

USER MANUAL

(Vircore User)

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1. INTRODUCTION

This document will describe the objectives and clear and concise information on how to use the **VIRCORE Software** (*shorthand term for "VIRTUAL CORE"*).

VIRCORE Software was created by INGE CID Research and Development Projects with the aim of implementing and developing a collaborative work environment through the use of intelligent 3D models, based on the BIM (Building Information Modeling) methodology.

It is important to consult this manual before and/or during the use of the platform, as it constitutes an explanatory guide that details step by step the handling of the different functionalities implemented.

VIRCORE is immersed in a continuous development process by the creative team, with a road map drawn up to carry out the development of new practical functionalities, seeking to enrich the platform both in terms of versatility and improvement of the user experience. For this reason, this user manual will also continue to evolve, so it is recommended to consult the download link of the document regularly to have the latest version.

2. REQUIREMENTS

In order to use the **VIRCORE Platform**, the user must ensure that the following requirements are met.

Operating system	Windows 10
Framework	Microsoft .NET 4.7 (o superior)
Processor	64 bits
Explorer	Microsoft Edge / Microsoft Edge Chromium
Other Software	Navisworks Manage 2019 (*)

(*) Having the Navisworks Manage 2019 software is not a prerequisite to operate with **Vircore**, although it is a prerequisite to be able to work in an integrated way with the tool's 3D Viewer and to be able to use the functionalities associated with it (e.g. uploading 3D model elements to the database, linking to planning or documents, etc.).

The 3D models can also be visualized from **Vircore** through the IFC Viewer, although the possibility of the integrated work mentioned in the previous lines with this viewer will depend on its previous configuration, for which it is necessary to have the license.

3. APPLICATION STARTUP

3.1. ACCESS TO THE WEBSITE

Vircore is accessed via a web page. To do this, the following URL must be entered in the address bar of the Microsoft Edge or Microsoft Edge Chromium browser:

<http://www.ingecid.com/vircore>



This will give access to the following web page.

Digital Solutions and Innovative Technologies
Vircore

Name: Vircore

Version: 1.0.0.142

Publisher: Digital Solutions and Innovative Technologies

The following prerequisites are required:

- Windows 10 x64
- Microsoft Edge Browser.

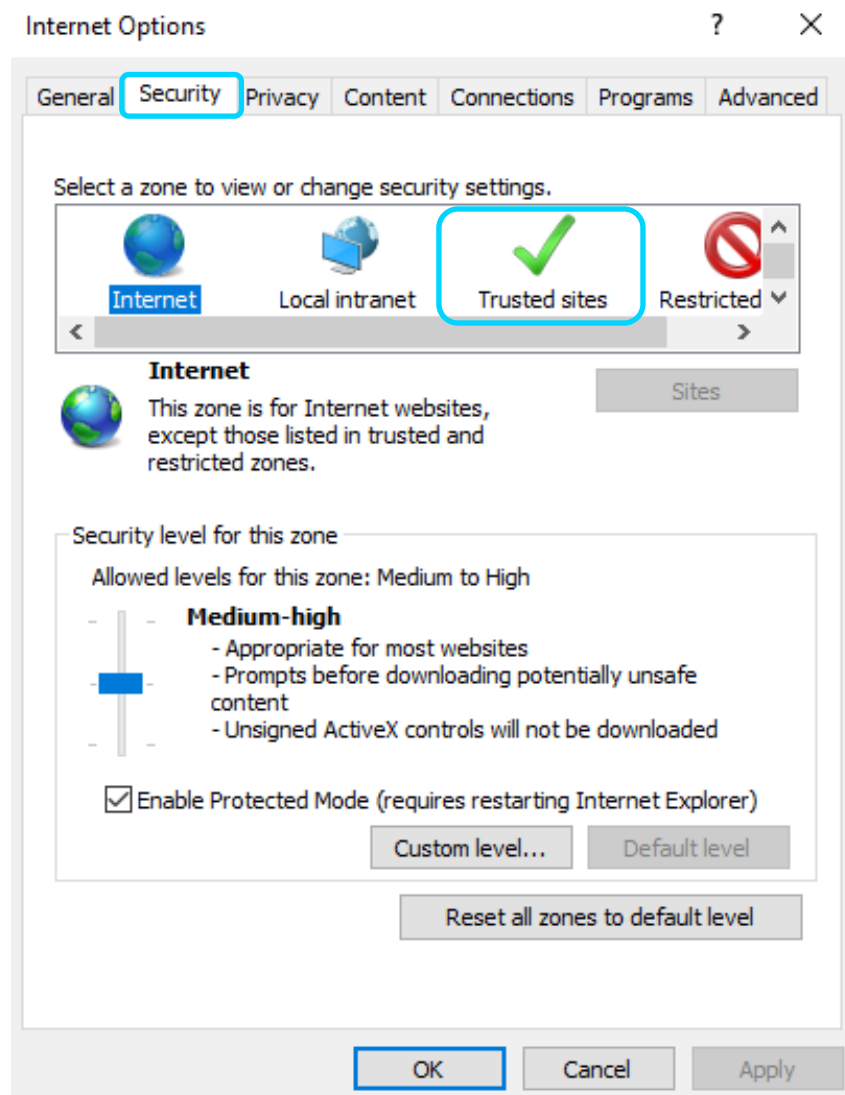
If the above requisites are met and you still cannot access VIRCORE, you may need to add this URL to 'Internet Options / Trusted Sites'.

[Launch](#) the application now.

3.1.1. TRUSTED WEBSITES

In order to enable the pop-up elements required by the application for its correct operation, it is convenient to configure our browser so that the URL is considered as a trusted site.

The configuration is made from the Internet Properties in the Control Panel of our computer. In the tab **"Security"**, select **"Trusted Sites"**.

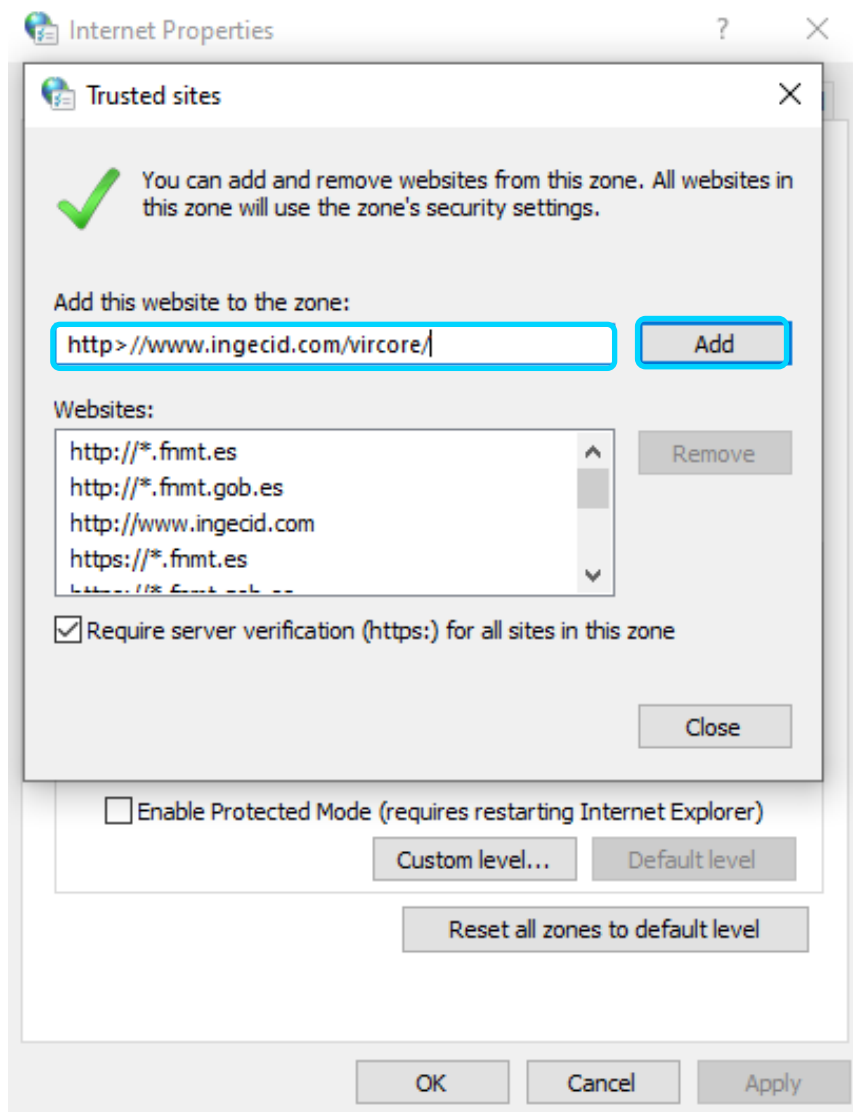


Next, select the **"Sites"** option and enter the URL to access the software:

<http://www.ingecid.com/vircore>

If you wish to access via a secure https connection, you can use the following URL:

<https://vircorest.z6.web.core.windows.net/vircore>



By selecting "**Add**" it is collected as a trusted website.

3.1.2. ACTIVATION OF CLICKONCE COMPATIBILITY

Vircore is a software that uses Microsoft's ClickOnce technology for its deployment. This technology allows the application to be installed and updated from the Internet on any computer running Windows 10 64-bit operating system.

As of January 15, 2020, Microsoft is offering its new Chromium-based Microsoft Edge Browser to download and install. If this new browser is installed, it will replace the existing version of Microsoft Edge on Windows 10 PCs. In this new browser ClickOnce is disabled by default.

Microsoft explains it on its website as follows:

<https://docs.microsoft.com/es-es/deployedge/edge-learn-more-co-di>

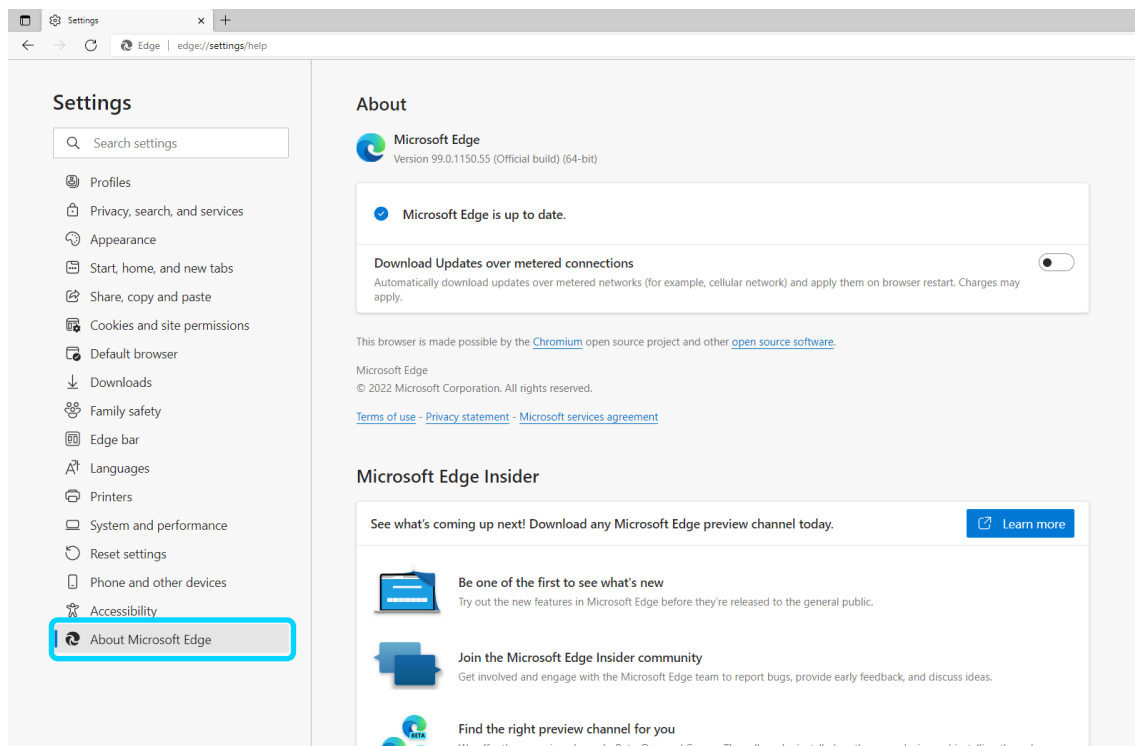
“Since ClickOnce is a business-oriented feature used by a specific group of advanced users and is not intended for general use, ClickOnce is disabled by default”.

“Users who need support for ClickOnce can go to “edge://flags”. Scroll down to ClickOnce Compatibility and select Enable from the drop-down list. You will then need to Restart the browser.

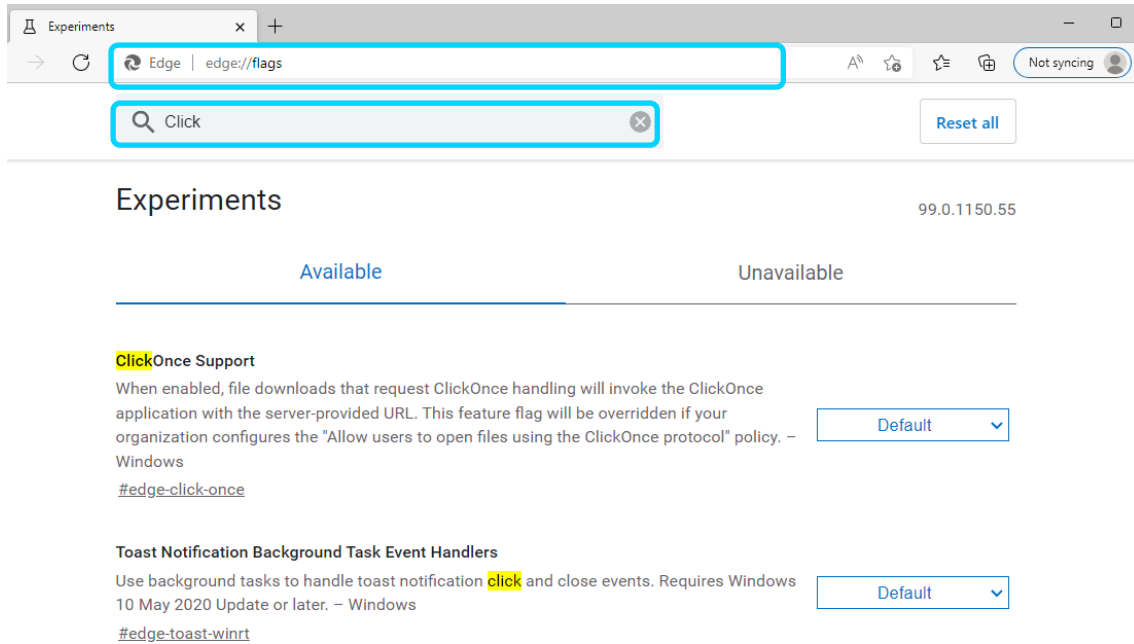
3.1.2.1. ACTIVATE COMPATIBILITY

In order to run Vircore from the latest version of Microsoft Edge it is necessary to enable ClickOnce support in the browser.

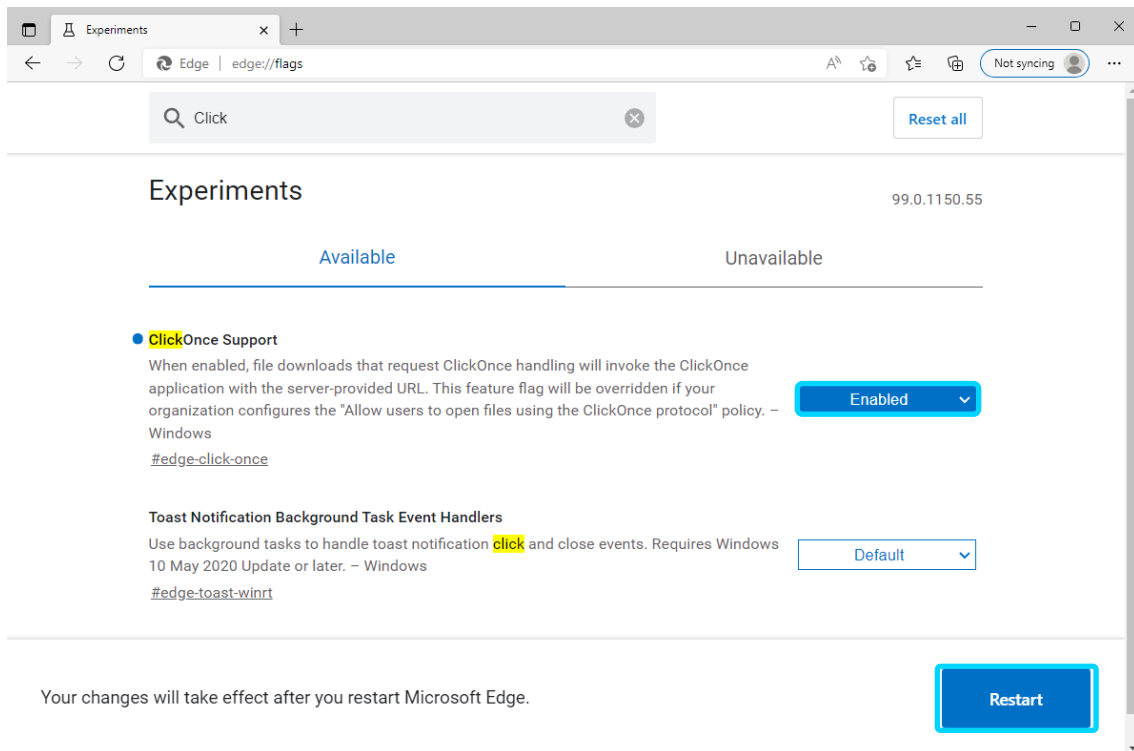
To do this, access the Microsoft Edge settings menu and replace the address in the address bar with the following: **edge://flags**.



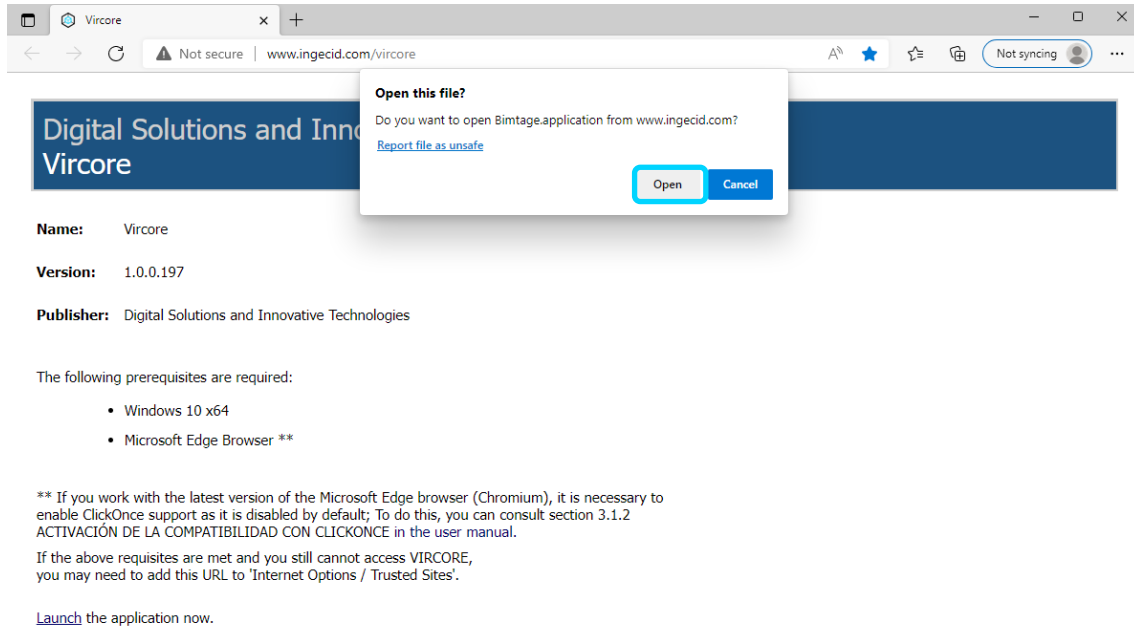
In this way, you can access the section where you can activate or deactivate a multitude of modules. Locating the "ClickOnce Support" module as shown in the following image. You can make the task easier by using the key combination "CTRL-F" to open the search window and search for the word "ClickOnce".



Select the **"Enabled"** status in the **"ClickOnce Support"** drop-down menu as shown in the following image. Then, click on the **"Restart"** button of the browser and we will be able to run Vircore from it.



When clicking on the **"launch"** link on the Vircore web page, the browser will ask us if we want to open **"Bimtage.application"**. This is the file responsible for the deployment of the application and selecting **"Open"** launches the application.



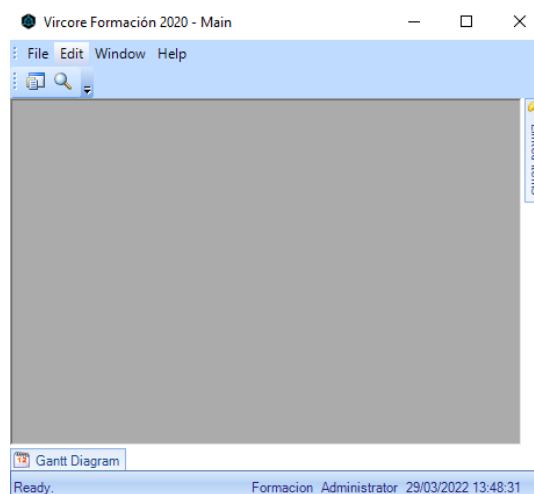
If we are in a corporate network and our organization configures the Windows policy called **"Allow users to open files using the ClickOnce protocol"** in general, that policy will overwrite the behavior defined in our local browser.

3.2. OPENING THE APPLICATION

On the web page to access the application, in addition to indicating the prerequisites needed, there is a **"Launch"** link to launch and access the application. Once the link is selected, the following window will open:



In this window, the user must enter its credentials (user name, password and server), which have been previously provided by e-mail. Once entered, pressing "Login" launches the application and its main window appears.



For convenience, if the user wants to pin access to **Vircore** to the taskbar, he/she should select the icon highlighted in the image below.



Digital Solutions and Innovative Technologies Vircore

Name: Vircore

Version: 1.0.0.197

Publisher: Digital Solutions and Innovative Technologies

The following prerequisites are required:

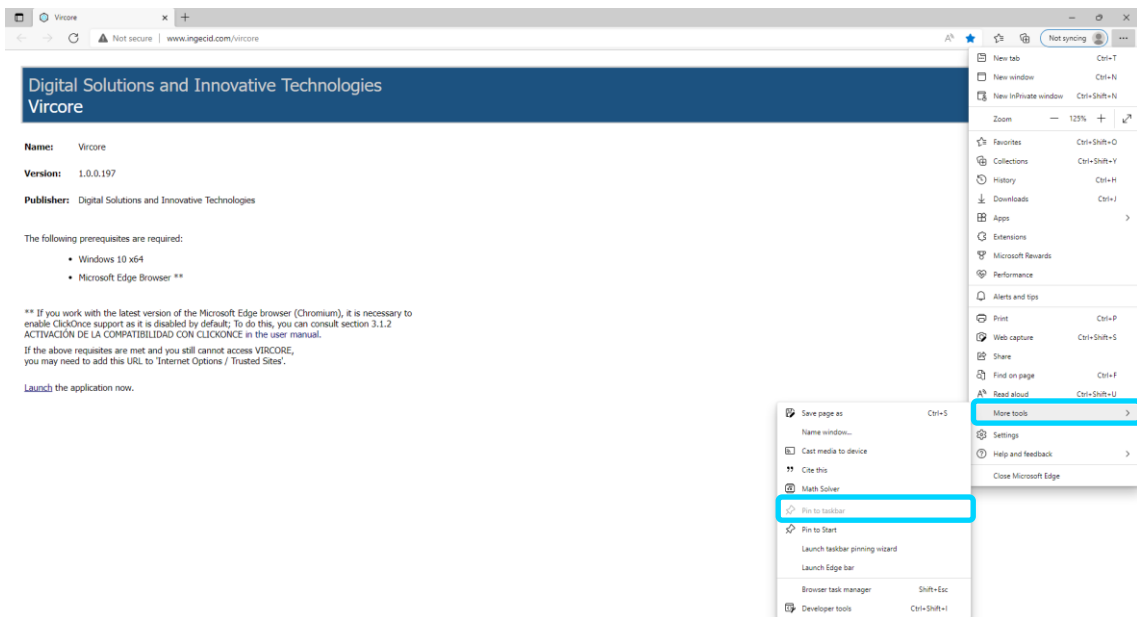
- Windows 10 x64
- Microsoft Edge Browser **

** If you work with the latest version of the Microsoft Edge browser (Chromium), it is necessary to enable ClickOnce support as it is disabled by default; To do this, you can consult section 3.1.2 ACTIVACIÓN DE LA COMPATIBILIDAD CON CLICKONCE in the user manual.

If the above requisites are met and you still cannot access VIRCORE, you may need to add this URL to 'Internet Options / Trusted Sites'.

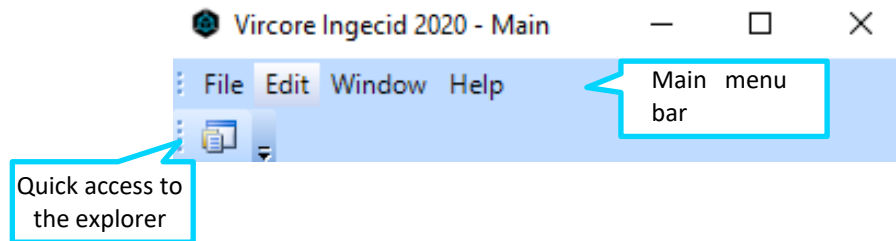
[Launch](#) the application now.

A window is displayed and **"More tools"** must be selected and then the option **"Pin to taskbar"** must be chosen.

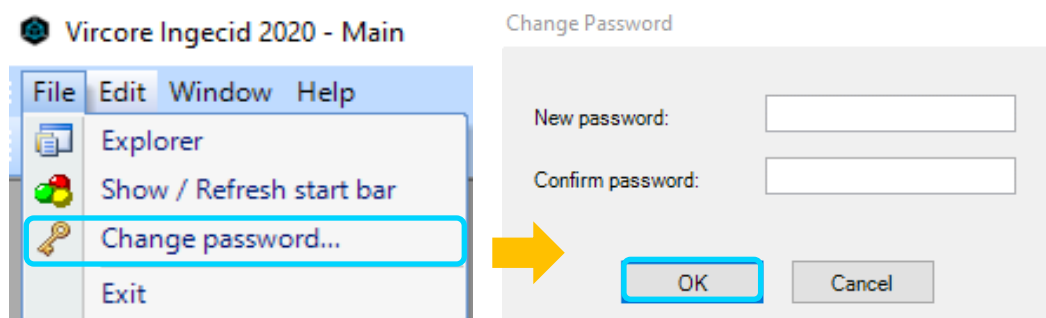


3.3. PASSWORD MODIFICATION

Once inside the application, we have a menu bar and a quick launch bar like the following:



To proceed to modify the password from the menu bar, click on **"File"** and then **"Change password..."**. In the pop-up window, enter the new password and confirm it. When **"OK"** is selected, the new password is saved.



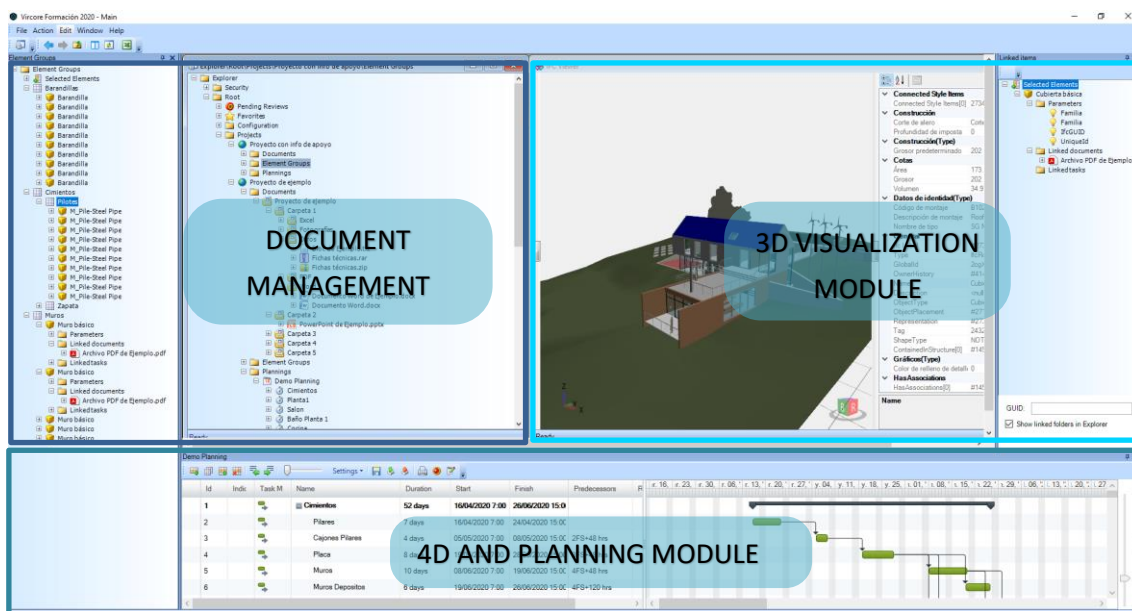
4. GENERAL DESCRIPTION OF THE APPLICATION

4.1. GENERAL INTERFACE

Vircore is a platform designed and developed based on modules connected to each other. Its main modules are:

- ROLE AND PERMISSIONS MANAGEMENT MODULE
- DOCUMENT MANAGEMENT MODULE
- 3D VISUALIZATION MODULE
- PLANNING MODULE AND 4D
- CERTIFICATION MODULE AND 5D

The work on these modules is carried out on differentiated windows which, in turn, are interconnected. The following image identifies the windows of the different modules.



In addition, the system allows the user to customize the display of these windows, selecting both the number of windows to be displayed at any given time and their location. As an example, in the image above, the windows of the three modules are shown vertically and docked.

4.2. PERMISSIONS AND ROLES

The platform allows efficient users management, through the assignment of **Project Roles** that have the corresponding **permissions** associated with them.

Regarding **permissions**, there are three types of permissions possible at the user level:

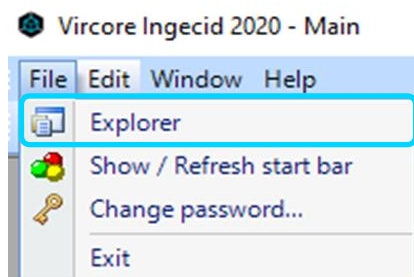
- **Read permission:** allows the user to consult the information loaded into the system.

- **Edit permission:** allows the user to consult and modify the information loaded into the system (upload new files, new versions or delete existing ones).
- **Validation permission:** allows notifications, revisions or approvals of the information loaded into the system.

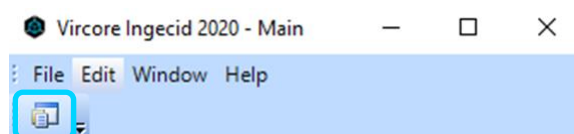
The combination of these two aspects allows the same user to have different permissions on certain folders and not have access to others.

5. ACCESS TO THE EXPLORER

The document manager can be accessed from the **"File"** tab, selecting the **"Explorer"** option in the drop-down menu displayed.

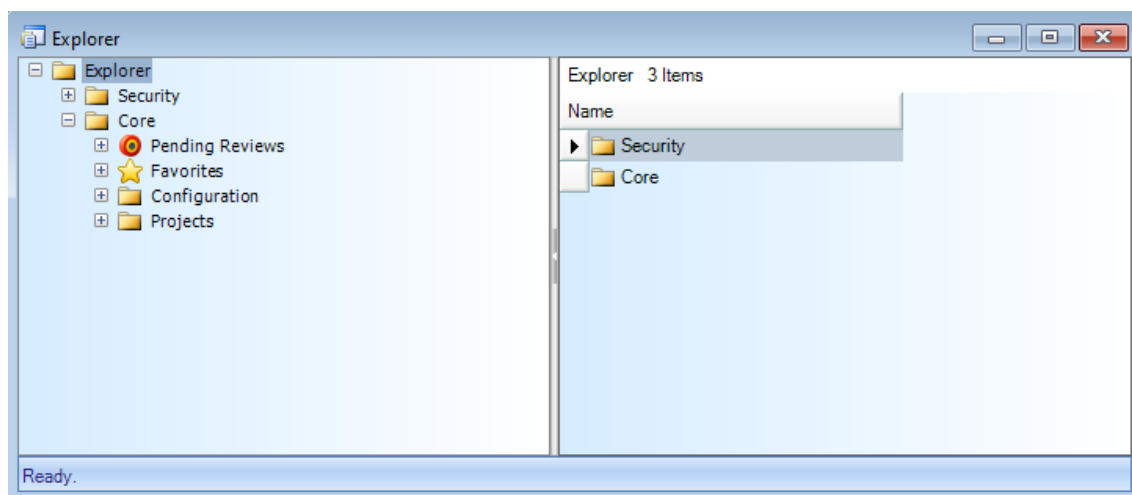


More directly, it can be accessed by pressing on the specific button for the explorer in the quick launch bar, which is highlighted in the following image.

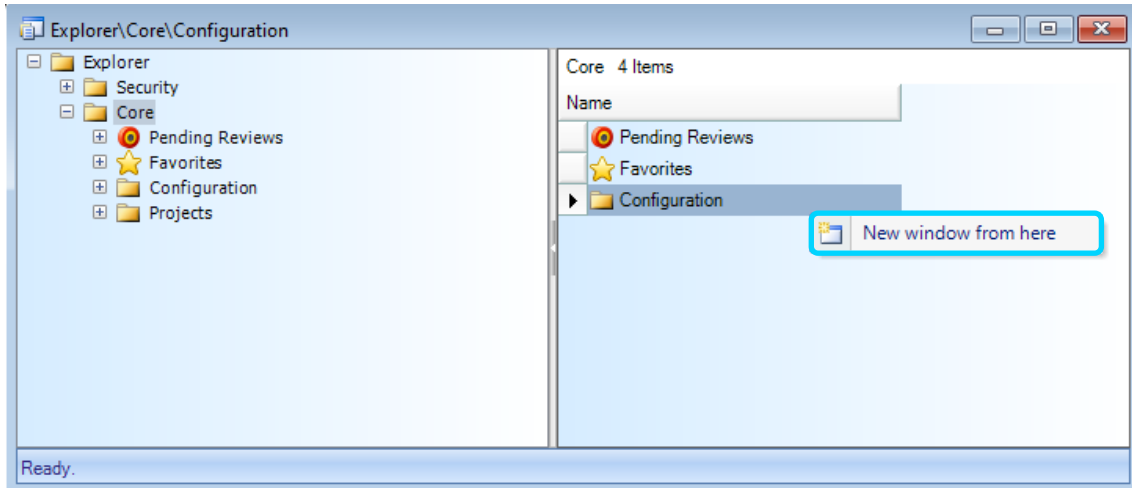


By clicking on either of the two options mentioned above, the explorer window pops up. The operation of this window is similar to that of the Windows Explorer.

In the left panel, the folder structure is presented in a tree format, while the right panel details the contents of any item the user selects in the left panel.

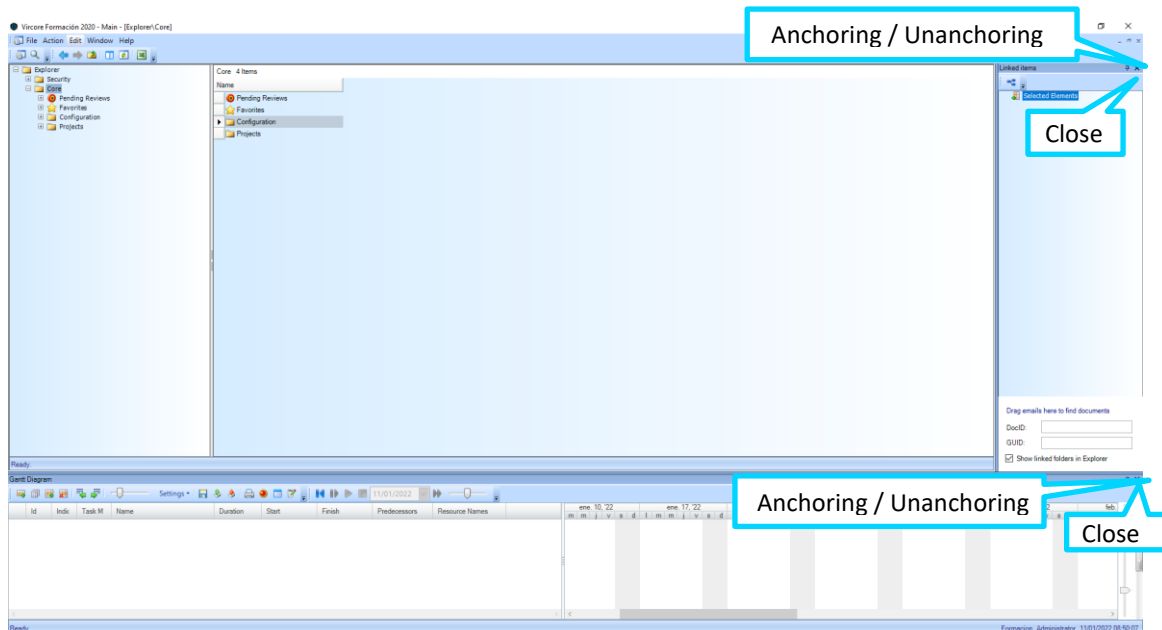


Vircore allows to extract from any window an additional window of the desired module. This is done by right-clicking on the desired item (document, folder, model, etc.) and selecting the option **"New window from here"**.

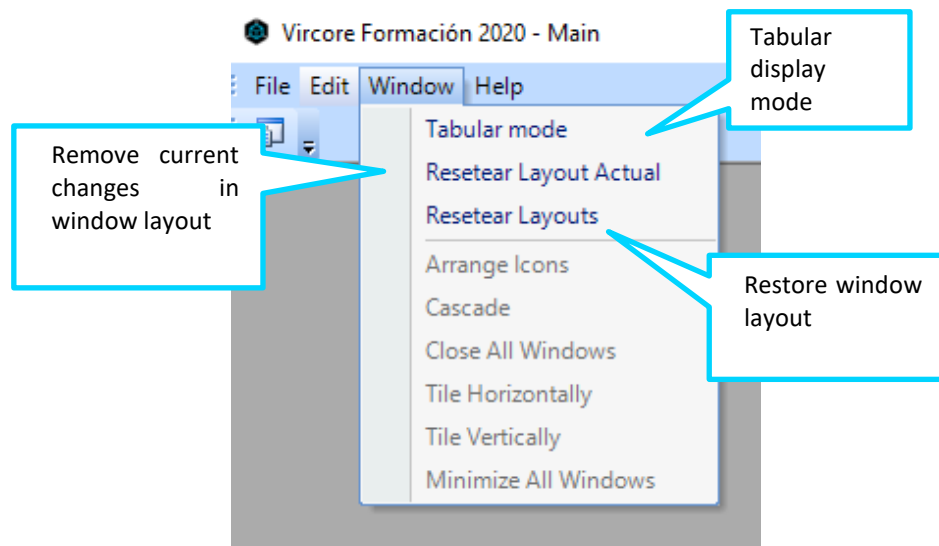


5.1. WINDOW DISPLAY

When starting the application, by default, a window called "**Linked items**" is displayed on the right side, which allows to visualize in real time the 3D elements of a model and the information linked to each of them; and at the bottom, the 4D planning and simulations module is displayed. These two windows are minimized by default when not operated on, but they can be docked or closed depending on the user's needs.



The tool allows a very versatile display and positioning of the windows. To do this, by accessing the "**Window**" command located in the upper main panel, we can set a tabular display of the windows. This option divides the interface horizontally or vertically, maximizing the open windows so that they occupy the entire platform panel.



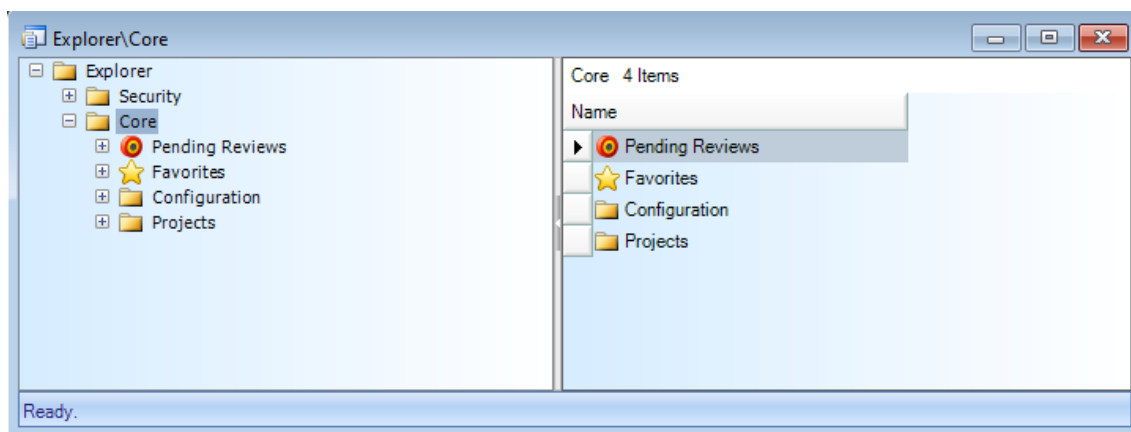
It is also possible to position and set the desired size of the windows manually to adapt the panel to the needs.

6. DOCUMENT MANAGEMENT MODULE

6.1. FILE MANAGEMENT

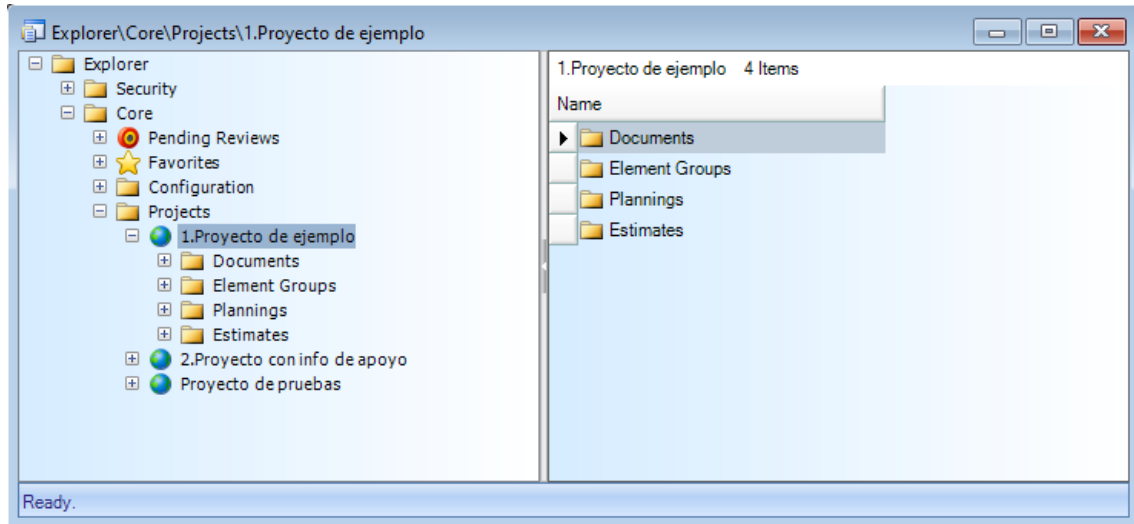
6.1.1. ACCESSING THE PROJECT FOLDER STRUCTURE

The general folder structure of the explorer for a **Vircore User** is shown in the following image. The "**Pending Reviews**", "**Favorites**" and "**Configuration**" entities contain different functionalities that are described in different sections of the manual; in this section, the explanation is focused on the functionalities of the "**Projects**" entity.



The "**Projects**" folder contains all the projects created on the server accessed by the user, i.e. the folder structure with the information stored in each of them. In the same way, within each project, the different user roles that define the accesses and permissions for it are included.

The system, within each project, generates a first level of project folders ("**Documents**", "**Element Groups**" and "**Plannings**"), which is fixed and common to all projects. From this level, the user can generate the folders he/she deems appropriate in a totally flexible way. This first level of folders is shown in the following image.

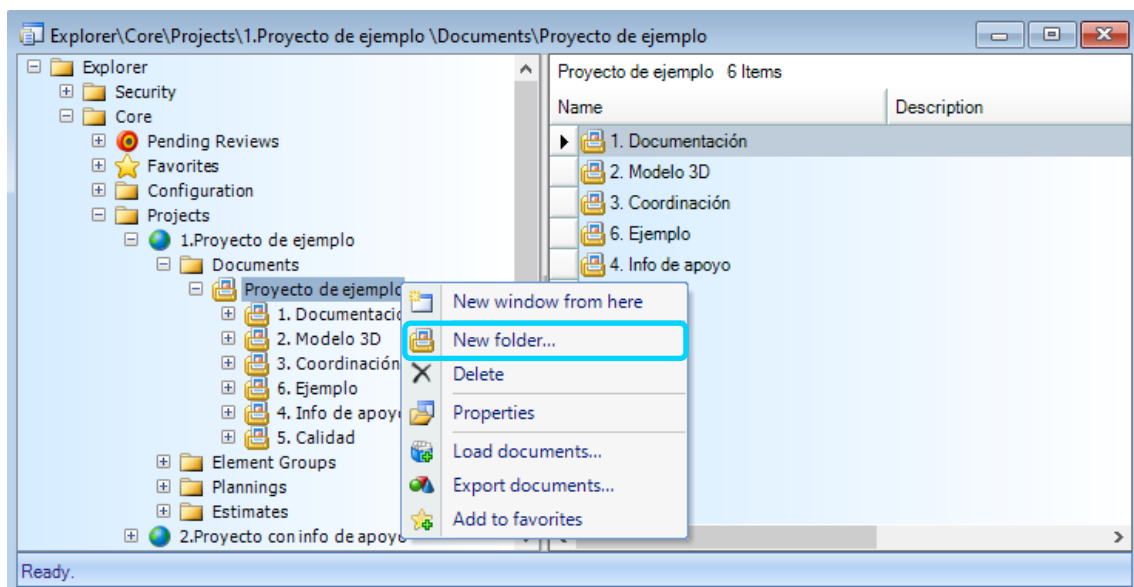


The "**Documents**" folder contains the folder structure as defined in the project; the "**Element Groups**" folder allows the creation of groups of 3D elements of a model, facilitating their management, the "**Plannings**" folder contains the schedules and their tasks, and finally, the "**Estimates**" folder contains the budgets and certifications.

6.1.2. FOLDER CREATION

Folders can be created automatically or manually. The first procedure consists of dragging the folder structure from the corresponding location on the PC to the software. The folder structure is automatically loaded.

The manual creation of folders is done in a similar way to Windows, i.e., the user must press the right mouse button on the folder where he/she wants to create a new folder and select the option "**New folder...**". Subfolders of any folder created are created in the same way.



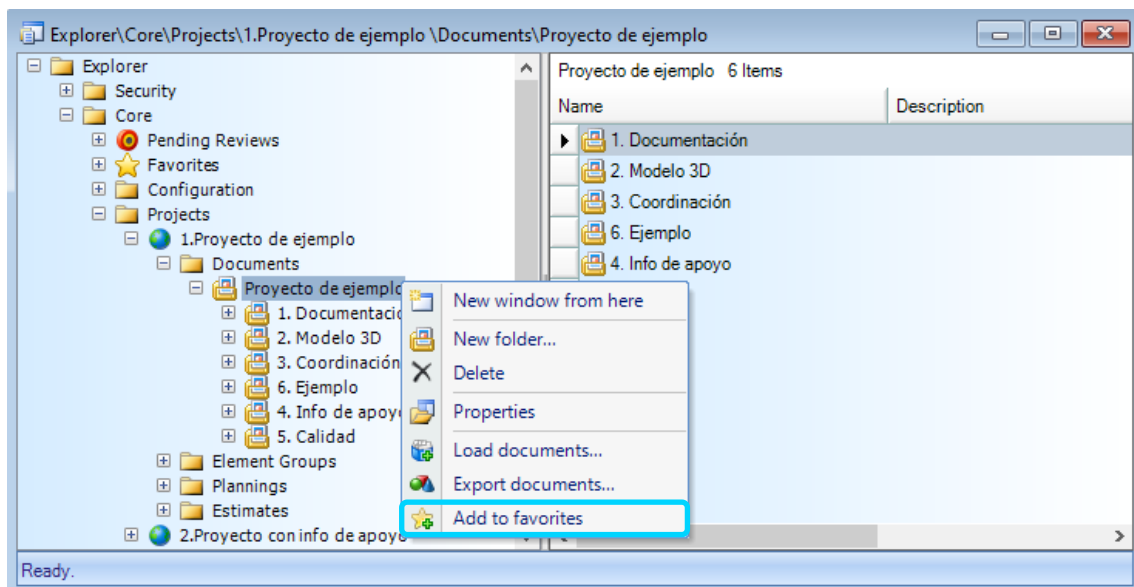
For the purpose of efficient management and linked to the permissions granted to each user, **Vircore Users** can only create new folders at levels below the first level of project folders. That is, in the image above a first level folder corresponds to "**Example Project**" and a lower level folder to "**Folder 1**". In the same way that **Vircore Users** cannot generate new first level folders in a project, they cannot delete first level folders either.

The creation and deletion of top-level folders (in the image it would be "**Sample Project**") will be a task performed by **Vircore Administrator**.

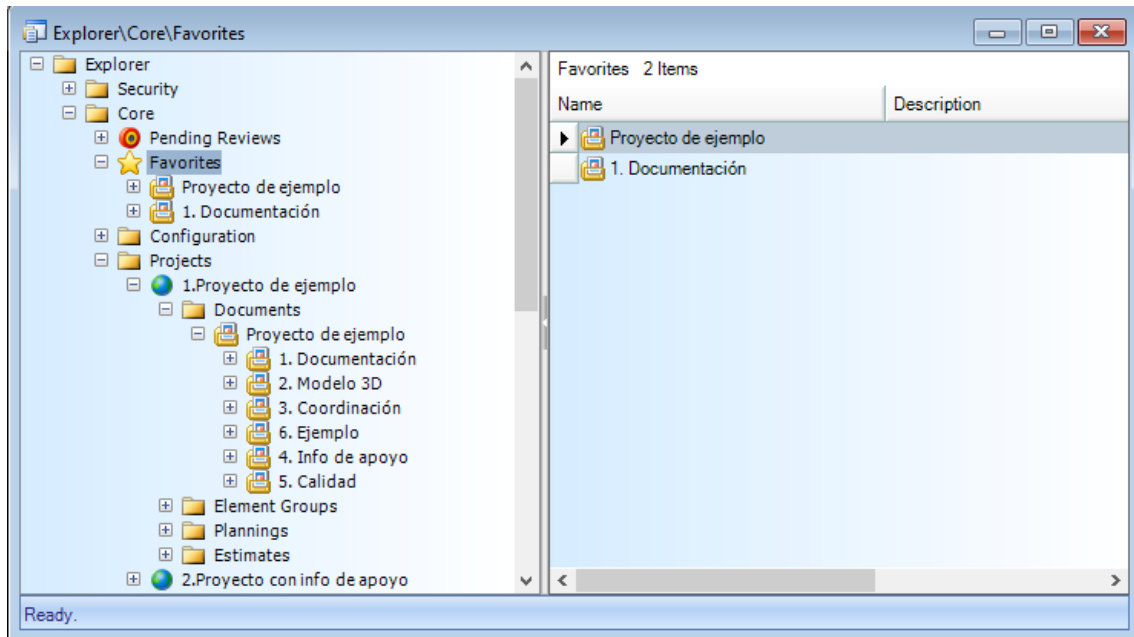
6.1.3. FAVORITE FOLDERS

To speed up access to a folder in the general structure, it is possible to add the desired folders to favorites. In the general folder structure of the explorer, the second item collects those favorite folders facilitating the access to the documentation stored in them.

To add a folder to "**Favorites**", right-click on the target folder and select the "**Add to favorites**" option.



The folder is automatically included in "**Favorites**" as shown in the following image.

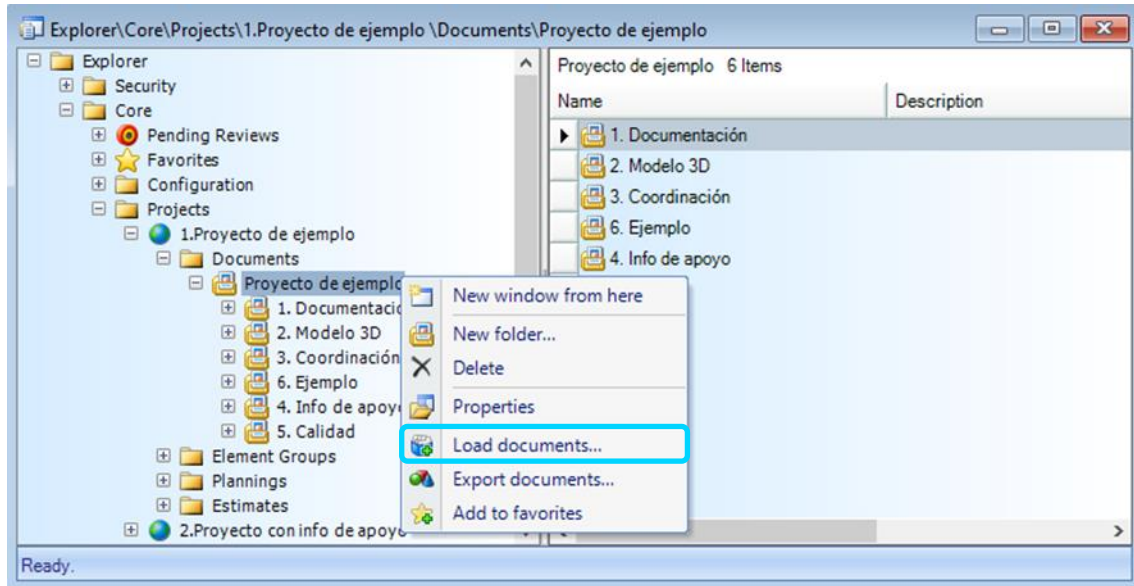


6.1.4. UPLOADING FILES

Vircore supports any type of document format and two different procedures are available for uploading documents to the platform. It is important that, in order to perform this action, the document to be uploaded is closed. Otherwise, an error notification window pops up and the system informs the user.

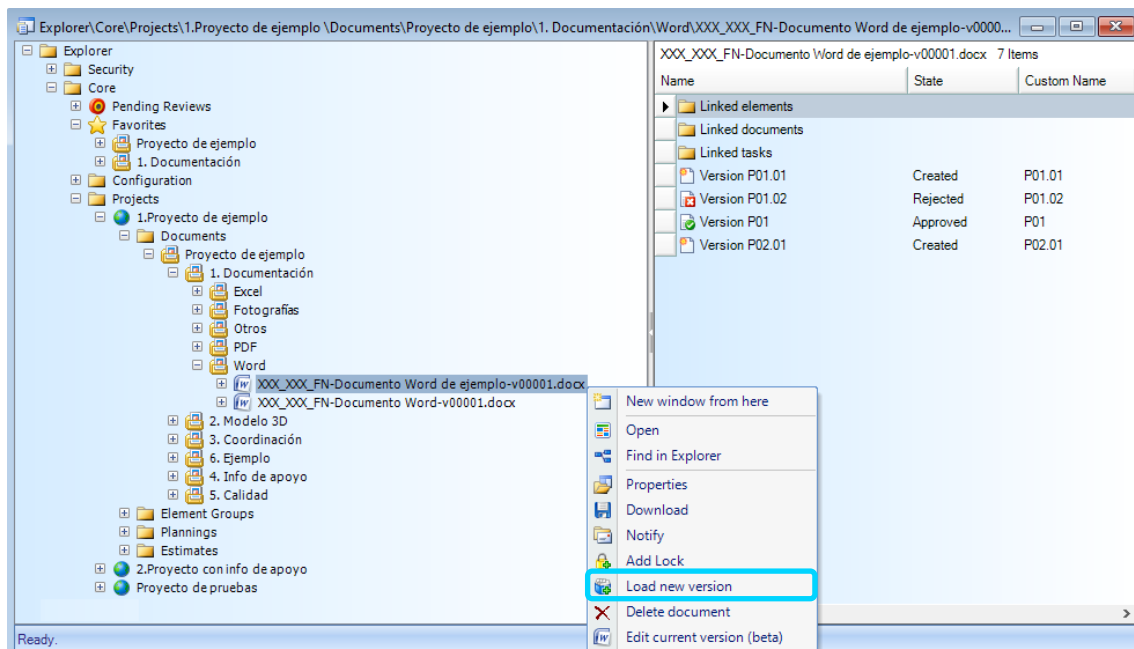
The first option to upload files is performed with the same dynamics as the automatic creation of folders; therefore, by selecting the files on the computer and dragging them to the corresponding folder on the platform.

The second option to upload files is performed directly from the left panel of the explorer that contains the folder structure tree where, selecting the folder in which you want to upload one or more files, you should press the right button and a contextual menu will appear. In this menu, click on the "**Load documents...**" option.



Once the **"Load Documents..."** button is pressed, a pop-up window appears to select the files located in the computer and the relevant files are uploaded.

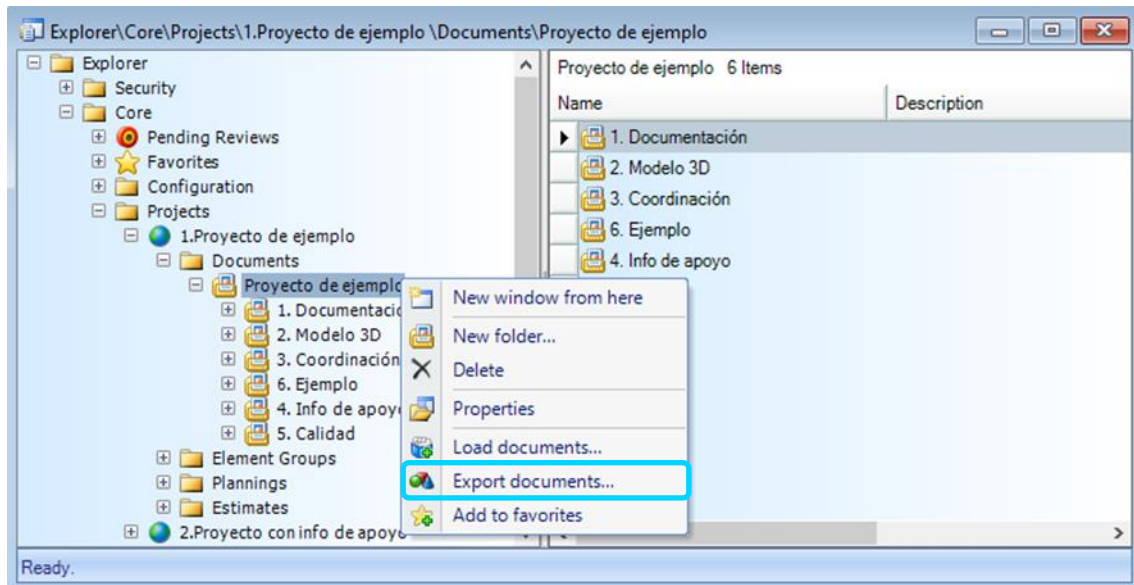
On the other hand, to update the version of a previously loaded document, right click on the document and select the **"Load new version"** button, this automatically displays a pop-up window to indicate the document to be uploaded in that new version.



It is also possible to upload a new version by dragging the new version of the document from the computer to the document stored on the platform.

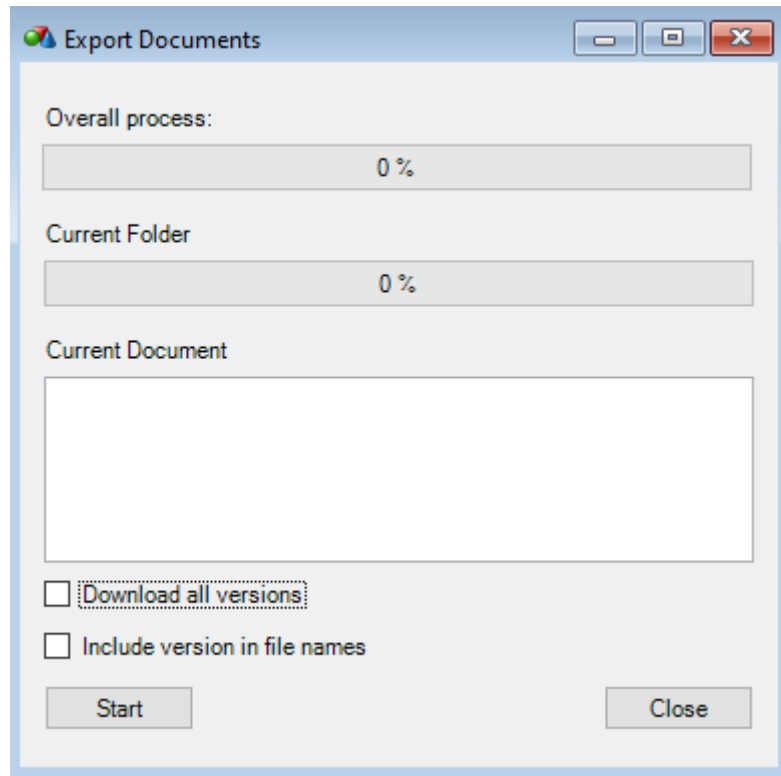
6.1.5. EXPORTING FILES

Files can be downloaded directly from the left panel of the explorer containing the folder structure tree where, by selecting the document to be downloaded and right-clicking on it, a contextual menu appears. In the menu, click on "**Export documents...**".

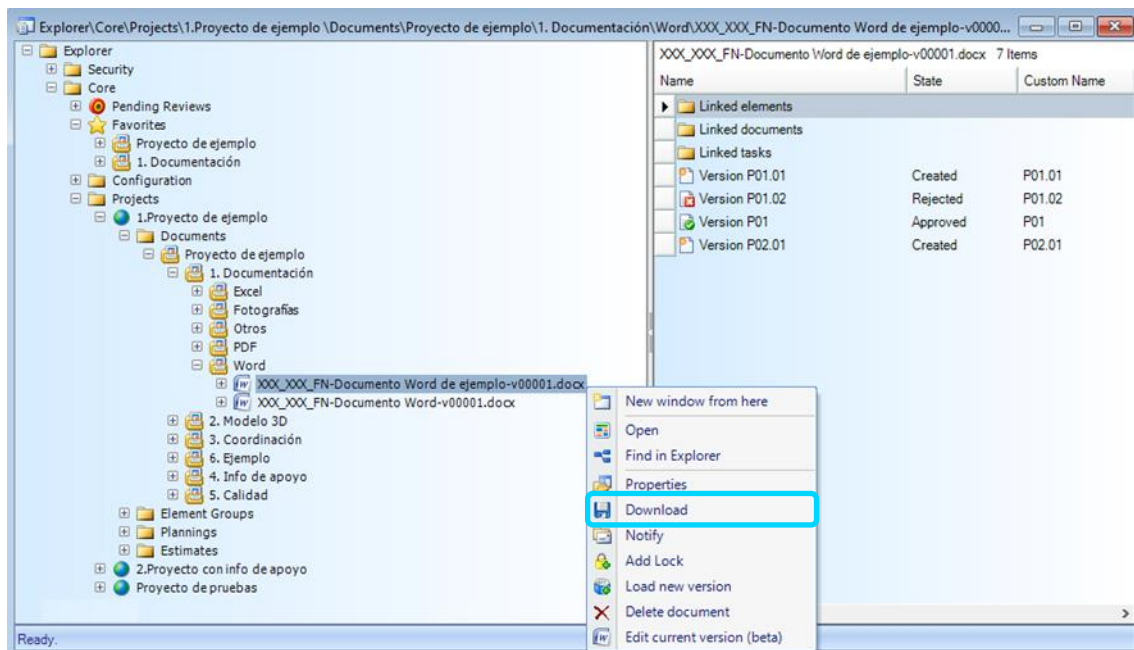


Pressing "**Export documents...**" starts the download of the content stored in the folder. All documents are exported to the location selected by the user, as well as the folder structure contained in the selected folder.

The platform allows downloading all versions of the documents stored in the directories by selecting "**Download all versions**". If you wish to include the name of the version in the file(s), select the option "**Include version in file names**"; if you do not select "**Include version in file names**", select "Download all versions".

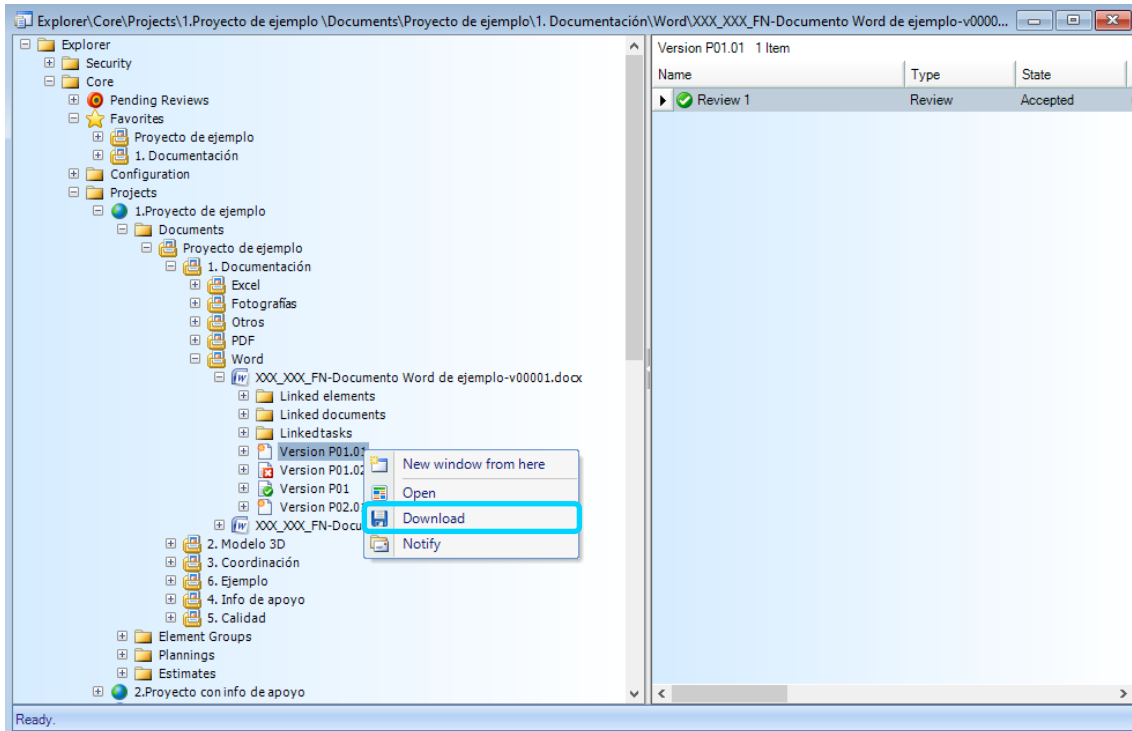


The downloading of a document is done with a similar procedure to the previous one. To do this, right click on the desired document and select the "**Download**" option to download it.



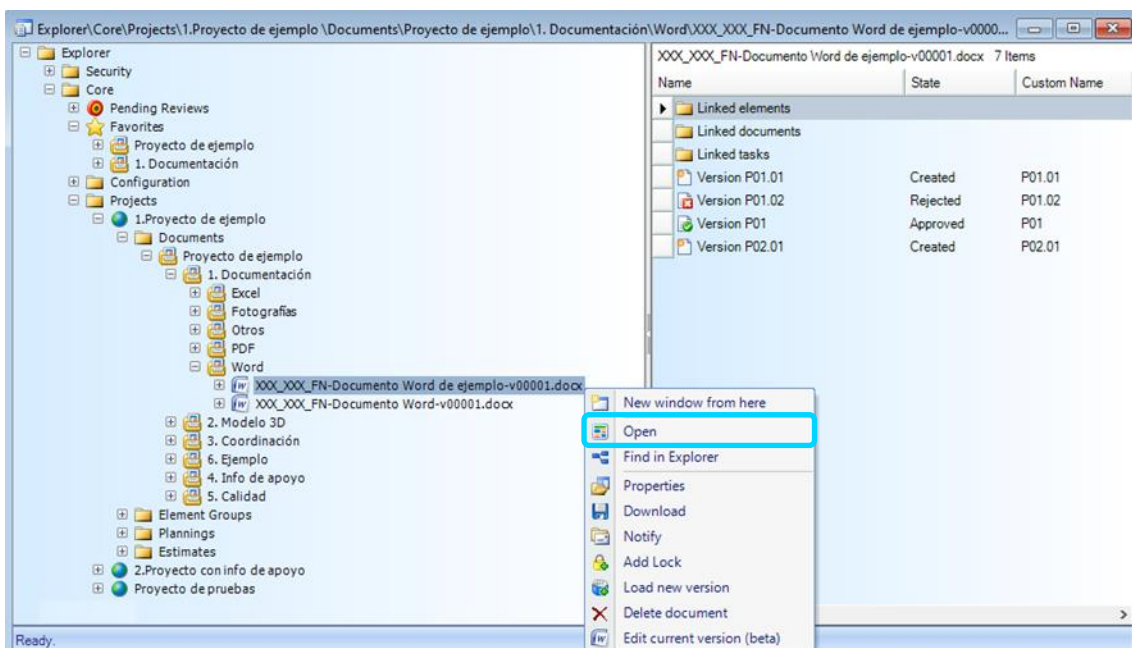
In this way, the latest version of the document is downloaded and the user can choose the location of the document.

To download a previous version, select the version and right-click on it. Selecting the **"Download"** option downloads the version to the location indicated by the user.

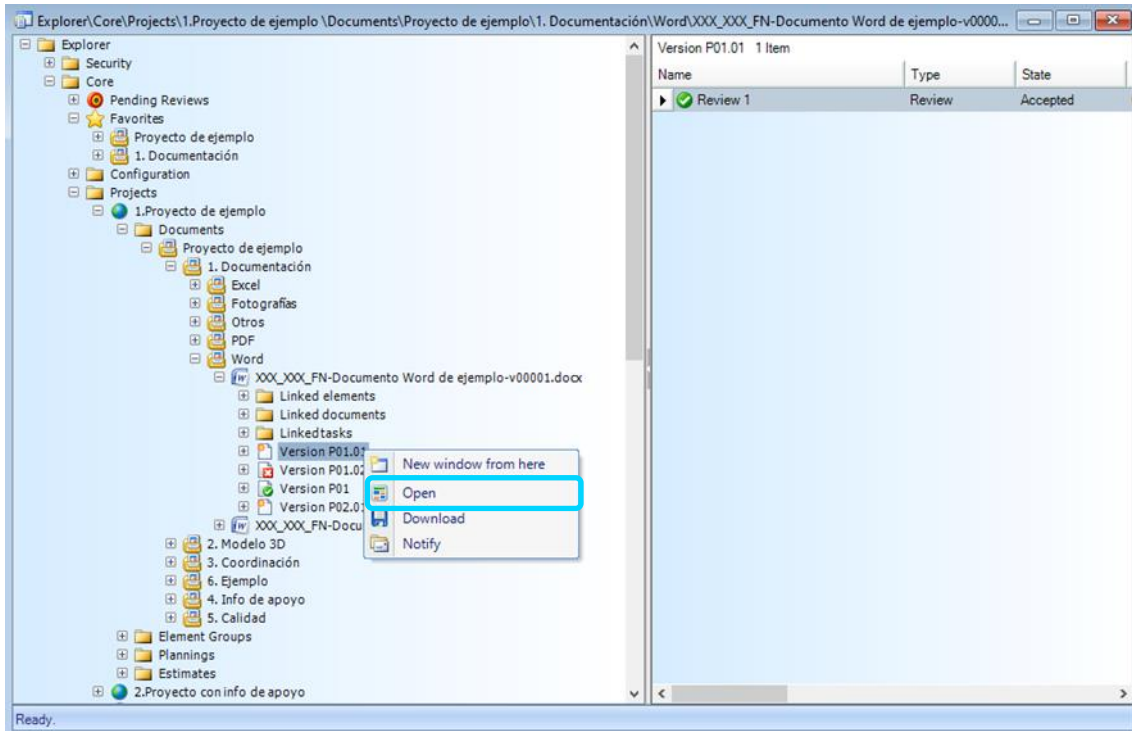


6.1.6. FILE VIEWING

File viewing is done by selecting the **"Open"** option which automatically opens the latest version of the document in the application corresponding to the file extension. For this, the software performs a local download located in a new directory called Vircore automatically created in the computer (Location: C: Documents), where it saves all the local downloads generated throughout the use of the platform.

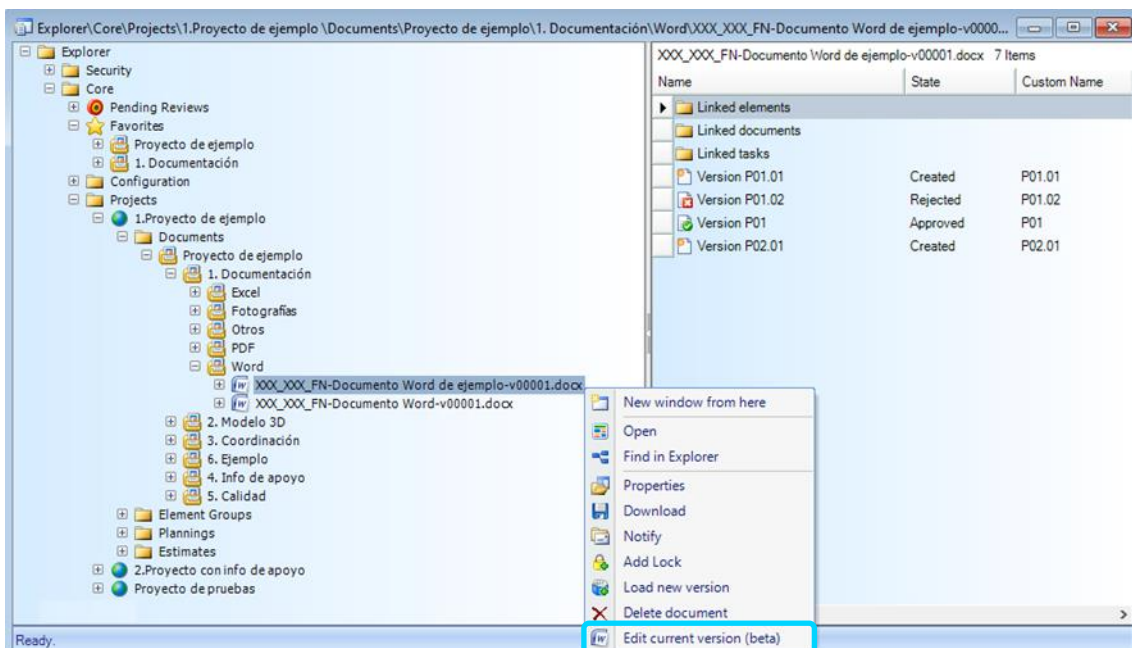


If you wish to open a previous version, right-click on it and select the **"Open"** option and the document will open automatically.

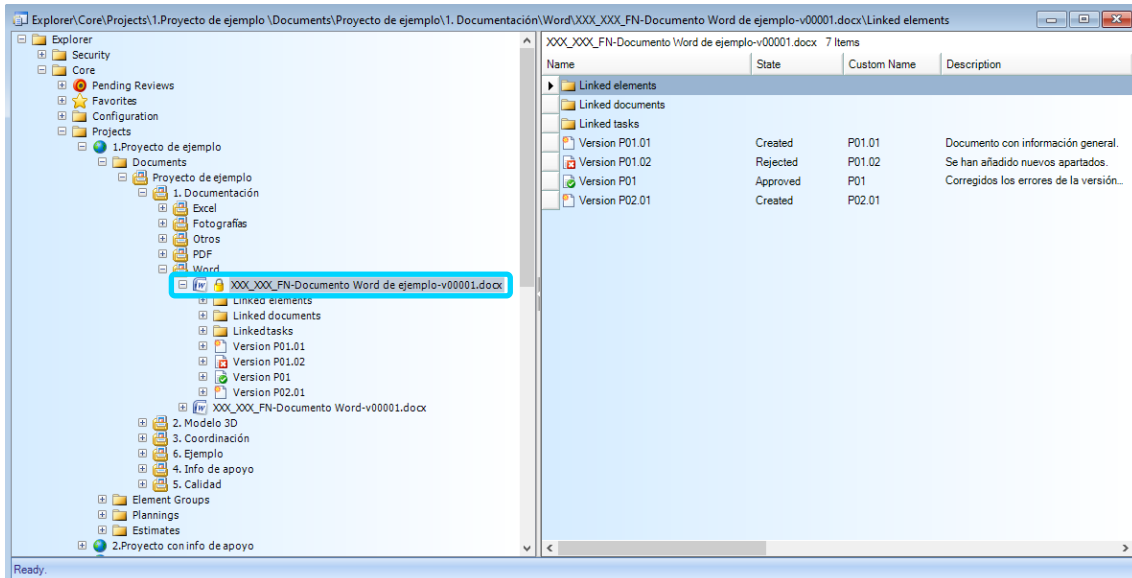


6.1.7. ONLINE FILE EDITING

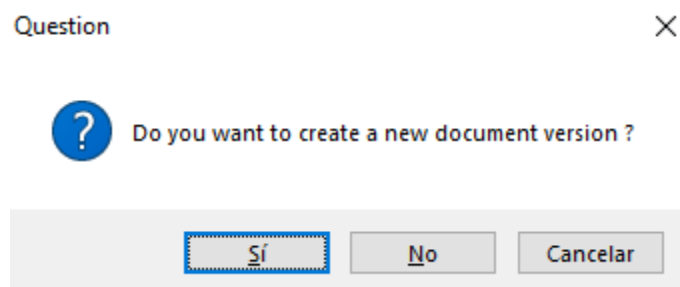
Online editing of Word format files is done by selecting the **"Edit current version"** option, which automatically opens the document in the application installed by default on the computer. This option is similar to the **"Open"** option described in the previous section but includes the possibility of saving the modifications made in the document directly on the platform.

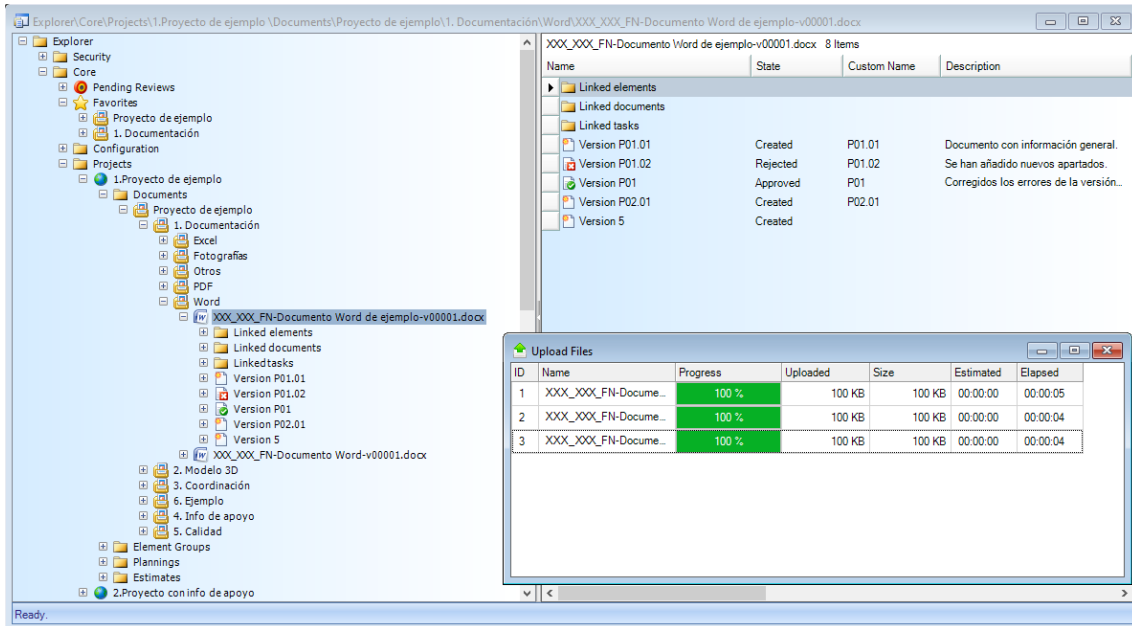


The user can check at the top of the interface that the program indicates that the file is being edited from the **VIRCORE platform 'Edit from Vircore [File name]'**. Once the edit option is selected, the file automatically goes to 'locked' status so that other users on the platform can identify that the file is being modified.



Once the displayed version has been modified, the save option is selected within the Microsoft Word application. When the user finishes the file edition and closes the application, an automatic message pops up asking the user if he/she wants to generate a new version of the file and by selecting yes, the loading of the new version in the platform starts.

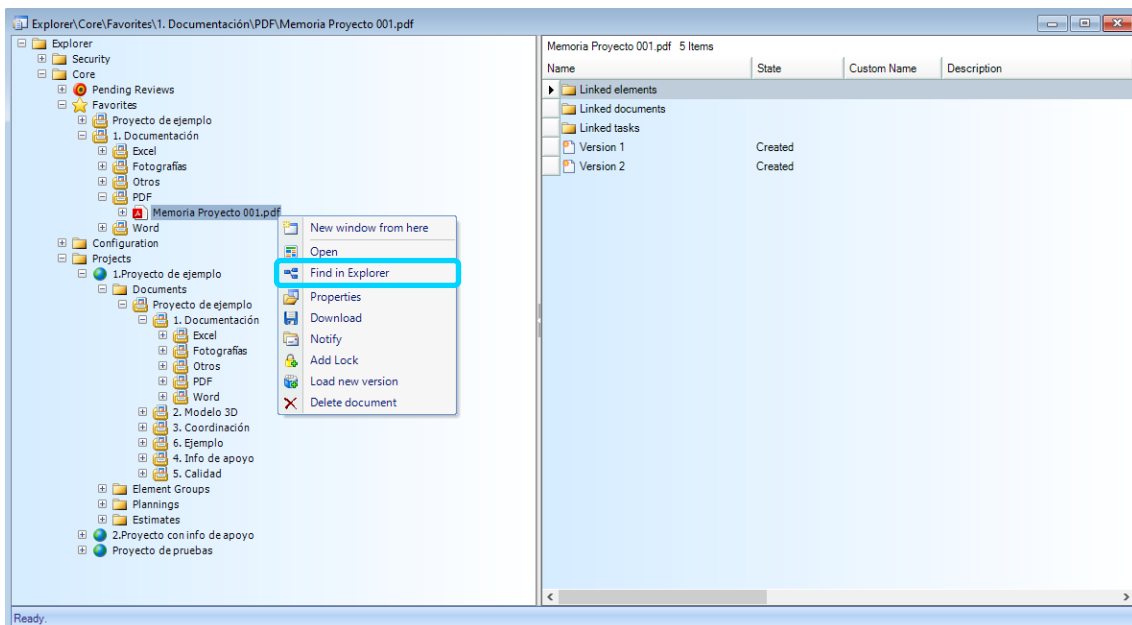




6.1.8. FILE SEARCH

Searching for a file in the project folder structure can be performed from the advanced search window format, the Grid, or using the notification documents received by the user (see section FILE SEARCH BY NOTIFICATION MAILS). To do this, access the document consultation in Grid and select the **"Find in Explorer"** option (detailed explanation in the section DOCUMENT GRID SEARCH AND QUERY).

It is also possible to identify the location of a file in the general folder structure by selecting the **"Find in Explorer"** option.

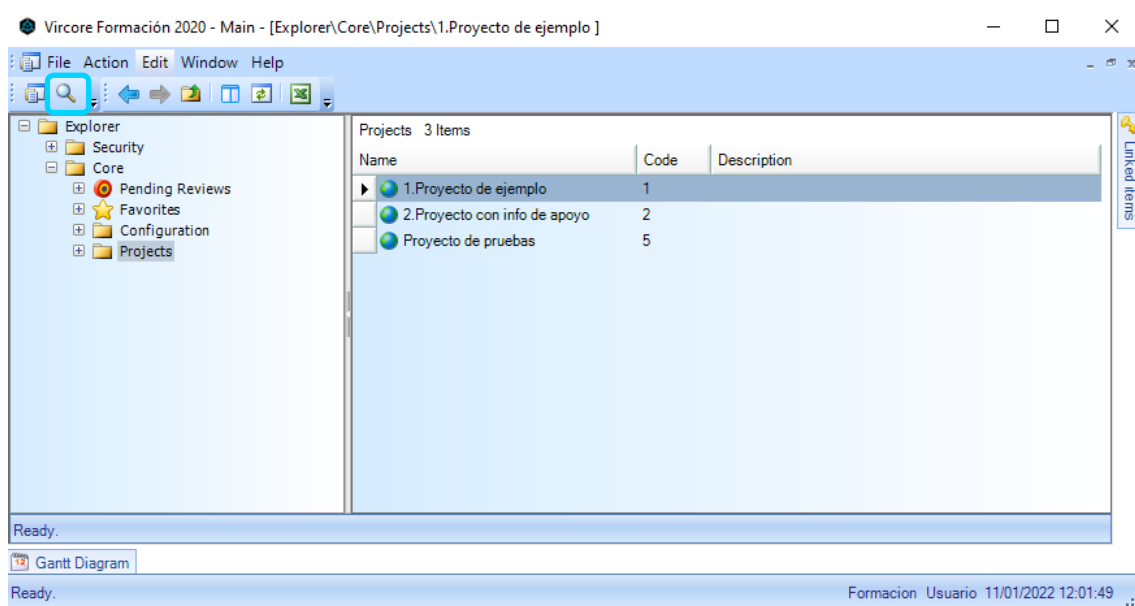


Automatically, the file is located at its source location in the general folder structure.

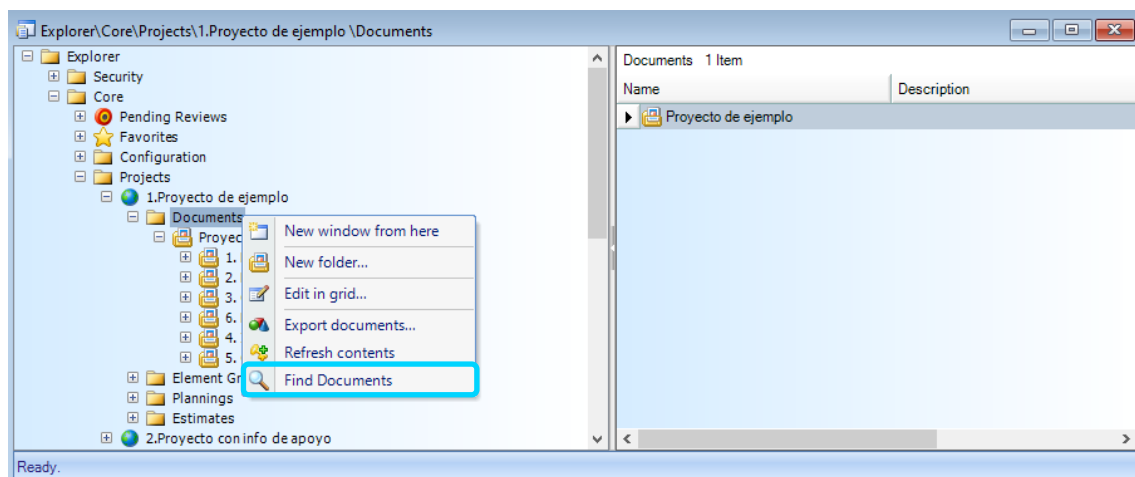
6.1.8.1. ADVANCED SEARCH WINDOW

The platform has an advanced document search window that allows locating a file in the interface by configuring filters related to the document, versions, people, dates or metadata associated with it.

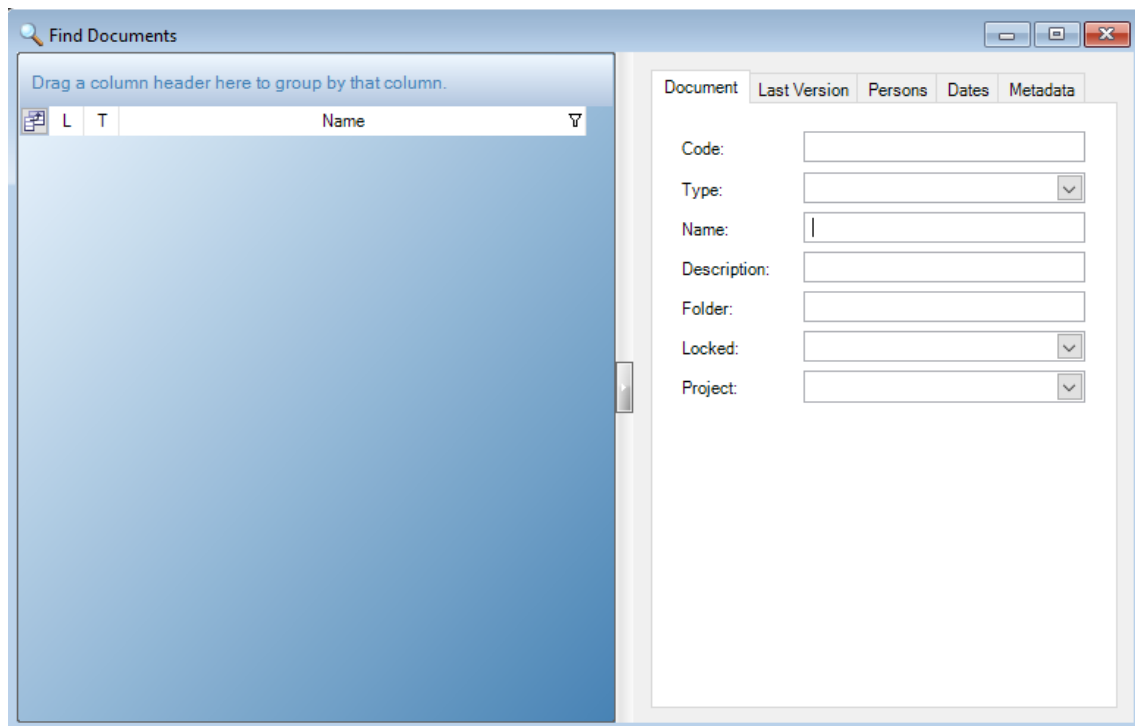
To access the advanced search window, the user has a magnifying glass button on the general toolbar at the top of the interface.



It is also possible to access the window by pressing **ctrl+F** or by right-clicking on the "Documents" folder within a project and selecting the "Find Documents" option.

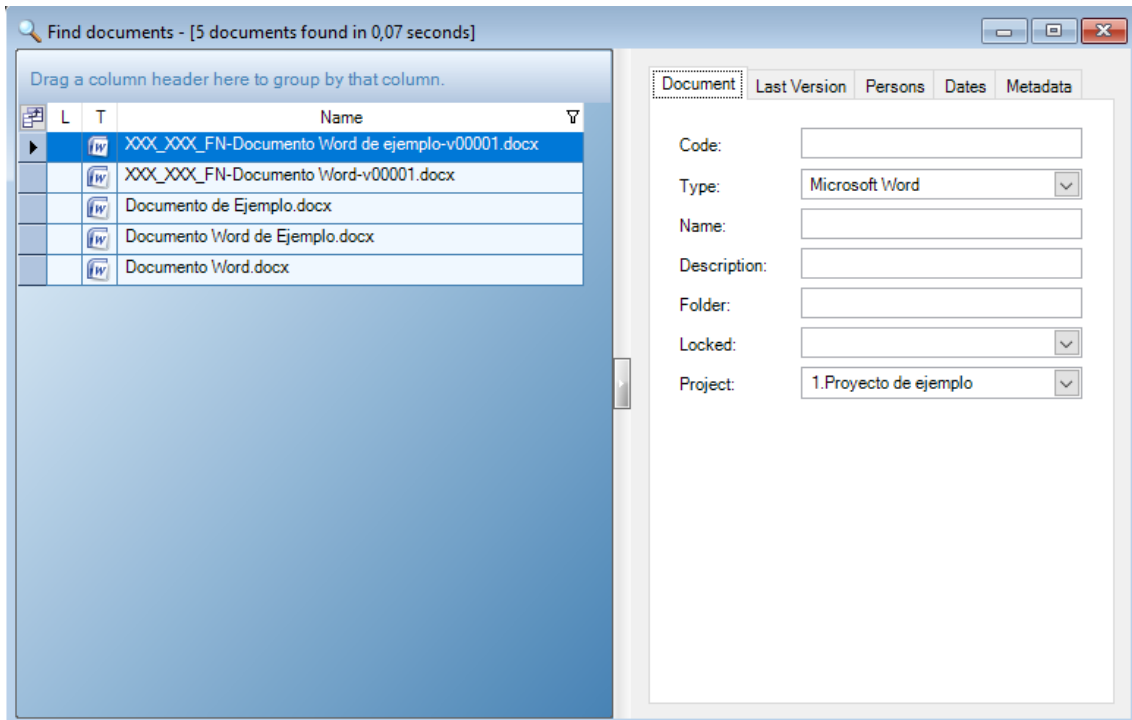


The advanced search window has two working windows; on the right one, the search filters are configured and on the left one, the files founded in the search are displayed.

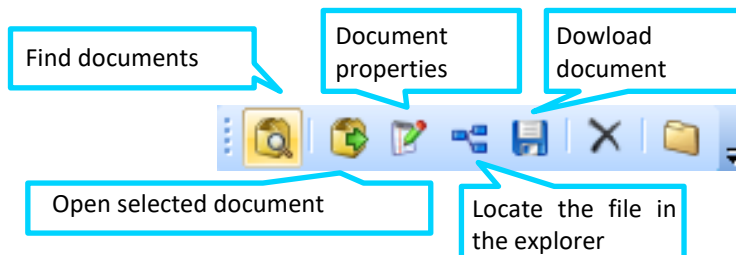


In the filter window, there are five tabs that allow the user to configure in an additive way different conditions for the location of a file (type, version status, person responsible for its creation, date, associated metadata, etc.).

The user fills in the fields according to their search needs and then selects the "**Find documents**", "**F1**" or "**Enter**" button on the toolbar at the top of the interface and the files located based on the preset filters will automatically appear in the window on the left.

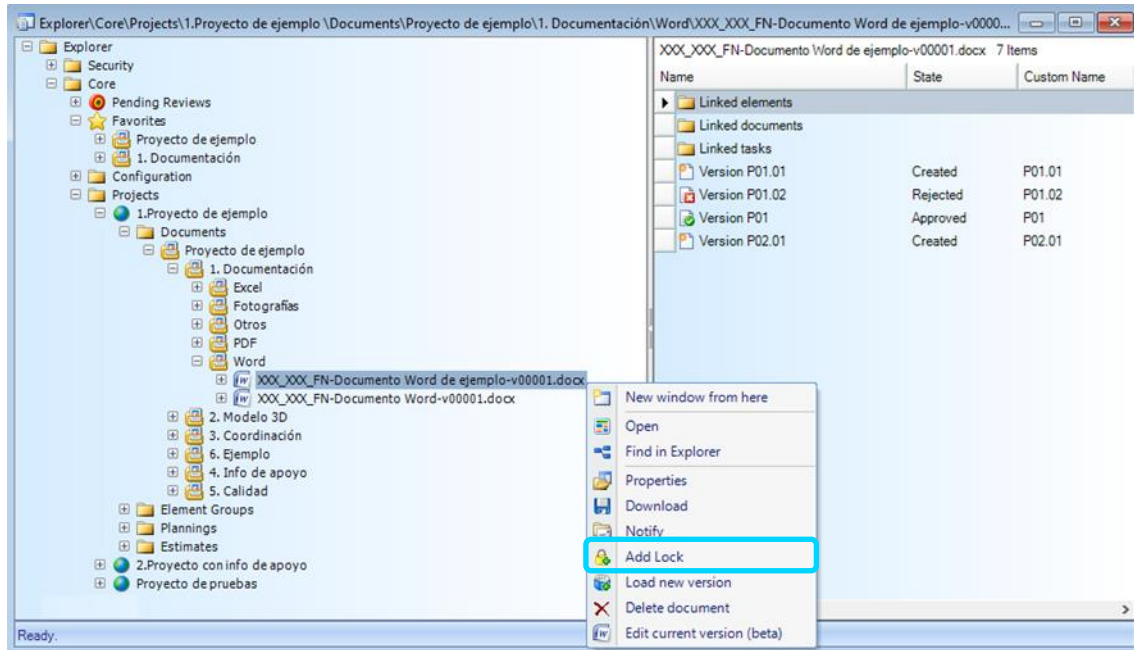


The toolbar of the search window has several shortcuts to functionalities, the functions of the buttons are listed below

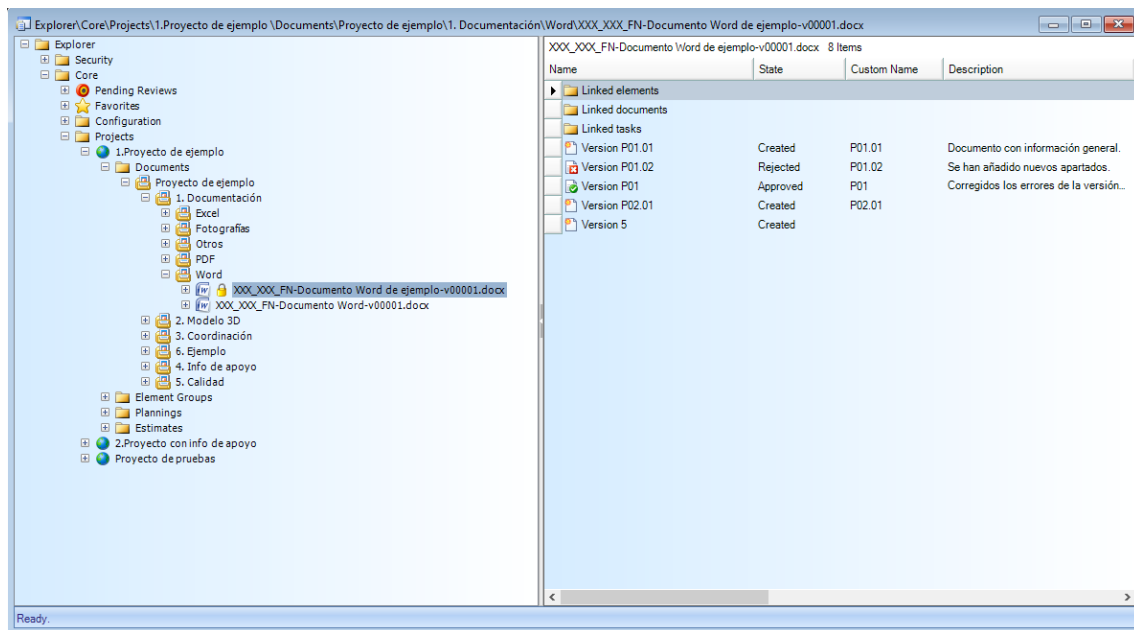


6.1.9. LOCKING AND UNLOCKING FILES

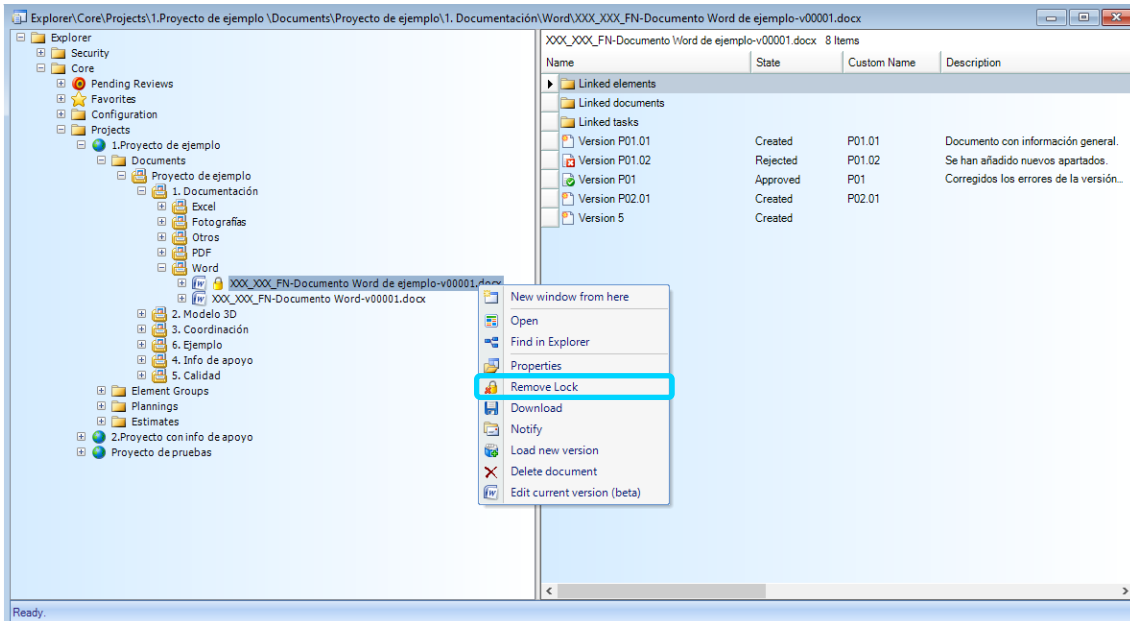
Locking a file allows to inform the other server users that the file is being modified. To do this, select the corresponding file and right-click on it, then select the **"Add Lock"** option.



Automatically, a yellow padlock appears to the left of the file name indicating that the file is locked.

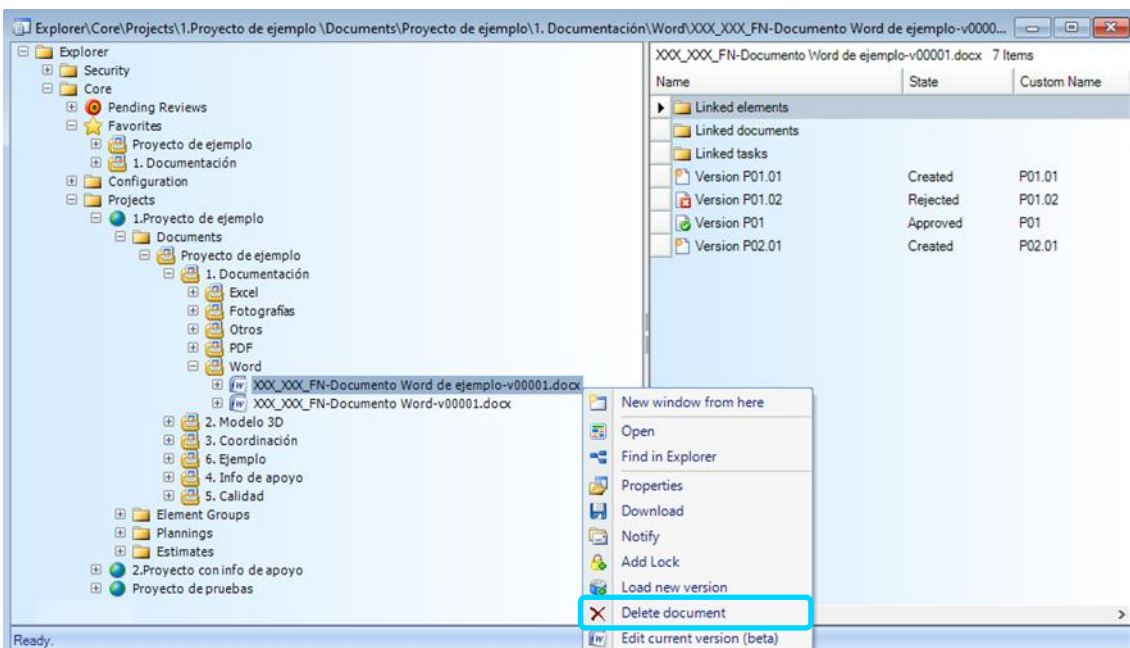


To unlock it, right-click on the locked file and select the **"Remove Lock"** option and the file will be unlocked and the yellow padlock will disappear.

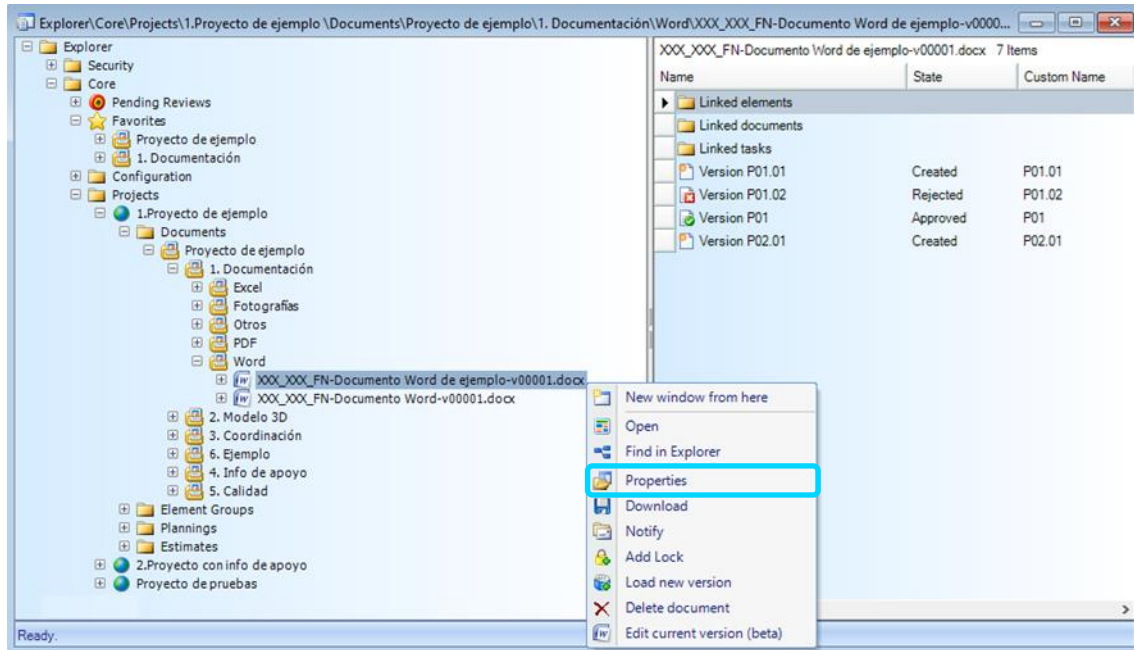


6.1.10. DELETION OF FILES AND VERSIONS

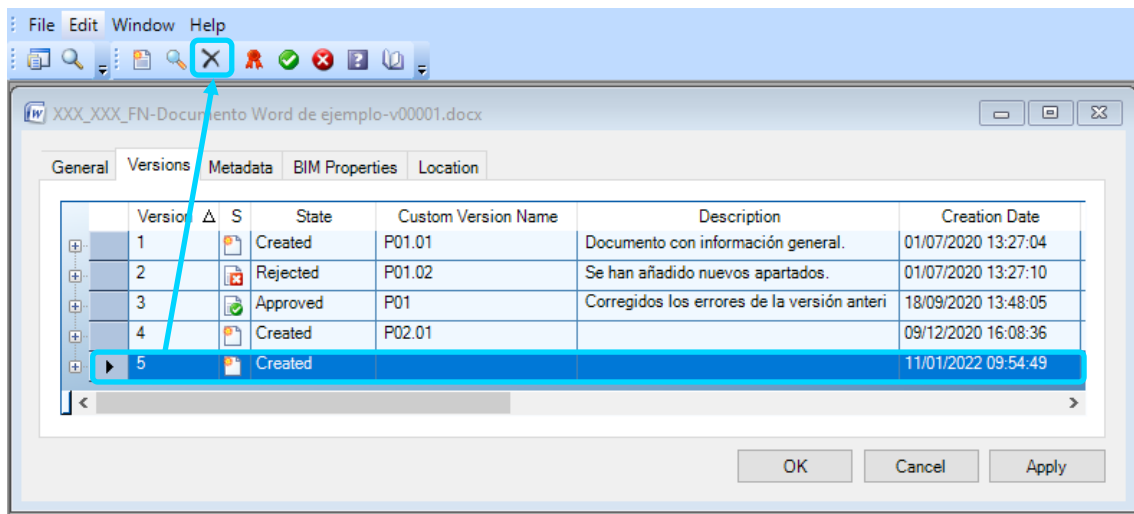
The platform allows deleting files and their versions. To delete a file, right-click on it and select the **"Delete document"** option.



To delete a version of a file, access to the file properties and then to the versions tab.



Next, in the second tab "**Versions**" select the version to delete and then click on the "**Delete selected elements**" icon (highlighted in the following image).



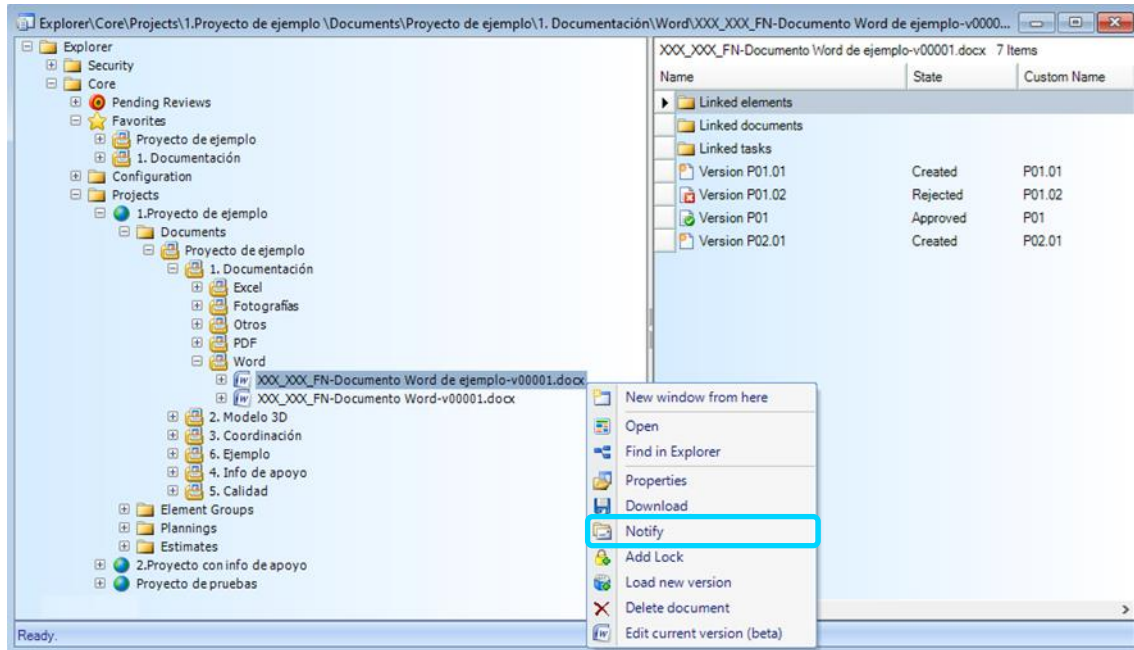
6.2. MANAGEMENT OF NOTIFICATIONS, REVISIONS AND APPROVALS

The platform allows notifying other users about a file or requesting revisions and approvals of the different versions of the file, as well as responding to requests generated by other users.

These actions are carried out from the Explorer or from the file properties (except notifications).

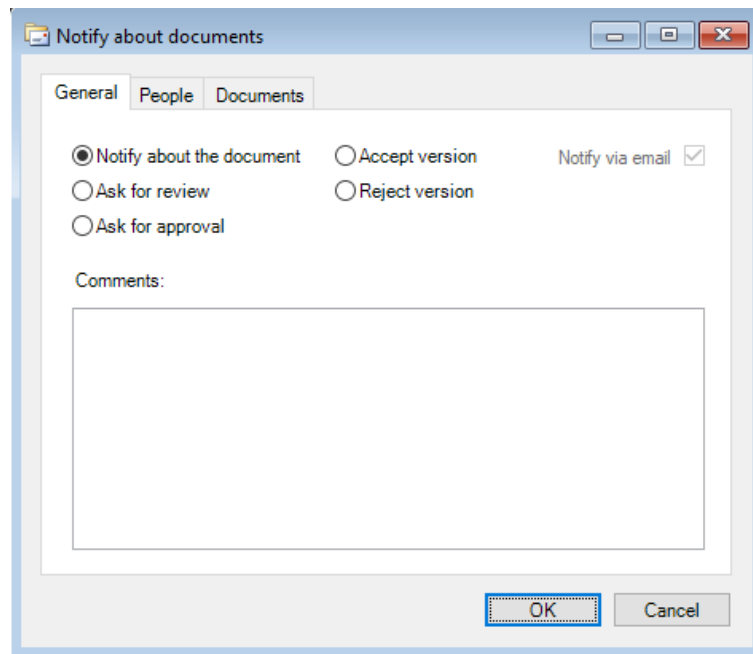
6.2.1. MANAGING A NOTIFICATION

To notify another user about a file or a version of a file, right-click on the document and select the "**Notify**" option.

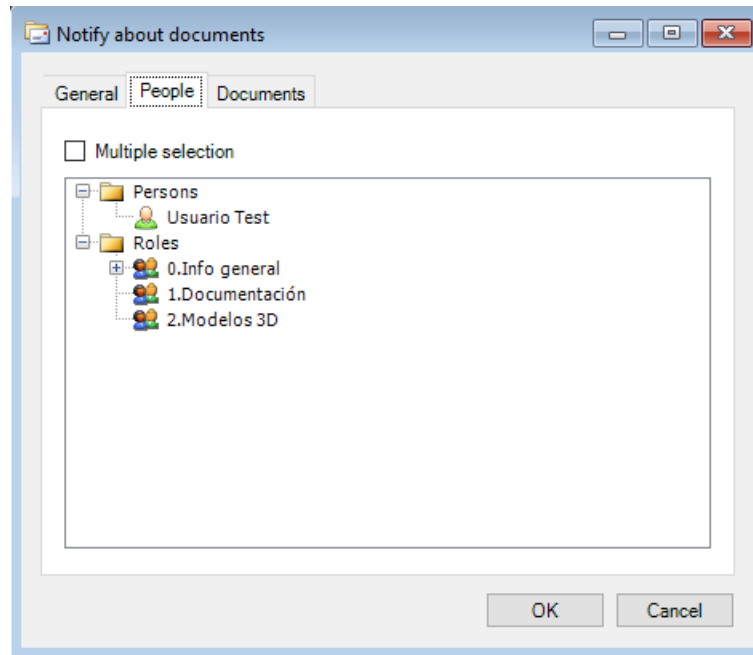


The pop-up window consists of three tabs: General, People and Documents.

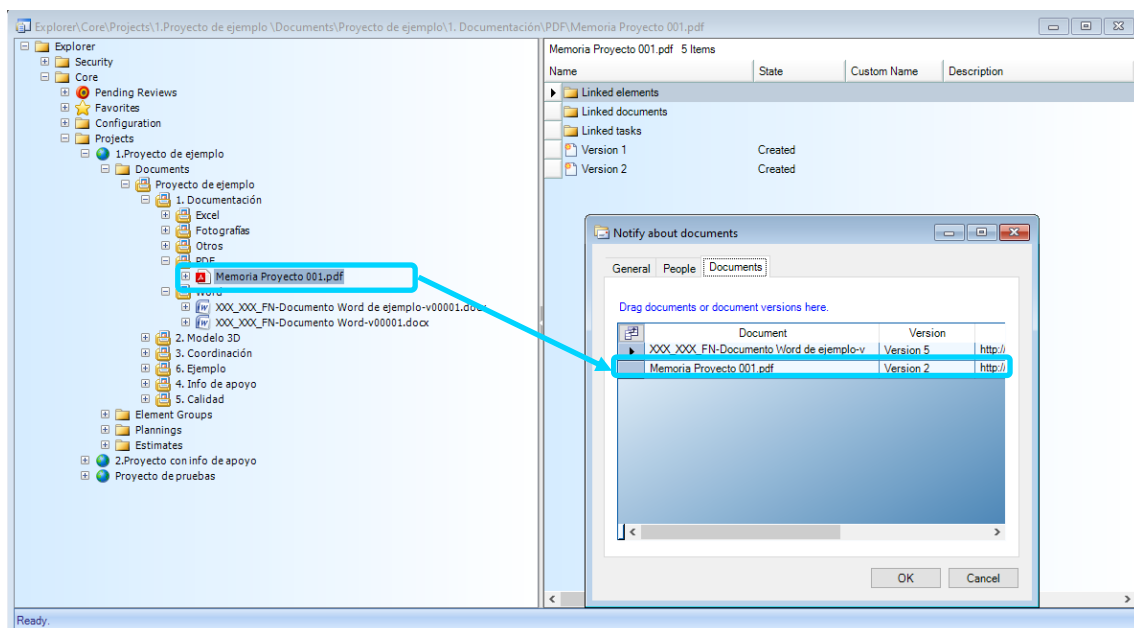
The first tab, "**General**", indicates the action to be taken, in this case notifying about a document, and the appropriate comments in the "**Comments**" field.



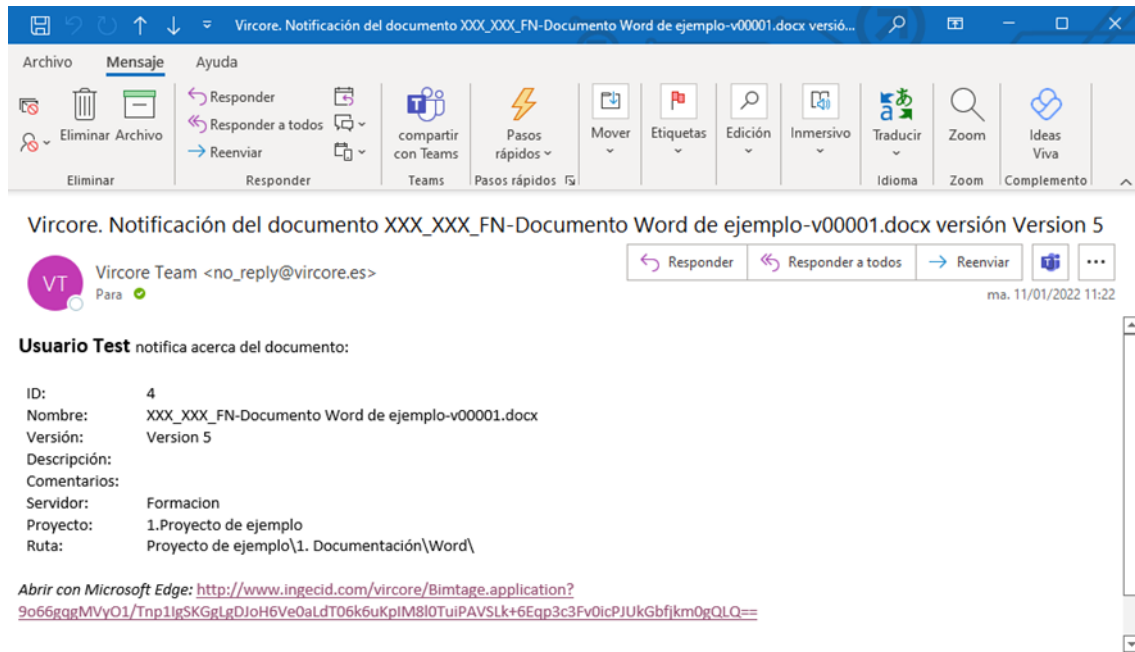
In the second tab "**People**" you select the recipient(s). It is possible to notify one or several users, as well as one or several roles (it notifies all users belonging to the same role); to select several users or roles the "**Multiple selection**" option must be selected.



The third tab "**Documents**" shows the document and the version to be reported on. It is possible to notify on several files, i.e., to add other versions to the management; to do this, select the file or the corresponding version in the Explorer and drag it to the "**Documents**" tab.



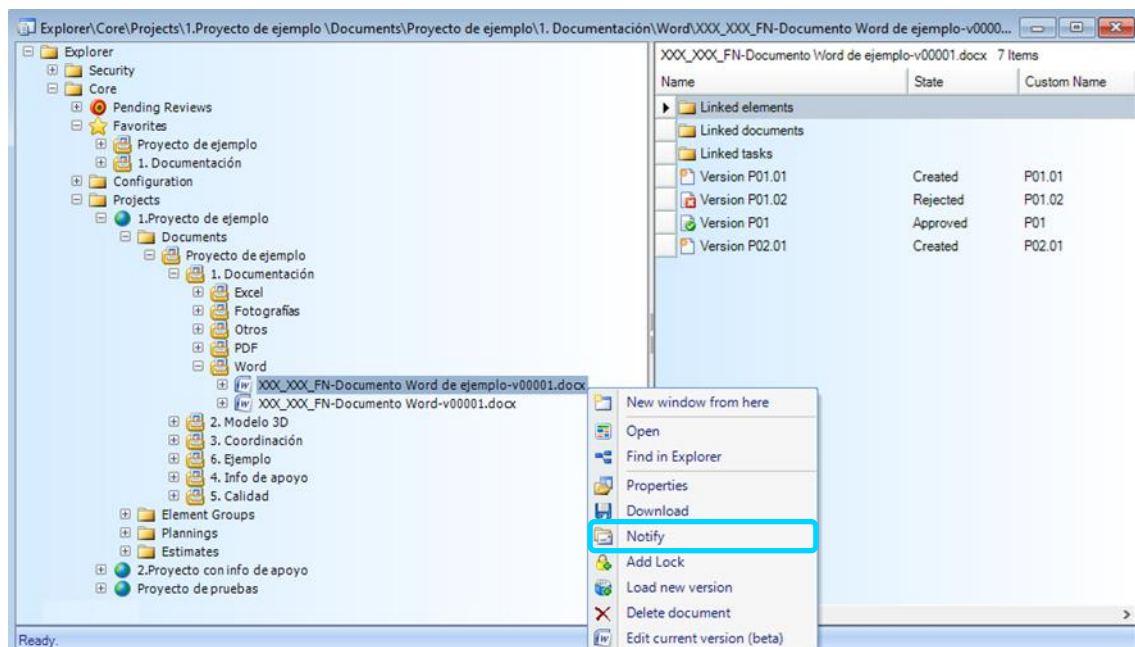
Finally, by selecting "**OK**" the notification is done and the user will receive via email the notification of the corresponding file or files. This email will indicate the name, version, server and project to which the file belongs, as well as the comments made by the user.



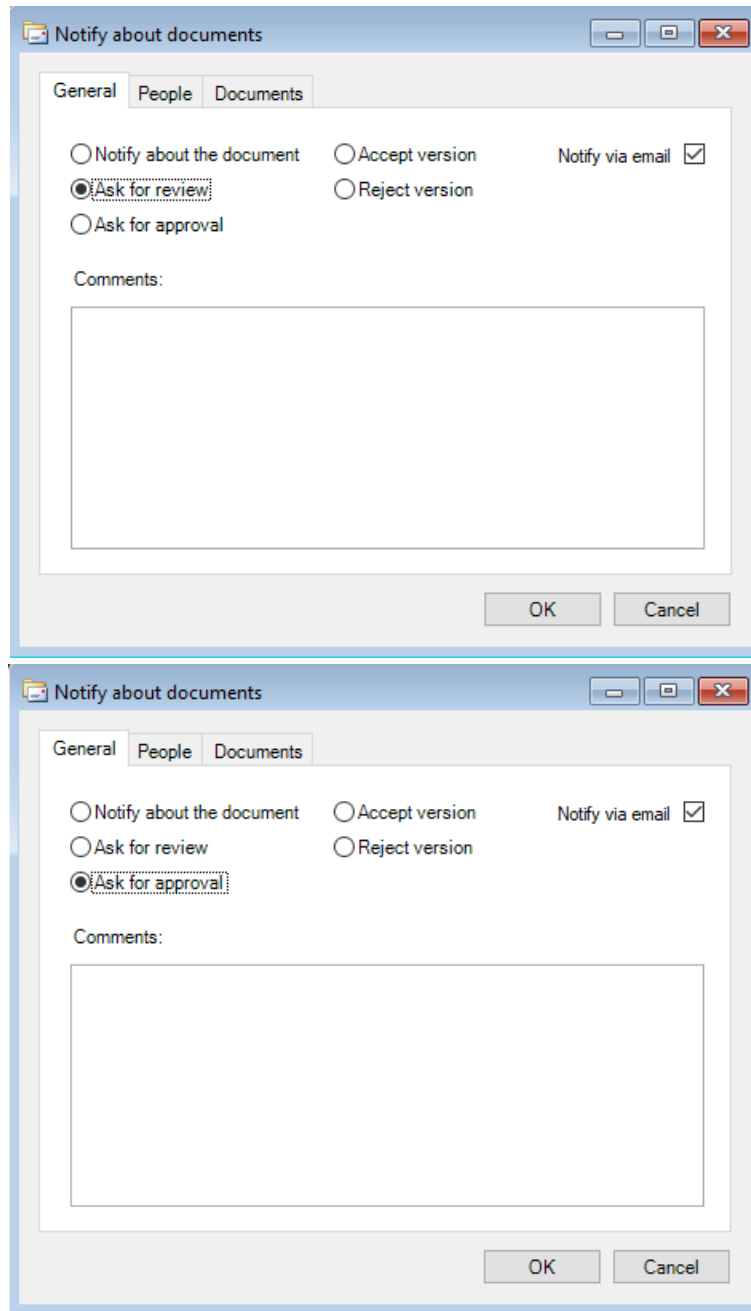
6.2.2. REQUESTING REVISIONS OR APPROVALS

The request for a review or approval of a file or a version of a file to another user can be made from the "**Notify**" option (as in the case of notifications) or from the "**Properties**" of the file.

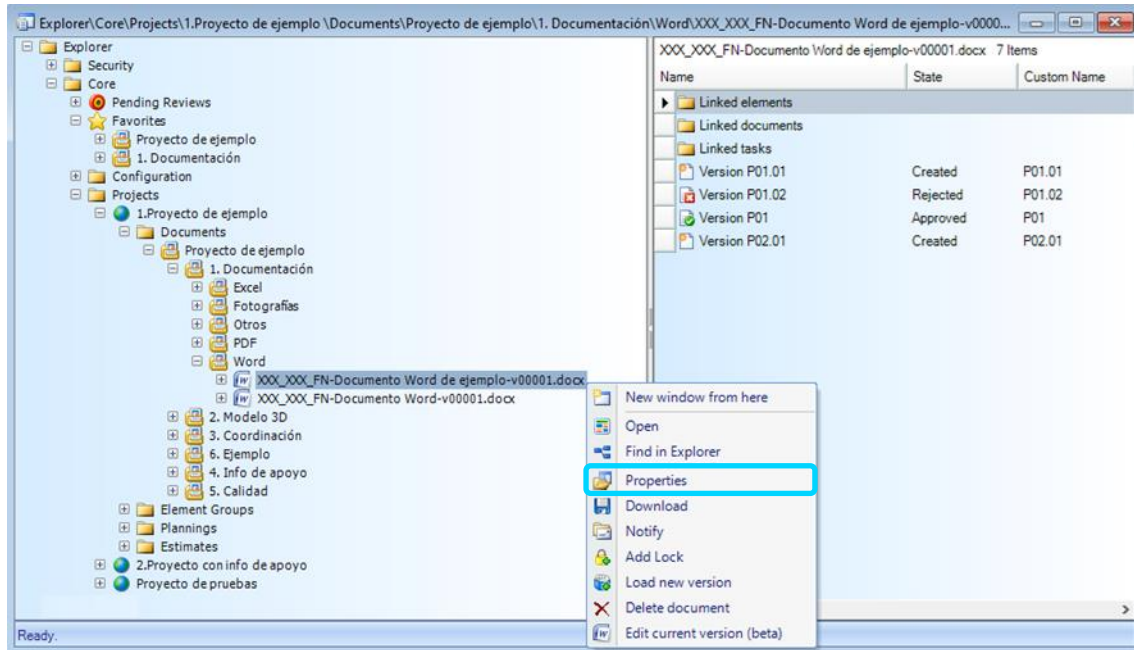
In the first case, from the "**Notify**" option, the "**Ask for review**" or "**Ask for approval**" option is selected in the management window, depending on the action to be taken.



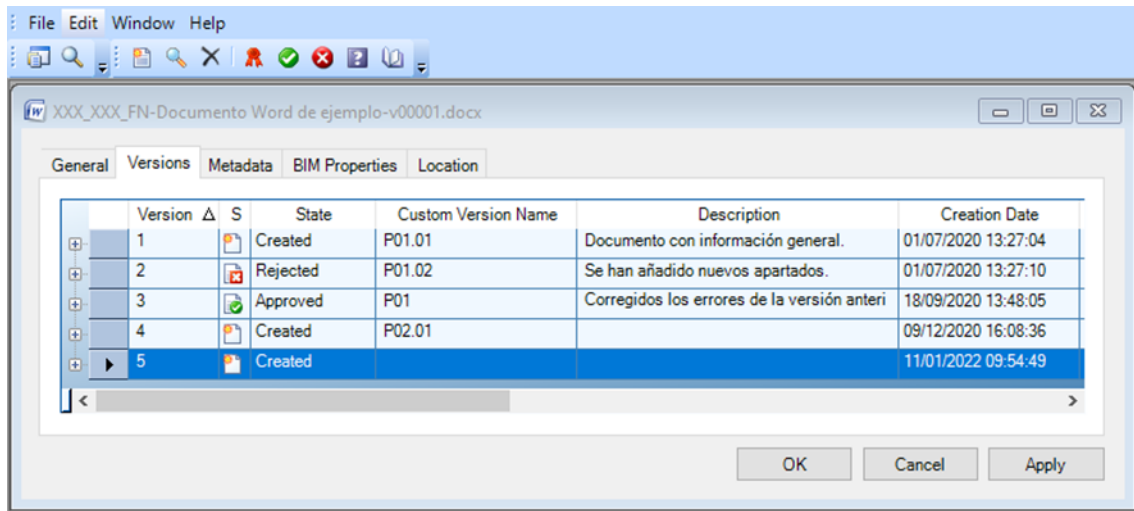
In the "**General**" tab, the procedure to be carried out is indicated: request for review or request for approval. In the second (recipients) and third tabs (other files), the procedure is the same as for notifications.



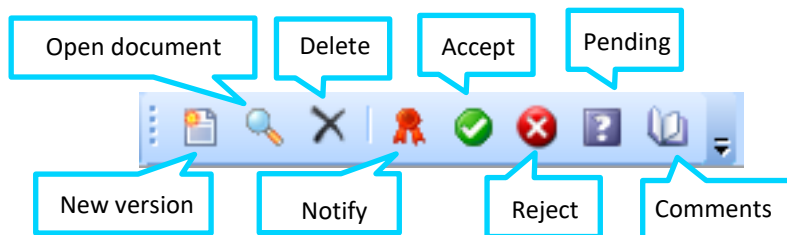
It is also possible to perform these operations from the "**Properties**" option of the file.



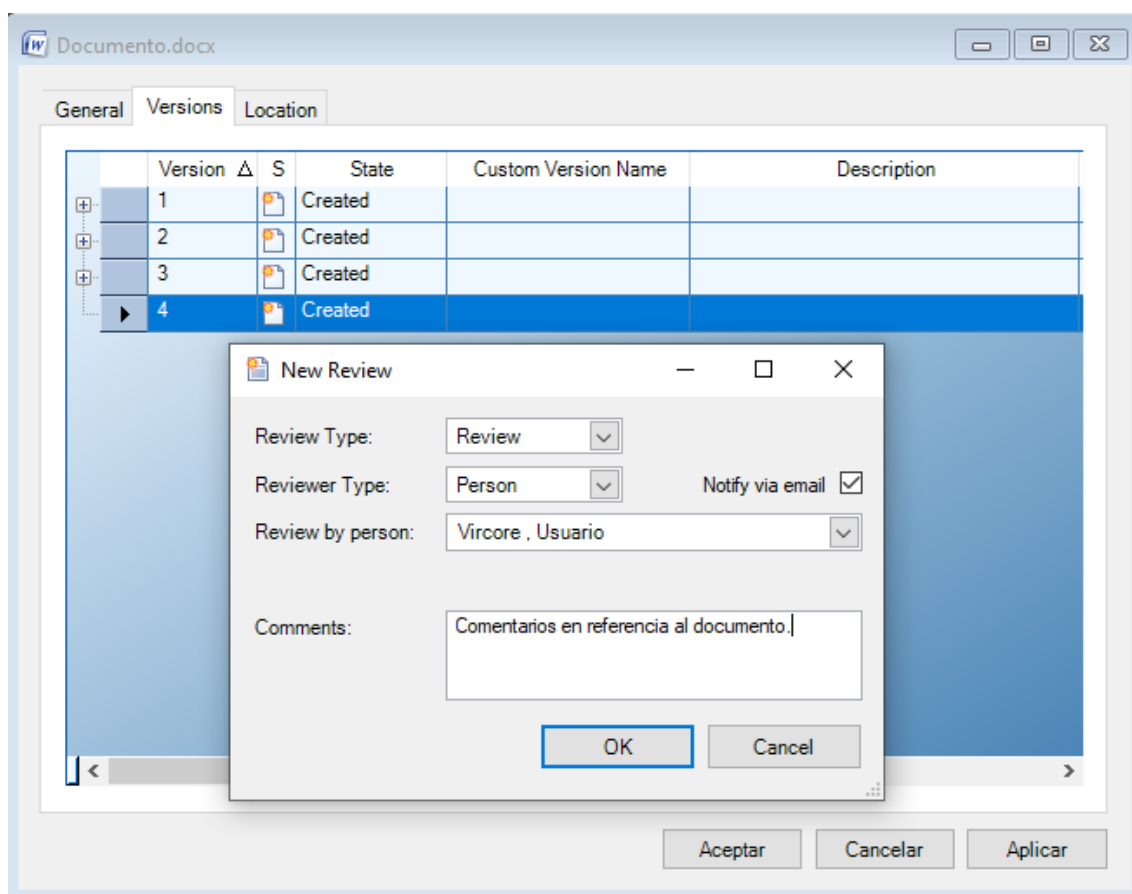
From the properties window, in the second tab "**Versions**" it is also possible to request revisions and approvals, as well as to accept and reject pending requests. From this window, it is also possible to delete a request.



To do this, select the corresponding version and use the icons in the upper panel to implement the functions that can be performed.



With the above toolbar you can request a review or approval from another user or role, as well as approve or reject reviews and approvals previously requested by another VIRCORE user.



In the pop-up window, in the "**Review Type**" icon, select the type of management (review or approval) and choose its characteristics. It must be established whether the review is requested to a person or to a role, so, by choosing the second option, the request will be sent to all those who have that role. The "**Comments**" field allows you to register comments regarding the document if applicable. In addition, **Vircore** allows for email notification of revisions and approvals.

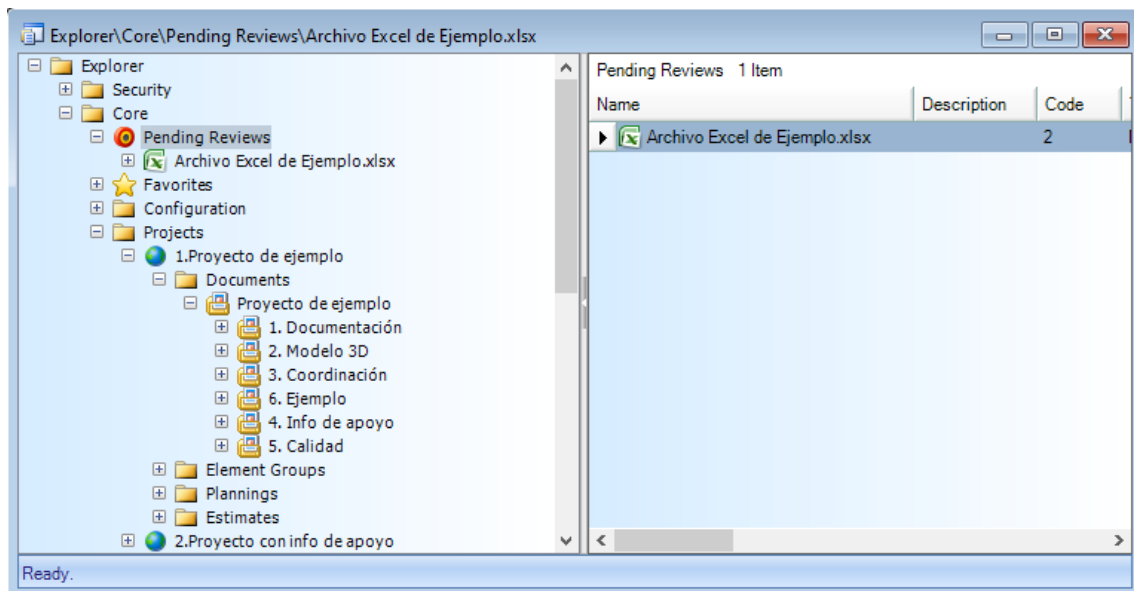
In this way, the request for document revision or approval is automatically registered under the corresponding version and a message is sent to the recipient's email as a communication of the request.

6.2.3. ACCEPTING OR DENYING REVISION/APPROVAL REQUESTS

VIRCORE allows you to assign revisions and approvals to each of the versions of the uploaded files, which makes possible to know the current status of any document, making easy to work on the latest version.

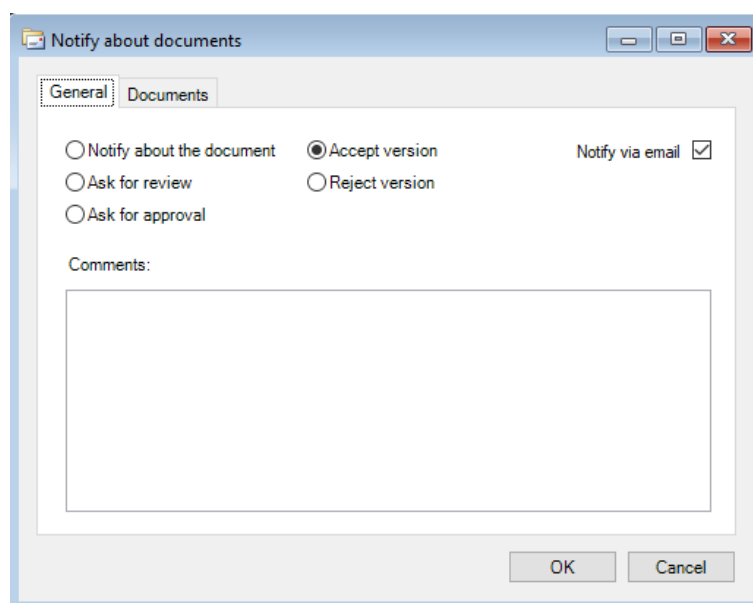
To manage pending communications, access the "**Pending Reviews**" mailbox. This icon serves as a mailbox for communicating file reviews or approvals requested by other users.

Only files uploaded to the platform for which a review or approval is requested are stored in "**Pending Reviews**". Once the file has been processed, it disappears from this field.

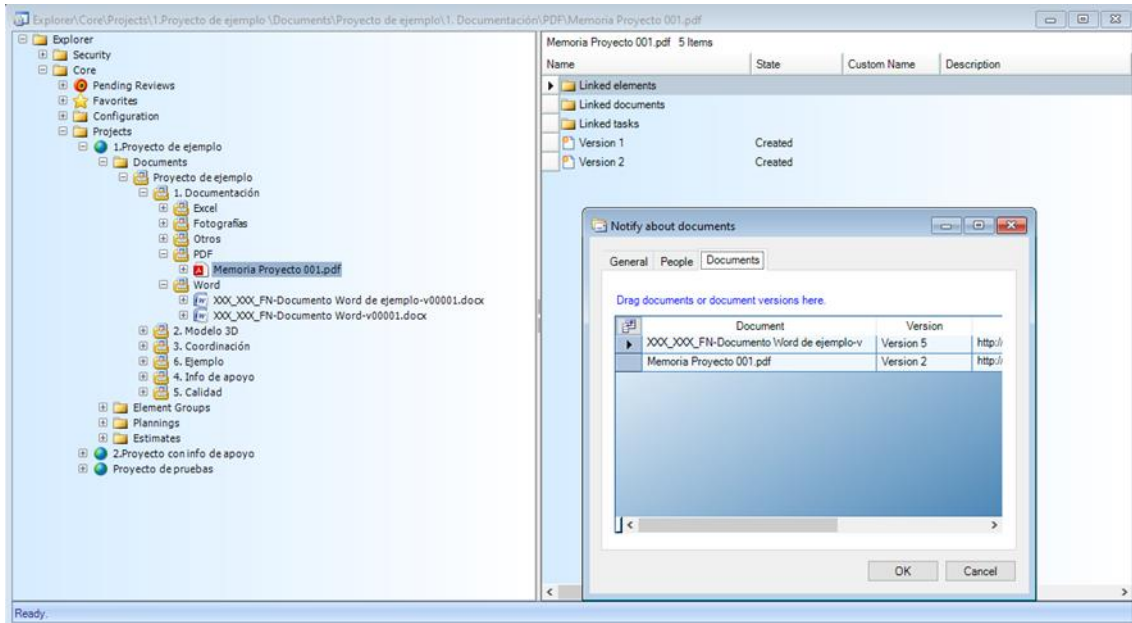


The acceptance and rejection of a revision or approval, as its request, can be done from the "**Notify**" option or from the "**Properties**" option of the document.

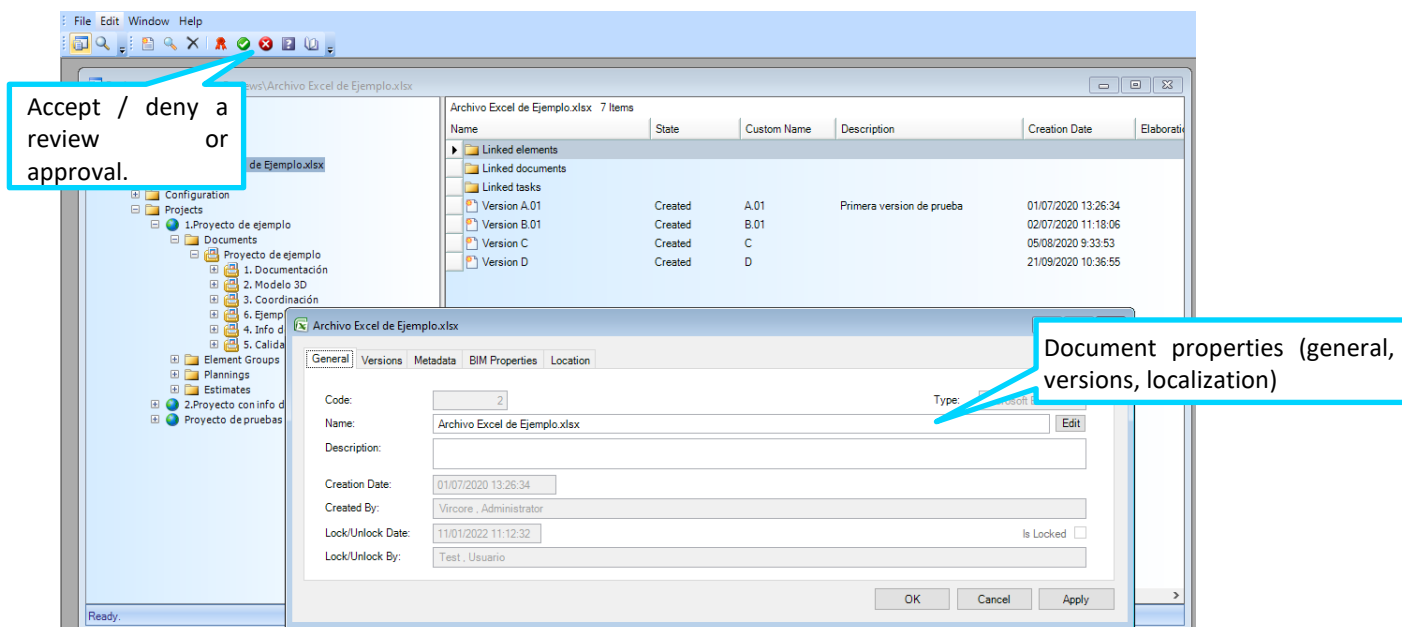
In the first case, select the file and then the "**Notify**" option. In the pop-up window, in the first tab ("**General**") there is the option "**Accept version**" or "**Reject version**".



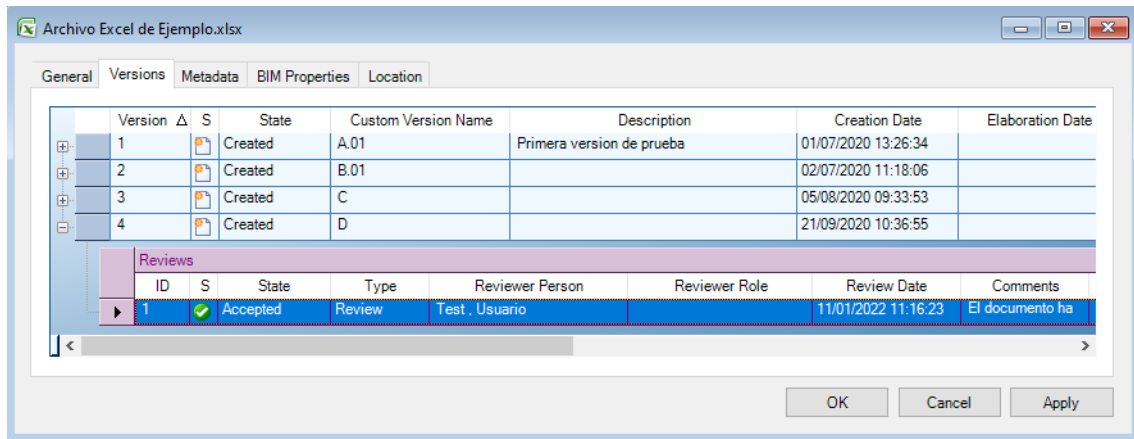
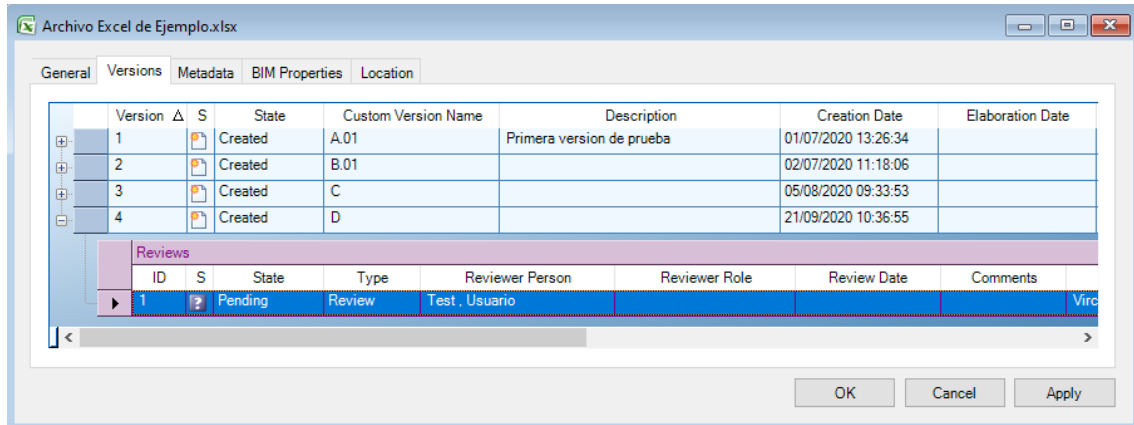
The platform allows you to accept or reject revisions/approvals of more than one file by dragging the corresponding file to the second **"Documents"** tab.



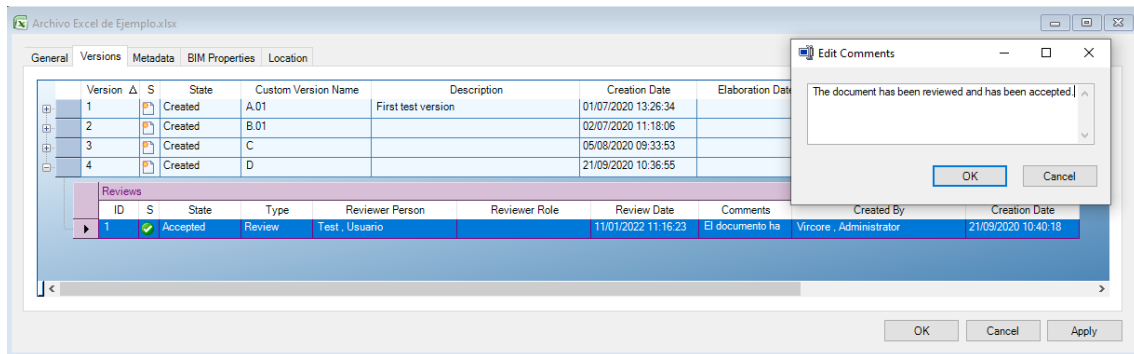
It is also possible to manage the requests from the file properties. To accept or deny a request, right-click on the desired version and select the **"Properties"** option. The toolbar located at the top of the platform is modified, with new icons and a pop-up window.



In the pop-up window within the versions tab, select the version you want to manage (accept / deny).

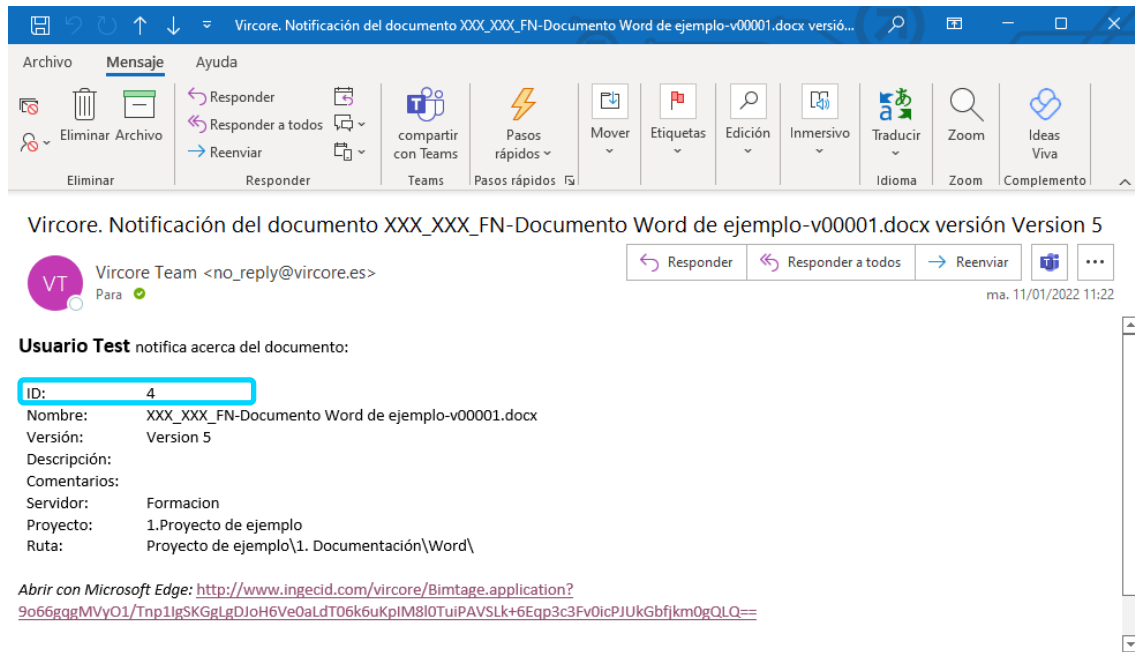


In addition, the platform facilitates interaction and communication among project participants through comments linked to each version as shown in the following image.

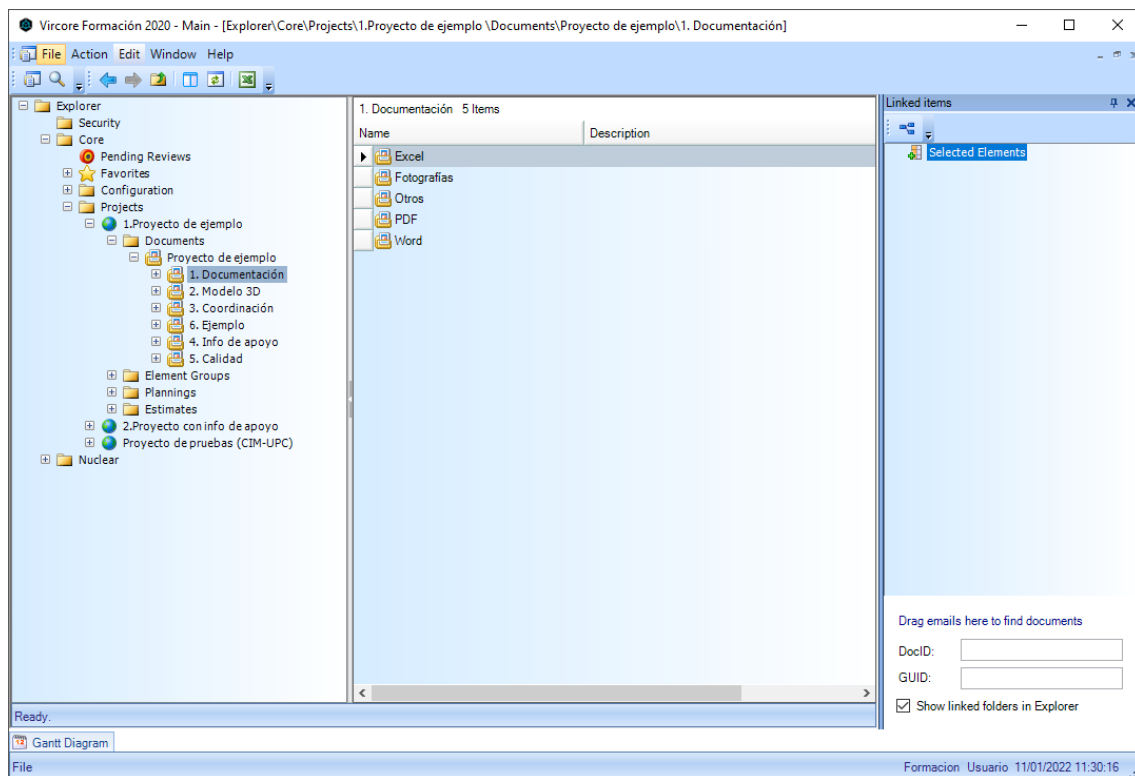


6.2.4. FILE SEARCH BY NOTIFICATION MAILS

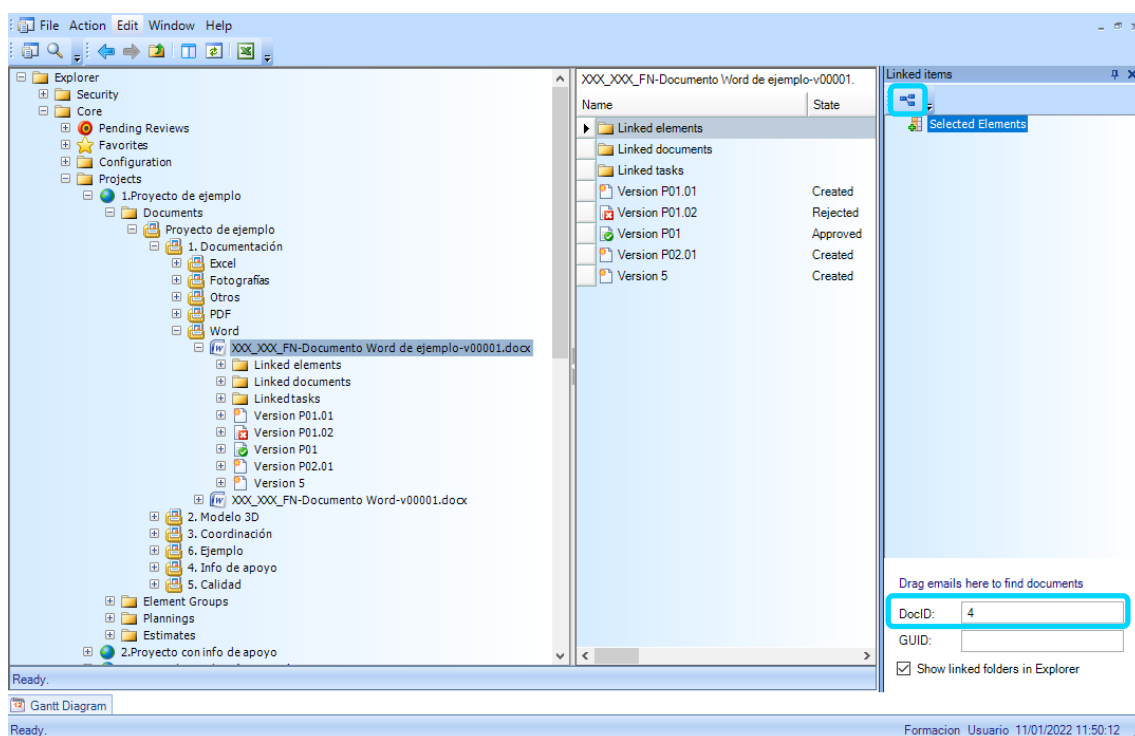
The emails sent during the management of notifications, revisions and approvals collect information regarding the location of the file, highlighting the first field corresponding to the file ID.



This digit will allow you to search for the file in the platform interface by accessing the "Linked items" window.



As can be seen in the image above, at the bottom of the "Linked items" window there is a field called "DocID:" in which if the ID provided in the e-mail is entered and the button located at the top of the "Find in explorer" window is selected or the Enter button is selected, the document is automatically located in the folder structure.



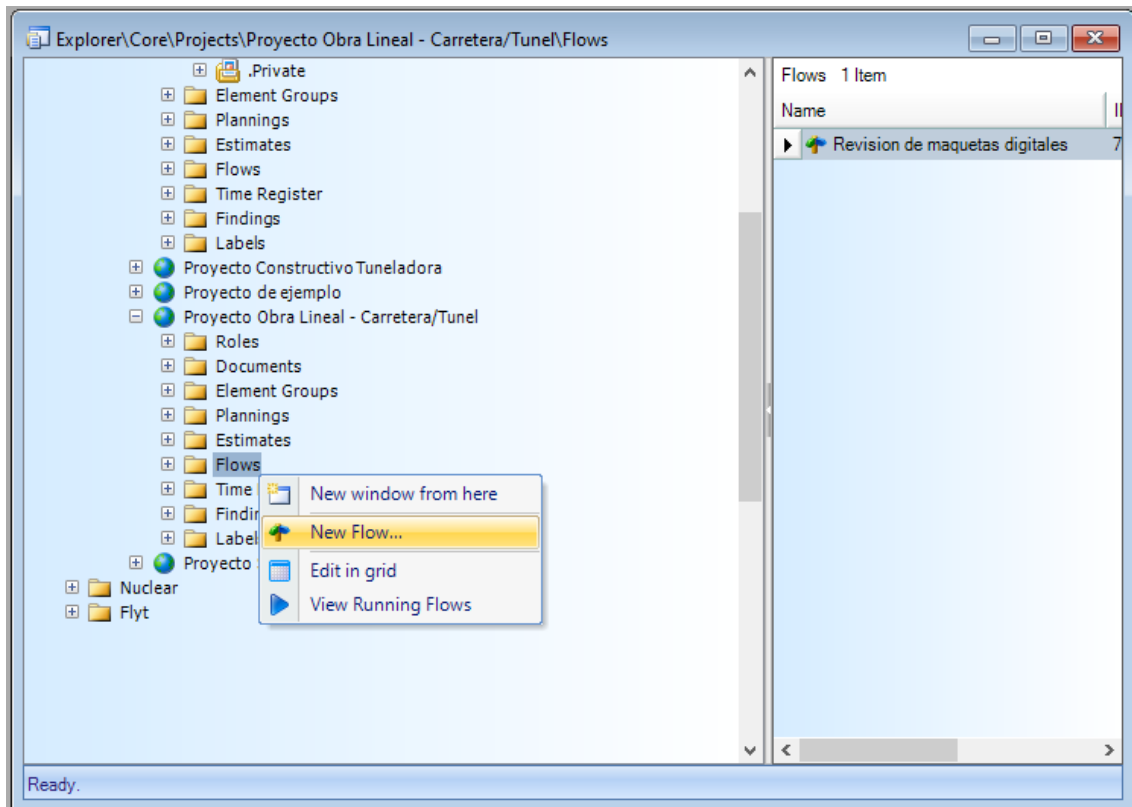
It is also possible to perform the search by dragging the received notification email directly into the "DocID:" field and the platform automatically identifies this ID and locates the file in the corresponding folder structure.

6.3. WORKFLOW

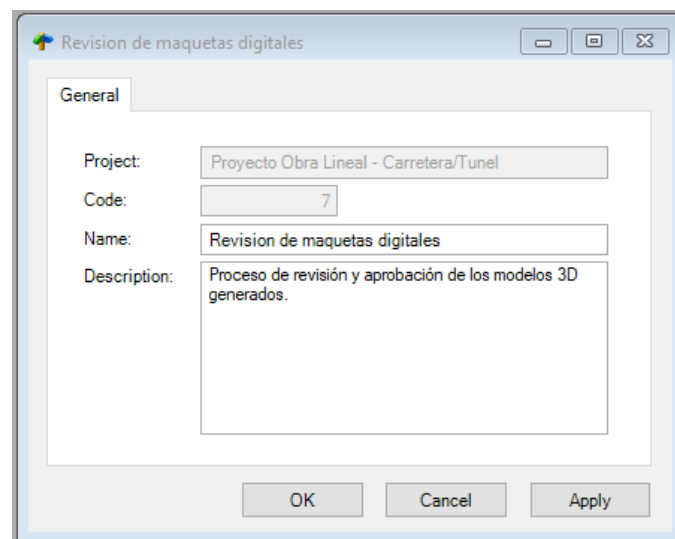
This section explains how to generate an automated workflow instead of the manual handling of notifications, reviews and approvals described in the previous section.

6.3.1. WORKFLOW CONFIGURATION

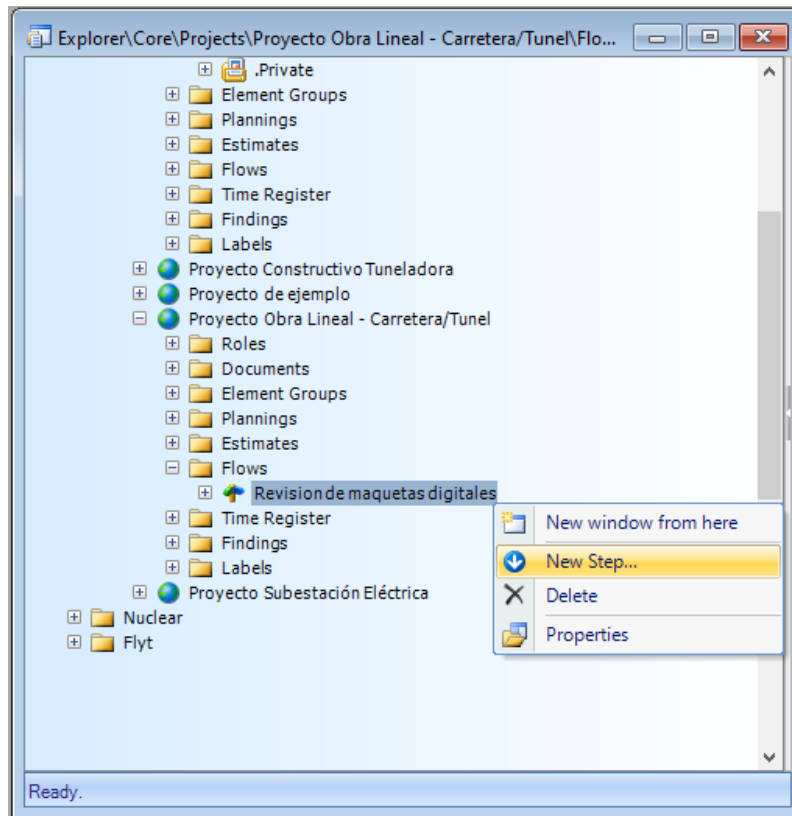
Within each project, there is a folder named "**Flows**" from which automated workflows are defined by right-clicking on the document and selecting the option "**New Flow...**".



Enter the name of the new workflow and a short description of the workflow in the pop-up window.



The next step is to define the steps associated with the new workflow. To do this, right-click on the workflow created and select the option **"New Step..."** from the context menu.



The step properties pop-up window has two tabs: "**General**" and "**Description**".

The first tab "**General**" collects information related to the identification and typology of this step. The name, typology and duration associated with this step must be indicated manually.

Nivel de información gráfica (LOD)

General Description

Identification

Project: Proyecto Obra Lineal - Carretera/Tunel

Flow: Revision de maquetas digitales

Code: 21 Order: 30

Name: Nivel de información gráfica (LOD)

Type: First Days: 5

Target reviewer

Person: Test , Usuario

Role:

Department:

Organization:

Next Step

Yes: Nivel de información no gráfica (LOI)

No: Rechazado

OK Cancel Apply

In relation to the step typology, the user can define several types of steps within a flow, namely:

- First: the first step in the workflow and where the process starts.
- Normal: steps in the workflow, between the initial and the final step.
- Combined: Combined step containing child steps.
- Child: Child step or sub-step within a combined step of the workflow.
- Last OK: Final step in case the document is accepted.
- Last NOK: Final step in case the document is rejected.

In the 'Target reviewer' section you must select the person responsible for performing this new step, be it a user, role, department or organisation.

Nivel de información gráfica (LOD)

General Description

Identification

Project: Proyecto Obra Lineal - Carretera/Tunel

Flow: Revision de maquetas digitales

Code: 21 Order: 30

Name: Nivel de información gráfica (LOD)

Type: First Days: 5

Target reviewer

Person: Test , Usuario

Role:

Department:

Organization:

Next Step

Yes: Nivel de información no gráfica (LOI)

No: Rechazado

OK Cancel Apply

To link the step being configured with the different steps that have been defined in the flow, in the '**Next Step**' section, the next step is selected for the 'Yes' option (when the file has passed the current step) and for the 'No' option (when the file has not passed the current step).

That is, if the file associated with the workflow passes the object step, it is passed to the next step within the workflow [e.g. Level of non-graphical information (LOI)] and, if it

does not pass the step, it is returned to the corresponding step or the document is directly rejected (e.g. rejected).

The screenshot shows a software window titled "Nivel de información gráfica (LOD)". It has two tabs: "General" and "Description", with "Description" currently selected. The window contains three main sections: "Identification", "Target reviewer", and "Next Step".

Identification section:

- Project: Proyecto Obra Lineal - Carretera/Tunel
- Flow: Revision de maquetas digitales
- Code: 21
- Order: 30
- Name: Nivel de información gráfica (LOD)
- Type: First (dropdown menu)
- Days: 5

Target reviewer section:

- Person: Test , Usuario (dropdown menu)
- Role: (empty dropdown menu)
- Department: (empty dropdown menu)
- Organization: (empty dropdown menu)

Next Step section (highlighted with a red border):

- Yes: Nivel de información no gráfica (LOI) (dropdown menu)
- No: Rechazado (dropdown menu)

At the bottom of the window are three buttons: "OK", "Cancel", and "Apply".

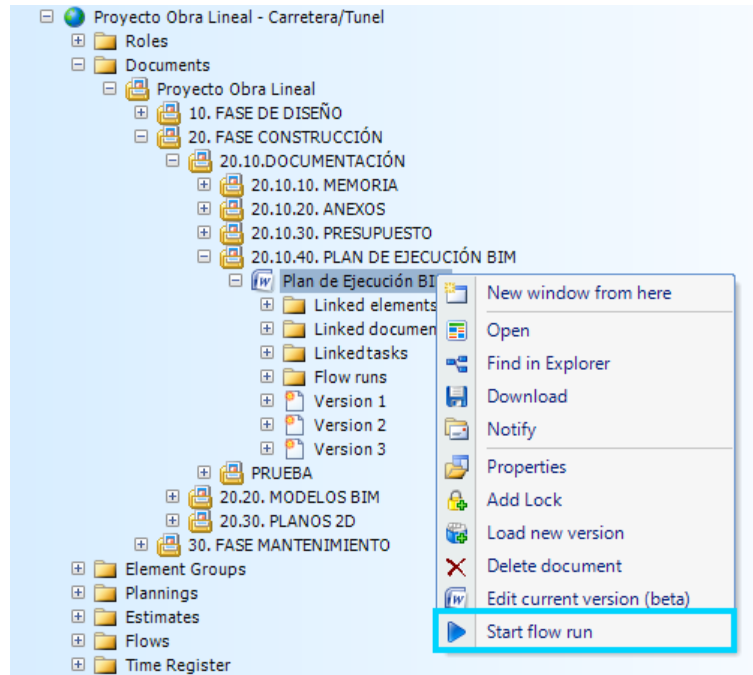
In the first tab "**Description**", additional information or a description of the configured step can be filled in a free text field, which allows users to understand the scope of the workflow.

6.3.2. APPLYING A WORKFLOW TO A FILE

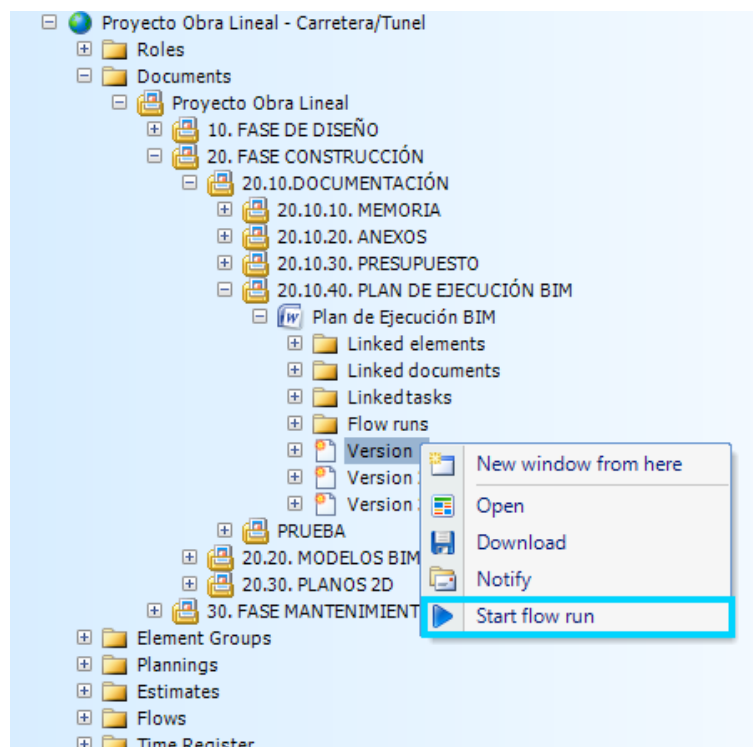
Workflows can be applied to documents or to versions. In the first case, at the end of the workflow, the latest version of the document will be accepted/rejected; while, in

the second case, the version to which the workflow has been applied will be accepted/rejected.

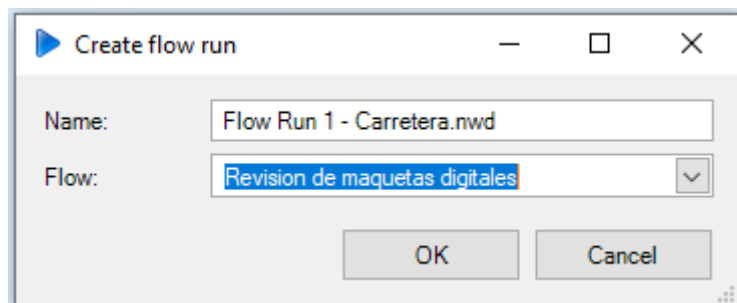
To start the workflow for a specific file, from the "**Documents**" folder, select the file to which you want to apply the Flow, right-click on the file and select "**Start Flow run**" from the contextual menu.



It is the same process to associate the flow to a version; select the version and right click on the contextual menu and then select the option "**Start Flow run**".



Enter the name associated with the workflow applied to the file in the pop-up window; by default, the tool indicates the workflow number followed by the file name and the version to which it applies and a drop-down field in which you select the workflow you want to apply **"Flow"**.



Once the workflow has been started, in the **"Flows"** folder (within each file), the information on the workflow, its current status, the start date, the creator, etc. is displayed; this is, the complete traceability of the workflow status.

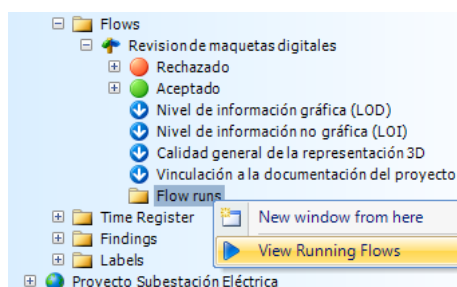
Flow runs 1 item									
Name	State	Start Date	Creator	Supervisor	End Date	ID	Document	Version	Flow
▶ Flow Run 1 - Carretera.nwd	RUNNING	28/11/2022 10:44:15	Vircore , Administrator	Vircore , Administrator		1	Carretera.nwd		Revisión de maquet...

Also, upon initiation of the workflow, the user(s) associated with the first step of the workflow will receive a notification email.

De: Vircore Team <no_reply@vircore.es>
 Enviado el: lunes, 28 de noviembre de 2022 10:40
 Para: Soporte Vircore <support@vircore.es>
 Asunto: Flow run review for document Tunnel tramificado.nwd

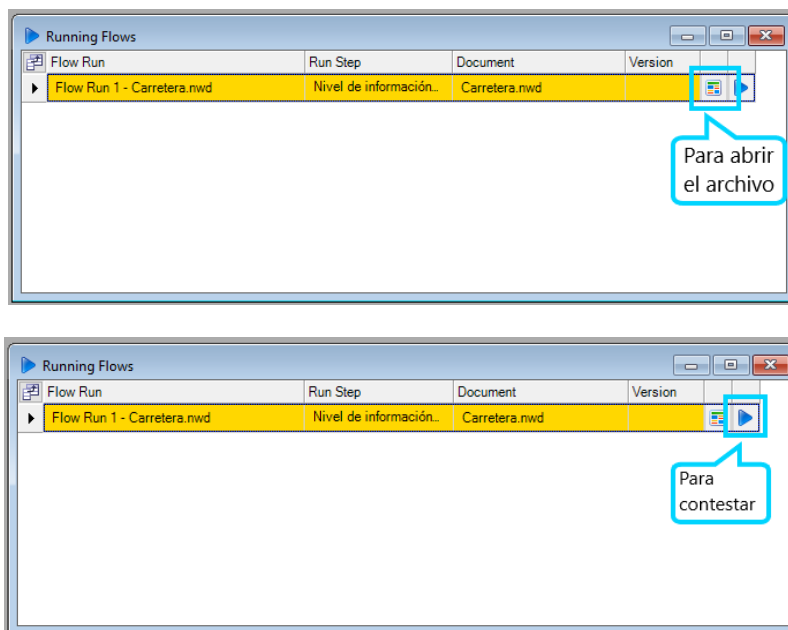
You have a new pending flow revision at step 'Nivel de información gráfica (LOD)' for the document Tunnel tramificado.nwd

Users can view the job flows pending acceptance/rejection associated with their profile by accessing the **"Flows"** section and right-clicking on **"Flow runs"** and selecting **"View Running Flows"** from the context menu.



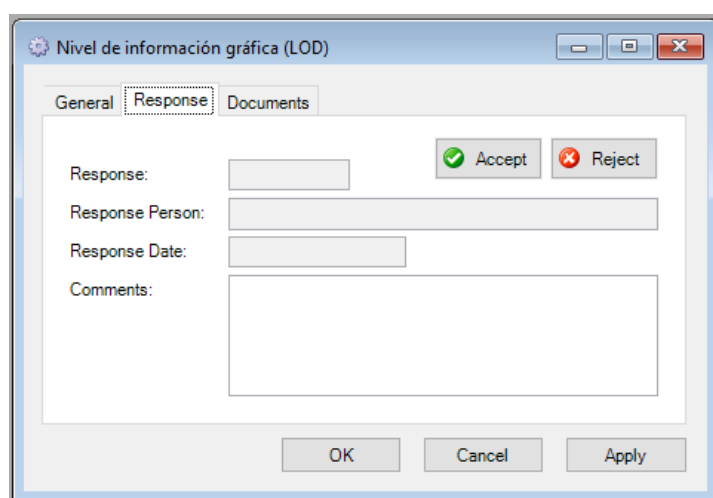
In the pop-up panel, the user can visualise the pending flows that require interaction on his part. To the right of each workflow, there are two icons from which the associated

file can be opened, or the management can be carried out by accepting or rejecting the step (once the corresponding actions have been implemented on the file).



The workflow management pop-up window is organised in three tabs: "**General**", "**Response**" and "**Documents**".

- "**General**": provides general information on the file associated with the workflow, the step in which the process is, start date, etc.
- "**Response**": allows the user to manage the current step of the flow with the option to accept or reject it, as well as to associate a comment if necessary.
- "**Documents**": allows files to be linked to the flow in case additional documentation needs to be added to the response.



Once the step has been accepted or rejected, the traceability of the process can be visualised in the "**Explorer**"; therefore, the status of the workflow and the information associated with each step (responsible for the first step, date, etc.) can be displayed.

Flow Run 1 - Carretera.nwd 2 Items					
Name	Start date	Response date	Response	Response Person	Comments
▶ Nivel de información gráfica (LOD)	28/11/2022 10:44:15	28/11/2022 11:16:59	Accept	Test , Usuario	Todo correcto.
▶ Nivel de información no gráfica (LOI)	28/11/2022 11:17:37				

6.4. LINKS

This section details the steps to follow to access information linked to documents, tasks or 3D elements.

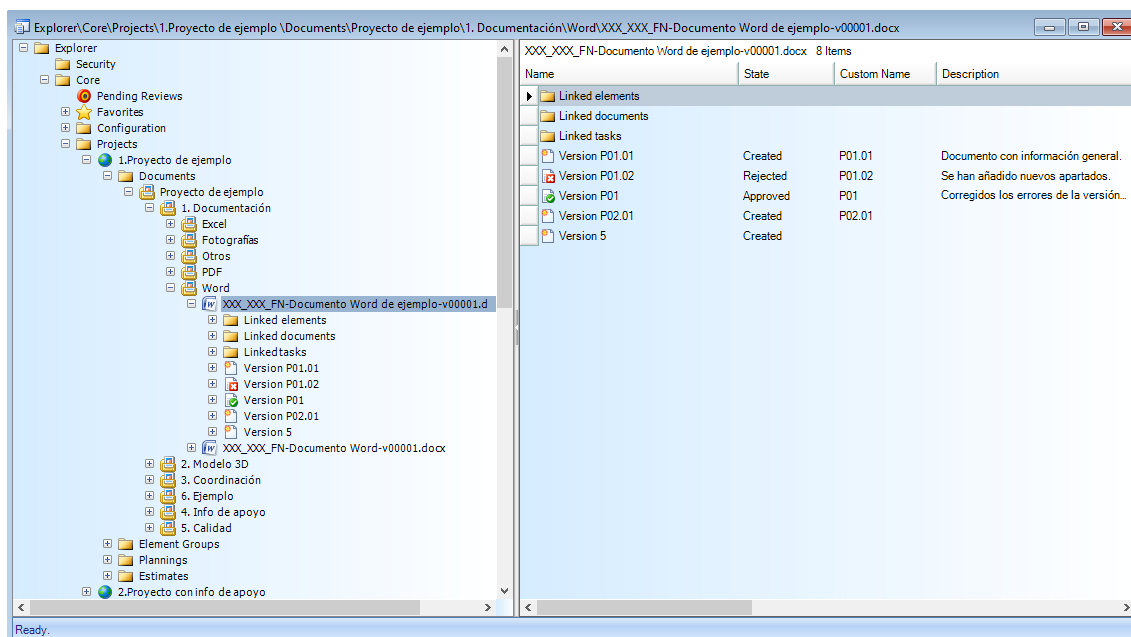
The information consultation process is bidirectional, allowing to consult the files linked for example to a 3D element of the model, as well as to locate all the modeled elements that have a specific file or planning tasks linked to them.

In this way, it is possible to quickly identify the documentation linked to any file (detailed in the corresponding sections).

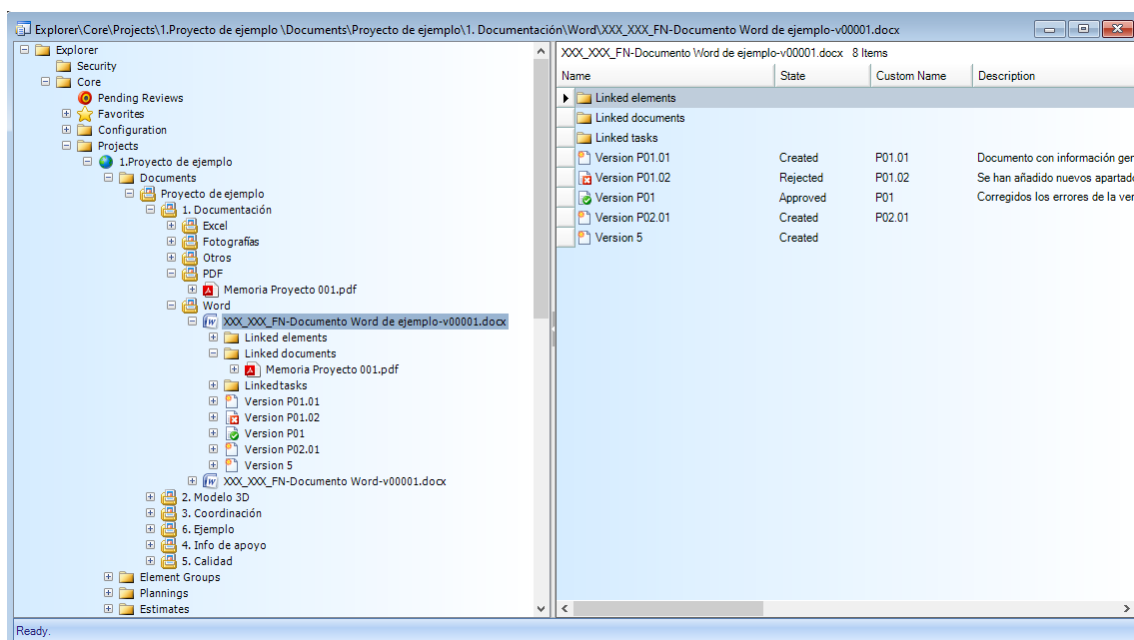
6.4.1. DOCUMENTS - DOCUMENTS

Document-document linking allows you to link documents to each other. To link a document, simply drag it to the corresponding document you want to link it to.

To consult the documents linked to a file, access the "**Linked documents**" folder inside each file.



Within it, there are those documents that are linked. In the following image, the document "**XXX_XXX_FN-Example Word document-v00001.docx**" linked to the document "**Project Report 001.pdf**" can be seen.



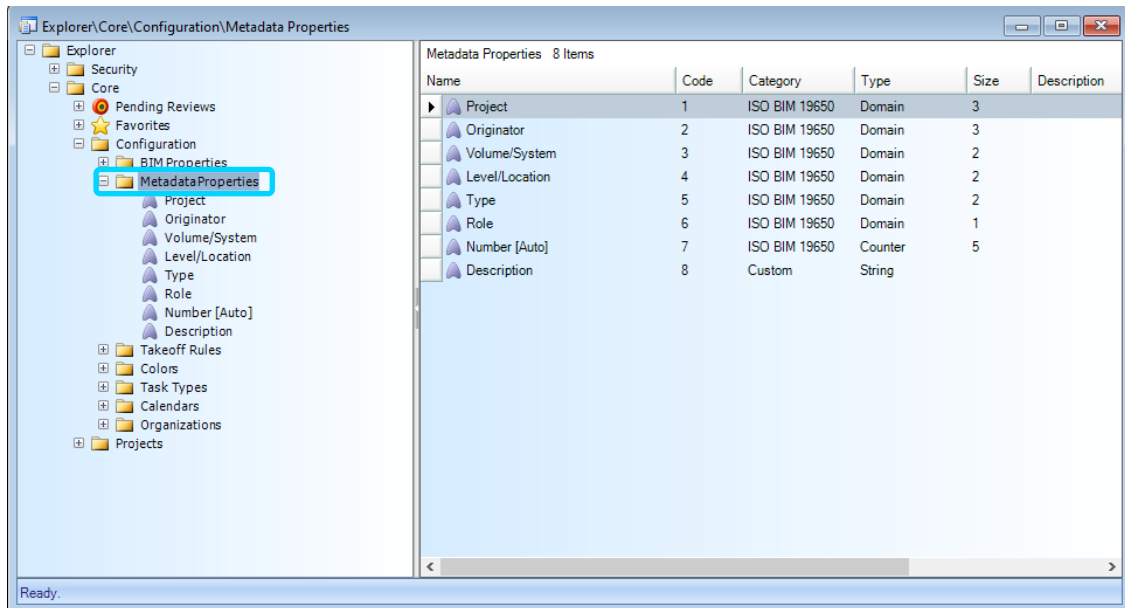
To link one document to another, click on the document and drag the file to the document to be linked; the documents are automatically linked and can be consulted in the folder highlighted in the image above. It is also possible to locate the file in the general folder structure using the **"Find in Explorer"** command.

6.5. METADATA

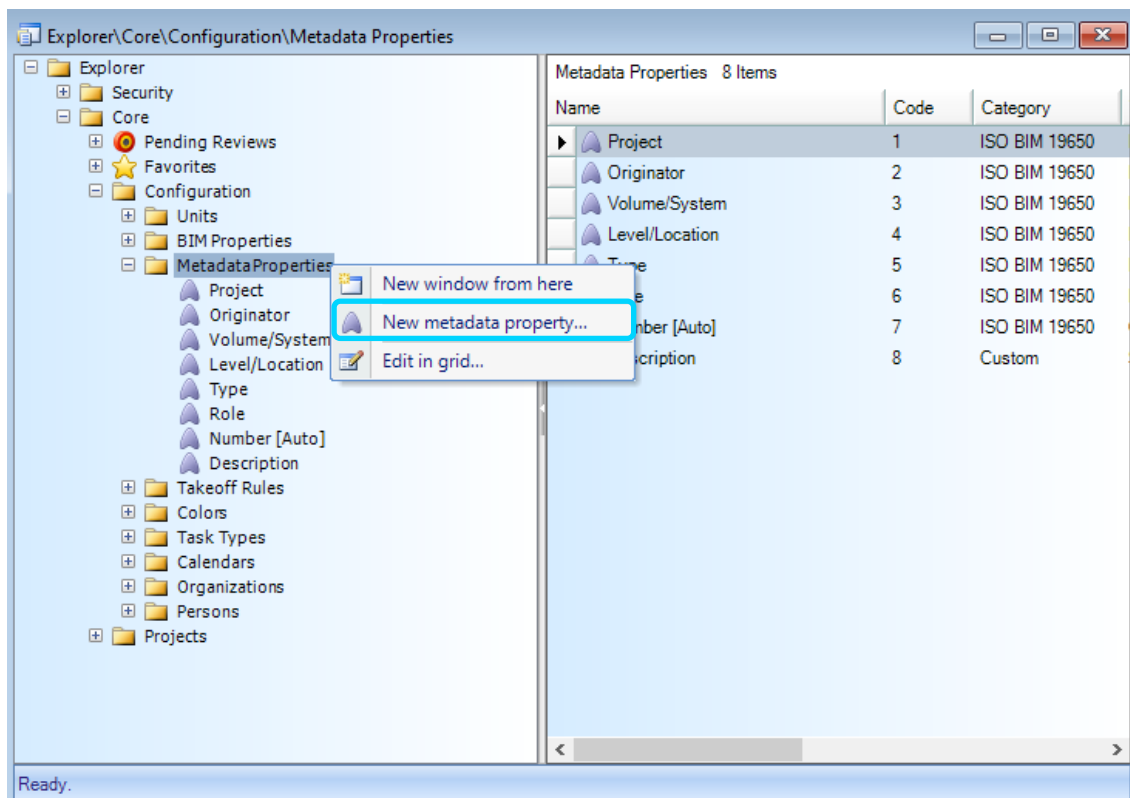
Since the basis of the platform is based on the BIM methodology, by default, certain metadata associated with the ISO BIM 19650 standard will be defined.

6.5.1. METADATA CREATION

The platform allows defining and associating metadata to projects, folders and documents. The definition of metadata is done from the **"MetadataProperties"** folder located in **"Configuration"**.



To create a metadata, right click on the "**MetadataProperties**" folder and select the option "**New metadata property...**".



In the first tab of the pop-up window, the metadata is configured by filling in the name, category and type associated with it.

Property ID: 9

Name: Metadato de ejemplo

Category:

Type:

Size:

Description:

OK Cancel Apply

The '**Size**' field allows you to set the number of characters that the metadata name can have.

If you want the metadata value to correspond to certain values, choose the '**Domain**' type and define the values in the second tab of the window.

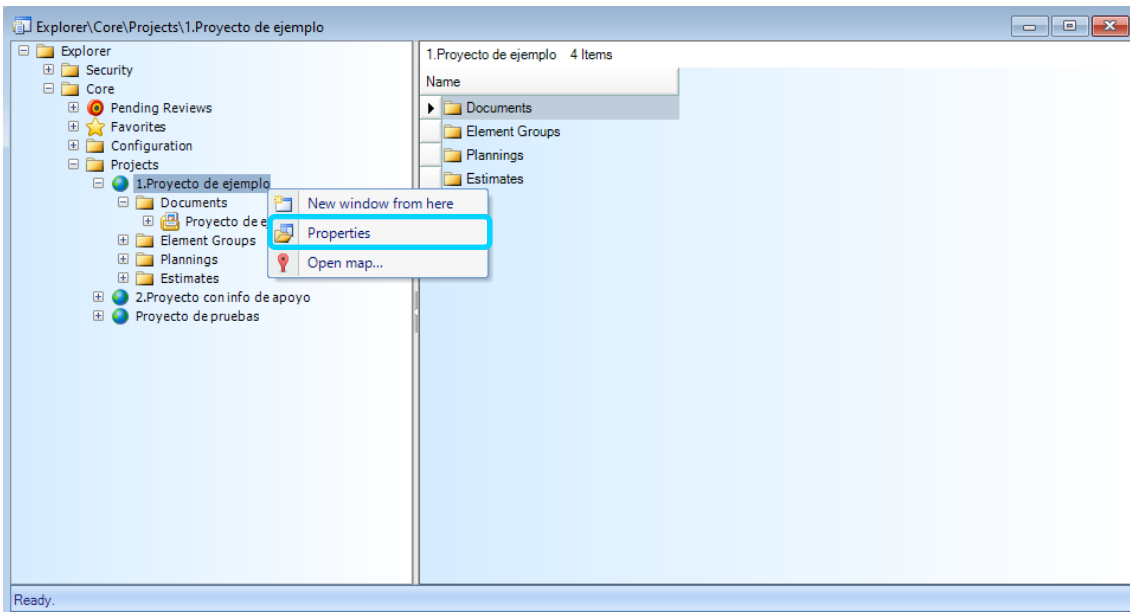
Code	Name	Default	Description
001	Ejemplo 1	☐	Metadato de ejemplo
002	Ejemplo 2	☐	Metadato de ejemplo
003	Ejemplo 3	☐	Metadato de ejemplo
004	Ejemplo 4	☐	Metadato de ejemplo
*		☒	

OK Cancel Apply

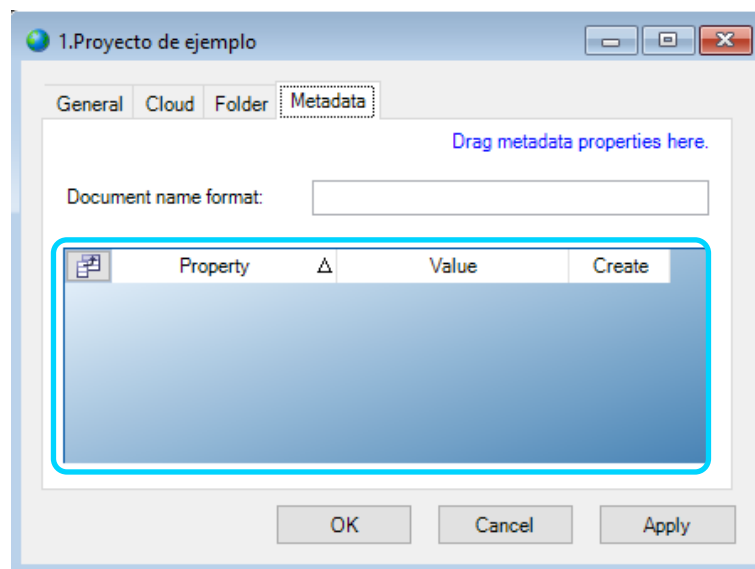
The '**Code**' column parameter is associated to the code of each value defined in the metadata domain, the '**Name**' parameter to the name and the '**Description**' parameter allows to include a short description. The '**Default**' parameter allows to indicate which domain value should appear by default.

6.5.2. ASSOCIATING METADATA TO PROJECTS, FOLDERS AND DOCUMENTS

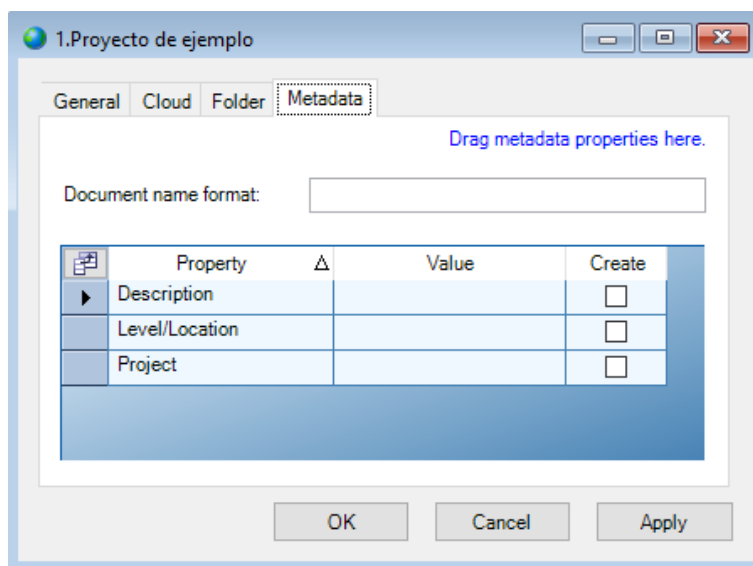
Once the metadata to be associated to a project has been defined, access the project properties. The procedure for associating metadata to folders and documents is the same as that described in this section for the project.



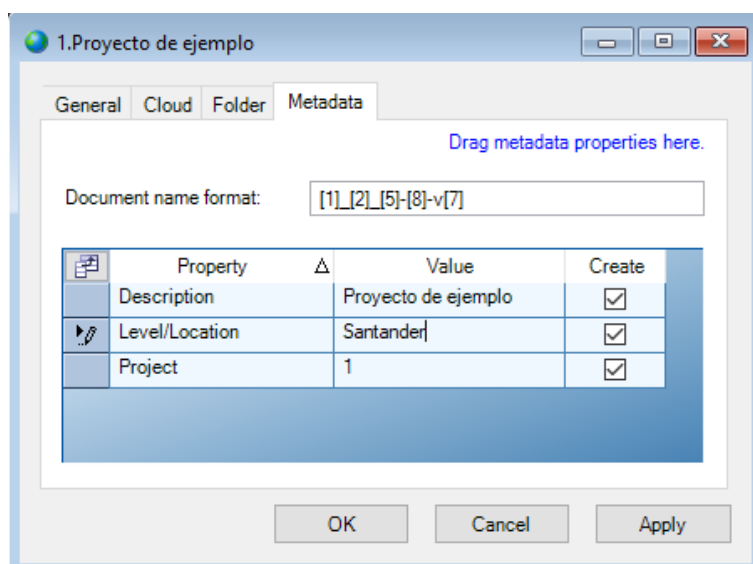
In the properties window, go to the "**Metadata**" tab and drag the metadata defined in the "**Metadatatproperties**" folder to the central blue part of the window.



Once the metadata is associated to the project, its value is filled in the '**Value**' column parameter.

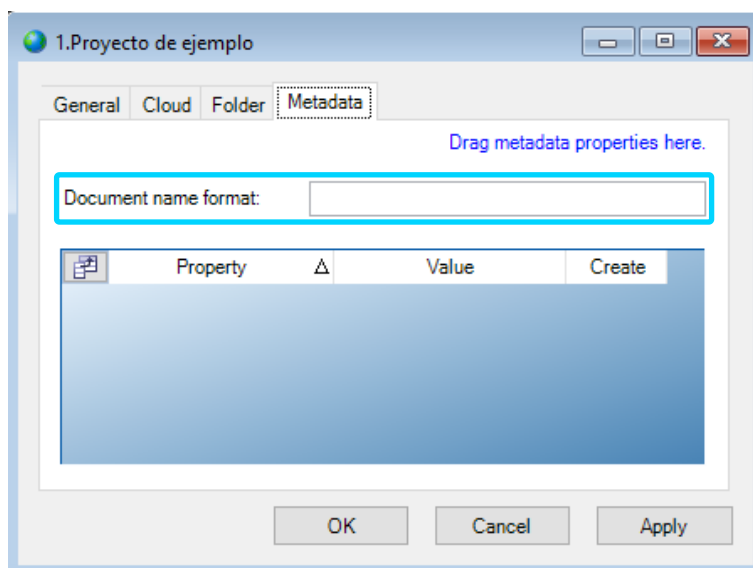


If you want the associated metadata to be created in the entire folder and file structure of the project, select the '**Create**' field.

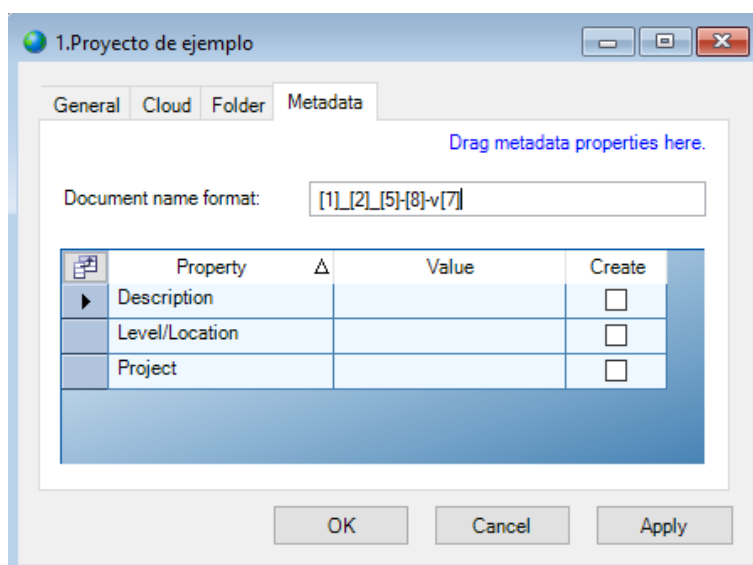


6.5.3. AUTOMATIC FILE NAME CONFIGURATION

The definition of metadata allows the user to set a specific encoding of the file name of a project on the basis of the metadata. To do this, access the project properties and drag the metadata that will make up the file name into the "**Document name format**" field.



The field allows the inclusion of characters in the associated metadata, making the definition of the file encoding completely flexible.



Once the configuration is done, accessing the properties of a file, in the first tab "**General**" to the right of the "Name" field, the "Edit" button is displayed, which takes us to another window.

2021-03-03 Accesos por defecto.xlsx

General Versions Metadata BIM Properties Location

Code: 147 Type: Microsoft Excel

Name: 2021-03-03 Accesos por defecto.xlsx **Edit**

Description:

Creation Date: 30/07/2021 10:10:55

Created By: Vircore, Administrator

Lock/Unlock Date: Is Locked ☐

Lock/Unlock By:

OK Cancel Apply

In the pop-up window, the format defined in the project properties is displayed in the upper part and the metadata to be filled in is displayed in the central part.

Name Creator

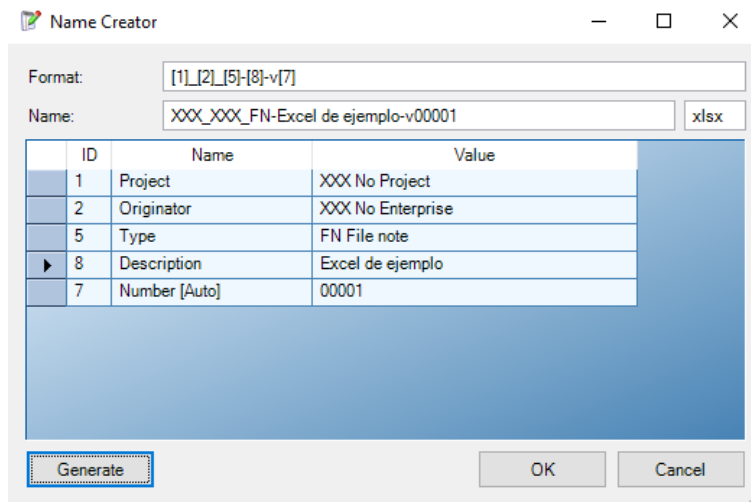
Format: [1]_[2]_[5]-[8]-v[7]

Name: xlsx

ID	Name	Value
1	Project	XXX No Project
2	Originator	XXX No Enterprise
5	Type	FN File note
8	Description	
7	Number [Auto]	

Generate **OK** Cancel

Once all the metadata values have been filled in, by selecting the "**Generate**" button, the final encoding associated with the file can be displayed in the "**Name**" field.

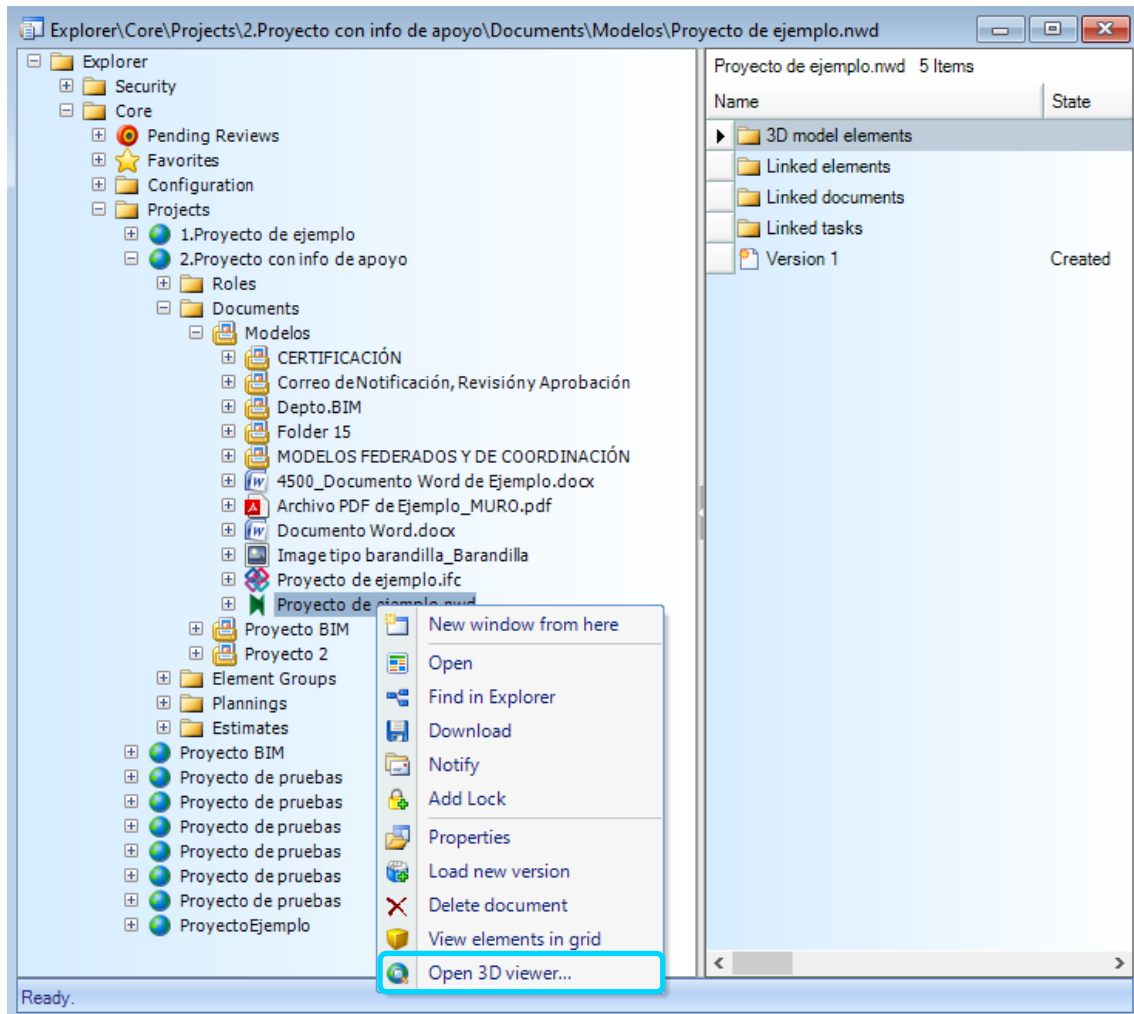


7. 3D VISUALISATION MODULE

The platform has two integrated graphic viewers, the 3D viewer and the IFC viewer. On the one hand, the 3D viewer allows viewing 3D models in native format (.rtv, .nwd, .nwc); please note that in this case a Navisworks Manage 2019 user licence is required. On the other hand, the IFC viewer allows 3D models to be viewed in open format (IFC 2x3, IFC 4, etc.) without the requirement of additional software licences.

7.1. 3D VIEWER

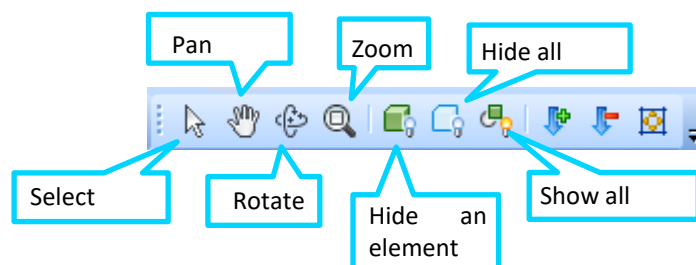
The platform's 3D viewer is accessed through the native file of the 3D model previously loaded. Once the file has been located, right-click and select the **"Open 3D viewer"** option in the drop-down window to open a window in which the corresponding 3D model is displayed.



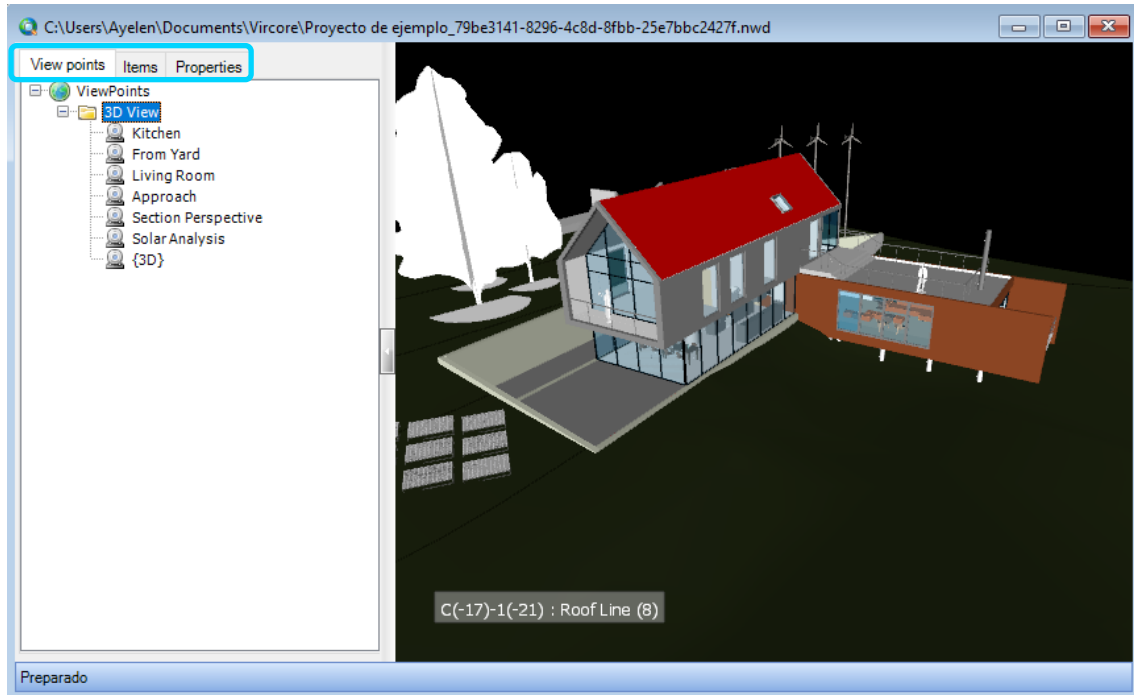
7.2. 3D VIEWER FUNCTIONALITIES

The 3D viewer allows the manipulation of the model by means of the commands included in the secondary toolbar displayed at the top part of the interface screen. Likewise, the **"Tools"** tab includes all functions available.

All model manipulation-related functionalities in the viewer, included in this quick access command bar, are shown below:



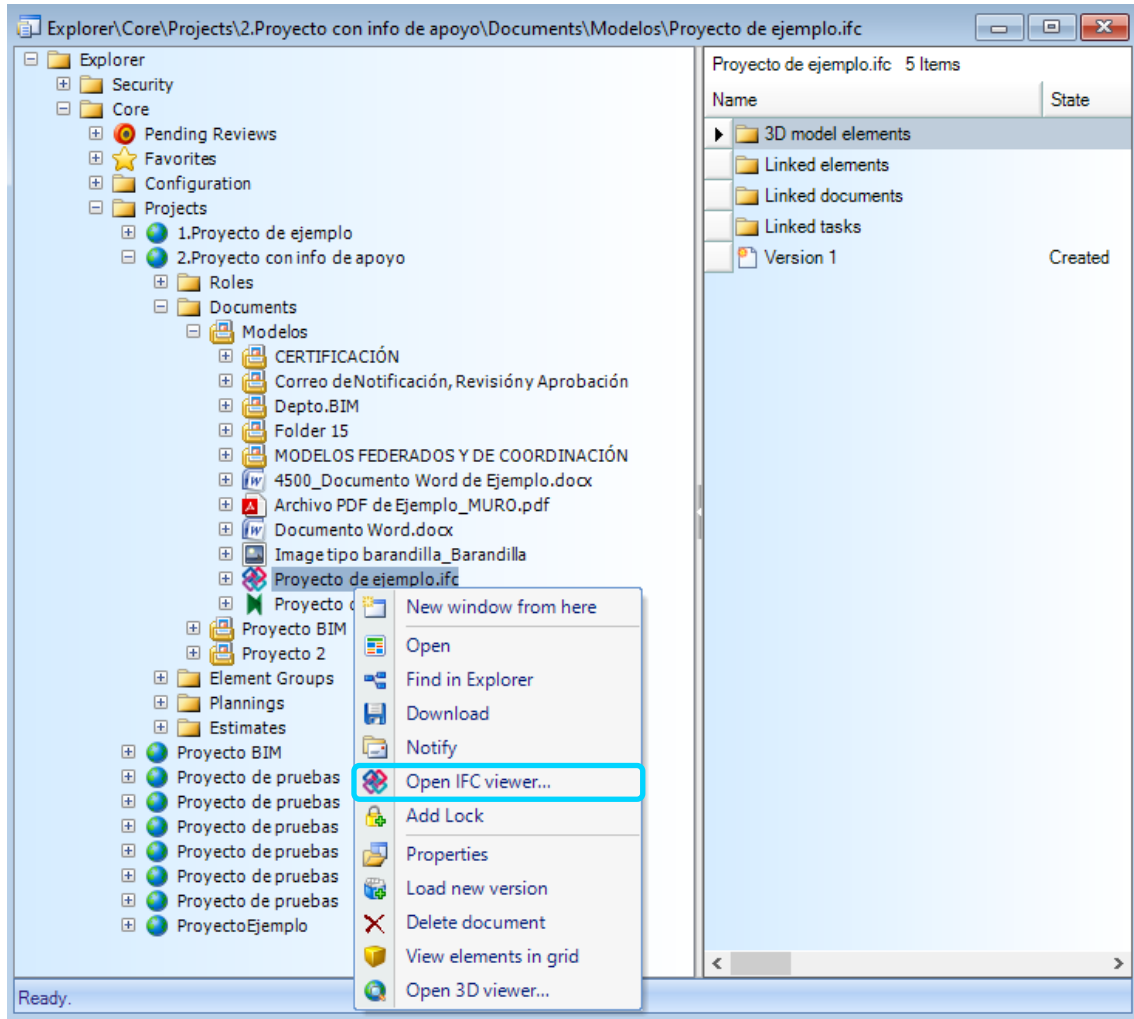
Also, the viewer features three windows at the top of the screen that display the model elements, their properties, as well as the views loaded in the file.



- **View points:** to view the loaded model views; displayed in the right-hand panel.
- **Items:** contains all 3D components/elements in the model.
- **Properties:** to view the properties of each of the 3D elements. By selecting the element in the 3D viewer, its properties are automatically displayed in the left panel.

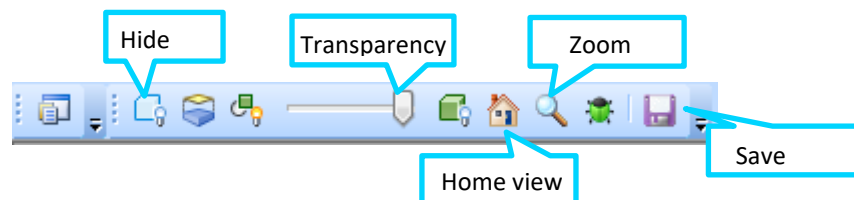
7.3. IFC VIEWER

The IFC Viewer available on the platform is accessed from the IFC format file of the 3D model previously loaded. Once the file has been located, right-click on it and select the **"Open IFC viewer"** option in the drop-down window to open a window in which the corresponding 3D model is displayed.

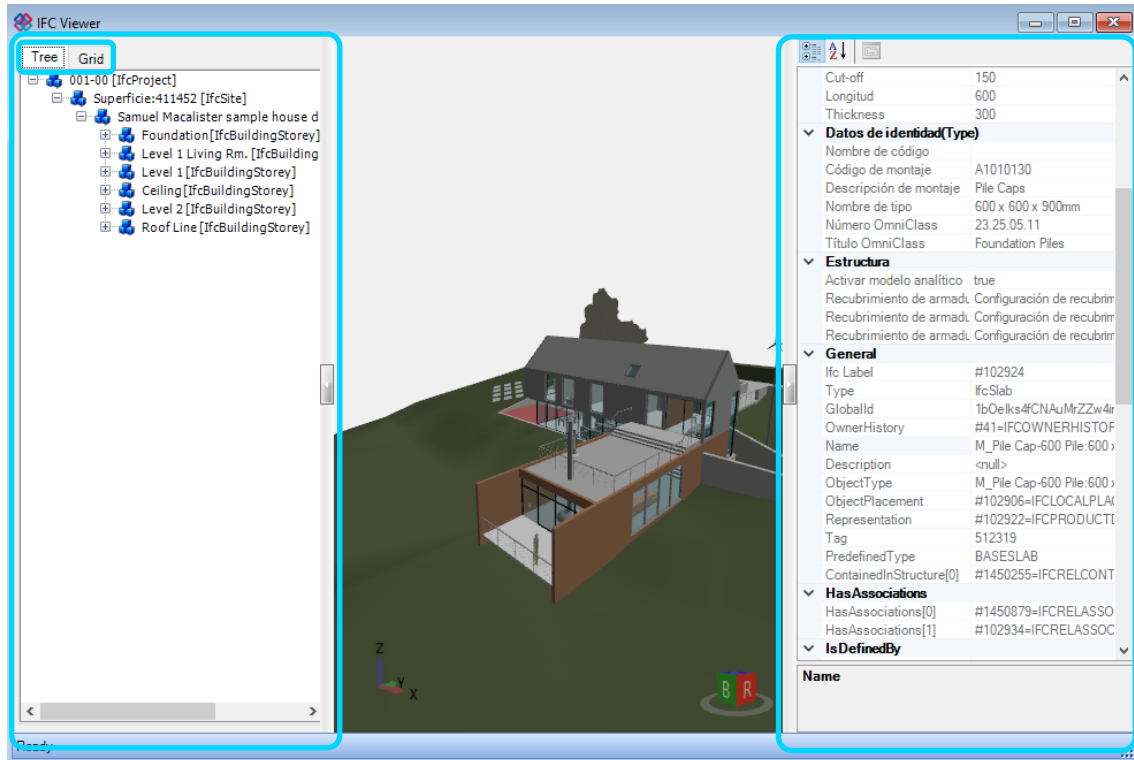


7.4. IFC VIEWER FUNCTIONALITIES

The IFC viewer and the 3D viewer have the same functionalities. The viewer allows the manipulation of the model by means of the commands included in the secondary toolbar displayed at the top of the interface window as a quick access. Likewise, the "Tools" tab includes all functions available.



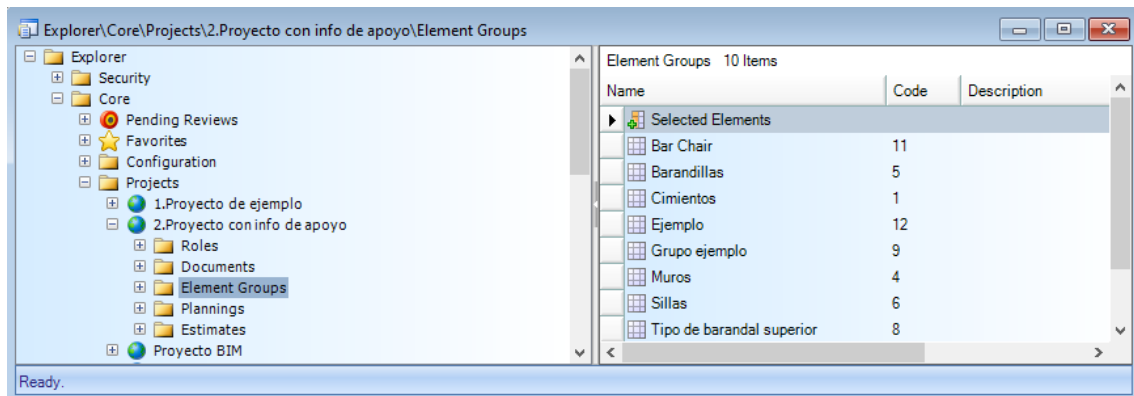
Also, the viewer displays two side windows that show the model elements (left) and their properties (right), as well as the Grid window of the 3D elements incorporated in the viewer.



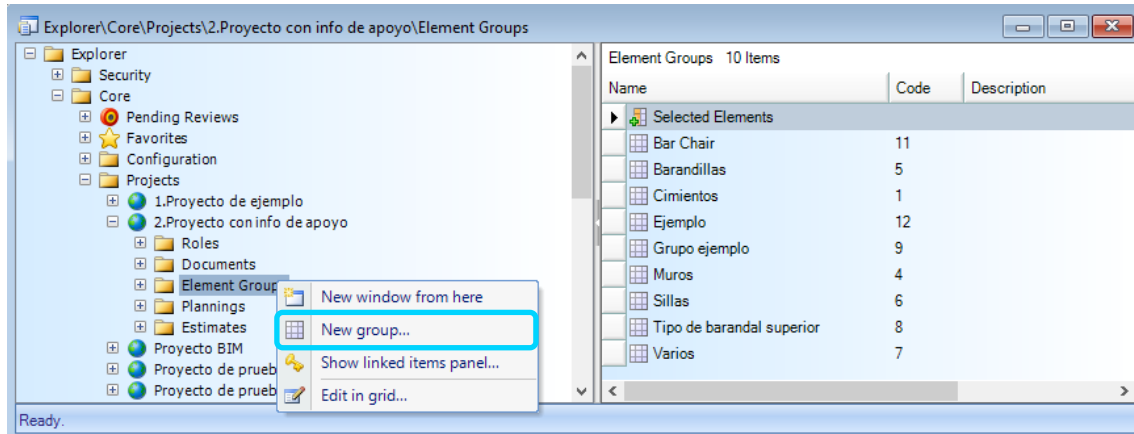
- **- Tree:** contains all 3D components/elements in the model.
- **- Grid:** to view all 3D elements in the model in Grid format.

7.5. GROUP CREATION

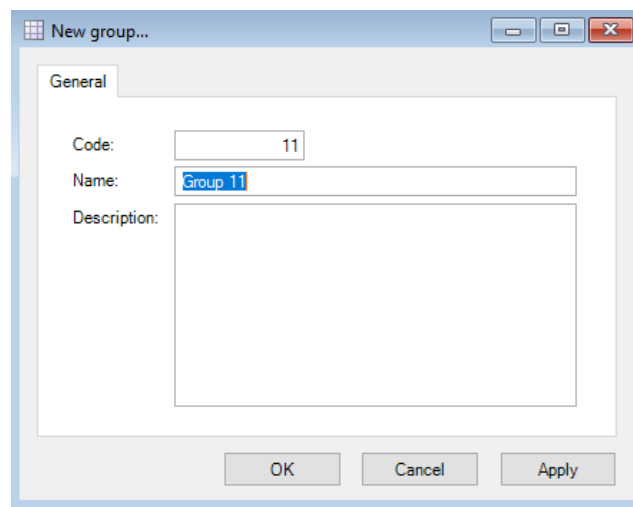
The "Element Groups" folder allows the elements in a model (that are located in the **"3D model elements"** folder) to be grouped and allows documents to be automatically linked to the group, as is the case for each of the elements of the group.



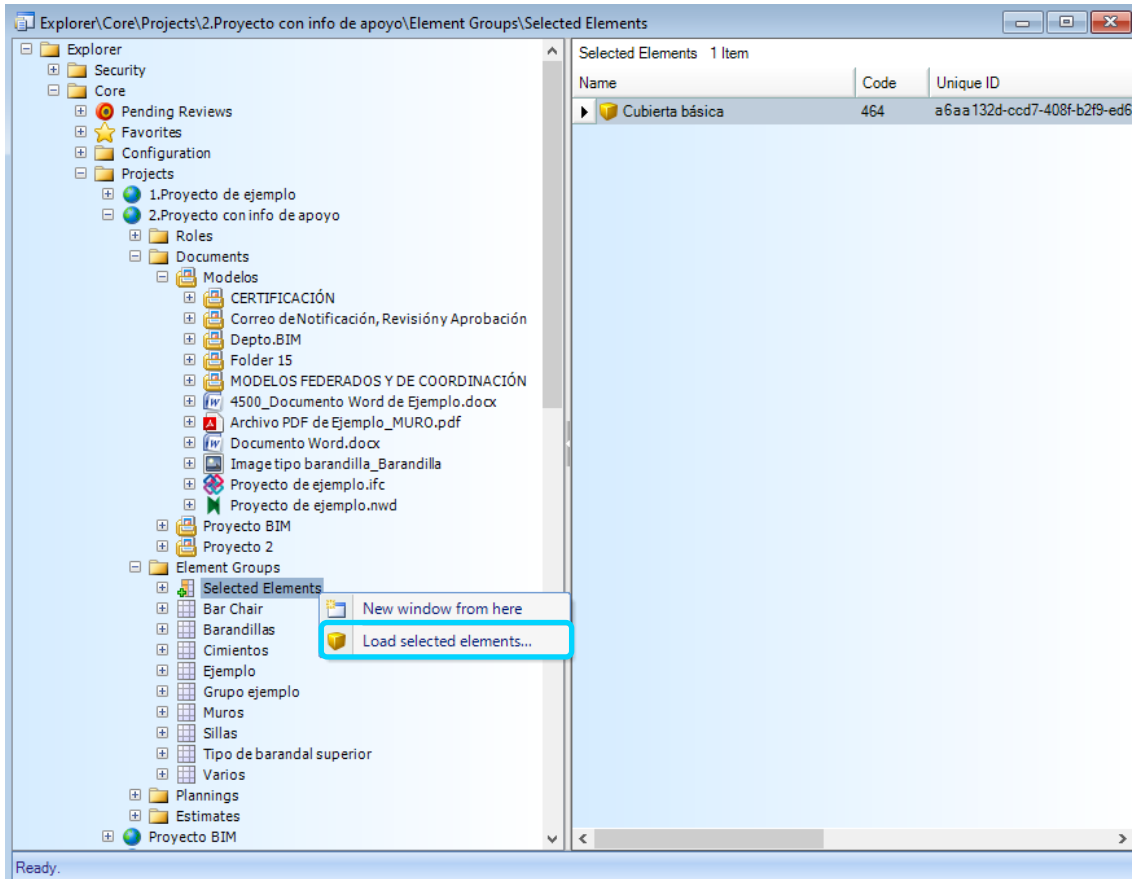
To create a new group, right click on the **"Element groups"** folder and select the option **"New group..."** to create the new entity.



The information for the new group is filled in the pop-up window.

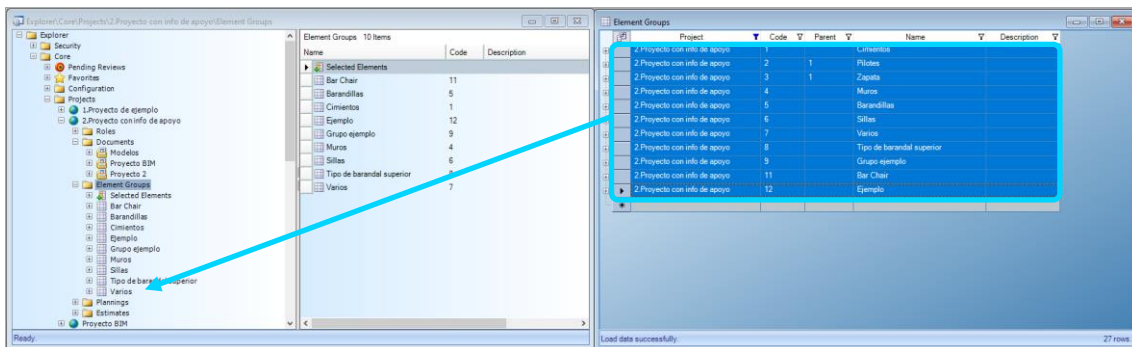


There are two options to include the elements of the model in a group. In the first option, the selected elements are dragged to the Tree into the new created group; while in the second option, the 3D element is selected in the viewer, then right-click on the **"Selected Elements"** option in the **"Element Groups"** folder, and finally select the **"Load selected elements..."** option in the pop-up window.

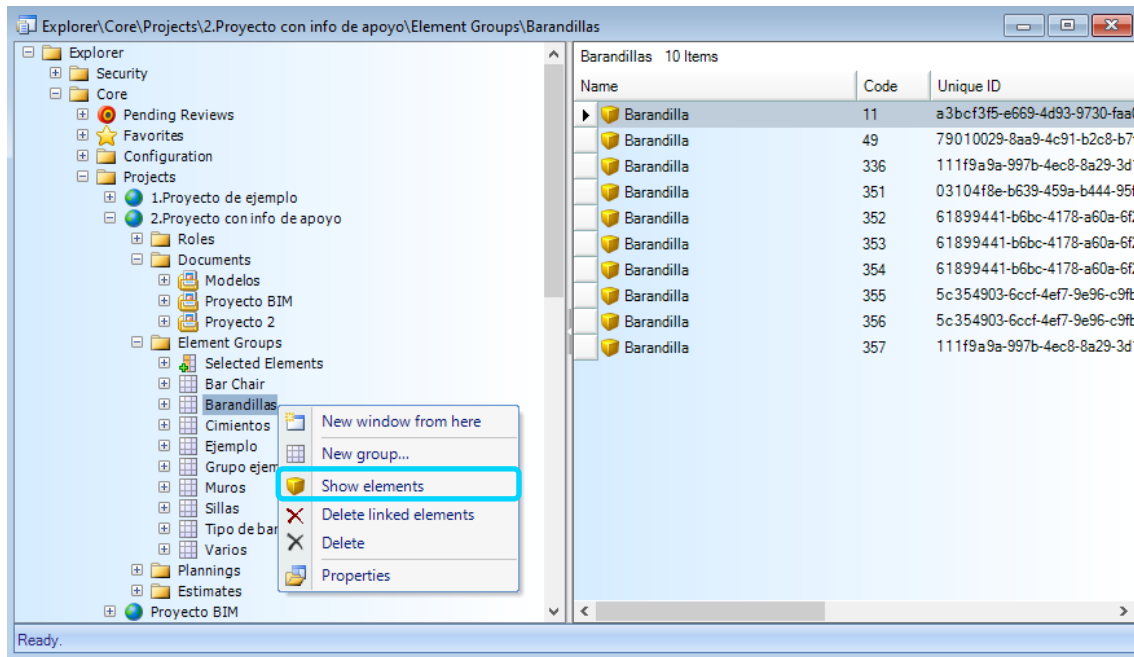


The selected elements are automatically displayed in "**Selected Elements**" in the viewer. To add them to the created group, as mentioned above, select them and drag them to the group.

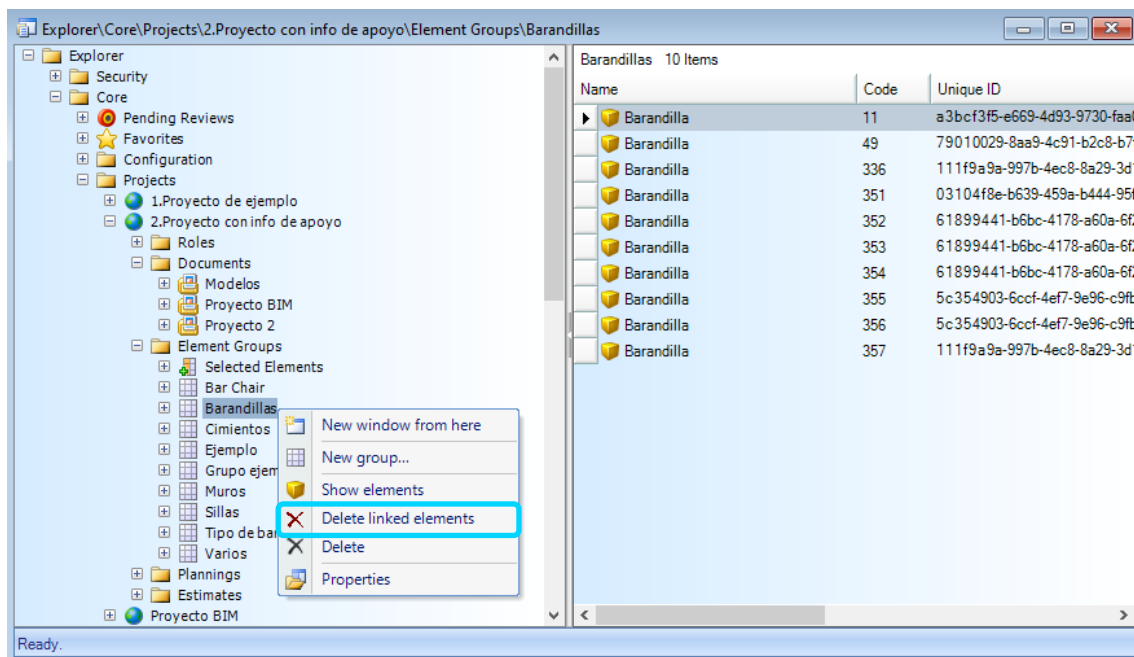
It is also possible to include the 3D elements of a model in a group from the Grid window; to do so, once the search has been managed, the corresponding elements are selected in the window and dragged to the target group.



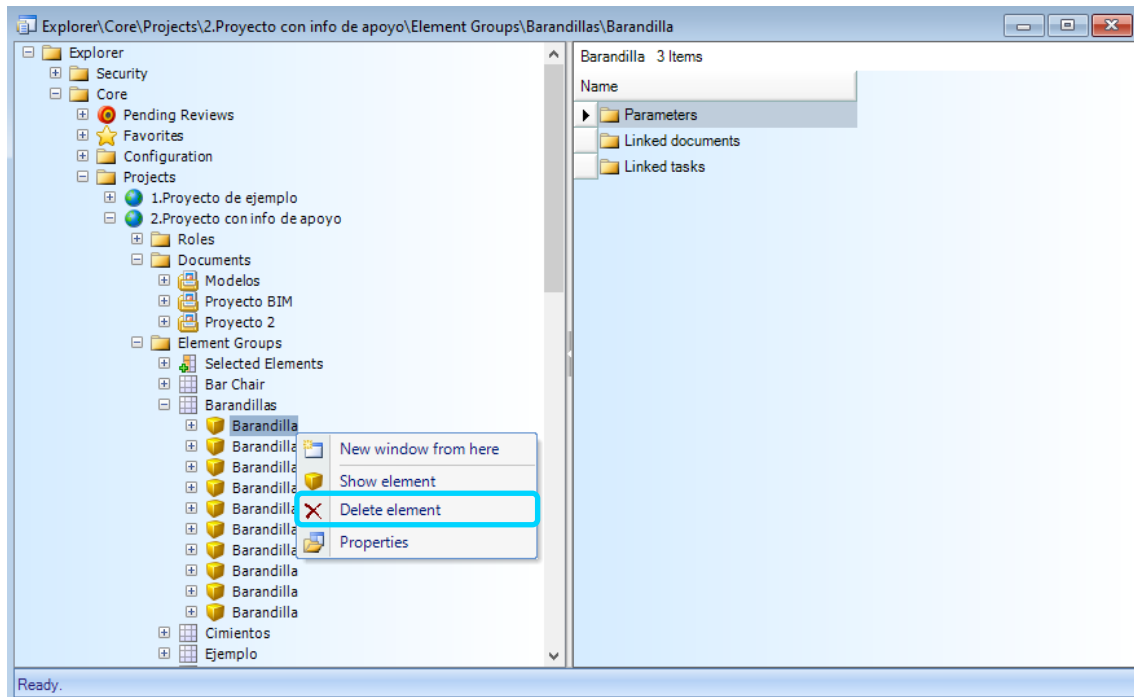
The joint visualisation of the 3D elements added to the group is done by right-clicking on the group and selecting the option "**Show elements**", which automatically highlights all the elements of the group in the model.



To delete the 3D elements associated with a group, select the group to be emptied and choose the option **"Delete linked elements"**.



To delete a 3D element from a group, select the element and choose **"Delete element"**.

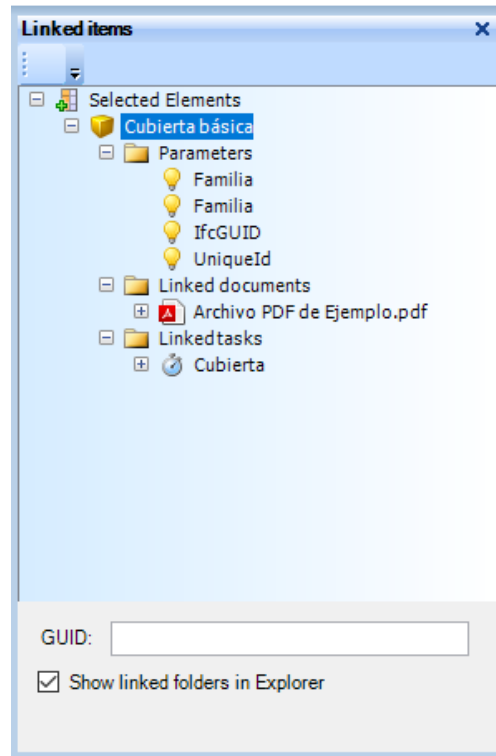


7.6. LINKS

On the right-hand side of the interface a **"Linked items"** window can be found, where the 3D elements of the model selected in the viewer are displayed in real time. This way, the information linked to the 3D element can be accessed directly.

To do so, select the element in the viewer and the 3D element loaded in the database **"Linked items"** window will be displayed with the internal folder structure where the information linked to it is found (**"Linked documents"** or **"Linked tasks"**).

Also a **"Parameters"** folder is displayed, that contains the Property Sets selected for the displayed model.



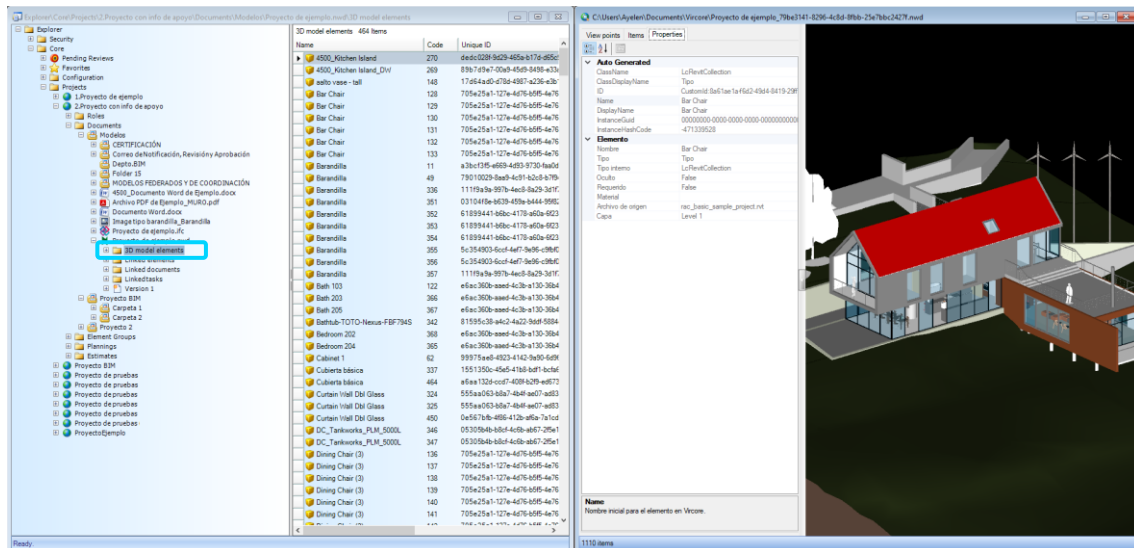
7.6.1. DOCUMENTS –3D ELEMENTS

The same procedure applies for both the linking of documents to 3D elements (or viceversa) and linking documents to documents. However, to consult the 3D elements linked to a document or the documents linked to a 3D element, different paths must be followed.

7.6.1.1. ACCES FROM WITHIN THE 3D ELEMENT

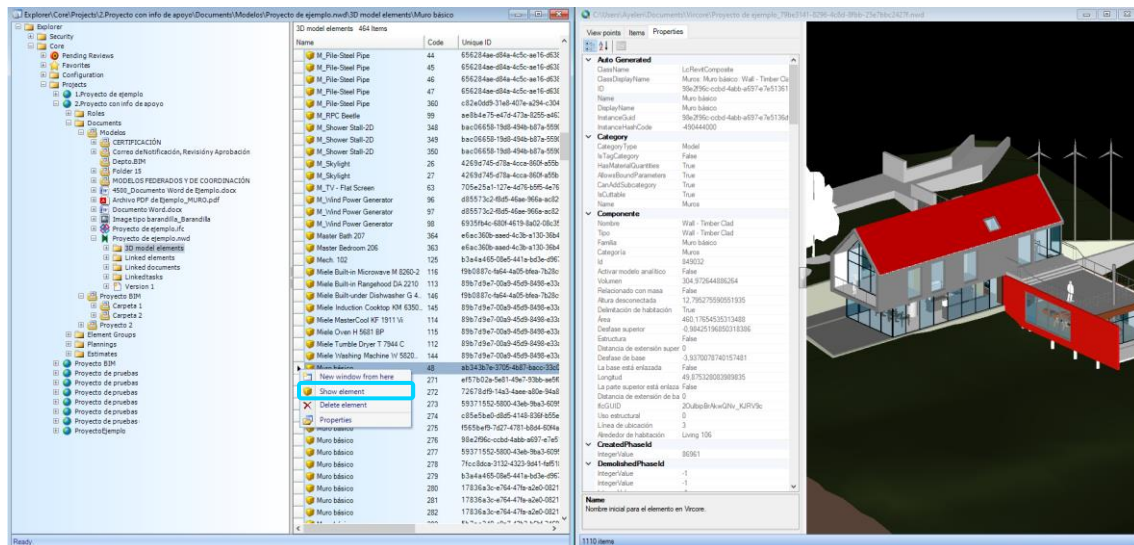
To access the documents linked to a 3D model, follow these steps:

- 1) Open the 3D model in the viewer.
- 2) Select the element in the folder containing all 3D elements of the model.



Right-click on the element and select **"Show Element"**; the 3D element will be automatically highlighted in the model.

- 3) Open the **"Linked Items"** window where the selected element and all the information linked to it is displayed.

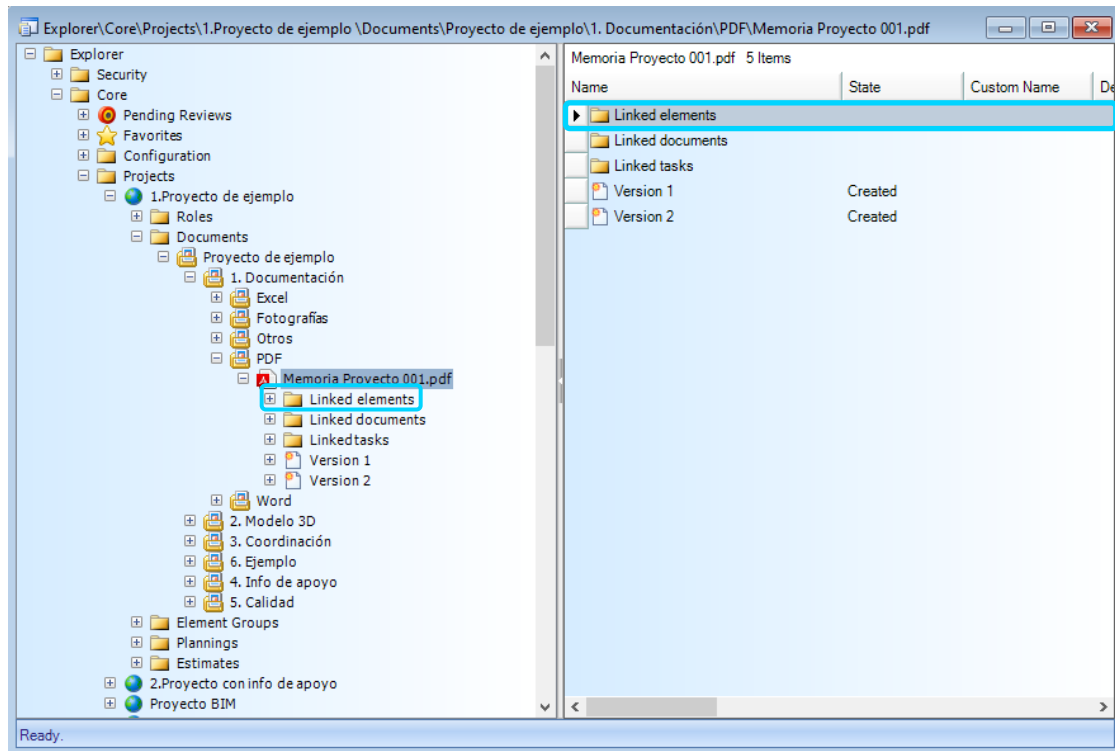


In this way, from the viewer itself, it is possible to access the documentation linked to a 3D element of the model.

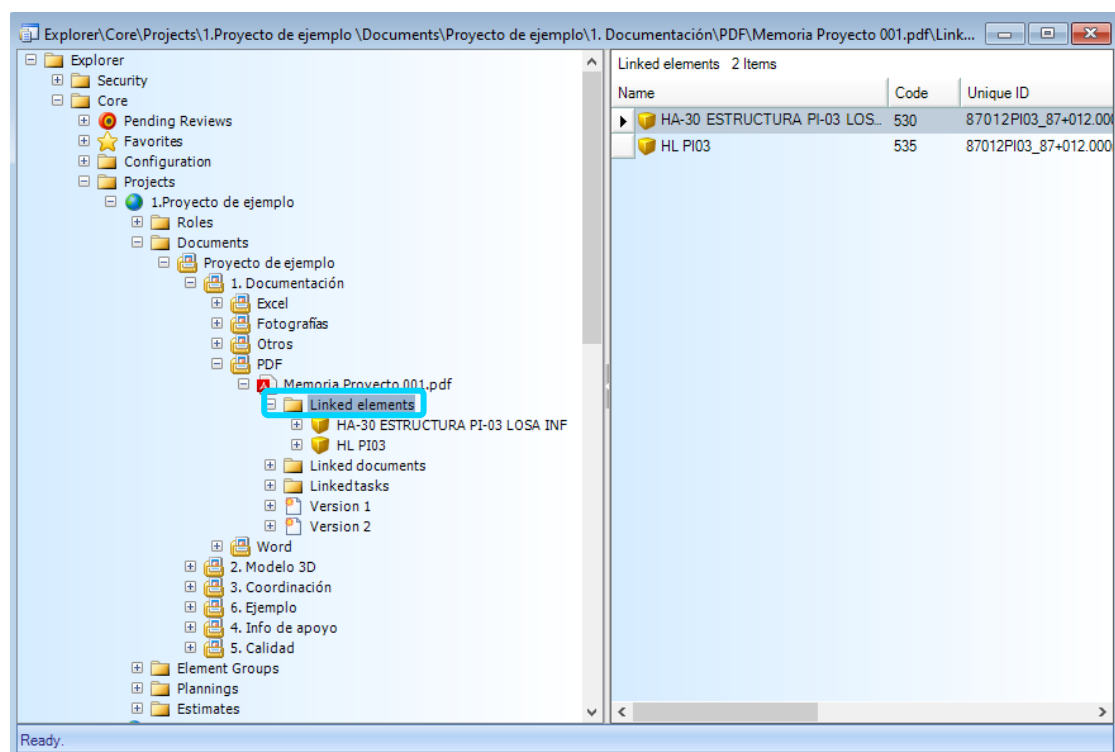
7.6.1.2. ACCESS FROM WITHIN THE DOCUMENT

To access the 3D elements linked to a document:

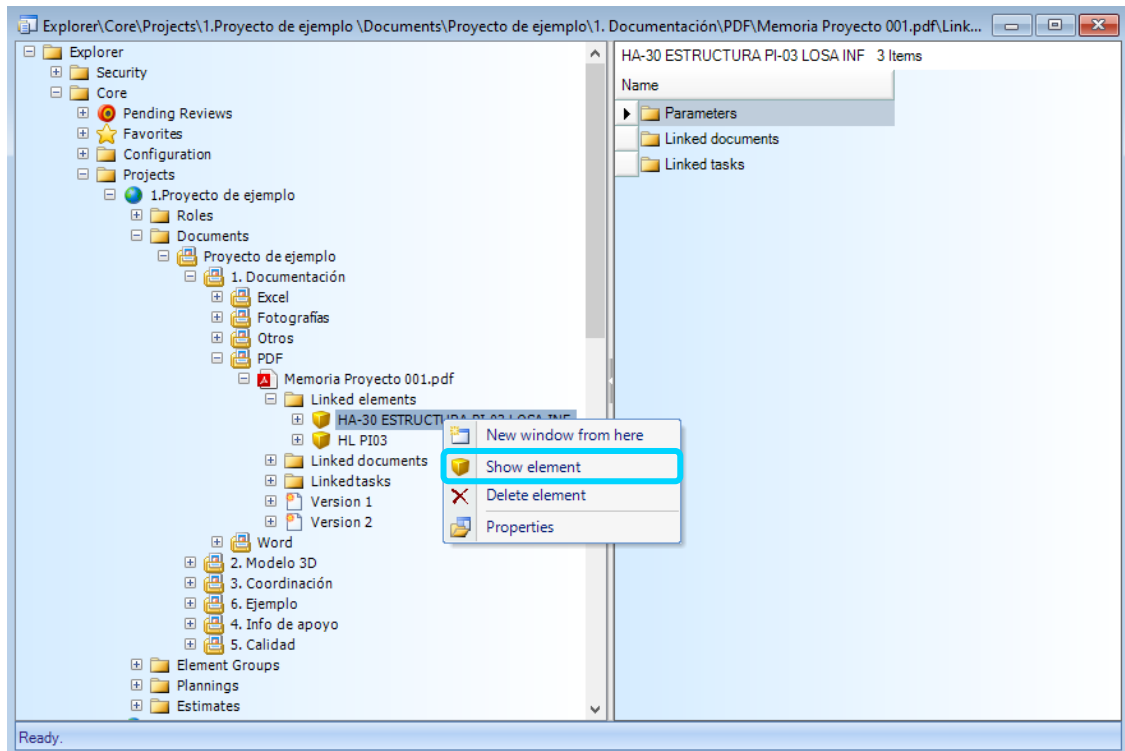
- 1) Go to the folder where the document (e.g. "Documento.docx") is located.



- 2) Expand the file to the **"Linked elements"** folder, where all the linked 3D elements can be found.



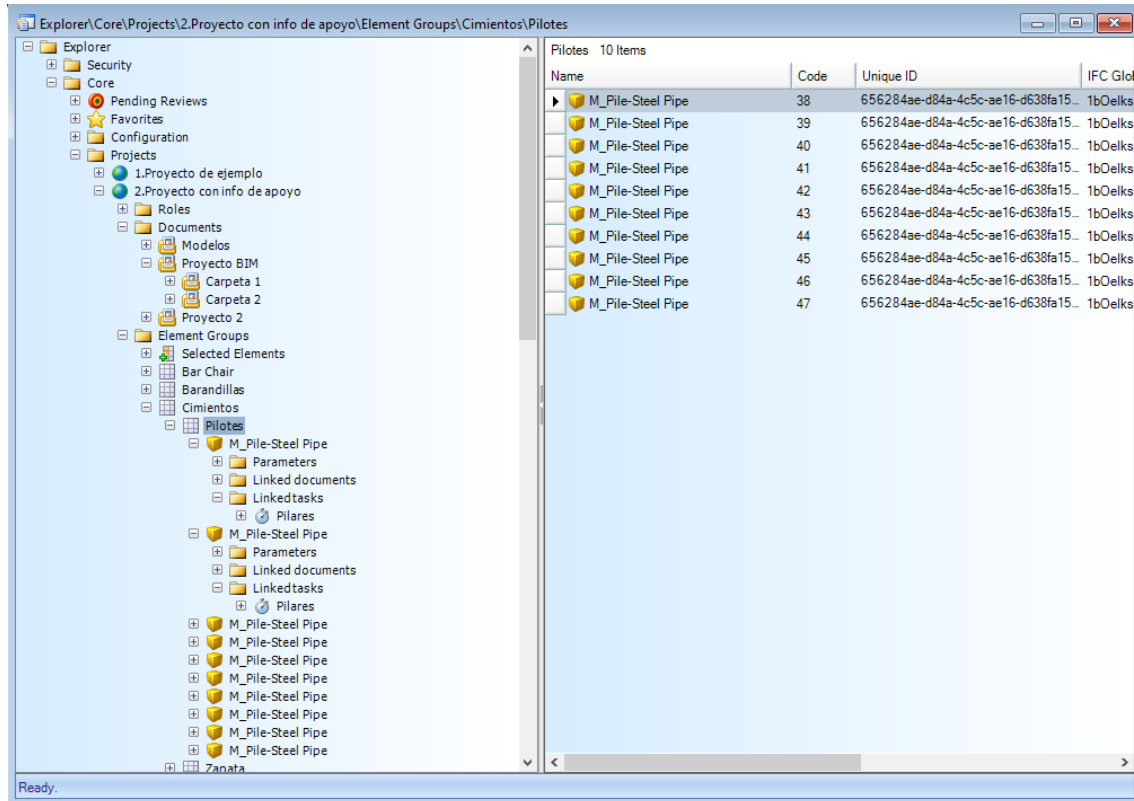
If necessary, the 3D element can be shown in the viewer by right-clicking on it and selecting **"Show element"**.



7.6.2. TASKS – 3D ELEMENTS

As with the previous linkages, to link a task to a 3D element of the model, simply drag the task onto the element, or vice versa.

The linked tasks or 3D elements can be viewed in the **"Linked Elements"** or **"Linked Tasks"** folders.



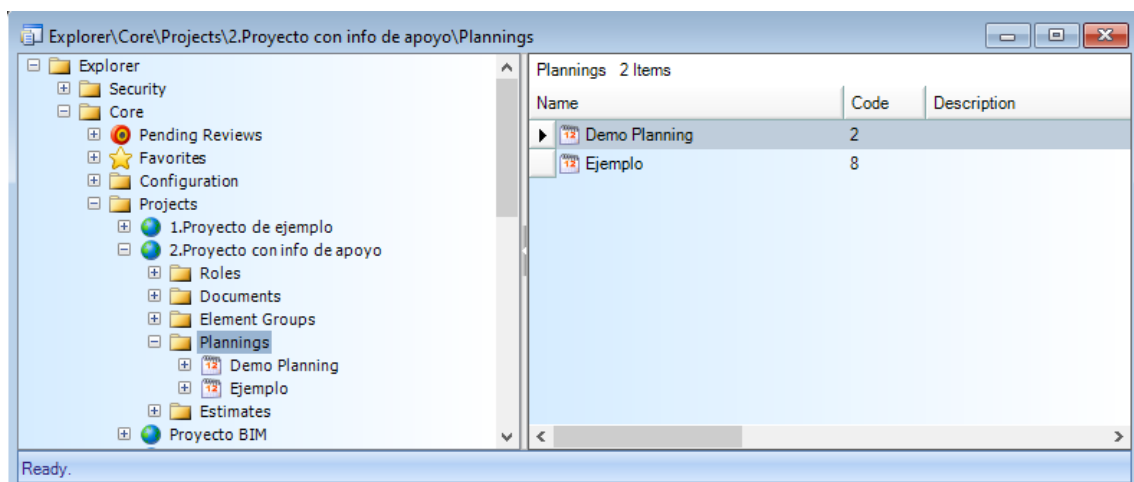
8. 4D PLANNING MODULE

8.1. PLANNING MANAGEMENT

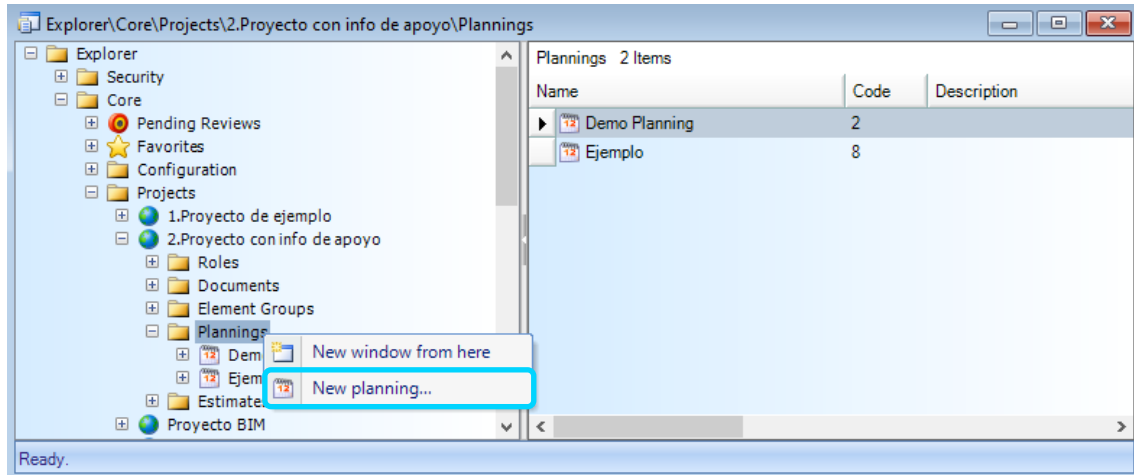
8.1.1. CHART CREATION

The creation of charts is done from the Explorer and the new chart is stored in the database.

To do this, access the "**Plannings**" folder where all the settings for the new chart are made.



To create a new plan, right-click on the "**Plannings**" folder and (in the pop-up window) select the option as highlighted in the following image.



A window will automatically pop up, where the properties of the chart are filled in.

The 'New planning...' dialog box is shown with the 'General' tab selected. The fields are as follows:

- Project: Proyecto de ejemplo (dropdown)
- Folder: (empty dropdown)
- Calendar: (empty dropdown)
- Code: 4 (text box)
- Name: Planning 4 (text box)
- GUID: 673741cb-3bc4-4347-b207-da8960c7f987 (text box)
- Start Date: (empty dropdown)
- Finish Date: (empty dropdown)
- Description: (empty text area)

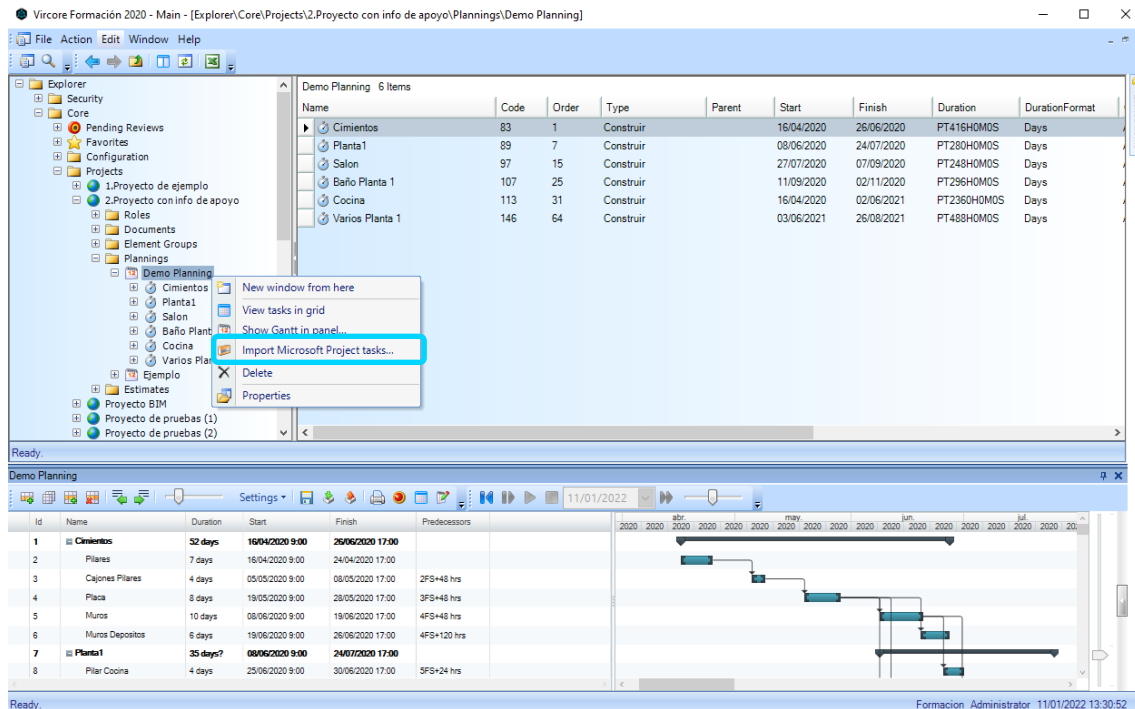
At the bottom, there are three buttons: OK, Cancel, and Apply.

Select "**Accept**" and the new chart will be created and stored in the database.

The "Calendar" field entails the selection of a default calendar. VIRCORE offers a selection of default calendars.

8.1.2. CHART IMPORT

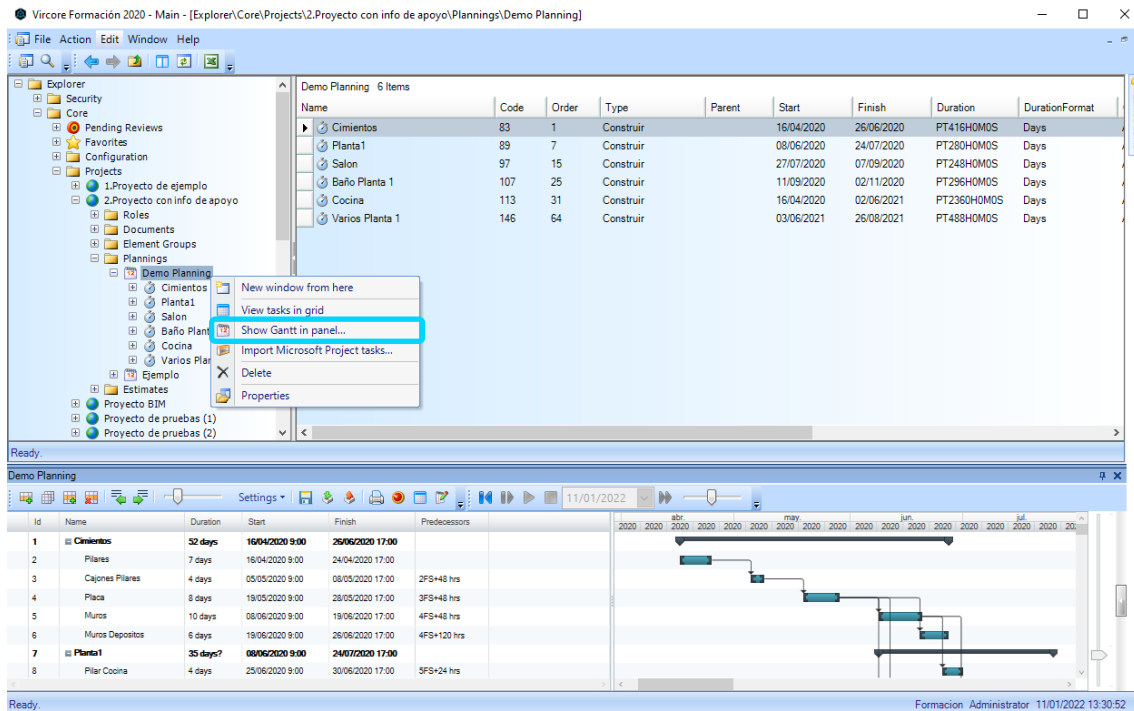
In VIRCORE, charts created with other tools can be imported. Loading is done from the explorer, after a "Planning" is created and by right-clicking on the **"Plannings"** folder. Select the option **"Import Microsoft Project tasks..."** In the drop-down window to load the chart.



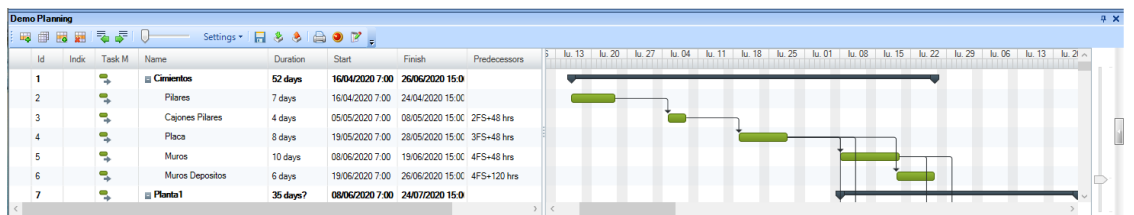
8.2. CHART VIEWER

8.2.1. VIEWER ACCESS

The planning module has a viewer that allows the visualisation of the Gantt diagrams corresponding to the charts. The **"Gantt Diagram"** viewer window is located at the bottom of the interface and is accessed by positioning the cursor on it or by selecting the option **"Show Gantt in panel..."** from a chart (previous image).



The viewer is structured in the same way as the explorer, i.e. the left panel displays the tasks belonging to the chart and the right panel displays the Gantt chart of the chart.



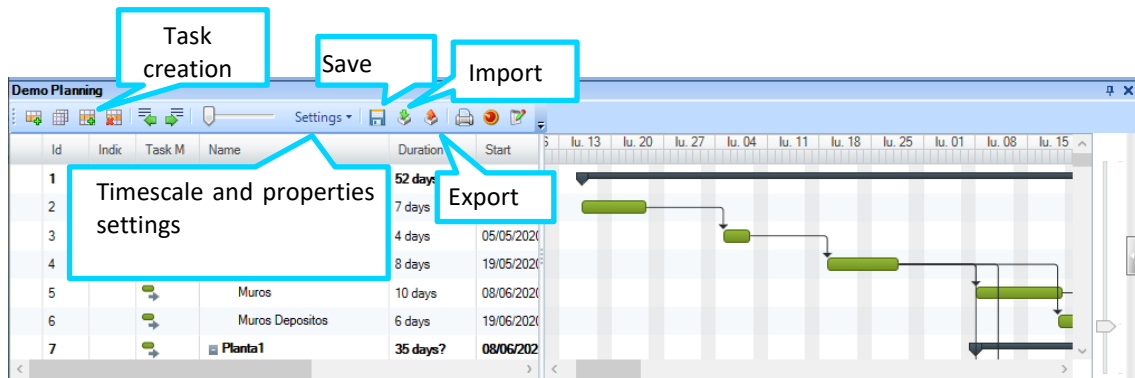
The planning viewer is a stand-alone module that allows viewing plans without the need for them to be stored in the platform's database; i.e. it allows importing .xml files. It also allows importing charts developed in other softwares into the database and subsequently viewing them, in addition to those created in **VIRCORE**.

8.2.2. VIEWER FUNCTIONALITIES

The navigation and configuration viewer commands can be found in the toolbar displayed at the top of the window.

The top toolbar contains the basic functionalities. It allows importing and exporting planning files in .xml format that are not stored in the database, printing the displayed planning or saving the modifications made.

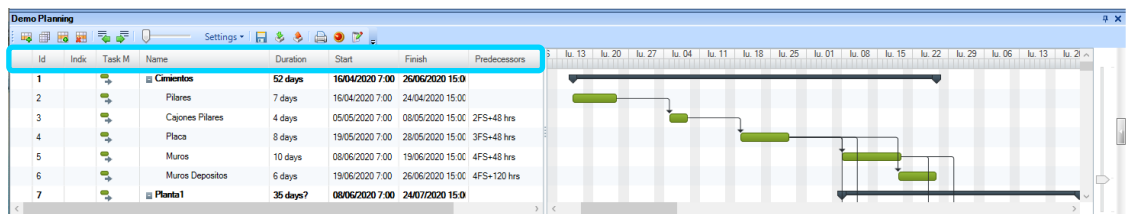
In addition, it allows to adjust and update the Gantt chart's time scale displayed in the right-hand panel. It allows to change the units and to establish a customised configuration.



The "Settings" tab contains two visualisation functionalities for the Gantt chart:

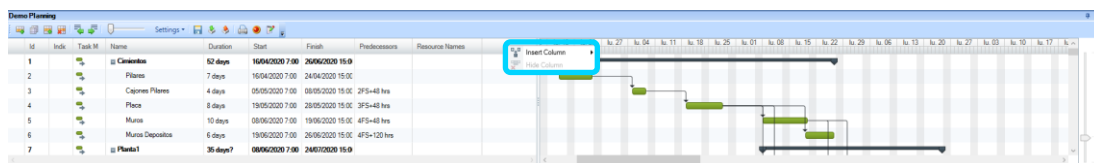
- Timescale Settings: hours, days, months, etc.
- Task characteristics: Summary (task groupings), Task Slack (task slack), Critical Tasks (critical routes) and Non-Work Days (non-working days).

The lower bar shows the parameters of the characteristics of each of the tasks. Task order and visibility can be adjusted to suit the user's needs.



To modify the column parameters, right-click on the parameter bar.

The pop-up window allows you to hide a column (displayed parameter) or to insert a new column (new parameter).



The viewer uses the following parameters, shown in the image below:



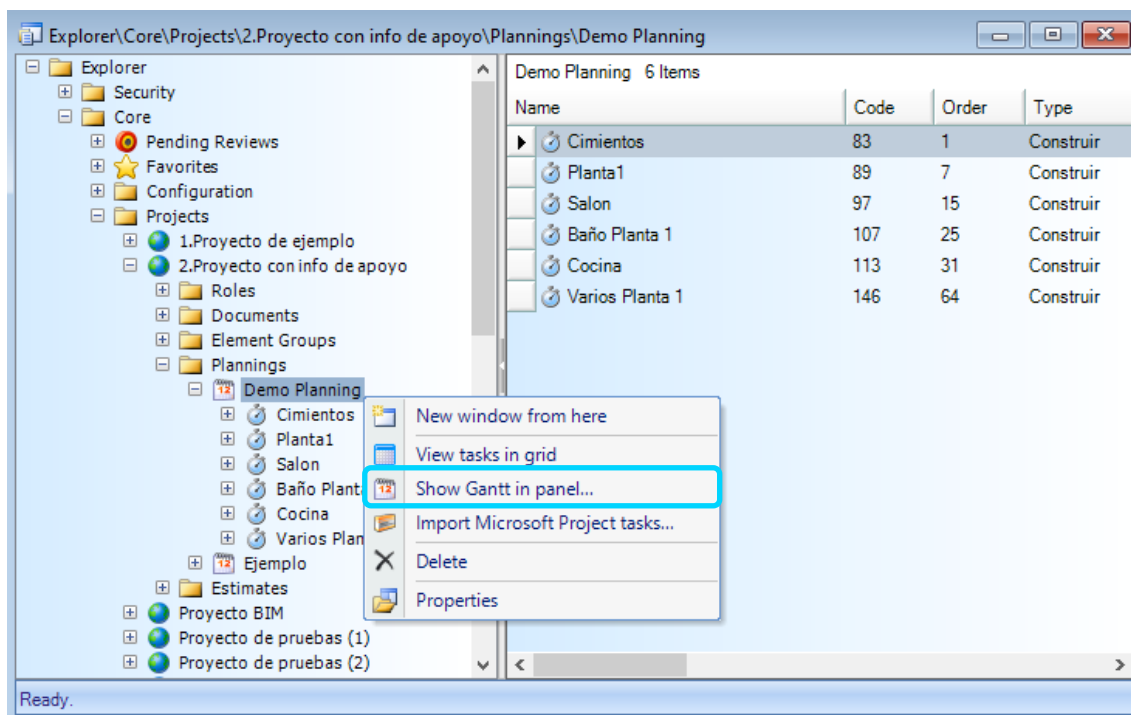
PROPERTY	DEFINITION
% Complete	Returns or sets a value between 0 and 100 (inclusive) representing the duration percentage completed.
Active	Defines whether the task is active or not. If not, the platform recalculates the durations and dependencies between tasks.
Actual Duration	Indicates the task's executed time.
Actual Finish	Returns or sets the task completion date.
Actual Start	Returns or sets the task start date.

Complete Through	Returns the date representing the point up to which the actual data for a task has been reported.
Constrains Date	Returns or sets the date used when applying the constraint type.
Constraint Type	Returns or sets the task's scheduling constraint type.
Critical	Returns a boolean value indicating whether the task has some slack or is on the critical path. It indicates whether the task is critical (belongs to the critical path and is below the critical slack) or not.
Deadline	Returns or sets a target date.
Early Finish	A calculated field indicating the task's earliest completion date based on predecessors and constraints.
Early Start	A calculated field indicating the earliest start date of a task based on predecessors and constraints.
Estimated	Returns a boolean value indicating whether the duration is marked as an estimate.
Finish Slack	Returns the duration between Early Finish and Late Finish dates.
Free Slack	Returns the time a task can be delayed, without delaying any successor tasks or affecting the project completion date.
Hide Bar	Returns or sets a boolean value indicating whether the task's Gantt bars are hidden.
Late Finish	A calculated field indicating the latest date by which a task could be completed, without delaying the end of the project.
Late Start	A calculated field indicating the latest date a task could start based on predecessors, successors and constraints, without delaying the project.
Marked	Returns or sets a boolean value indicating whether the task is marked for further action.
Milestone	Returns or sets a boolean value indicating whether the task represents a key event in the project.
Notes	Comments field.
Outline Level	
Placeholder	Returns a boolean value indicating whether either Manual Start, Manual End or Manual Duration has no specific value and therefore

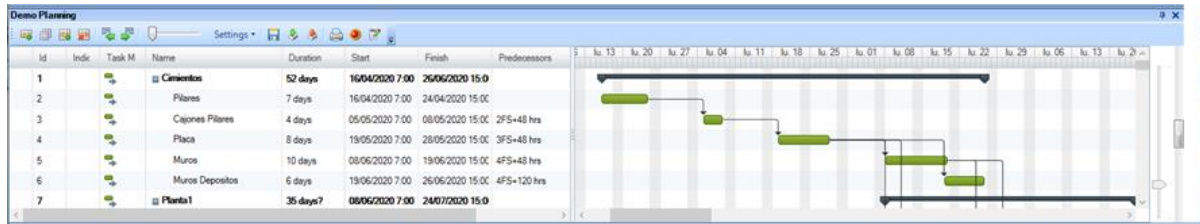
	there is insufficient information to schedule the task.
Remaining Duration	Returns or sets the amount of time needed to complete the unfinished part of the task.
Resource Names	Returns or sets the resources's string representation.
Scheduled Duration	Returns or sets the total amount of active working time for the task.
Scheduled Finish	Returns or sets the date on which the task is scheduled to be completed.
Scheduled Start	Returns or sets the start date of the task.
Start Slack	Returns the duration between the early start and late start dates.
Successors	Returns or sets a string representing the task successor ID, link type and lead/lag time.
Summary	Returns a boolean value indicating whether the task is a summary task; i.e., whether there are associated sub-tasks.

8.2.3. DISPLAY OF THE CHART IN THE VIEWER

The visualisation of a planning chart created in VIRCORE and stored in the database is done from the file. To do this, right-click on the file and select the option **"Show Gantt in panel..."** in the drop-down window, then, the selected chart is automatically opened in the viewer panel.



The diagram is displayed in the viewer as follows:



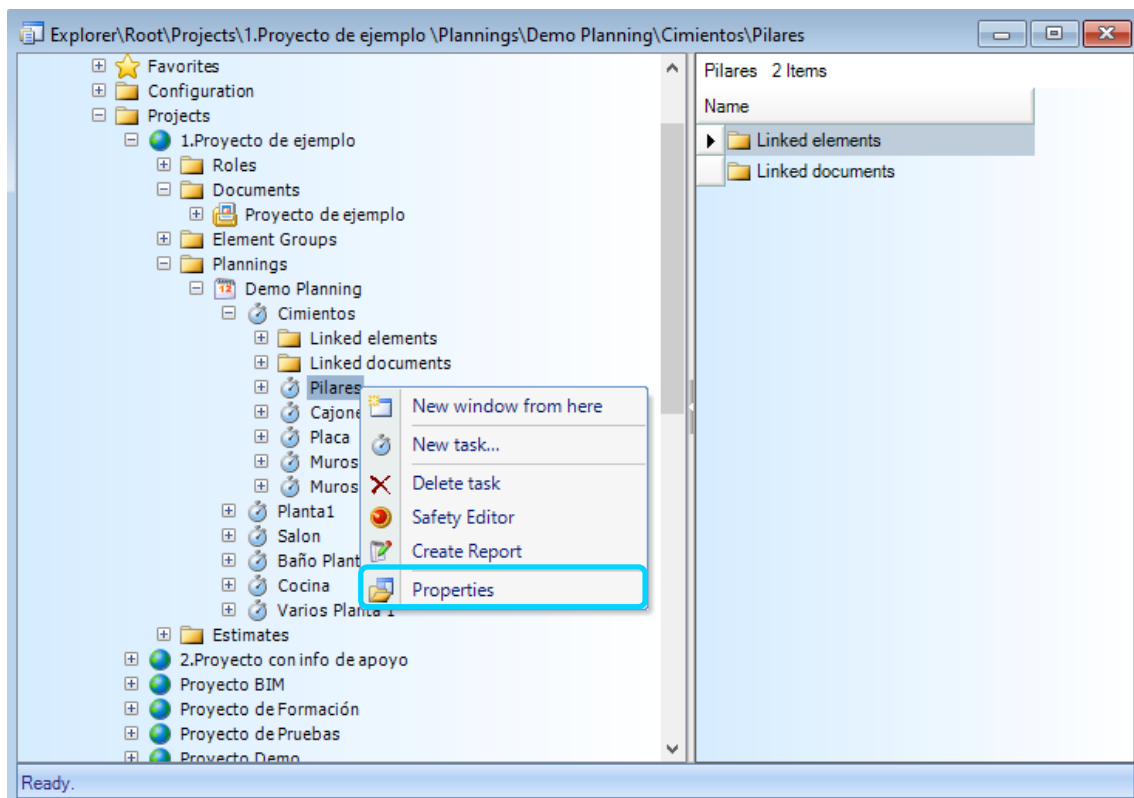
8.3. 4D SIMULATION

VIRCORE allows the generation of a 4D simulation by the creation of a planning chart. From the planning chart in the **"Demo Planning"** panel, the linking of 3D elements to the planning chart tasks is generated, together with the visualisation of the simulation.

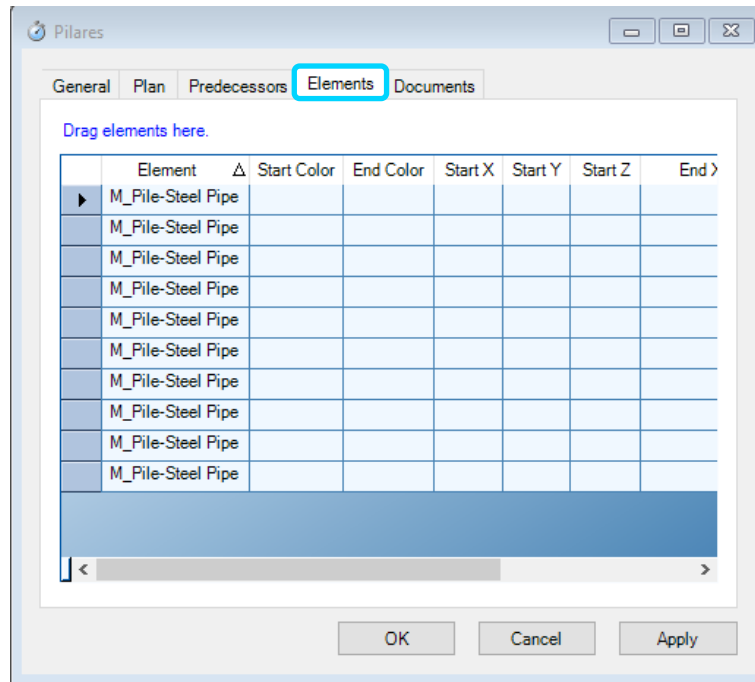
8.3.1. LINKING ELEMENTS TO TASKS

The linking between the 3D elements of a model and the tasks of a planning chart can be done in two different ways: either from the **"Properties"** window of a task or from the **"Demo Planning"** panel.

In the first case, by right-clicking on the task and selecting the **"Properties"** option, the task properties window can be accessed. This window has five tabs: General, Plan, Predecessors, Elements and Documents.

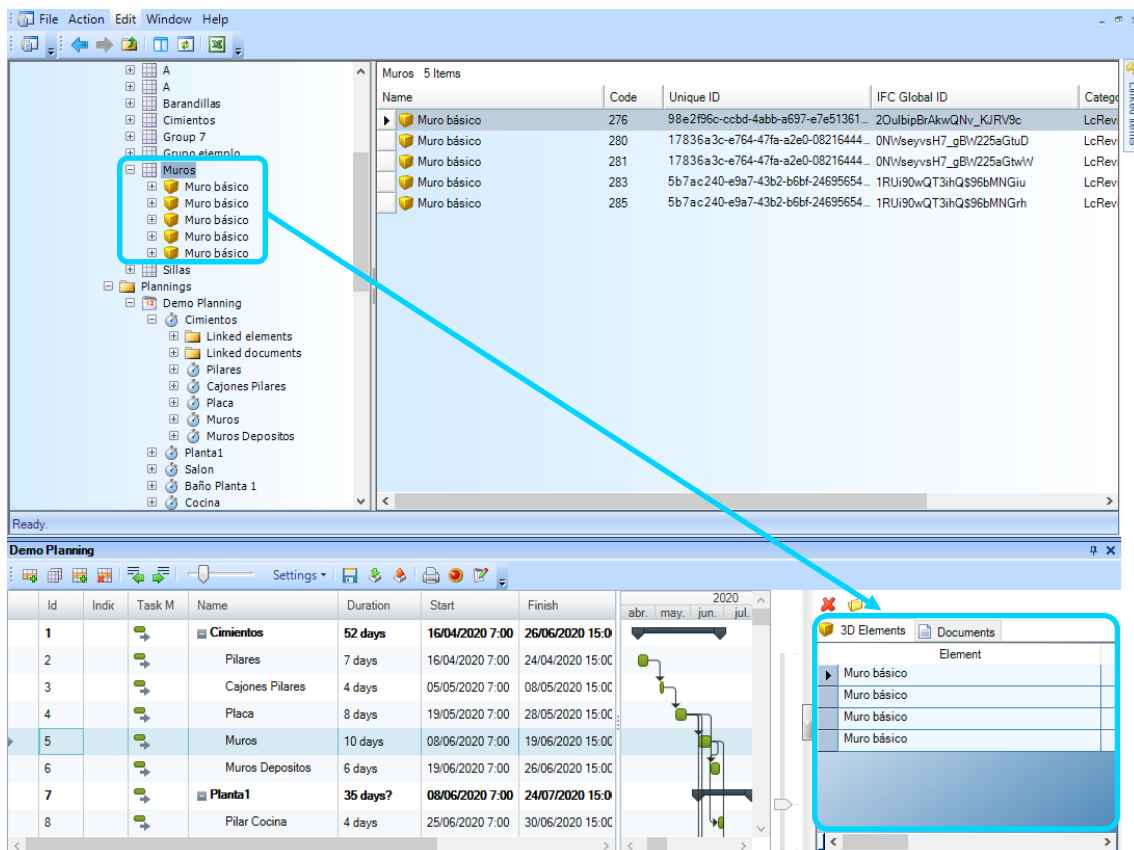


The tab **"Elements"** displays the linked 3D elements of a model.



To link 3D elements to a task, select the elements in the Explorer (3D Model Elements or Element Groups folder) or in the 3D Element Grid and drag them to the previous window.

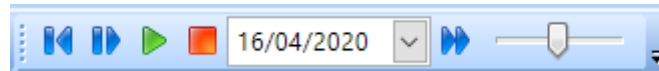
In the second case, the procedure is the same: "drag the 3D elements" but, in this case, to the **"Demo Planning"** panel.



8.3.2. 4D SIMULATION VISUALISATION

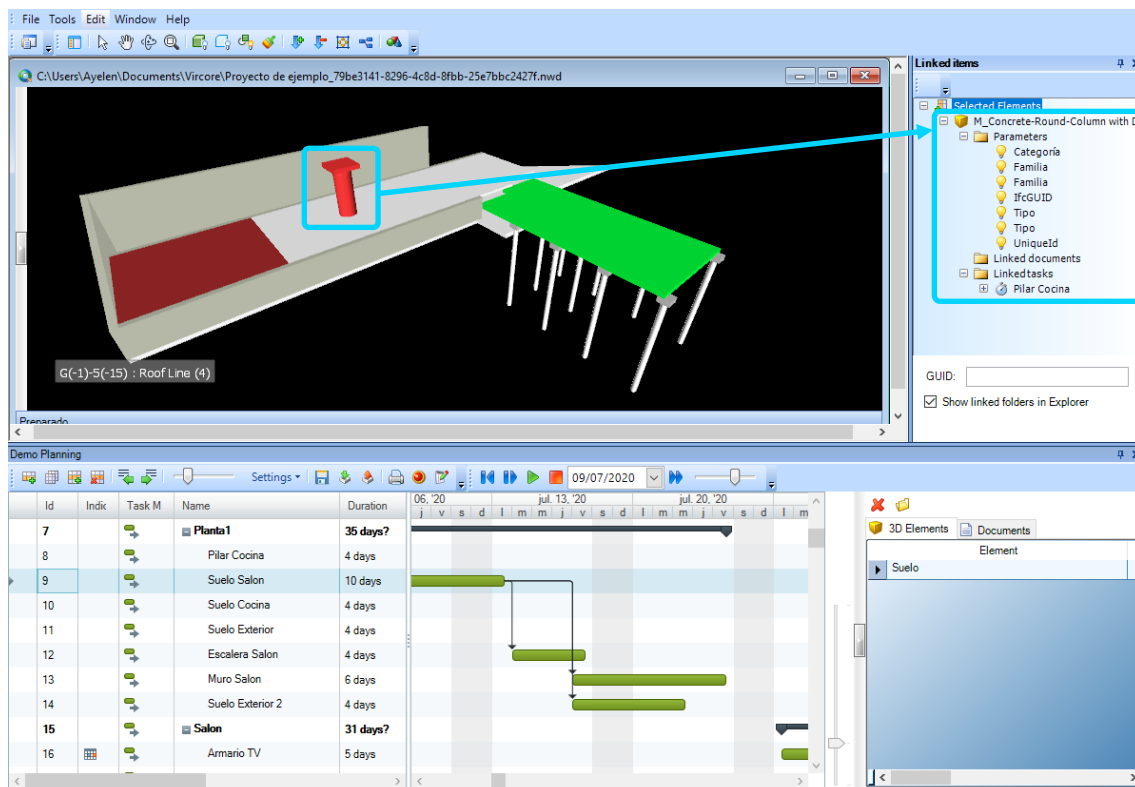
4D simulation is based on the link between planning tasks and the 3D elements of a model. To display the simulation on the platform, the 3D model must be open in the **"3D viewer"** and the projected planning in the **"Demo Planning"** panel.

The toolbar has six functions (from left to right): Next step, Reset, Play, Stop, Go to selected date and a simulation speed controller.



The simulation needs to be reset before it is run, therefore, the only active button is **"Reset"**.

The platform allows the manipulation of the 3D model during the simulation, as well as the selection of elements and the query of linked information (such as parameters, documents and tasks) in the **"Linked items"** panel.

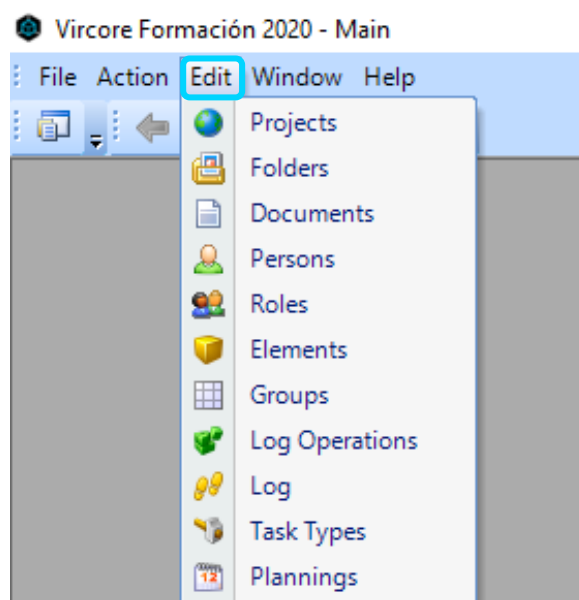


9. GRIDS

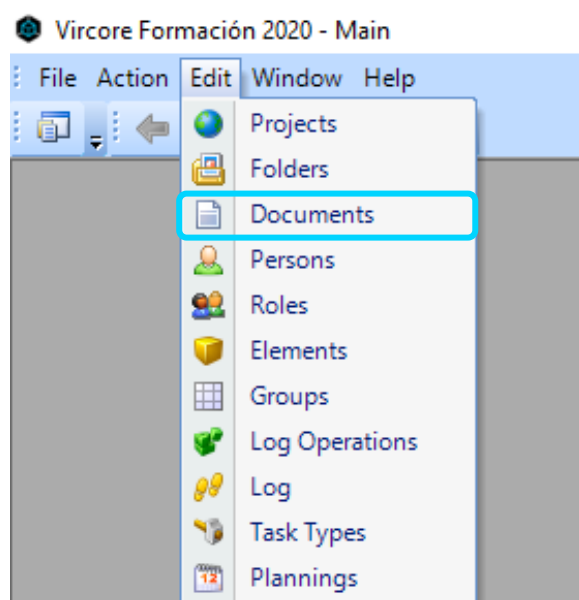
VIRCORE works against a SQL database in which all the files (documents, models, 3D elements, etc.) of a project are stored, allowing filtered searches of all the information.

For this purpose, the tool has a function called **Grids** which, in other words, acts as an advanced search engine since it not only identifies the file, but also shows its properties.

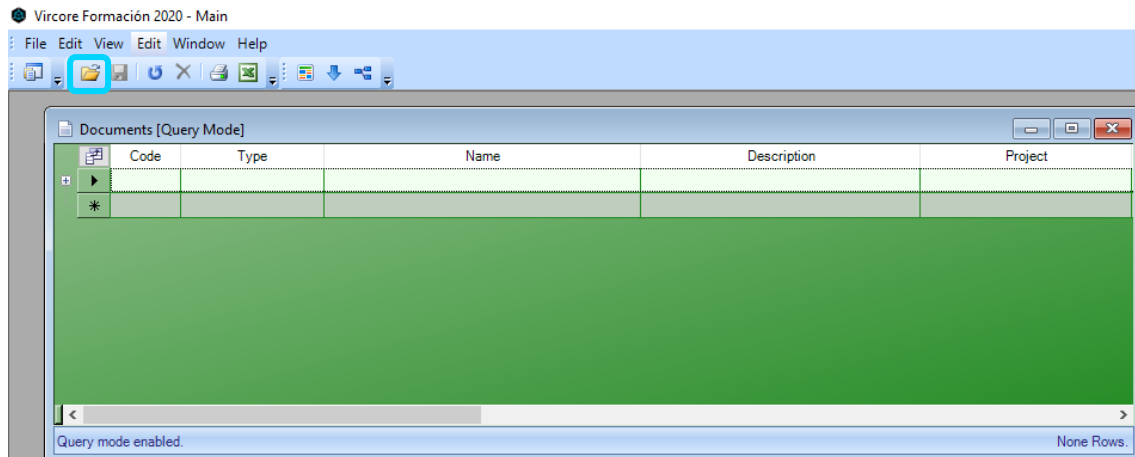
To perform a search, select the "**Edit**" option in the main taskbar and in the drop-down window press the parameter on which you want to perform the search.



The steps to carry out the search, for example, of a document "**Documents**" being for the rest of the parameters (folders, elements, tasks, etc.) the same procedure.



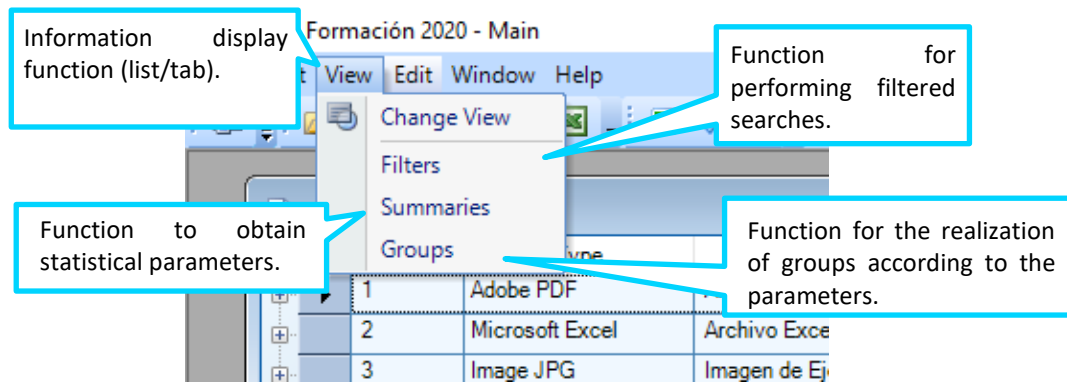
Selecting the previous option will open a new query window as shown below, where once the highlighted icon is selected, all the documents of the different projects to which the user has access will be loaded.



Then, all the documents stored on the server and to which the user has access are loaded.

Code	Type	Name	Project	Folder	Locked
1	Adobe PDF	Archivo PDF de Ejemplo.pdf	Proyecto de ejemplo	PDF	No
2	Microsoft Excel	Archivo Excel de Ejemplo.xlsx	Proyecto de ejemplo	Excel	No
3	Image JPG	Imagen de Ejemplo.JPG	Proyecto de ejemplo	Fotografías	No
4	Microsoft Word	Documento Word de Ejemplo.docx	Proyecto de ejemplo	Word	No
5	Microsoft Powerpoint	PowerPoint de Ejemplo.pptx	Proyecto de ejemplo	Carpeta 2	No
6	Autodesk Navisworks	central_v1.nwd	Proyecto de ejemplo	Modelos Coordinación	No
7	Autodesk Navisworks	east_v1.nwd	Proyecto de ejemplo	Modelos Coordinación	No
8	Autodesk Navisworks	north_v1.nwd	Proyecto de ejemplo	Modelos Coordinación	No
9	Autodesk Navisworks	south_v1.nwd	Proyecto de ejemplo	Modelos Coordinación	No
10	Autodesk Navisworks	west_v1.nwd	Proyecto de ejemplo	Modelos Coordinación	No
11	IFC File	Ejemplo2_v1.ifc	Proyecto de ejemplo	IFC	No
12	IFC File	Ejemplo3_v1.ifc	Proyecto de ejemplo	IFC	No
14	RAR	Fichas técnicas.rar	Proyecto de ejemplo	Otros	No
15	Compressed ZIP File	Fichas técnicas.zip	Proyecto de ejemplo	Otros	No
16		Bloc de Ejemplo.txt	Proyecto de ejemplo	Otros	No
17	Autocad DWG	Ejemplo-Plant 3D.dwg	Proyecto de ejemplo	Carpeta 4	No
18	Microsoft Word	Documento Word.docx	Proyecto de ejemplo	Word	No
19		Vircore_ Solicitud de revisión del documento Archi	Proyecto con info de apoyo	Correo de Notificación, Revisión y	No
20		Vircore_ Solicitud de aprobación del documento D	Proyecto con info de apoyo	Correo de Notificación, Revisión y	No
21		Vircore_ Notificación del documento Archivo PDF	Proyecto con info de apoyo	Correo de Notificación, Revisión y	No
22	Autodesk Navisworks	Proyecto de ejemplo.nwd	Proyecto con info de apoyo	Proyecto 1	No
23	IFC File	Proyecto de ejemplo.ifc	Proyecto con info de apoyo	Proyecto 1	No
24	Adobe PDF	Archivo PDF de Ejemplo.pdf	Proyecto con info de apoyo	Proyecto 1	No
26	IFC File	Matrix_RM_2.ifc	Proyecto con info de apoyo	Folder 15	No
28	IFC File	Matrix_RM.1.ifc	Proyecto con info de apoyo	Folder 15	No
29	IFC File	Matrix_RM_3.ifc	Proyecto con info de apoyo	Folder 15	No
30		Vircore_ Notificación del documento Archivo PDF	Proyecto de ejemplo	Carpeta 5	No
31		Vircore_ Solicitud de aprobación del documento D	Proyecto de ejemplo	Carpeta 5	No
32		Vircore_ Solicitud de revisión del documento Archi	Proyecto de ejemplo	Carpeta 5	No
33	Adobe PDF	Archivo PDF de Ejemplo.pdf	Proyecto de ejemplo	Carpeta 5	No
*					

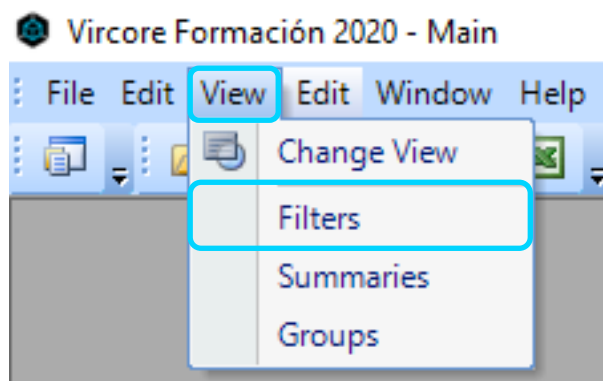
This is where the data query is performed and the functions listed in the pop-up window can be performed by selecting the "View" command from the main toolbar.



Once the management (grouping, filtering, etc.) has been completed, it is possible to export the managed files to Excel format by selecting the icon on the toolbar of the **Grid** window.

9.1. FILTER

The **"Filters"** option allows you to set a filter for the previously selected parameter (documents, folders, 3D elements, etc.).



When this option is selected, a symbol representing the filter automatically appears in each parameter placed in a column and when selected, it gives access to the filter configuration window.

The pop-up window that appears when selecting **"Filters"** has preconfigured filters: All, Empty or Not Empty. To configure the search parameters, select the **"Custom"** option:

Code	Type	Name	Description	Project
129	M(Todos)			Proyecto Testeo
137	(Personalizado)			Proyecto Testeo
	(Vacíos)			

In the **"Custom Filter"** window, you can make the desired configuration that best suits your data search. Finally, select **"OK"** and the filtered documents are displayed.

Custom Filter

Filter based on All of the following conditions:

+ Add

Name ((Nulo))

- Delete

Aceptar Cancelar

Searching for information in the database, be it **projects, folders, documents, people, roles, elements, groups, logical operations, schedules, tasks or types of tasks**, is carried out in the same way as in the case explained above.

9.2. ACCUMULATED

When this option is selected, a symbol automatically appears in each parameter placed in a column and, when selected, it gives access to a window of options.

Code Σ Type Σ Name Σ

Select Summaries allows you to obtain interesting or necessary data from the search, such as, in the case of numerical data, the total sum of the consulted items, the mean, the maximum or the minimum value.

Select Summaries

☐ Media

☐ Contador

☐ Máximo

☐ Mínimo

☐ Suma

Aceptar Cancelar

9.3. GROUPINGS

Allows you to make groupings according to column parameters. To perform the grouping, click on the desired column parameter and drag it to the bar that appears at the top of the window.

Documents

Arrastrar una cabecera aquí para agrupar por esa columna.

	Code	Name	Description	Type	Project
+	95	Documento1.docx		Microsoft Word	Proyecto Zero
+	96	Documento2.pdf		Adobe PDF	Proyecto Zero
+	97	000Word de ejemplo.docx		Microsoft Word	Proyecto Zero
+	98	Naviswork Ejemplo.nwd		Autodesk Navisworks	Proyecto Zero
+	99	Tunel.nwd		Autodesk Navisworks	Proyecto Zero
+	100	Planificación Project 1_XML.xml			Proyecto Zero
+	101	Planificación Project 1.mpp			Proyecto Zero
+	102	PDF de ejemplo.pdf		Adobe PDF	Proyecto Zero
+	103	Excel ejemplo.xlsx		Microsoft Excel	Proyecto Zero
+	*				

Se ha efectuado la consulta con éxito.

9 registros.

An example of grouping with one level is shown below.

Type
+
Type : (2 items)
+
Type : Adobe PDF (2 items)
+
Type : Autodesk Navisworks (2 items)
+
Type : Microsoft Excel (1 item)
+
Type : Microsoft Word (2 items)

Groups of as many levels as necessary can be made following the same procedure.

Documents

Project Folder

Project : Proyecto con info de apoyo (3 items)

Folder : Correo de Notificación, Revisión y Aprobación (3 items)

	Code	Type	Name	Locked	Description	Lock / Unlock By
+	19		Vircore_ Solicitud de revisión del documento Archi	No		
+	20		Vircore_ Solicitud de aprobación del documento D	No		
+	21		Vircore_ Notificación del documento Archivo PDF	No		

Folder : Folder 15 (3 items)

	Code	Type	Name	Locked	Description	Lock / Unlock By
+	26	IFC File	Matrix_RM_2.ifc	No		
+	28	IFC File	Matrix_RM.ifc	No		
+	29	IFC File	Matrix_RM_3.ifc	No		

Folder : Proyecto 1 (3 items)

Project : Proyecto de ejemplo (10 items)

Folder : Carpeta 2 (1 item)

Folder : Carpeta 4 (1 item)

Folder : Carpeta 5 (4 items)

Folder : Excel (1 item)

Folder : Fotografías (1 item)

Folder : IFC (2 items)

Folder : Modelos Coordinación (5 items)

Folder : Otros (3 items)

Folder : PDF (1 item)

Folder : Word (2 items)

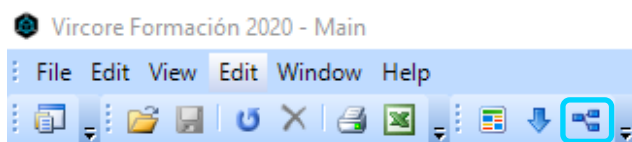
Load data successfully.

30 rows.

To undo a group, simply select the parameter in the top bar and drag it to the center of the window.

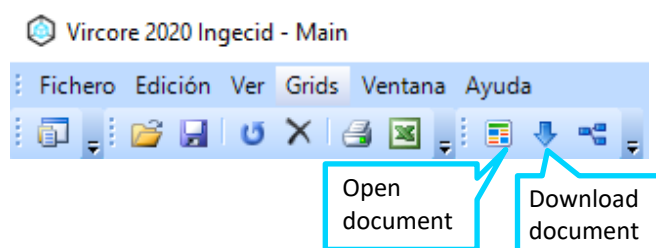
9.4. DOCUMENT GRID SEARCH AND QUERY

The document search from the Grid allows the user to identify a document in the folder structure of the whole project. Once the desired document is selected in the Grid, the **"Find in Explorer"** option is selected and the software automatically displays the necessary folders in the explorer until the file is located.



The consultation of documents from the Grid allows you to open and download these files. To do this, once the **"Edit in Grid"** or **"Grid"** option and then **"Documents"** have been selected, the Grid toolbar is slightly different from the Grid query of folders, groups, people, etc.

The toolbar contains two buttons, one for opening documents and one for downloading them. To do this, you must first select the desired documents in the grid and then click on the corresponding button.

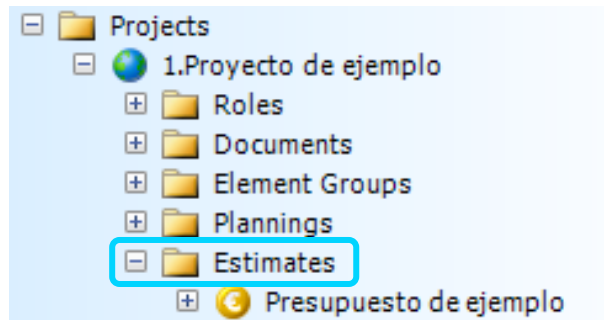


10. COSTING AND CERTIFICATION

The platform has a module for managing budgets and generating the corresponding certifications using the 3d models stored on the server.

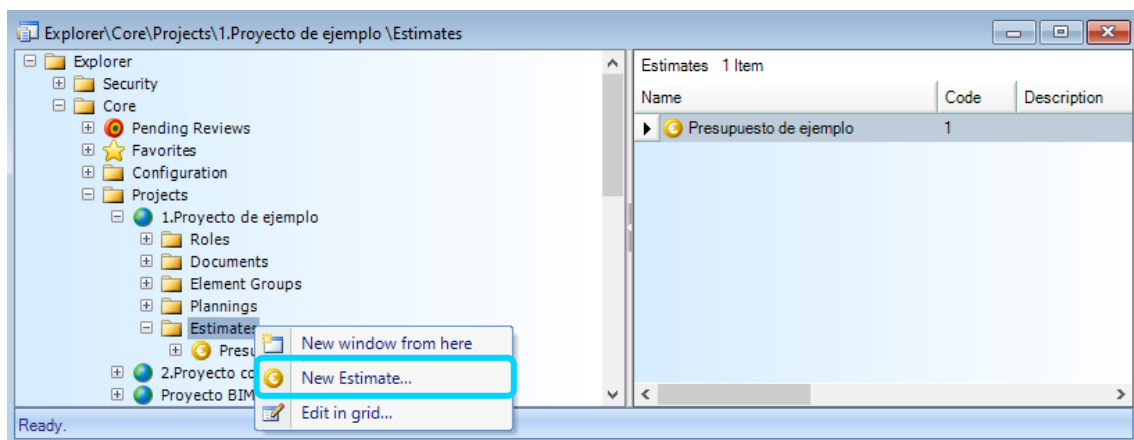
10.1. ESTIMATED BUDGET

The estimate creation and management is made within each project, specifically in the **"Estimates"** folder, in which all estimates are to be found, together with their associated chapters, sub-chapters, certifications, measurement lines, etc.



VIRCORE is compatible with the Presto tool .BC3 format; therefore, to load an estimate, the first step is to create the estimate in **VIRCORE** as follows:

Right click on "**Estimates**" and choose the option "**New Estimate...**".



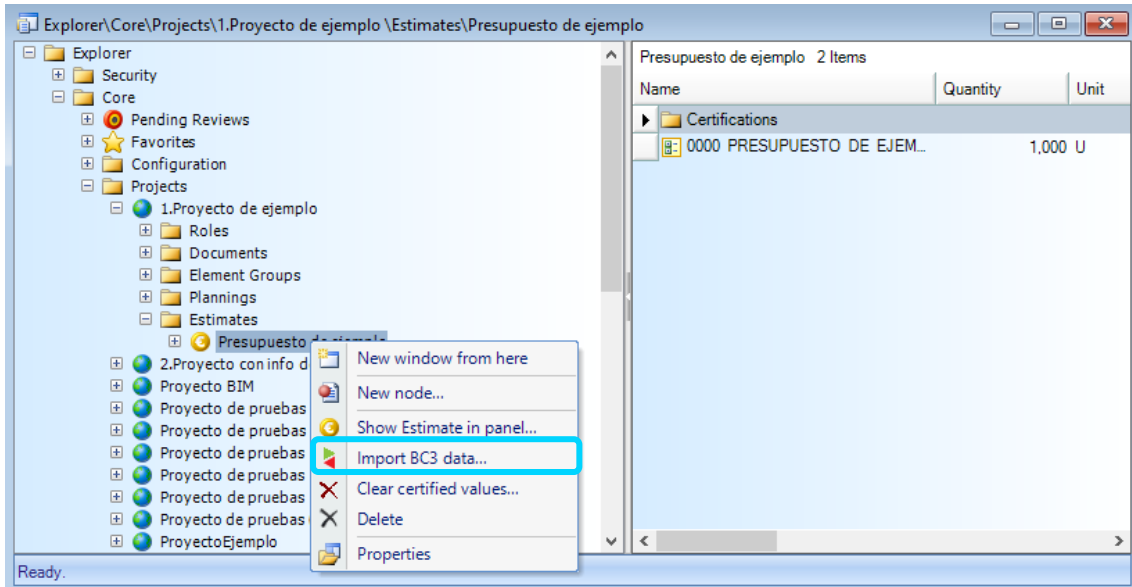
In the pop-up window, check that the estimate corresponds to the right project before filling out any fields (name, code, description, industrial benefits, etc.)

A screenshot of the 'New Estimate...' dialog box. The 'General' tab is selected. The dialog contains the following fields:

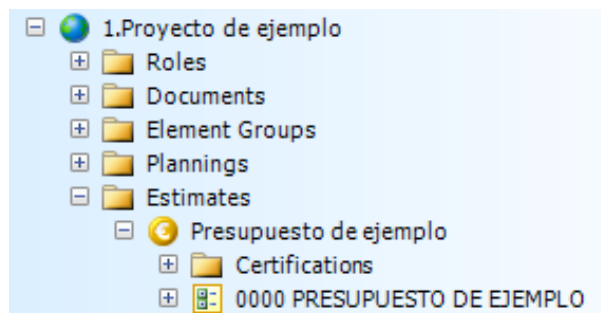
- Project: 1.Proyecto de ejemplo (dropdown)
- Folder: (empty dropdown)
- Code: 5 (text box)
- Name: Estimate 5 (text box)
- Indirect Cost: (empty text box)
- General Expenses: (empty text box)
- VAT Percentage: (empty text box)
- Industrial Profit: (empty text box)
- Overhead: (empty text box)
- Description: (empty text box)

At the bottom of the dialog are three buttons: 'OK', 'Cancel', and 'Apply'.

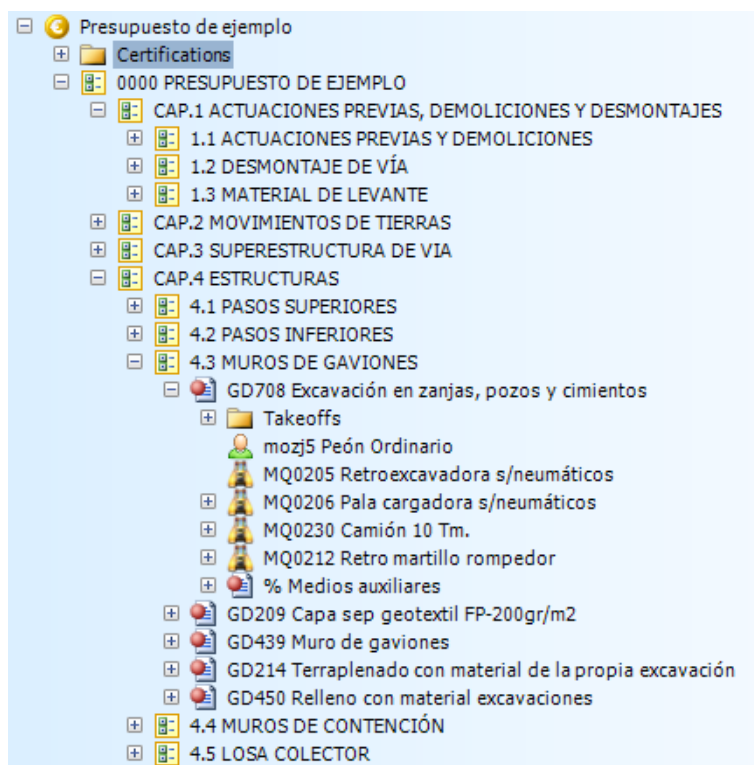
Once the estimate has been created, the BC3 file can be imported by right clicking on the estimate and selecting the option **"Import BC3 data..."**.



The BC3 format file is then selected on the computer and the estimate will start loading. Within the estimate, the associated chapters and a directory called **"Certifications"** (in which the generated certifications will be stored) will be found.



The budget shall be structured on the basis of chapters and sub-chapters within which the corresponding items and resources (machinery, labour, etc.) shall be found.



By right-clicking on a resource or item and selecting **"Properties"**, the properties window pops up, where the associated characteristics can be queried.

mozj5 Peón Ordinario

General		Description	Text
Project:	1.Proyecto de ejemplo		
Estimate:	Presupuesto de ejemplo		
Parent:	Excavación en zanjas, pozos y cimientos		
Code:	1600	Concept:	mozj5
Name:	Peón Ordinario		
Type:	Manpower		
Unit Price:	15,64 €	Factor:	1,000
Quantity:	0,100	Unit:	h
Total Price:	1,56 €		
Concept:			

OK Cancel Apply

MQ0205 Retroexcavadora s/neumáticos

General		Description	Text
Project:	1.Proyecto de ejemplo		
Estimate:	Presupuesto de ejemplo		
Parent:	Excavación en zanjas, pozos y cimientos		
Code:	1601	Concept:	MQ0205
Name:	Retroexcavadora s/neumáticos		
Type:	Equipment		
Unit Price:	34,85 €	Factor:	1,000
Quantity:	0,120	Unit:	h
Total Price:	4,18 €		
Concept:			

OK Cancel Apply

GD708 Excavación en zanjas, pozos y cimientos

General Description Text

Project: 1.Proyecto de ejemplo

Estimate: Presupuesto de ejemplo

Parent: MUROS DE GAVIONES

Code: 1599 Concept: GD708

Name: **Excavación en zanjas, pozos y cimientos**

Type: Work item

Unit Price: 9,17 € Factor: 1,000

Quantity: 617,250 Unit: M3

Total Price: 5.660,18 €

Concept:

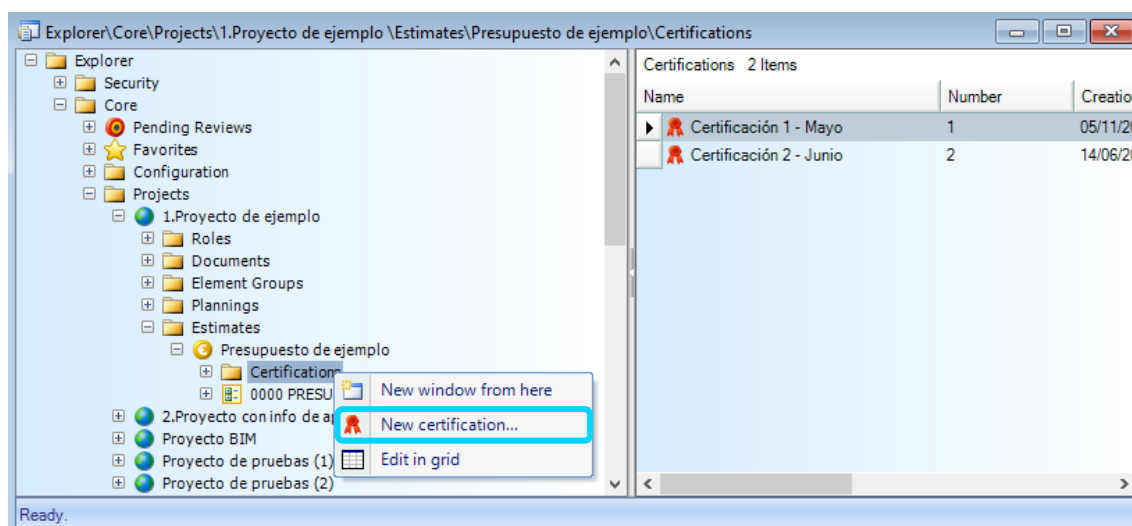
OK Cancel Apply

10.2. CERTIFICATIONS

These can be created and managed within each estimate from the folder "Certifications".

10.2.1. CREATION OF A CERTIFICATION

To create a new certification, right click on the "Certifications" folder and select the option "New certification...".



In the pop-up window, the certification data (such as date, name, etc.) are filled out.

New certification...

General

Project: 1.Proyecto de ejemplo

Estimate: Presupuesto de ejemplo

Certification: 9 Creation Date: 17/06/2021

Number:

From Date: To Date:

Name:

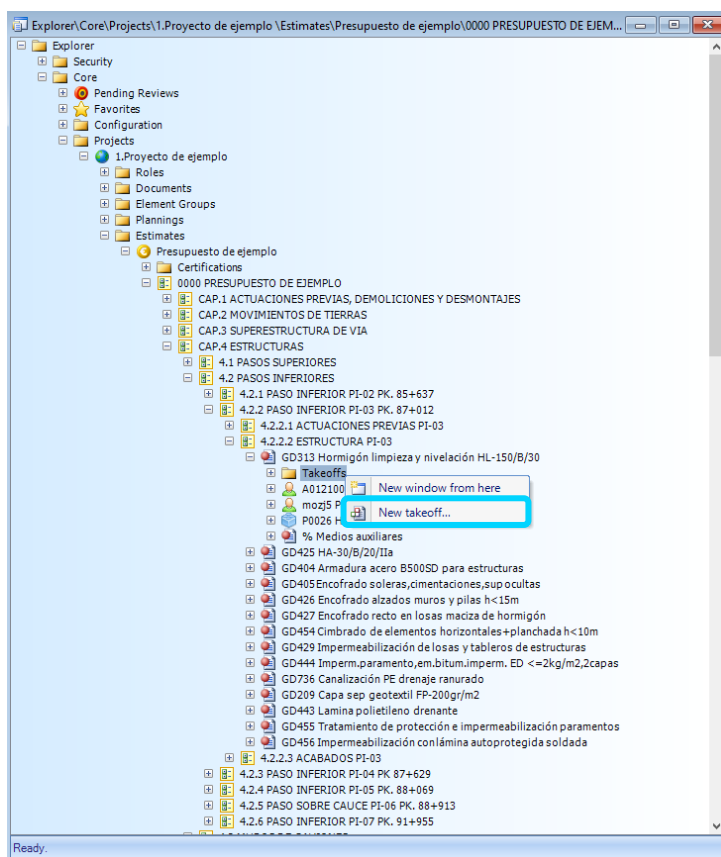
Description:

OK Cancel Apply

10.2.2. CREATION OF A MEASUREMENT LINE

The creation of a measurement line can be done in two ways; on the one hand, by manually entering the values obtained on site and, on the other hand, by using the 3D elements of a model previously loaded in the database (see section 3D VISUALISATION MODULE).

To create the measurement line, identify the corresponding line item and right click on the **"Takeoffs"** folder and choose the option **"New takeoff..."**.



In the pop-up window the technical data of the measuring line shall be filled out. From this point onwards, the procedure differs depending on whether the three-dimensional model is used or not.

10.2.2.1. MEASUREMENT LINE - MANUAL

In the first tab **"General"** there are a series of fields that allow you to enter the measurements as well as the certification to which the measurement line is associated with, without making use of the 3D elements of the model.

FIELD	DESCRIPTION
Name	Name given to the measurement line.
Certification	Certification to which the measurement line is associated (must be previously created).
Units (A) / Units (B) / Units (C) / Units (D)	Numeric values fields.
Formula	Formula field; 4 numeric fields (A, B, C and D) can be input.
Total	Indicates the total count of the measurement.
Description	Description associated with the measurement line.

Once the numeric fields (A, B, C and D) have been filled out to obtain the total count of the measurement line, select the **"Calculate from values"** button. The formula is therefore automatically applied and the calculated total value displayed.

The screenshot shows a software window titled "New takeoff...". It has two tabs: "General" and "3D Elements". The "General" tab is active. It contains the following fields and controls:

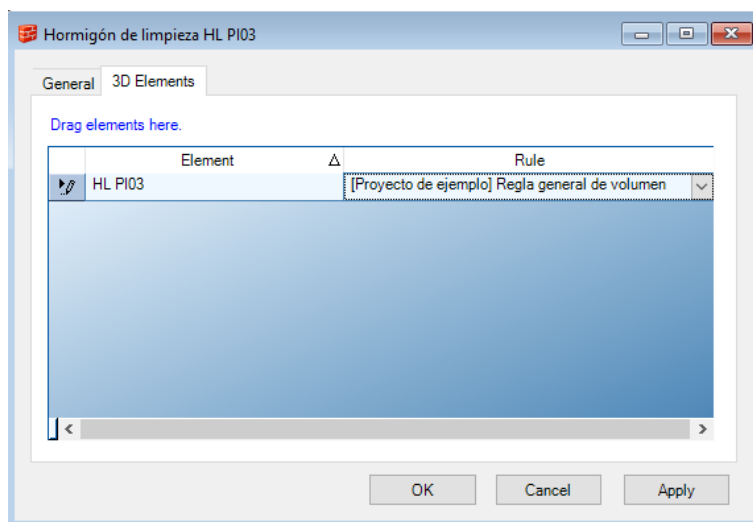
- Code:** A text box containing "5004".
- Name:** A text box containing "Línea de medición de ejemplo".
- Certification:** A dropdown menu showing "Certificación 1 - Mayo".
- Units (A):** A text box containing "10,000".
- Length (B):** A text box containing "5,000".
- Width (C):** A text box containing "2,000".
- Height (D):** A text box containing "3,000".
- Formula:** A text box containing the formula $A \times (B - C) + D$.
- Total:** A text box containing "33,000".
- Buttons:** Below the Total field are two buttons: "Calculate from values" (highlighted with a red box) and "Calculate from elements".
- Description:** A large text area at the bottom.
- Footer:** At the bottom of the window are "OK", "Cancel", and "Apply" buttons.

10.2.2.2. MEASUREMENT LINE USING 3D ELEMENTS OF THE MODEL

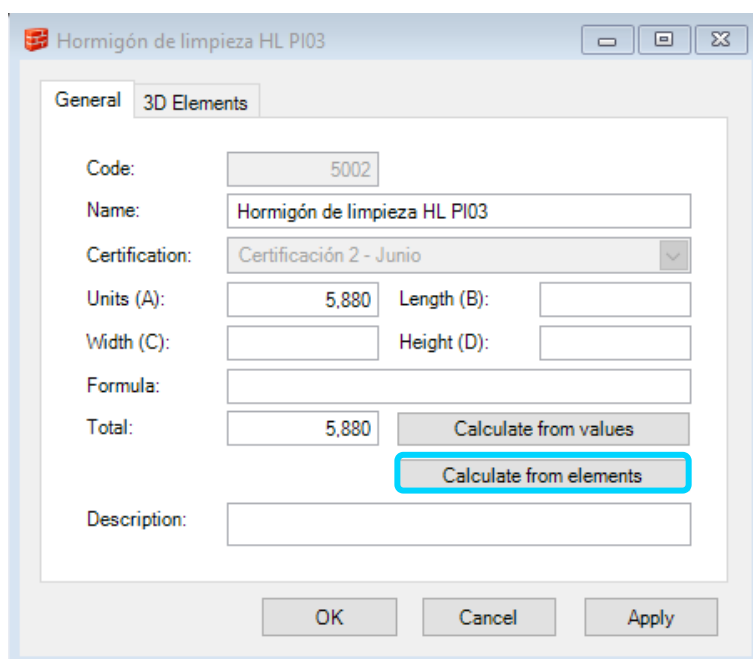
To obtain measurements using the 3D elements of a model, simply complete the first **"General"** tab fields with the name and the certification to which the measurement is associated (Certification).

The second tab **"3D Elements"** is where the model element is linked to obtain the measurement. To do this, the element is dragged either from the **'Linked items'** window

or from the '**Explorer**' to the window. Automatically, a measurement rule will be associated to the element; which will have been previously defined and configured by a user with advanced permissions.

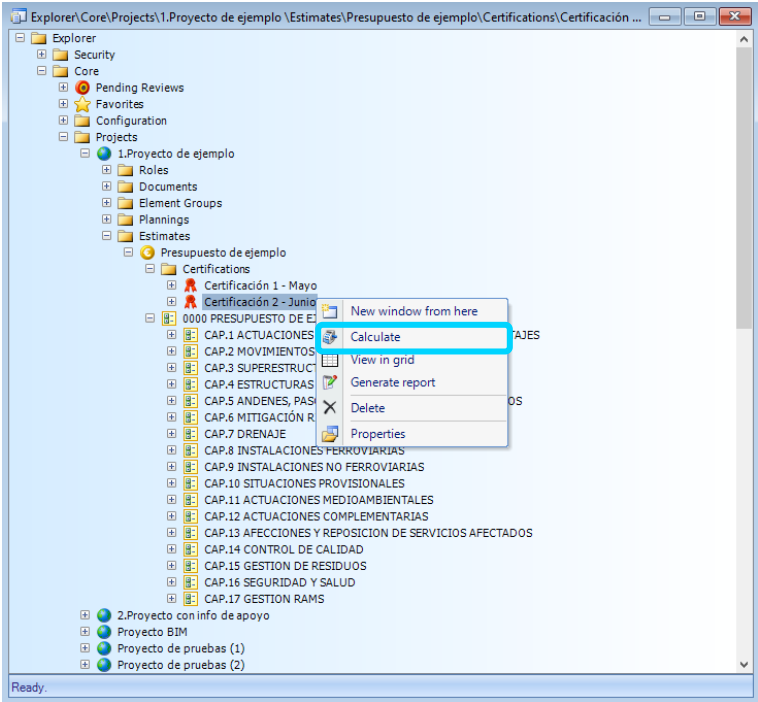


To obtain the measurement, go back to the "**General**" tab and select the "**Calculate from elements**" button to display the measurement obtained from the 3D element.

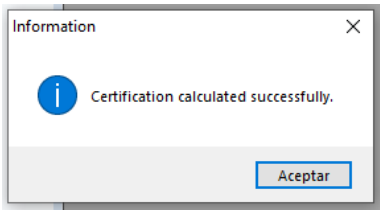


10.3. CERTIFICATION CALCULATION

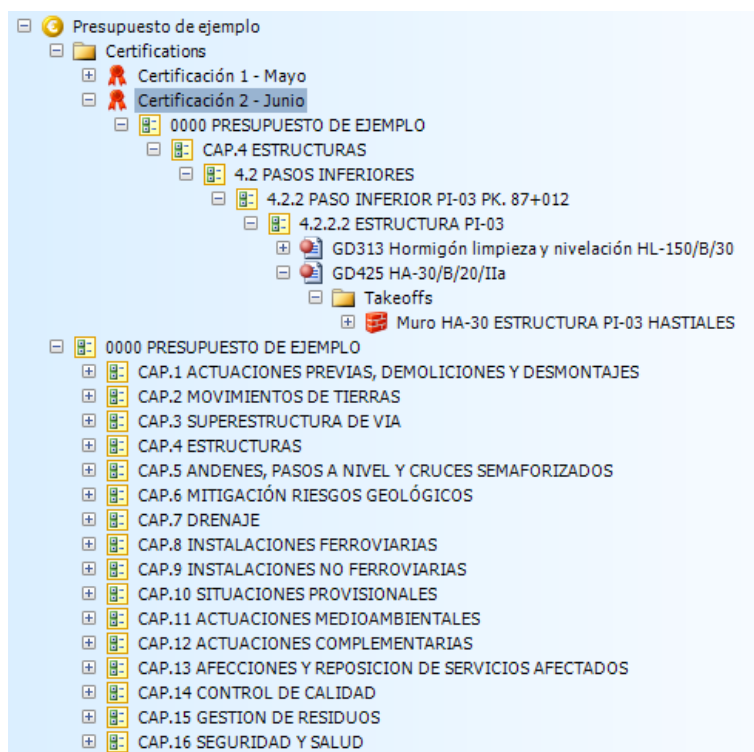
Once the definition of each of the measurement lines associated with the certification has been completed, right click on the certification and select the "**Calculate**" option, for the measurements of that certification to be automatically calculated.



Once the process is finished, the following message will be displayed.

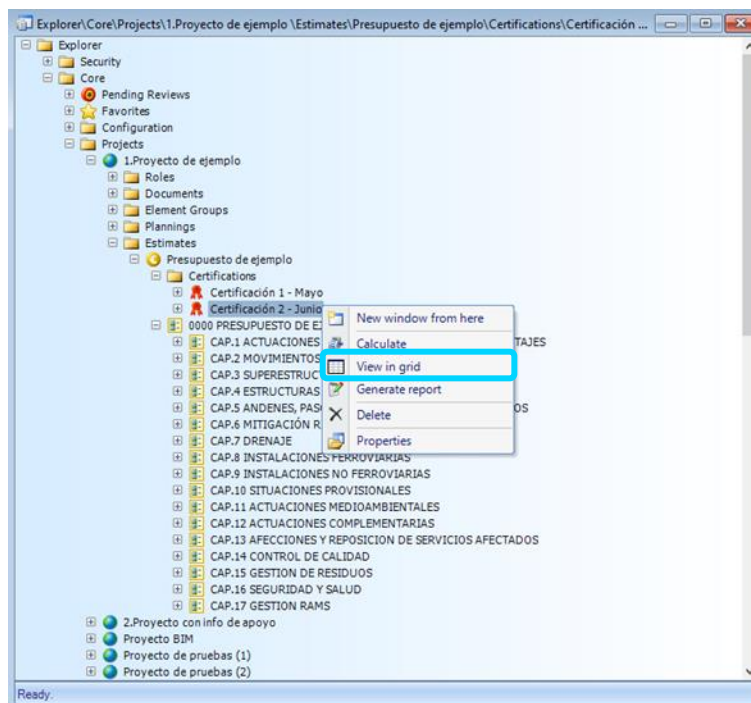


The calculated certification folder can be expanded down to the created measurement line level.



10.3.1. CERTIFICATION DISPLAY

The certification associated information can be queried by right-clicking on the selected certification and clicking on the "View in grid" option.



The pop-up window shows the information associated with each of the certifications, as well as the accumulated information up to the selected certification. The window has

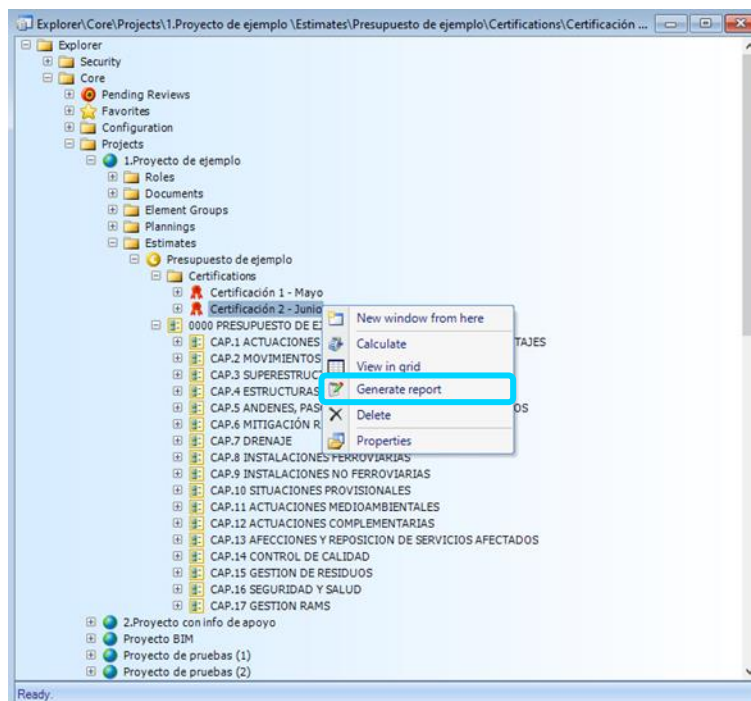
the filter, accumulated and grouping functions of the grid window (see section 899. GRIDS).

The screenshot displays the Vircore software interface with a grid of construction items. The grid includes columns for item name, quantity, unit, price, and total price. The items are categorized into sections like 'CAP.1 ACTUACIONES PREVIAS, DEMOLICIONES Y DESMONTAJES' and 'CAP.2 MOVIMIENTOS DE TIERRAS'. The total price for the first section is 111,471.50€, and for the second section, it is 759,737.00€.

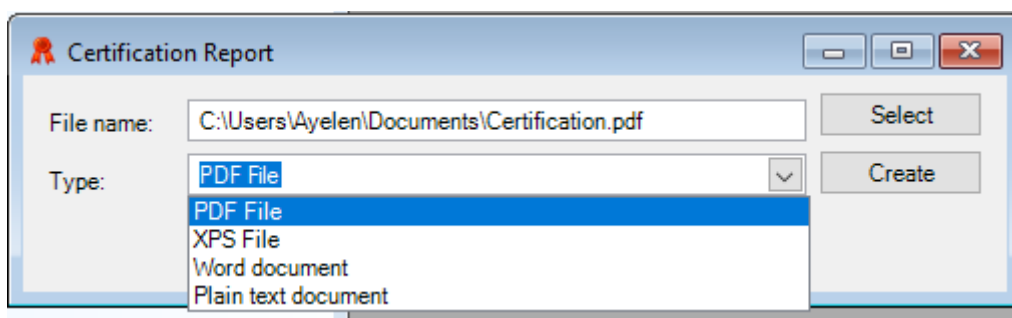
Name	QTY	UNIT	PRICE	TOTAL PRICE
CAP.1 ACTUACIONES PREVIAS, DEMOLICIONES Y DESMONTAJES	1	1	0.00€	111,471.50€
1.1 ACTUACIONES PREVIAS Y DEMOLICIONES	1	1	0.00€	111,471.50€
GD101 Despeje y destrucción terreno	0	0	0.00€	0.00€
GD102 Arranque y apeo de árboles	0	0	0.00€	0.00€
GD103 Demolicion de bordillo	0	0	0.00€	0.00€
GD104 Demolicion pavimento homogeno	0	0	0.00€	0.00€
GD105 Demolicion pavimento asfalto	0	0	0.00€	0.00€
GD106 Desmontaje y recuperación pieza borde	0	0	0.00€	0.00€
GD107 Desmontaje y recuperación de barandilla existente	0	0	0.00€	0.00€
GD108 Desmontaje y reposición de mala metálica	0	0	0.00€	0.00€
GD109 Demolicion y retirada de mala metálica	0	0	0.00€	0.00€
GD110 Desmontaje de tubería de abastecimiento	0	0	0.00€	0.00€
GD111 Demolicion de conduccion acequia cuneta u obra drenaje	0	0	0.00€	0.00€
GD112 Demolicion total/parcial de cualquier obra de fabrica/muro	0	0	0.00€	0.00€
GD113 Derribo de elementos no estructurales de hormigon armado u en mas	0	0	0.00€	0.00€
GD114 Levante barera metálica	0	0	0.00€	0.00€
GD115 Arranque de arbol de gran porte	0	0	0.00€	0.00€
GD116 Retirada de armario de comunicaciones PK 53+700 al PK 54+710	0	0	0.00€	0.00€
GD117 Desmontaje de paramo	0	0	0.00€	0.00€
GD118 Demolicion elementos de hormigon armado estructuras	0	0	0.00€	0.00€
GD119 Trasplante de arbol existente	0	0	0.00€	0.00€
GD120 Demolicion hloy y reposicion	0	0	0.00€	0.00€
GD121 Desmantelamiento de banda	0	0	0.00€	0.00€
GD122 Desmontaje y reubicacion elementos pasos a nivel	0	0	0.00€	0.00€
GD123 Retirada y realacion de refabricacion vertical	0	0	0.00€	0.00€
GD124 Demolicion pavimento de asfeto	0	0	0.00€	0.00€
GD133 Retirada de linea de setos y arbolivos	0	0	0.00€	0.00€
GD134 Frenado de 5 cm en pavimento asfaltico	0	0	0.00€	0.00€
GD135 Deteccion de servicios enterrados mediante georadar	0	0	0.00€	0.00€
GD136 Poda de arbol existente	0	0	0.00€	0.00€
1.2 DESMONTAJE DE VIA	1	1	0.00€	111,471.50€
GD125 Levante de pilotes de canli a lo largo del trazado, hincados	0	0	0.00€	0.00€
GD126 Levante de muro	0	0	0.00€	0.00€
GD127 Levante de canli o asfali cualquiera completa incluso demolicion	0	0	0.00€	0.00€
GD128 Levante y desmontaje de via existente	0	0	0.00€	0.00€
1.3 MATERIAL DE LEVANTE	1	1	0.00€	111,471.50€
GD130 Bridas	0	0	0.00€	0.00€
GD131 Travesa uadit	0	0	0.00€	0.00€
GD132 Roca de saceto	0	0	0.00€	0.00€
CAP.2 MOVIMIENTOS DE TIERRAS	1	1	0.00€	759,737.00€
GD201 Escarificado, raasento, relleno y compactacion	9,375	9,375	1,893.75€	17,753.44€
GD202 Tratamiento, mejora y adecuacion de explanado existente en via	0	0	0.00€	0.00€
GD203 Desmontaje de banqueta balasto	0	0	0.00€	0.00€
GD204 Desmonte y carga de tierra vegetal	0	0	0.00€	0.00€
GD205 Excavacion mecanica a cielo abierto	0	0	0.00€	0.00€

10.3.2. REPORT CREATION

VIRCORE allows you to generate reports for each of the certifications and, consequently, for the corresponding certification up to the selected one. To do so, right click on the certification and select the option **"Generate report"**.



The formats of the report are shown in the following image and the user shall select the location to save the generated report; to do so, once the location has been selected, the **"Create"** option shall be selected.



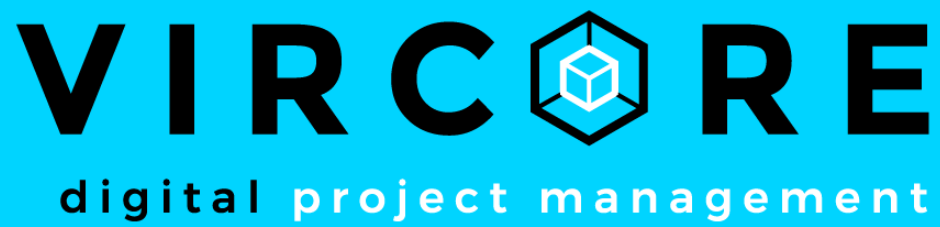
11. TECHNICAL SUPPORT

The technical software development team provides assistance to users when problems of any kind arise while using the service, whether they are hardware or software problems.

To do this, the user can contact the VIRCORE team by e-mail:

support@vircore.es

For the recovery of information deleted from the database, the user will contact the team notifying the information corresponding to the deleted files to be recovered.



VIRCORE: www.vircore.es