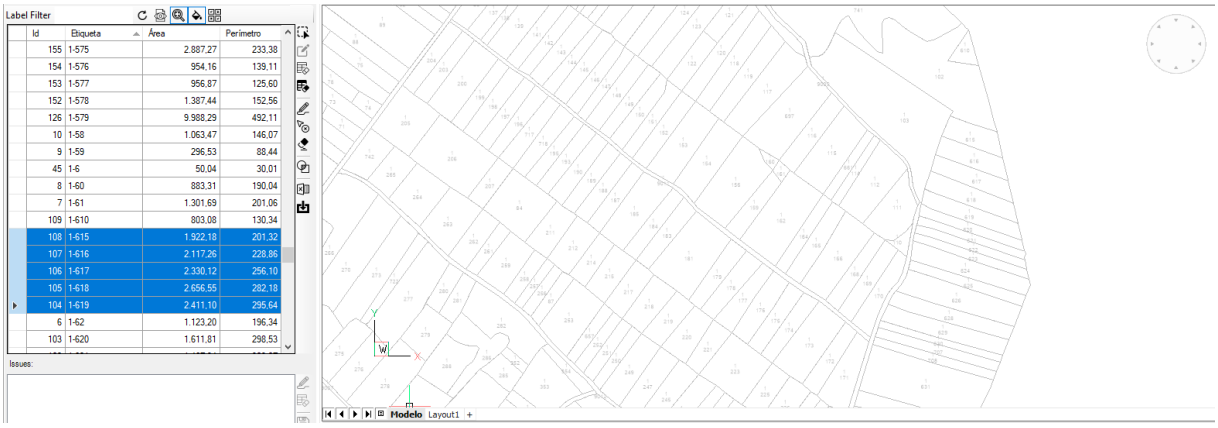
With this functionality you do not have to search for the parcels you want to remove from the drawing manually to execute the "_erase" command, just select them from the list. If they are not drawn, it has no effect.



Delete all parcels drawn in the current drawing.

Deletes all existing parcels in the current drawing. It does not matter that there are selected parcels, the system does not take them into account.

This operation also has no effect on the parcels stored in the current project, you can recover part or all of the parcels in the drawing whenever you need to.



Calculate interferences between parcels.

It performs an iterative control between all the selected parcels in the grid in order to locate possible interferences between them.

This operation allows to obtain the polygons corresponding to the interferences obtained and, therefore, to know their area. If this is relevant, it would be justified to remodel the contour of the affected parcels to correct the interference and then edit them by updating their geometry. With this you can get a very precise geometry.

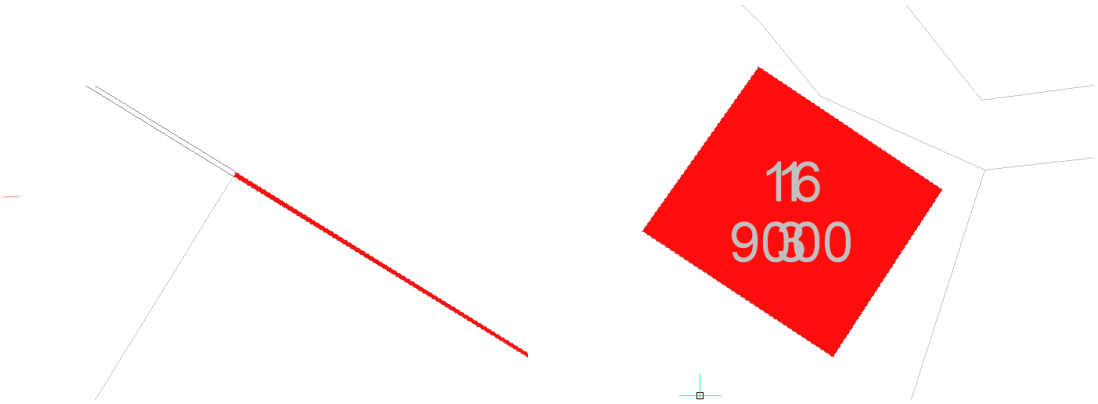
Since it is an iterative process, performing this operation with a very high number of parcels can consume a lot of time, it would be advisable to graphically select areas of the plane with the overturned parcels to verify if there is interference in them.

The results of this analysis are displayed in the list box at the bottom of the panel.

For each element, the area it covers is specified. You will need to assess whether the affected area may be relevant to the expected outcomes in the topics. In any case, it is always interesting to ensure the integrity of the geometry.

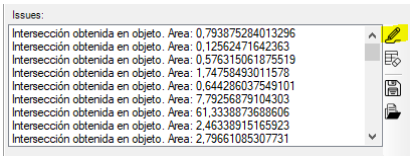
If the zoom and/or highlight buttons are activated, the system will focus and/or highlight the selected interferences.

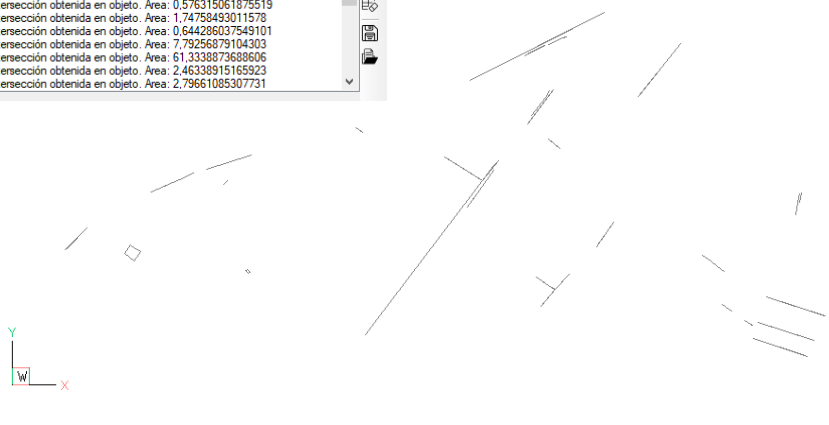
Generally, they tend to be interferences between plot boundaries, however, it can also be the case that a plot is within another, which is also something that, at least, must be taken into account.



As you will see later, you have options to store these incidents to be able to load them later and use them as a basis to make the corresponding corrections.

You will also have the functionality to draw interference in the current drawing.



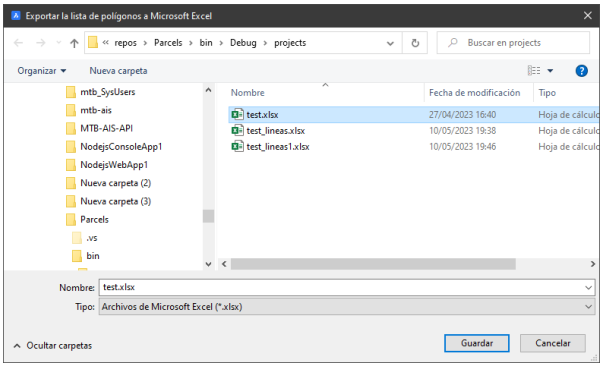


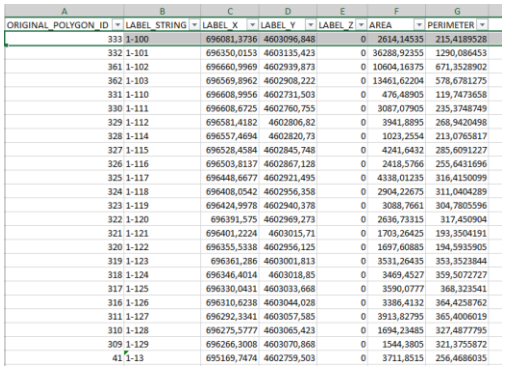
Export parcels to Microsoft Excel

Allows you to export the list of available parcels to a Microsoft Excel spreadsheet.

The exported file can be used to add the parcels contained in it to the current project.

Use this option to protect your information and incorporate it into new projects without having to perform graphical selection operations.



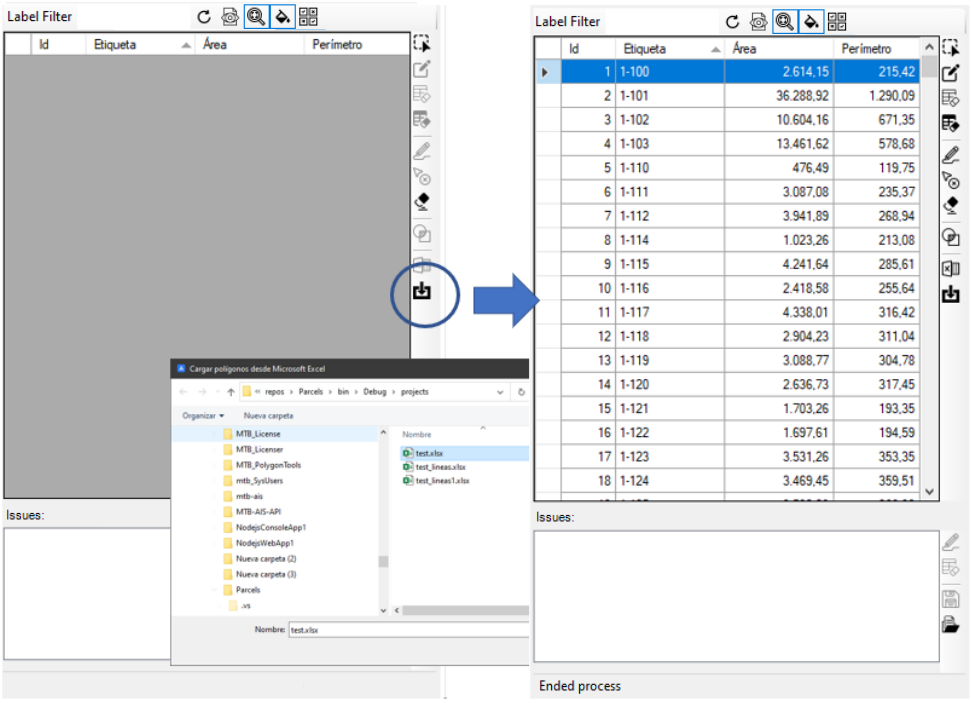


ORIGINAL_POLYGON_ID	LABEL_STRING	LABEL_X	LABEL_Y	LABEL_Z	AREA	PERIMETER
333	1-100	696081,3736	4603096,848	0	2614,14535	215,4189528
332	1-101	696350,0153	4603135,423	0	36288,92355	1290,086453
361	1-102	696660,9969	4602939,873	0	10604,16375	671,3528902
362	1-103	696569,8962	4602908,222	0	13461,62204	578,6781275
331	1-110	696608,9956	4602731,503	0	476,48905	119,7473658
330	1-111	696608,6725	4602760,755	0	3087,07905	235,3748749
329	1-112	696581,4182	4602806,82	0	3941,8895	268,9420498
328	1-114	696557,4694	4602820,73	0	1023,2554	213,0765817
327	1-115	696528,4584	4602845,748	0	4241,6432	285,6091227
326	1-116	696503,8137	4602867,128	0	2418,5766	255,6431696
325	1-117	696448,6677	4602921,495	0	4338,01235	316,4150099
324	1-118	696408,0542	4602956,358	0	2904,22675	311,0404289
323	1-119	696424,9978	4602940,378	0	3088,7661	304,7805596
322	1-120	696391,575	4602969,273	0	2636,73315	317,450904
321	1-121	696401,2224	4603015,71	0	1703,26425	193,3504191
320	1-122	696355,5338	4602956,125	0	1697,60885	194,5935905
319	1-123	696361,286	4603001,813	0	3531,26435	353,3523844
318	1-124	696346,4014	4603018,85	0	3469,4527	359,5072727
317	1-125	696330,0431	4603033,668	0	3590,0777	368,323541
316	1-126	696310,6238	4603044,028	0	3386,4132	364,4258762
311	1-127	696292,3341	4603057,585	0	3913,82795	365,4006019
310	1-128	696275,5777	4603065,423	0	1694,23485	327,4877795
309	1-129	696266,3008	4603070,868	0	1544,3805	321,3755872
41	1-13	695169,7474	4602759,503	0	3711,8515	256,4686035

Import parcels from Microsoft Excel

Allows you to import parcels from a Microsoft Excel spreadsheet.

You can use this option to recover the parcels in case of accidental or unintentional deletion in the current project, you can also use it to incorporate parcels in a new project, thus saving the selection process. If in addition these parcels have already passed the interference purification process, it will also save the detection process.



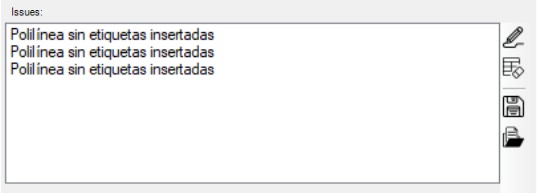
The list of issues

This list may include:

1. The list of parcels that the system rejected during the selection or loading process for failing to meet any of the required conditions.
2. The list of interferences detected during the detection process.

issues are not stored in the project, but it is possible to save and retrieve them in / from files of type "*. iss"

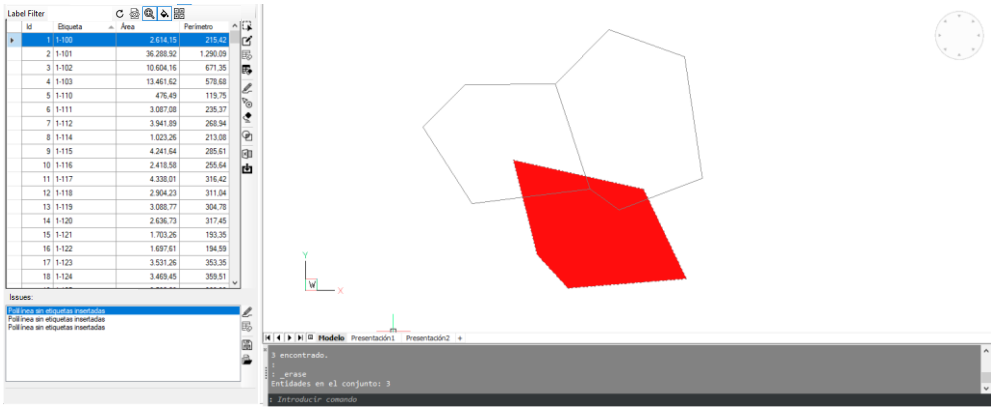
The sidebar of the issues list



Draw the detected incidents.

Dumps the geometry associated with the existing issues in the list box to the current drawing.

The system responds to the selection of items in the list by zooming or re-highlighting whether or not the buttons at the top of the panel are activated.



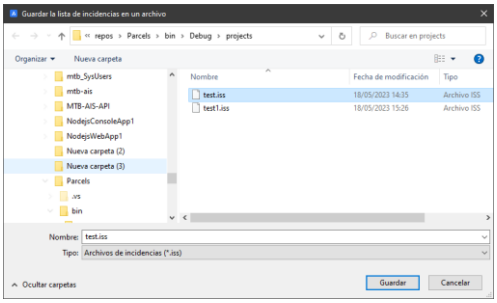
Delete all issues from the list

Deletes all issues contained in the list box.

This action disables all buttons except the *"*.iss"* incident file upload button.

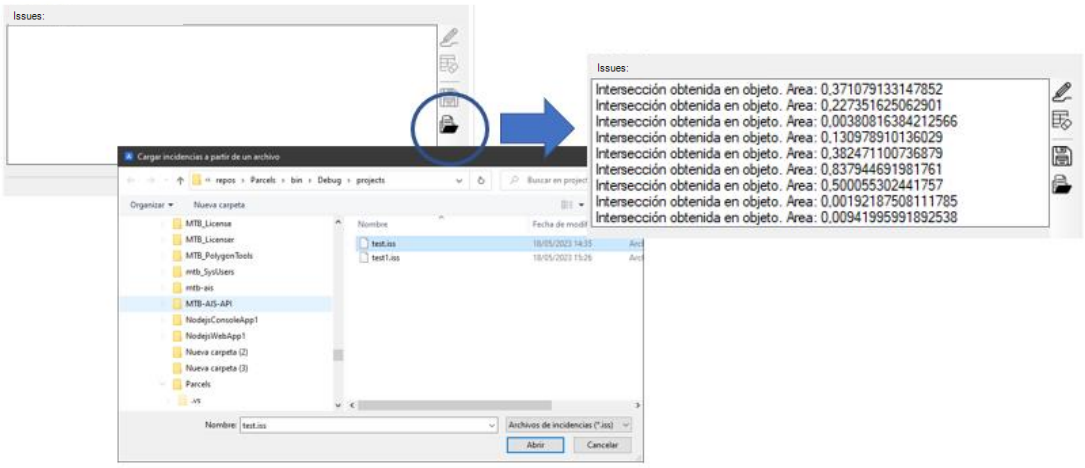
Save issues list

Allows you to store in a file the incidents contained in the list box.
To do this, it asks the user for the location and name of the file to be stored.



Upload incident file

Allows you to obtain the list of incidents stored in an *incident file "*.iss".*



Commands for themes

The themes are those geometric elements that we are going to create and use to cross them with our base geometry. With this we will obtain a set of geometries that will correspond to each of the parts of each element of the theme affected by each of the base parcels.

We can have three types of geometry for a theme:

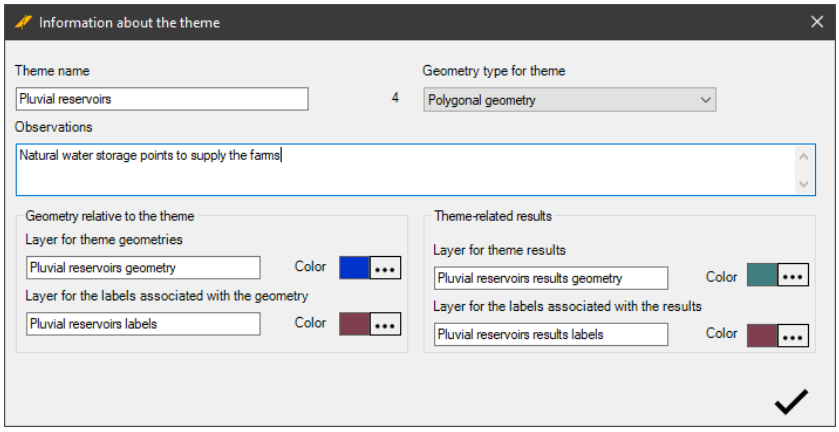
1. Polygonal.
    a. Closed polylines
    b. Circles.
2. Linear.
    a. Open polylines
    b. Lines
    c. Arches.
3. Specific.
    a. Block references
    b. Texts
    c. Multiple texts
    d. Points

The results obtained are always of the same type of geometry as the subject. You can create as many topics as you deem necessary to achieve the goal set for your project.

Create new theme. PRC_CREATE_THEME

Create new theme.

Upload a form where you can define the features for the new theme:



The parameters to be completed in the form are the following:

Name for the topic	The name by which the topic will be recognized in the context of the project.
Geometry type for the theme	You must select from the drop-down menu the type of geometry that will house the theme (polygonal, linear or point)
Remarks	Additional information about the topic.
Layer for theme geometries	The layer where the geometries loaded into the theme are going to be dumped.
Color for theme geometries	The color for the layer where the geometries loaded into the theme are going to be dumped.
Layer for geometry labels	The layer where the tags associated with the theme geometries will be dumped
Color for geometry labels	The color for the layer where the labels associated with the theme geometries are to dump
Layer for result geometries	The layer where the geometries obtained after the crossing process with the base geometry will be dumped
Color for result geometries	The color for the layer where the geometries obtained after the crossing process with the base geometry are going to be dumped.
Layer for result labels	The layer where the tags associated with the results will be dumped.
Color for result labels	The color for the layer where the tags associated with the results will be dumped.

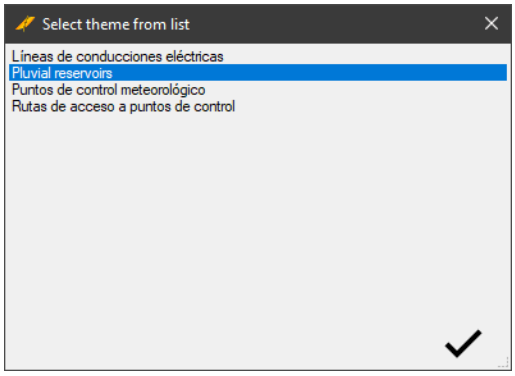
You'll notice that layer names are automated based on the theme name as the theme is typed. You can change the names according to your taste or needs.

The geometries and labels dumped to the current drawing are always drawn with the color property set to "ByLayer", so they will always take the color of the layer to which they belong. However, you can manually change this property or directly change the color of the layer.

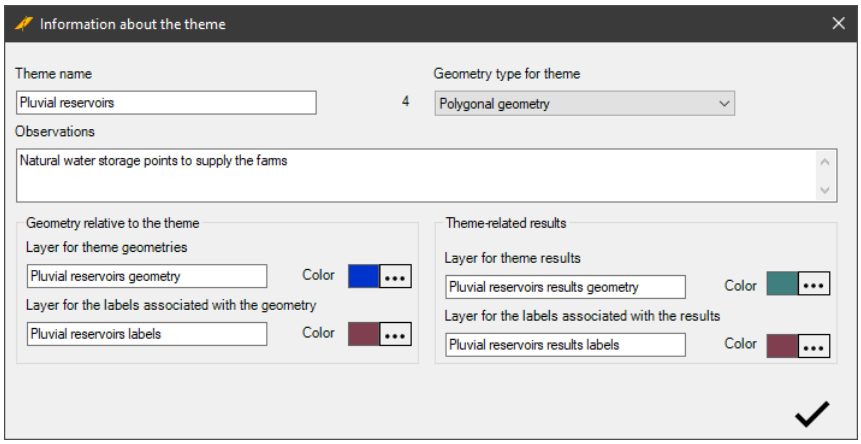
Edit existing topic. PRC_EDIT_THEME

Editing an existing topic.

Upload a previous form from which you will select which topic you intend to edit.



Once the selection is complete, load the form where you can define the new features for the selected topic.

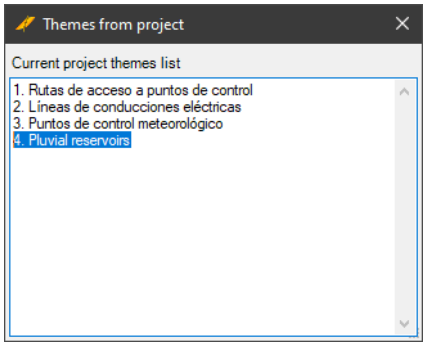


Make any changes you deem appropriate and validate the form by clicking on the confirmation button at the bottom right.

List existing themes. PRC_LIST_THEMES

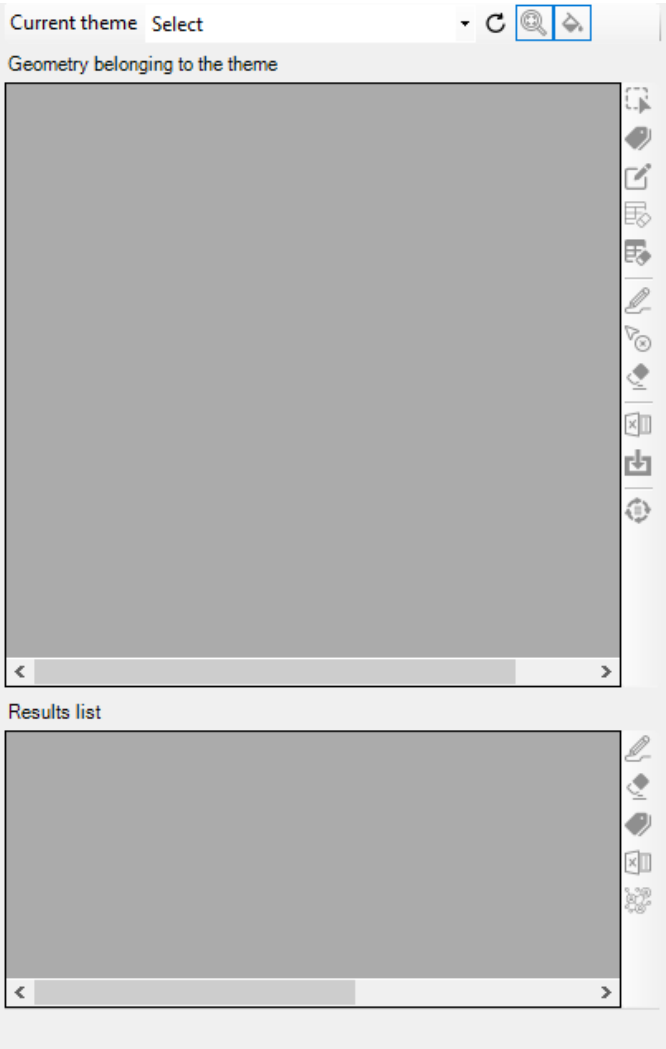
List existing topics in the current project

Upload a form with the names of existing topics in the current project. It is a purely informative functionality.



Theme management. PRC_THEMES_GEOMETRY

Load a panel, initially on the right side of the screen, from which you can perform all geometric loading operations in the themes and launch the crossing processes with the base parcels.



It exposes three clearly defined zones:

The header. Where it exposes a drop-down selection box from which you can determine which topic you are going to work on. It also exposes three additional general-purpose buttons:

Reloads the list of topics in the drop-down selection box. Use this button if you create any themes with the panel already open.

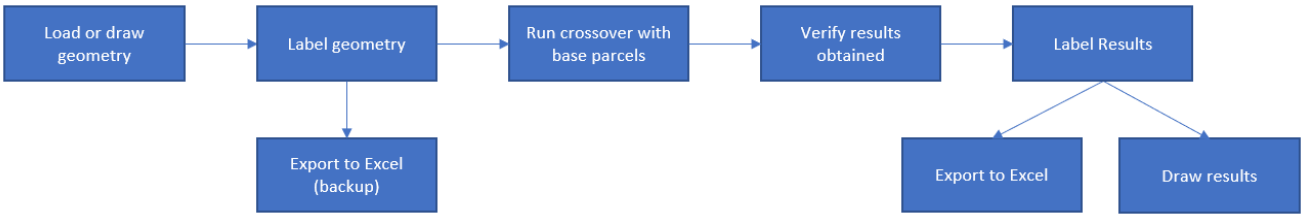
It is a CheckButton, if it is active it makes that when elements are selected in the lists they are zoomed on in the drawing, all assuming that they are drawn.

It is a CheckButton, if it is active it makes that when elements are selected in the lists a highlight is made on them in the drawing, all in the assumption that they are drawn. In the case of polygonal themes the highlight is completed by a solid fill, in the case of linear or specific themes a highlight is made on the objects.

The geometry list of the theme, with its toolbox for capturing and rendering it. It also exposes the cross process execution button, as well as supports exporting the geometry to Microsoft Excel.

The list of results. Which is automatically completed with the results of executing the process of crossing the theme with the base parcels. It also has tools for drawing, labeling and exporting to Excel.

The natural workflow in the context of a topic would look something like this:



You can run the process as many times as you deem necessary. Results are always overwritten. You can save the results to an export for your calculation or broadcast operations, but you will not be able to reload them in the theme since the results are always the product of the execution of the crossing process.

When you select a theme in the drop-down, the geometric information and results (if any) are loaded into the panel grids. Likewise, depending on the context, the available buttons associated with each of them are activated or deactivated.

Before starting operations with themes, it is convenient to have the geometry to be stored drawn. If you have controlled object types or layers, you can make selections faster and more efficiently, although it is not strictly mandatory.

It is also interesting to have represented in the drawing those parcels likely to be affected by the theme since they will serve as a guide to draw their geometry. However, parcels are not required to be drawn to execute the crossing process.

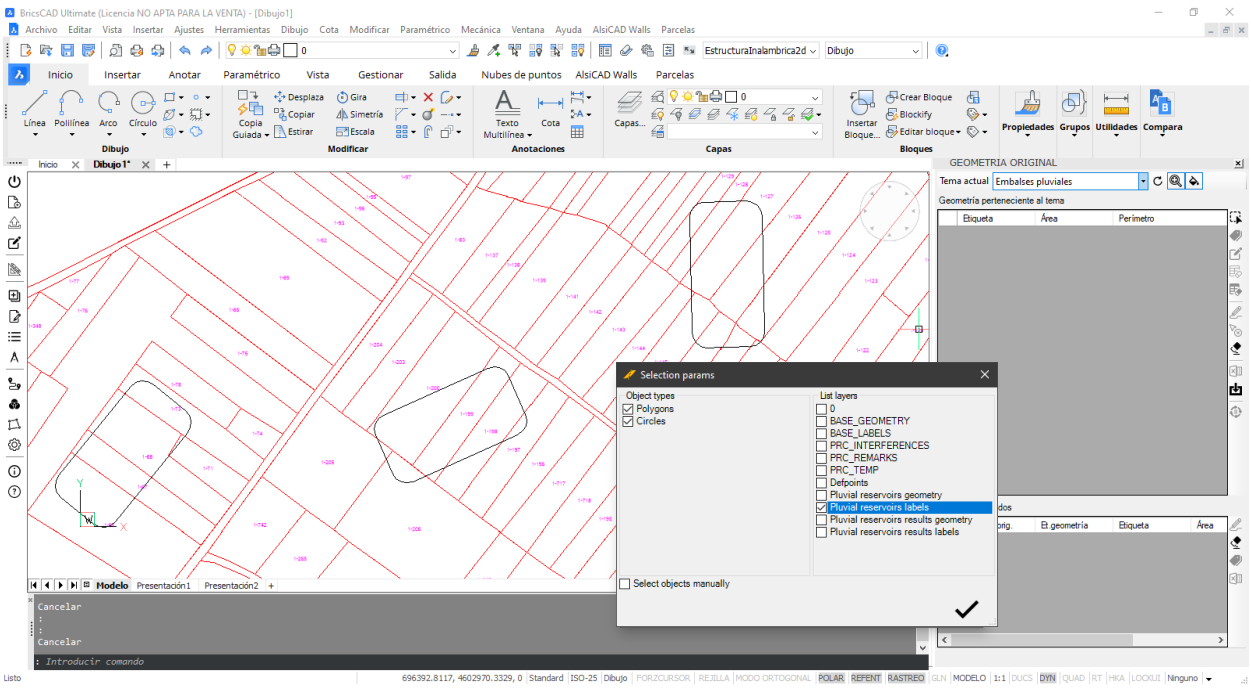
Theme geometry

Below, we list the available buttons and their functionalities:

Select geometry.

It allows you to select the geometry that we are going to incorporate into the theme. Depending on the type of geometry of the theme, the object types to be selected will be of a different nature. In any case, the program will guide you effortlessly.

Initially it loads a previous form from which you can define how the selection of the objects will be.

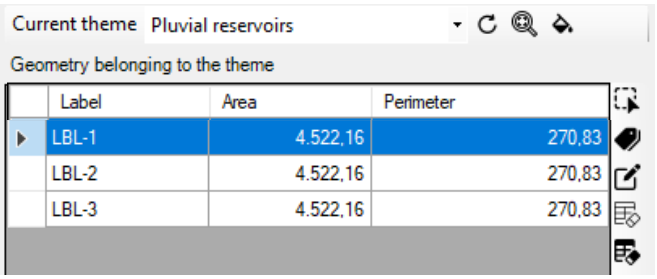


You can force an automatic selection based on the type of object and the layer or layers to look for those objects on. In these cases the system will perform a search in the drawing following these parameters and add the elements found in the list of geometries of the theme.

If, on the other hand, you want to explicitly select the elements on the screen, simply activate the CheckBox "Select objects manually". In that case, when you click the confirmation button the system will prompt you to select the objects in the drawing. You can make a bulk selection of objects; the system will filter them based on the type of object supported.

In the current example we have drawn three ponds to store water and we want to know which parcels affect and with what area to prepare an expropriation plan. We have been careful to draw the polygons in the "RESERVOIRS" layer, so we will select closed polylines or circles that are in this layer.

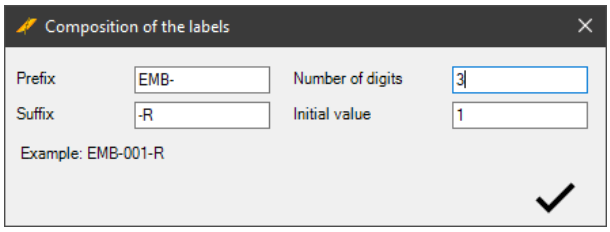
The system uses a standard labeling method consisting of the prefix "LBL-", a continuous numerical value. However, you can tag manually by typing directly into the cells in the "Label" column, or you can use the auto-tagging tool.



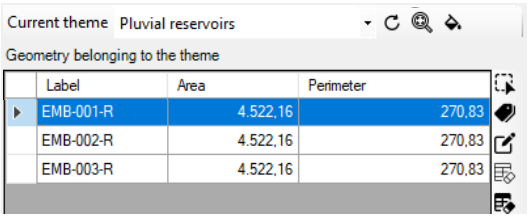
Label	Area	Perimeter
LBL-1	4.522,16	270,83
LBL-2	4.522,16	270,83
LBL-3	4.522,16	270,83

Automatic tagging.

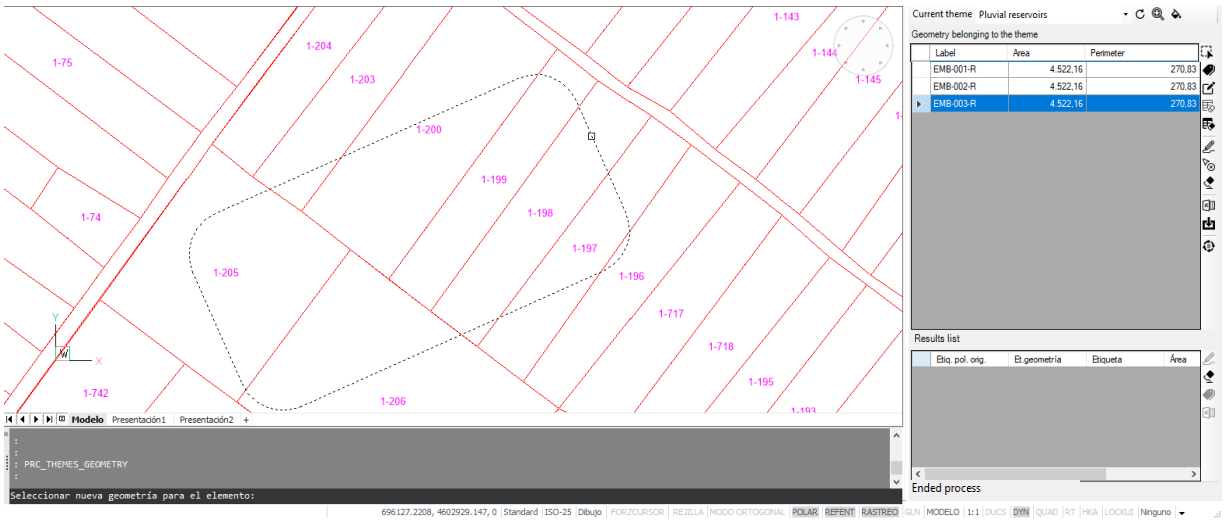
Allows you to label all rows according to specific criteria. Clicking on this button loads a form from which you can define how you want the labels to be updated.



Prefix. The string to display before the numeric value.
Suffix. The string to display after the numeric value.
Number of digits. Specifies how many characters to display the number with (empty positions are filled with zeros).
Initial value. Specifies the number from which to start counting to compose the labels.
At the bottom is an example of how the contents of the labels will be based on the parameters set.



Edit selected geometry.
It is activated when only one row is selected, as with parcels, you can edit the geometry of the element, its label and the position of it.

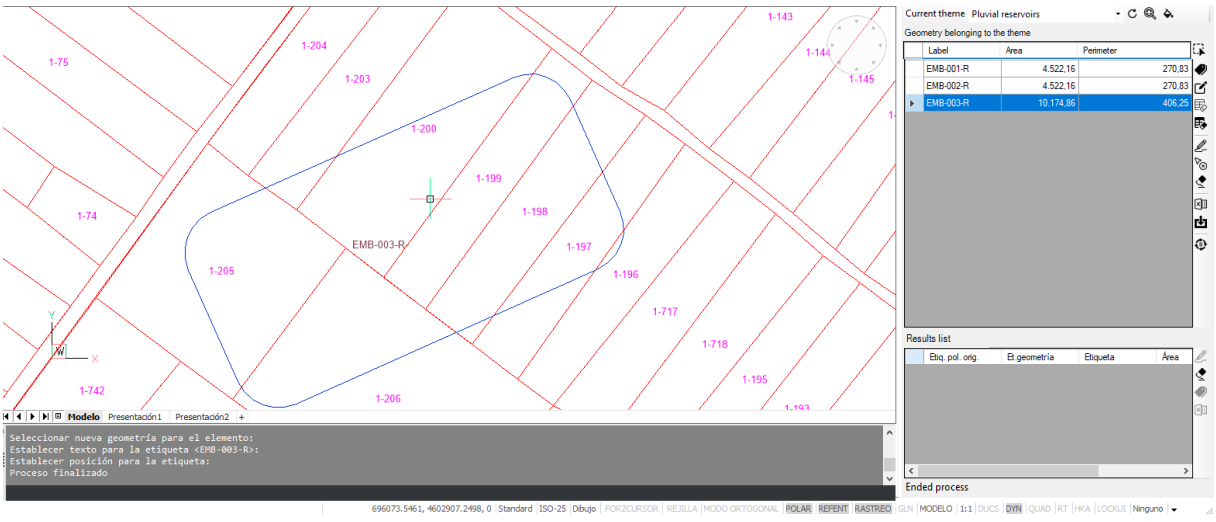


In the example, the dimensions and orientation of reservoir number 3 were modified.

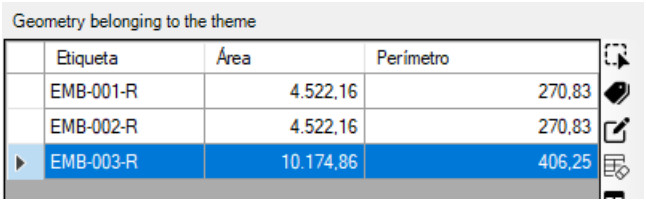
```
Select new geometry for the object:
Set text for label <EMB-003-R>:
Set position for label:
Ended process
```

The new polygon has been selected, the text for the label has been maintained, and a new position for the label has been manually set.

The result would resemble the following:



Note that the area and perimeter have taken other values than the previous ones.



Remove all geometry from the system theme.

Deletes all existing geometries in the selected theme.

Be very careful with this option as it is irreversible. To retrieve the geometries, you must reload or import them from a previous export.

however you should also not worry if you are careful to protect your geometries by exporting them to microsoft excel as you will see later

Delete the selected geometries.

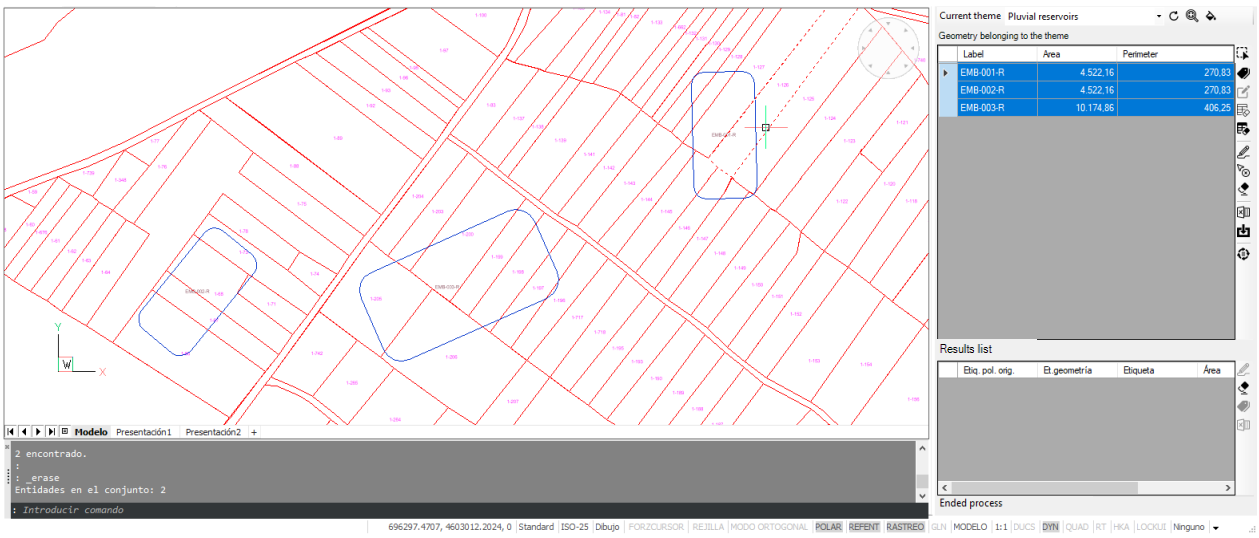
Deletes the selected geometries in the grid of the selected theme.

Like the previous case, this operation is irreversible.

Also, as in the previous case, you should not worry if you are careful to protect your geometries to Microsoft Excel, as you will see later.

Dump the selected geometry

Draws the elements and labels corresponding to the selected geometries on the grid. Each time the process is launched, the geometries in the drawing are erased in the event that it already exists, thus avoiding duplicatesin the drawing.



Delete selected geometries from the drawing

You can select a set of geometries and delete them from the current drawing.

This has no effect on the geometries stored in the project, since you can redraw them whenever you want, it has a strictly graphic objective.

With this functionality you do not have to search for the geometries that you want to remove from the drawing manually to execute the "_erase" command, just select them from the list. If they are not drawn, it has no effect.

Delete all geometries in the drawing

Deletes all existing geometries in the current drawing. It does not matter that there are selected geometries, the system does not take them into account.

This operation also has no effect on the geometries stored in the current theme, you can retrieve some or all of the geometries in the drawing whenever you need to.

Export geometries to Microsoft Excel

Exports the list of available geometries to a Microsoft Excel worksheet.

The exported file can be used to add the geometries contained in it to the current project.

Use this option to protect your information and to incorporate it into new projects without you having to perform drawing and/or graphic selection operations.

Import geometry from Microsoft Excel

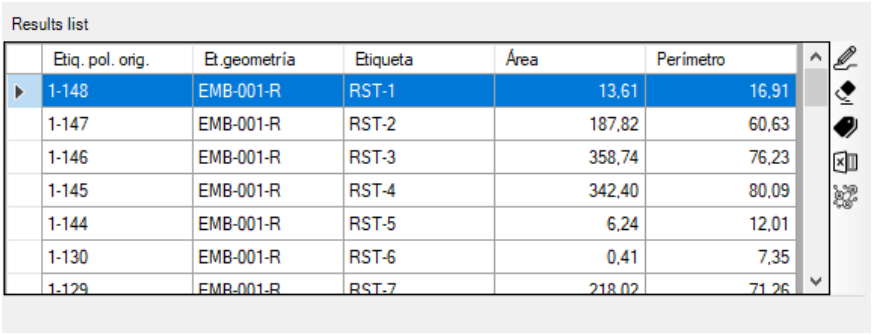
Allows you to import geometry from a Microsoft Excel worksheet.

You can use this option to recover geometries in case of accidental or unintentional deletion in the current project, you can also use it to incorporate geometries into a new project, thus saving the selection and loading process.

Execute crossing with the base parcels

It launches a process of calculating the intersection of the geometries of the current topic with the base parcels.

The result of the calculations is displayed in the data grid at the bottom of the panel.


Results list

Etiq. pol. orig.	Et.geometría	Etiqueta	Área	Perímetro
1-148	EMB-001-R	RST-1	13,61	16,91
1-147	EMB-001-R	RST-2	187,82	60,63
1-146	EMB-001-R	RST-3	358,74	76,23
1-145	EMB-001-R	RST-4	342,40	80,09
1-144	EMB-001-R	RST-5	6,24	12,01
1-130	EMB-001-R	RST-6	0,41	7,35
1-129	EMB-001-R	RST-7	218,02	71,26

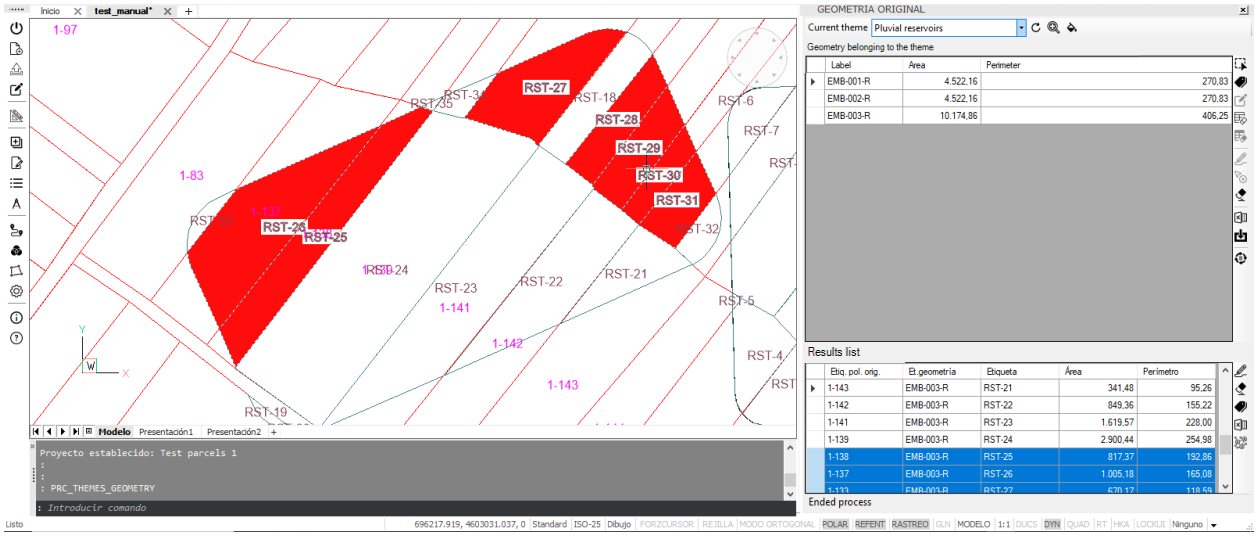
For each parcel, the geometry and geometric data corresponding to the intersection are shown depending on the type: area, perimeter, length...

The system also automatically labels the results using the RST- suffix followed by a number. However, you can relabel the results according to the pattern that may be of best interest.

Results of topic crossings

Dump the results to the current drawing

It allows you to draw and, selecting in the list, display the results of the crossing of the theme with the base parcels.



Delete results from the current drawing

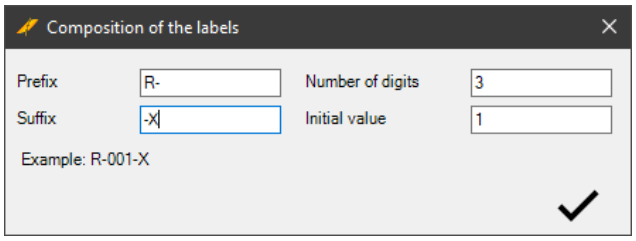
Deletes all existing results in the current drawing. It does not matter that there are selected results, the system does not take them into account.

This operation also has no effect on the results stored in the current project.

The results are likely to be exported, but importing from Microsoft Excel is not allowed, since you can change the geometry or base parcels so the results would be radically different.

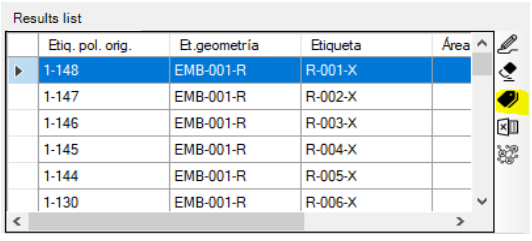
Automatic tagging.

Allows you to label all rows according to specific criteria. Clicking on this button loads a form from which you can define how you want the labels to be updated.



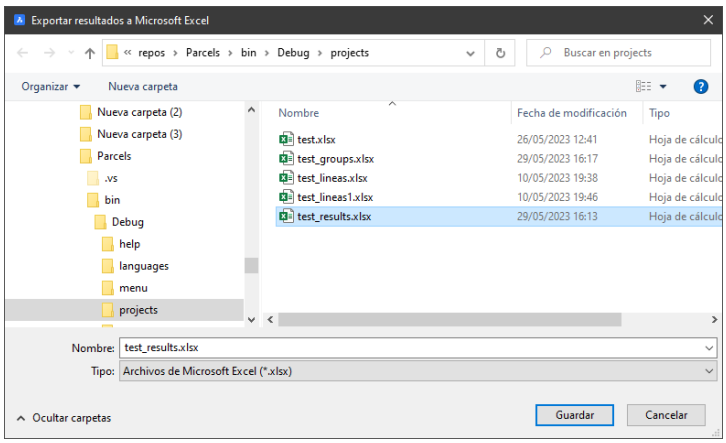
Prefix. The string to display before the numeric value.
Suffix. The string to display after the numeric value.
Number of digits. Specifies how many characters to display the number with (empty positions are filled with zeros).

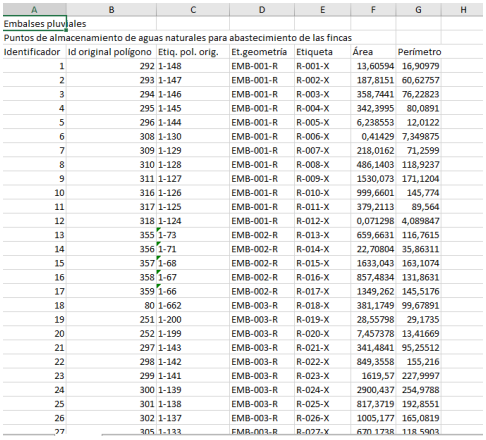
Initial value. Specifies the number from which to start counting to compose the labels.
At the bottom is an example of how the contents of the labels will be based on the parameters set.



Export results to Microsoft Excel

Allows you to export the list of available results to a Microsoft Excel spreadsheet.





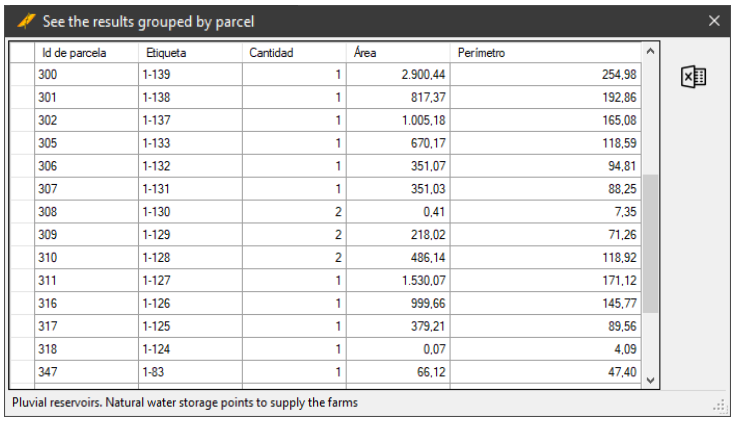
	A	B	C	D	E	F	G	H
1	Embalses pluviales							
2	Puntos de almacenamiento de aguas naturales para abastecimiento de las fincas							
3	Identificador	Id original polígono	Etiq. pol. orig.	Et.geometría	Etiqueta	Área	Perímetro	
4	1	292	1-148	EMB-001-R	R-001-X	13,60594	16,90979	
5	2	293	1-147	EMB-001-R	R-002-X	187,8151	60,62757	
6	3	294	1-146	EMB-001-R	R-003-X	358,7441	76,22823	
7	4	295	1-145	EMB-001-R	R-004-X	342,3995	80,0891	
8	5	296	1-144	EMB-001-R	R-005-X	6,238553	12,0122	
9	6	308	1-130	EMB-001-R	R-006-X	0,41429	7,349875	
10	7	309	1-129	EMB-001-R	R-007-X	218,0162	71,2599	
11	8	310	1-128	EMB-001-R	R-008-X	486,1403	118,9237	
12	9	311	1-127	EMB-001-R	R-009-X	1530,073	171,1204	
13	10	316	1-126	EMB-001-R	R-010-X	999,6601	145,774	
14	11	317	1-125	EMB-001-R	R-011-X	379,2113	89,564	
15	12	318	1-124	EMB-001-R	R-012-X	0,071298	4,089847	
16	13	355	1-73	EMB-002-R	R-013-X	659,6631	116,7615	
17	14	356	1-71	EMB-002-R	R-014-X	22,70804	35,86311	
18	15	357	1-68	EMB-002-R	R-015-X	1633,043	163,1074	
19	16	358	1-67	EMB-002-R	R-016-X	857,4834	131,8631	
20	17	359	1-66	EMB-002-R	R-017-X	1349,262	145,5176	
21	18	80	1-662	EMB-003-R	R-018-X	381,1749	99,67891	
22	19	251	1-200	EMB-003-R	R-019-X	28,55798	29,1735	
23	20	252	1-199	EMB-003-R	R-020-X	7,457378	13,41669	
24	21	297	1-143	EMB-003-R	R-021-X	341,4841	95,25512	
25	22	298	1-142	EMB-003-R	R-022-X	849,3558	155,216	
26	23	299	1-141	EMB-003-R	R-023-X	1619,57	227,9997	
27	24	300	1-139	EMB-003-R	R-024-X	2900,437	254,9788	
28	25	301	1-138	EMB-003-R	R-025-X	817,3719	192,8551	
29	26	302	1-137	EMB-003-R	R-026-X	1005,177	165,0819	
30	27	305	1-133	EMB-003-R	R-027-X	670,1738	118,5903	

Exports the list with the results as it is visible in the results grid. For each plot, as many rows are generated as interactions received from the geometry of the theme.

Show results grouped by parcel

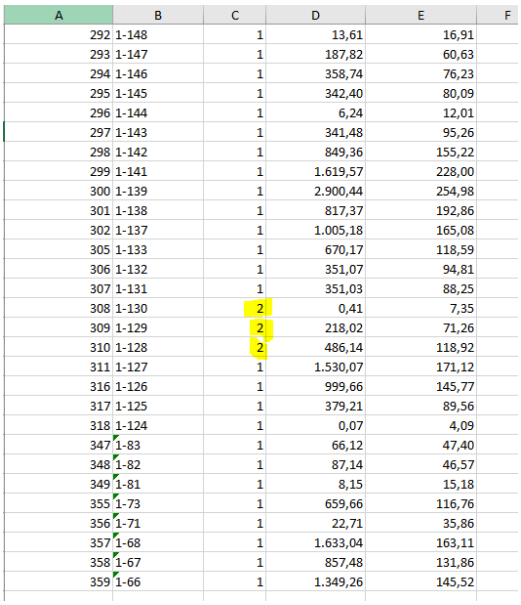
Loads a dialog box that shows, for each parcel, a summary of the interactions it receives from the theme geometry.

This grouped information can be useful for viewing totalized crossing results.



Id de parcela	Etiqueta	Cantidad	Área	Perímetro
300	1-139	1	2.900,44	254,98
301	1-138	1	817,37	192,86
302	1-137	1	1.005,18	165,08
305	1-133	1	670,17	118,59
306	1-132	1	351,07	94,81
307	1-131	1	351,03	88,25
308	1-130	2	0,41	7,35
309	1-129	2	218,02	71,26
310	1-128	2	486,14	118,92
311	1-127	1	1.530,07	171,12
316	1-126	1	999,66	145,77
317	1-125	1	379,21	89,56
318	1-124	1	0,07	4,09
347	1-83	1	66,12	47,40

Also, from this form, you can perform an export to a Microsoft Excel spreadsheet to have this information from other contexts.



	A	B	C	D	E	F
1	292	1-148	1	13,61	16,91	
2	293	1-147	1	187,82	60,63	
3	294	1-146	1	358,74	76,23	
4	295	1-145	1	342,40	80,09	
5	296	1-144	1	6,24	12,01	
6	297	1-143	1	341,48	95,26	
7	298	1-142	1	849,36	155,22	
8	299	1-141	1	1.619,57	228,00	
9	300	1-139	1	2.900,44	254,98	
10	301	1-138	1	817,37	192,86	
11	302	1-137	1	1.005,18	165,08	
12	305	1-133	1	670,17	118,59	
13	306	1-132	1	351,07	94,81	
14	307	1-131	1	351,03	88,25	
15	308	1-130	2	0,41	7,35	
16	309	1-129	2	218,02	71,26	
17	310	1-128	2	486,14	118,92	
18	311	1-127	1	1.530,07	171,12	
19	316	1-126	1	999,66	145,77	
20	317	1-125	1	379,21	89,56	
21	318	1-124	1	0,07	4,09	
22	347	1-83	1	66,12	47,40	
23	348	1-82	1	87,14	46,57	
24	349	1-81	1	8,15	15,18	
25	355	1-73	1	659,66	116,76	
26	356	1-71	1	22,71	35,86	
27	357	1-68	1	1.633,04	163,11	
28	358	1-67	1	857,48	131,86	
29	359	1-66	1	1.349,26	145,52	

Auxiliary tools.

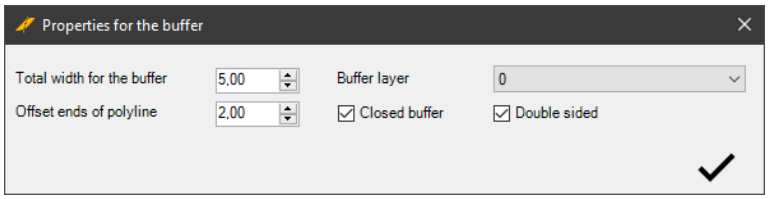
You also have some tools to help you in your design processes.

These tools are purely drawing and do not affect in any way the base parcels or the existing themes in the project. The idea is that you generate geometry with them and use it to add it to your themes.

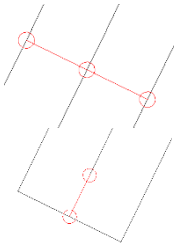
Buffer. PRC_BUFFER

Creates a polygon along a polyline.

Loads a previous form from which you can define the characteristics of the buffer to be created.



Total width for the buffer: Specifies the distance between the axis and the position where the parallel line will be generated.



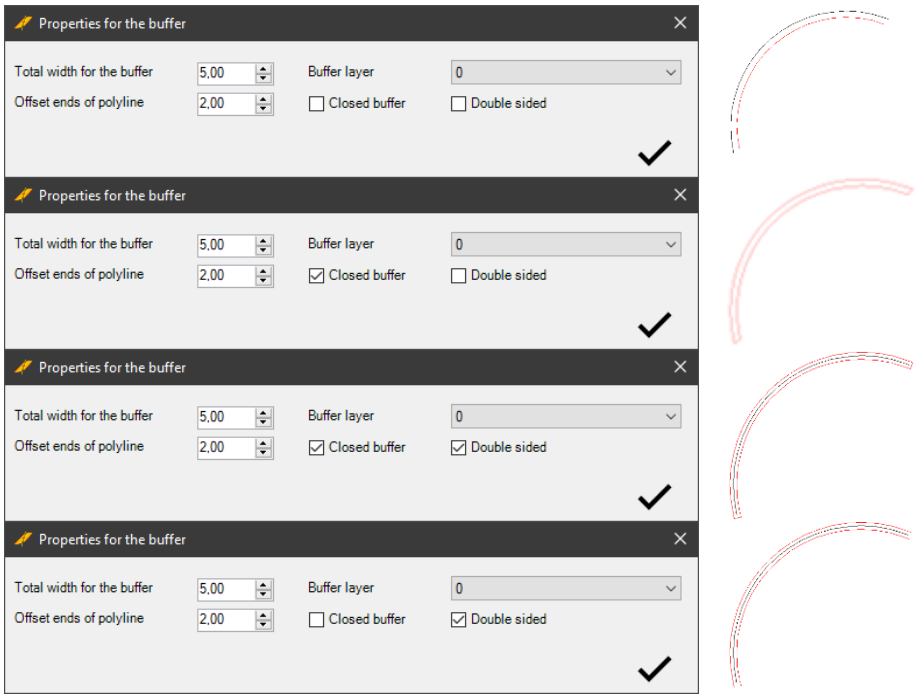
Polyline final offsets: Specifies the distance between the end of the polyline and the position where the buffer will close.

Buffer skin: Specifies the layer where the buffer resulting from the operation will be saved.

Closed buffer: If it is activated the buffer closes so that a closed polyline is obtained. If it is not, the result will be lines parallel to the selected axis.

Double-sided: Specifies whether parallel lines are projected to one or both sides of the axis.

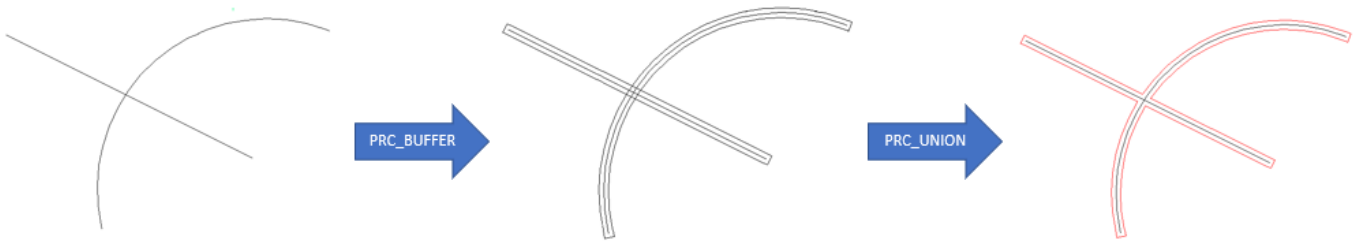
Combining these parameters will give you results that you can use as geometry for your themes.



The object used as the axis must always be an open polyline.

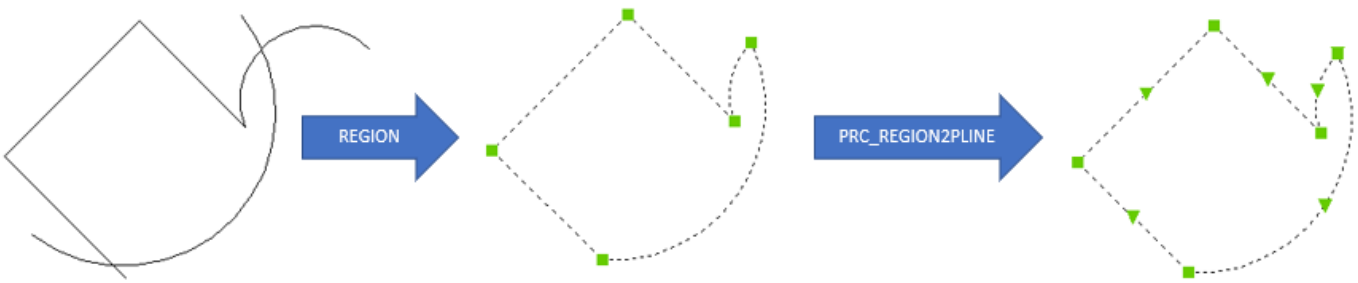
Polyline union. PRC_UNION

It allows you to join several closed polylines into a single one that represents the outer contour of all polygons, as if they were regions.



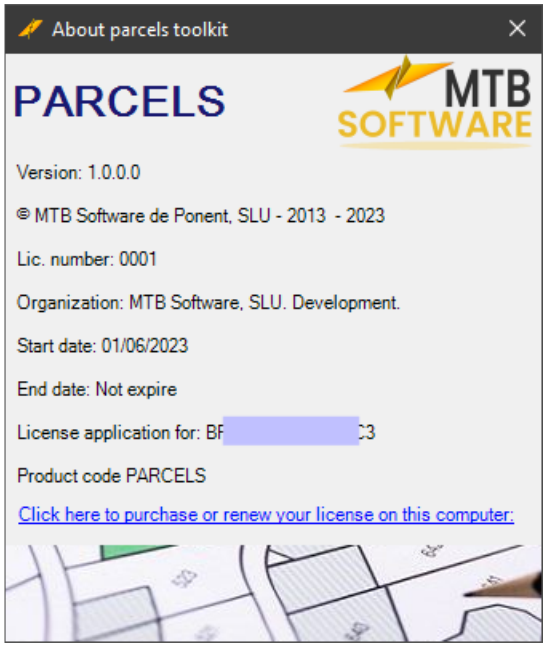
Make a region polyline. PRC_REGION2PLINE

It allows you to convert entities of the region type into closed polylines, suitable for use in themes.



About this application. PRC_ABOUT

Opens a dialog box that displays information about the application and its license.



Load aid. PRC_HELP

Load this document.

Final considerations

What you can do with this software

With this toolkit you can:

1. Create and maintain the geometry of the parcels free of errors and without the need to save plans and drawings, that is already in charge of the program through its "PRC" projects.
2. Create and maintain geometry that represents actions on the territory: Put a road, land or aerial pipelines, wind farms, photovoltaic, etc. This geometry can be polygonal, linear or point. This information is organized by topic.
3. You can export or import themes between projects, saving delineation tasks.
4. Quickly access the results of crossing the geometry of your topics with the base parcels to know the degree of interference of these. You will have areas, perimeters, lengths and quantities with which you can make your decisions in the implementation of your projects.

How to get an evaluation copy

Simply connect to the following URL:

https://parcels.mtbsoftware.net

Remember that to access the download pages it is necessary to register on the web. The process is simple and free. No personal or fiscal data will be required except in the case of purchase of licenses for the issuance of the corresponding invoices, in which case your privacy will always be protected.

DATA PROTECTION: In accordance with the provisions of Article 13 of Regulation (EU) 2016/679 of the European Parliament and of the Council and Organic Law 3/2018 of December 5 (LOPDGDD), we inform you that personal data will be collected from the interested party, will be treated under the responsibility of the Data Controller, MTB Software de Ponent, SLU, for the sending of communications about our products and services and will be kept as long as neither party objects to it or for the period necessary to comply with legal obligations. Fair and transparent data processing is guaranteed. The data will not be transferred to third parties except in cases where there is a legal obligation.

Support & Contact

You can receive support and information about the program through the website and the means that, from it, are exposed for a telephone or personalized attention.

It is planned to carry out free courses on the product, we recommend your registration on the program page to receive timely notices and offers.

Future updates or releases

It is planned to periodically release updates with new functionalities and extend functionalities to other possible platforms besides BricsCAD, also to other operating systems on which BricsCAD is distributed, so, if at the moment, you work with a non-Windows version of BricsCAD, be patient, soon we hope to release those versions.

We are always open to advice and suggestions, so all the interaction you can offer us will always be welcome and taken into account as far as possible.

Scope of License and Responsibilities.

The program is distributed "as is", we are not responsible for the use of it by users or the consequences thereof.

In no case does it require access to "core" data of the computer where it is running, nor does it require original or system files to execute its functionalities.

It also does not handle essential BricsCAD components or attempt to modify any of them, so no alteration is expected to the structure of your BricsCAD installation.

The license is personal to you and to the computer where it is running. If you need to move the license from one computer to another, you must request it and you will receive a new license for the new computer. You will be required to justify the cause and destroy the previous license file.

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By installing the program you accepted a EULA specifying the conditions of use of the program. The use of the same implies the acceptance of each and every one of the conditions specified in that text.

This EULA text is governed by the relationship between you (user) and MTB Software de Ponent SLU as manufacturer.