

usBIM.browser

User Manual

	usBIM.browser – User Manual	Ed.	1
		Rev.	1
		Date	12/07/2022

INDEX

1	USBIM.BROWSER.....	5
1.1	SUPPORTED FORMATS	6
1.2	IFC FORMAT.....	7
1.2.1	Opening an IFC file in usBIM.browser	7
1.2.2	#TagBIM on BIM model entities.....	10
1.2.3	Adding links to the BIM model.....	11
1.2.4	Management of observations.....	17
1.2.5	usBIM.resolver	18
1.2.6	Data management.....	22
1.2.7	Notifications.....	22
1.2.8	Logged in users	23
1.2.9	Applications	26
1.3	PDF FORMAT	28
1.3.1	Opening an IFC file in usBIM.browser	28
1.3.2	Managing the Index from Word Files	29
1.3.3	Creating a Bookmark	31
1.3.4	#TagBIM on PDF document and bookmarks.....	32
1.3.5	Adding links to the PDF document.....	34
1.3.6	Notifications.....	35
1.3.7	Applications	35
1.3.8	Data management.....	36
	APPENDIX A: SUPPORTED FORMATS	37

	usBIM.browser – User Manual	Ed.	1
		Rev.	1
		Date	12/07/2022

TABLE OF FIGURES

Figure 1. The usBIM.browser service	5
Figure 2. Project Documents Sheet	7
Figure 3. Composition of the usBIM.browser page with an IFC file	7
Figure 4. Viewing the IFC Tree structure and Object Properties	8
Figure 5. Viewing Features Panel.....	9
Figure 6. Inserting #TagBIM metatags in usBIM.browser	10
Figure 7. Tag Editor Modal Window	10
Figure 8. Inserting a new #TagBIM	11
Figure 9. Filter #TagBIM	11
Figure 10. Drag & Drop to link documents in usBIM.browser	12
Figure 11. Dragging and Dropping a document.....	12
Figure 12. Document associated with objects in the 3D model	13
Figure 13. Adding Links from the web and from usBIM.platform	14
Figure 14. Document localization in usBIM.platform for which a link has been created in the 3D model	14
Figure 15. Drag & Drop to associate model entities with the construction drawings	15
Figure 16. Detail of the column connected to the entity of the digital model	15
Figure 17. Model entity linked to the construction documents	16
Figure 18. Links within the model.....	16
Figure 19. Features for collaborative work of usBIM.browser	17
Figure 20. Task Section.....	19
Figure 21. Task creation screen	19
Figure 22. Task Context Menu	20
Figure 23. Participant Management.....	20
Figure 24. Chat.....	21
Figure 25. Data Management Context Menu	22
Figure 26. Notification in usBIM.browser	22
Figure 27. View my avatar.....	23
Figure 28. Set my view	24
Figure 29. Highlight my selected items	25

	usBIM.browser – User Manual	Ed. 1
		Rev. 1
		Date 12/07/2022

Figure 30. Instant Messaging	26
Figure 31. Example of API connection with an IFC model (a)	27
Figure 32. Example of API connection with an IFC model (b)	27
Figure 33. Composing the usBIM.browser page with an IFC file	28
Figure 34. Features panel of the usBIM.browser service with a PDF file	29
Figure 35. Creating a document index in Microsoft® Word® using styles	30
Figure 36. Saving a PDF with an index created in Microsoft® Word®	31
Figure 37. Index of the PDF document in usBIM.browser	31
Figure 38. Editing a bookmark	32
Figure 39. Creating #TagBIM metagging set of keywords within a PDF document	33
Figure 40. Creating #TagBIM on a PDF document bookmark	33
Figure 41. Link to a PDF document's bookmark	34
Figure 42. Direct link to a PDF document	35
Figure 43. Notification panel in usBIM.browser	35
Figure 44. Example of API link with a PDF document	36

	usBIM.browser – User Manual	Ed. 1
		Rev. 1
		Date 12/07/2022

1 usBIM.browser

usBIM.browser is ACCA's online service for viewing, browsing and document management tools shared in usBIM. In particular, the service allows you to:



Figure 1. The usBIM.browser service

- view and manage all data, documents and models stored in the CDE directly online, without any need to install any software;
- collaborate with users connected to the project in real time and also take advantage of an instant messaging service;
- manage critical issues to collaboratively solve potential problems encountered in the model;
- add appropriate text-based comments to resolve a problem with the IFC File directly on the model.
- browse the 3D model online with any device with a basic Internet connection;
- connect construction drawings, descriptions, technical specifications and other documentation all together
- localize all the IFC model objects information using link associations or attribute additional information by inserting #TagBIM keywords
- view multiple IFC models in a single view.
- multiple selection of objects both from the properties tree node structure and with selection areas directly on the model

When you open the model in the openBIM format, both documents stored on the platform and external links can be linked to the model objects by creating links. More precisely, all this information can be

	usBIM.browser – User Manual	Ed.	1
		Rev.	1
		Date	12/07/2022

associated with the objects contained in the model, so that these become georeferenced with all information present within the platform.

#TagBIM metatags can also be added to the various objects of the model. This means, for example, characteristics, attributes and values: information therefore becomes a search keyword but also work as graphical filter on the model (for example, all objects that have a certain characteristic are filtered).

1.1 Supported Formats

The platform can manage proprietary and open file formats using usBIM.browser and is fully certified by buildingSMART International for import of the IFC format, standard for the exchange of information in building processes.

usBIM.browser supports the following digital formats (shown in **Appendix A: Supported formats**) that are loaded into the CDE: IFC, EDF, RVT, RFA, OBJ, OBJZIP, AED, 3DS, DXF, DWG, SKP, SVG. All other content (e.g. jpeg, office formats, TXT, etc.), if possible, can be viewed in standard mode through the web browser, otherwise they can be downloaded locally and be opened with the dedicated software.

	usBIM.browser – User Manual	Ed. 1
		Rev. 1
		Date 12/07/2022

1.2 IFC Format

1.2.1 Opening an IFC file in usBIM.browser

From the screen that shows the project documents grid, by clicking on the view button (Figure 2), you can open documents in the various formats managed by usBIM.browser, as described in the previous paragraph.

The main page is composed as described in Figure 3.

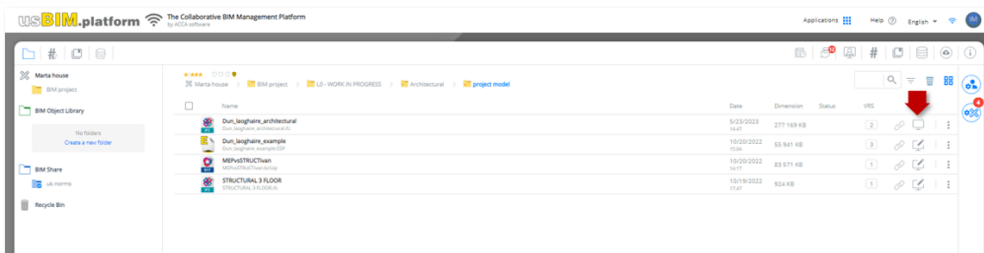


Figure 2. Project Documents Sheet



Figure 3. Composition of the usBIM.browser page with an IFC file

- [1] **Menu:** This allows you to open the IFC model Structure and Filters, the usBIM.resolver and usBIM.reality sections.
- [2] **IFC Structure:** Shows the structure of the IFC tree nodes.
- [3] **Property Filter:** Allows you to filter model entities through IFC properties.
- [4] **usBIM.data filter:** from here you can set search filters based on usBIM.data sheets.
- [5] **Document filters:** allows you to view document links associated with the model.
- [6] **Tag Filter:** from here you can set the search filters based on the entered #TagBIM keywords.
- [7] **Version management:** from here you can change the version of the opened model. This operation is not reflected within the folder where the document is stored.
- [8] **Data management:** allows you to delete all information added and changes made to the document thanks to the use of usBIM.browser.
- [9] **Duplicate Screen:** A feature that allows you to open multiple browser screens at once.
- [10] **Notifications:** new notifications indicator.

	usBIM.browser – User Manual	Ed. 1
		Rev. 1
		Date 12/07/2022

- [11] **Connected users:** specifies the number of connected users on the project.
- [12] **IFC Properties Tab:** This section shows the IFC properties of the selected objects.
- [13] **Property Tab:** Selected IFC entities.
- [14] **usBIM.data tab:** section for associating data with the document.
- [15] **Documents Tab:** this section highlights the presence of any links associated with objects and allows you to add information to the model itself by associating links to documents that are present both inside and outside the platform.
- [16] **#TagBIM Tab:** section for inserting #TagBIM on 3D model objects.
- [17] **Applications:** Section for creating API links (acronym for Application Programming Interface) to connect the model with other products or services.



Figure 4. Viewing the IFC Tree structure and Object Properties

Figure 4 Shows how the IFC file tree structure (arrow 1) and the IFC model properties (arrow 2) are displayed. As specified by arrow 1, in the IFC tree you can enable/disable the display of IFC objects in the 3D model, change the transparencies and change the colors; in the right section, indicated by arrow 2, after selecting an IFC model object, you can consult its properties. The usBIM.browser "Features Panel" (arrow 3) is the section dedicated to various features made available by the service, described below.

	usBIM.browser – User Manual	Ed. 1
		Rev. 1
		Date 12/07/2022



Figure 5. Viewing Features Panel

Opening a model with usBIM.browser (Figure 5), we immediately find the usBIM.browser functionality panel Service composed as follows:

- [1] **Camera:** Orbit, First Person. With the "Orbit" function you can rotate the model around a point, while the "First Person" option allows you to navigate the model in all its parts both with the mouse keys and with the keyboard arrows. To use the "First Person" mode, select the perspective view (point 2).
- [2] **Camera Projection:** Orthographic, Perspective.
- [3] **Annotations:** View All, Hide All, Links, Videos, Delete Annotations.
- [4] **Sections:** None, Plan X, Plan Y, Plan Z. Possibility to create sections directly on the model
- [5] **Box Section:** None, Box. Ability to create sections directly on the model
- [6] **Measurements:** a function for linear measurements, angle measurements and surface measurements.
- [7] **Appearance:** Geometry, Bounding Box, 2D Geometry.
- [8] **Shadows:** Current date and time, Calendar, Clock, Compass, Latitude/Longitude. Using "Current date and time" the date and time used to cast shadows on the model is shown; with "Calendar", you can change the date and with "Clock", simply adjust the time. Using "Compass", the orientation of the model is adjusted and with "Latitude/Longitude" its geolocation.
- [9] **Model rotation:** this function rotates the IFC model with respect to the axes.
- [11] **Scene settings:** allows you to set the type of the 3D or 2D view.
- [12] **Internal Screen Mode**
- [13] **Help:** shows the basic commands for navigating the model with both the orbit function and the first-person function.

	usBIM.browser – User Manual	Ed. 1
		Rev. 1
		Date 12/07/2022

1.2.2 #TagBIM on BIM model entities

It is also possible to define, associate and filter the #TagBIM metatags in usBIM.browser, thus being directly associated with the objects of the IFC model becoming information that enriches the 3D model enabling powerful graphical filters.



Figure 6. Inserting #TagBIM metatags in usBIM.browser

The procedure for inserting #TagBIM keywords into the 3D model consists of selecting the #TagBIM function (arrow 1 Figure 6) from one or more objects selected in the model: in this regard, the object selection can be made directly on the model. By holding down the Ctrl key, we can select a group of entities or by referring to the IFC tree node structure, we can select one or more groups of objects by holding down the SHIFT key. Just like for the #TagBIM metatags on documents, you can also define new #TagBIM (arrow 2 Figure 6) or edit them (arrow 3 Figure 6).

Figure 8 Displays the appearance and operation of the Tag Filter section. This section provides the user with the list of #TagBIM defined during the Editing phase: in this way the same value assigned to the Tag becomes a search key, so it allows to select the objects of the model tagged in the same way.



Figure 7. Tag Editor Modal Window

	usBIM.browser – User Manual	Ed. 1
		Rev. 1
		Date 12/07/2022

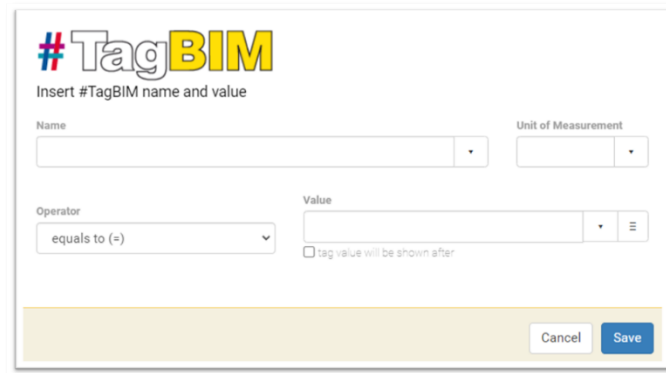


Figure 8. Inserting a new #TagBIM



Figure 9. Filter #TagBIM

1.2.3 Adding links to the BIM model

The use of open formats preserves the use of information over time, this means it is possible to update the model during any phase of the process of creation or maintenance of the asset. In particular, it is possible to add information directly to the model or even within graphic tables. These services allow you to create logical links between the digital model and the documentation on the platform or with material from outside or to associate additional information.

1.2.3.1 Links to documents

The following describes the procedure to associate with the objects of the model displayed in usBIM.browser, links to documents that are located within the platform. As a first step, you must select one or more elements in the model to

	usBIM.browser – User Manual		Ed.	1
			Rev.	1
			Date	12/07/2022

which you want to associate relevant documents¹. After completing this first step, you can go to the usBIM.platform document intended for linking and use the Drag & Drop (Figure 10) function.

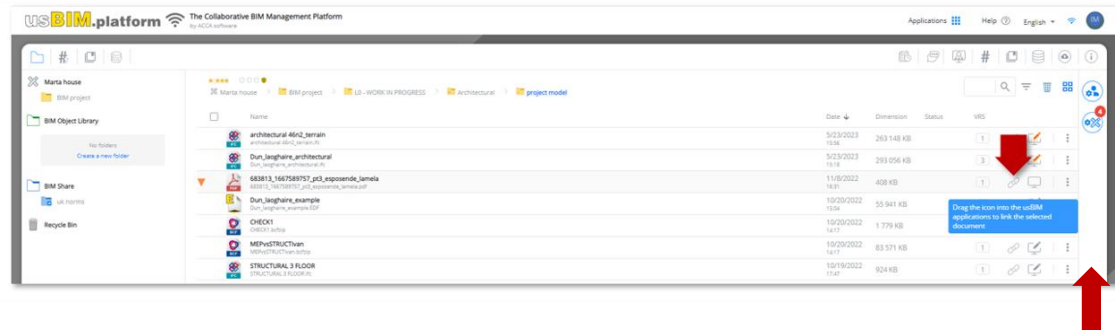


Figure 10. Drag & Drop to link documents in usBIM.browser

After dragging the document to the dashed area shown in Figure 11, the document is then associated with the selected objects. By hovering the mouse cursor over the attached document (in the example, a PDF file) this activates a preview (arrow 1 Figure 12). The attached document can be renamed (arrow 2 Figure 12) or even disconnected from the model object (arrow 4 Figure 12); finally, using the GoTo function (arrow 3 Figure 12) the linked document can be located within usBIM.platform (Figure 14).



Figure 11. Dragging and Dropping a document

¹If no objects are selected in the 3D model, when the document link is dragged, the system will return the message "To associate a link you must first select an object".

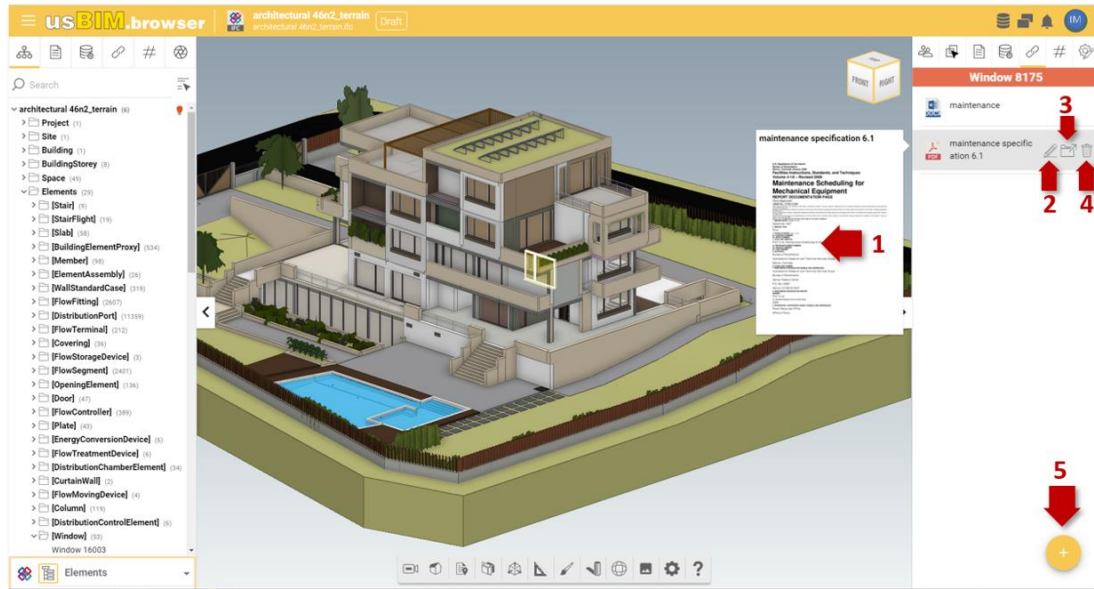


Figure 12. Document associated with objects in the 3D model

It is also possible to associate a new link to the object by selecting the button on the right of the screen (arrow 5 Figure 12). At this point, two options are possible:

- 1) Add from usBIM.platform (arrow 1 Figure 13): this will open a window that shows the project folders in which the documents are stored. You need to select the folder and document and then click Open.
- 2) Add from web link: it consists of copying the document link to be attached in usBIM.platform; then, in usBIM.browser, select the IFC entities concerned and go to the "Documents" tab (key 13 Figure 3), described in par. 1.2.1, and press the "Connect document" button (arrow 2 Figure 13): in the pop-up you can name and paste the URL. This second mode does not directly link the document, but rather the URL of the document uploaded to usBIM.platform.

	usBIM.browser – User Manual		Ed.	1
			Rev.	1
			Date	12/07/2022

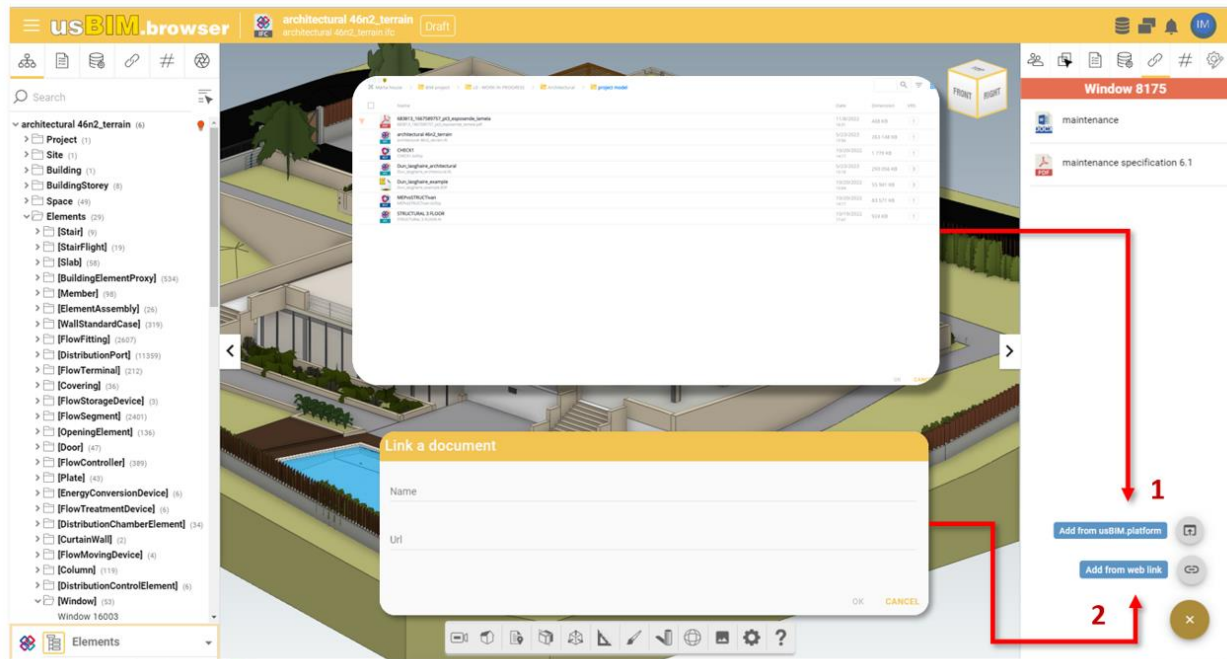


Figure 13. Adding Links from the web and from usBIM.platform

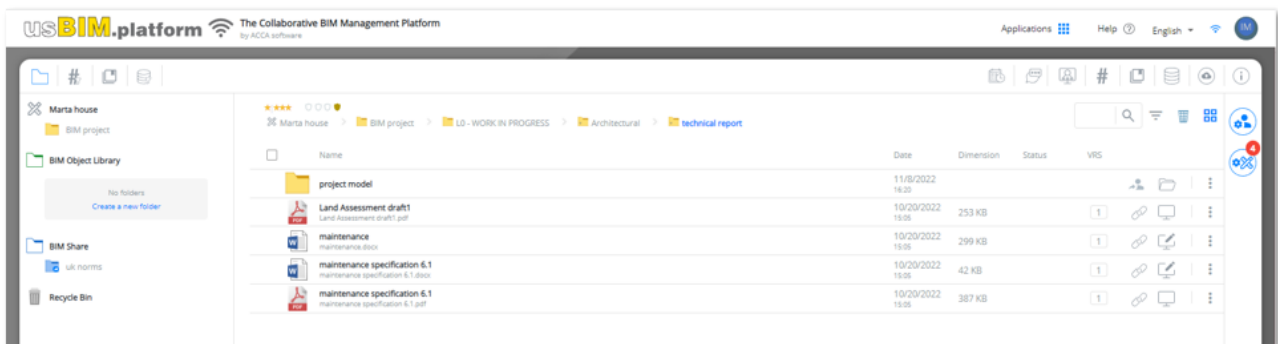


Figure 14. Document localization in usBIM.platform for which a link has been created in the 3D model

1.2.3.2 Object Links

Using links allows you to dynamically trace both the three-dimensional entities and the information attached to them. For example, by opening the structural model and selecting a column (Figure 15), it is possible to trace the reinforcement details processed in the form of a graphical table (Figure 16).

By opening the reinforcements details it is possible to connect the digital model entity to the construction drawings in a two-way connection by simply using the Drag & Drop function.

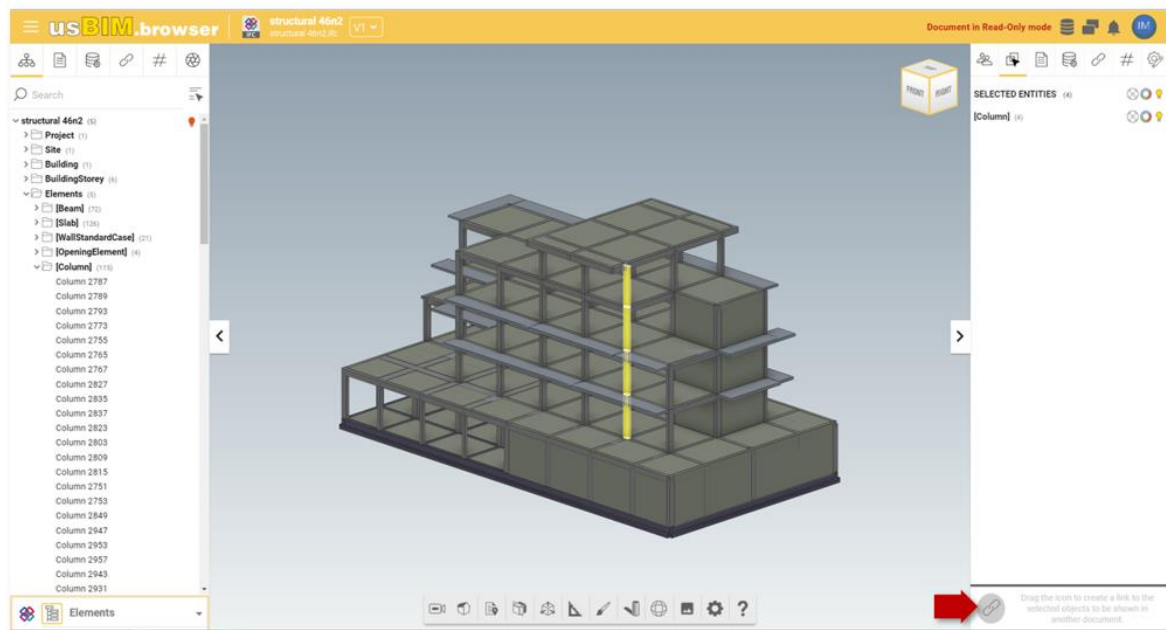


Figure 15. Drag & Drop to associate model entities with the construction drawings



Figure 16. Detail of the column connected to the entity of the digital model

You can now see that the reinforcement detail is connected to the digital model. By clicking on the structural model (arrow A) we can go directly to the model entity (Figure 17). In this way, with a few clicks you can query and navigate the model from multiple angles.

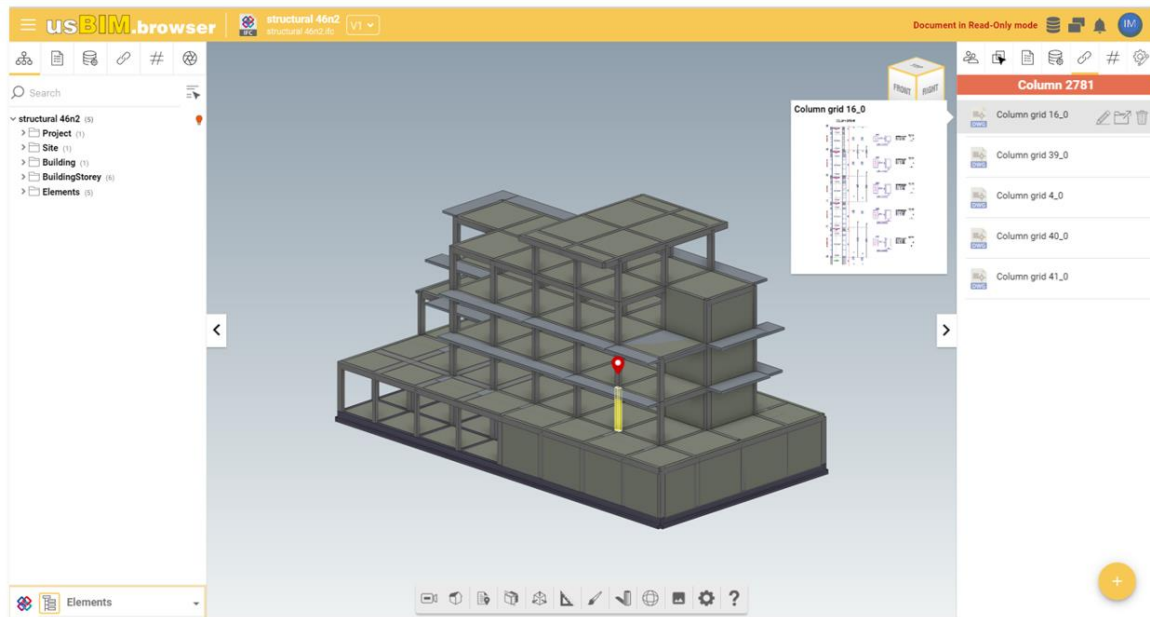


Figure 17. Model entity linked to the construction documents

1.2.3.3 Direct link to the model

Starting from a web page, you can select the URL within the browser and drag it directly into the 3D model: usBIM.browser then uses different markers depending on whether they are generic links or video links (e.g. youtube). As shown in, Figure 18 it is also possible to delete the annotations entered using the specific function.



Figure 18. Links within the model

	usBIM.browser – User Manual	Ed. 1
		Rev. 1
		Date 12/07/2022

1.2.4 Management of observations

In usBIM.browser we have an extensive set of collaborative working features that are available to users connected simultaneously on the same project in order to work together on a shared document on the platform. These collaborative working operations and simultaneous access give the possibility to optimize the production of a model.

The main page is composed as described in Figure 19.

- [1] **Contextual menu:** access point to the integrable services.
- [2] **usBIM Resolver:** function to highlight any problems encountered within the design documents or add textual notes or graphics indicative of an activity to remember.
- [3] **Connected Users:** Displays users who are connected to the project at the same time.
- [4] **Messages:** direct communication with users collaborating on the project.



Figure 19. Features for collaborative work of usBIM.browser

	usBIM.browser – User Manual	Ed.	1
		Rev.	1
		Date	12/07/2022

1.2.5 usBIM.resolver

The ability to create Tasks to manage critical issues found on documents or models within usBIM.browser, offers the opportunity to collaboratively solve project documents. By opening the context menu (arrow 1) we find the section dedicated to usBIM.resolver (arrow 2).Figure 19Figure 19

For each issue found, it is possible to open an activity dedicated to its resolution. Figure 20Figure 20

For these activities it will be possible to:

- assign a status (arrow 4Figure 20), which can be:
 - **DRAFT:** the Topic/Task is being processed;
 - **TO DO:** the Topic/Task is considered as to be resolved;
 - **IN PROGRESS:** Topic/Task is being processed;
 - **COMPLETED:** Topic/Task completed and awaiting verification;
 - **CLOSED:** Topic/Task completed and verified.
- assign a priority (arrow 5 Figure 20)
 - **critical**
 - **urgent**
 - **high**
 - **average**
 - **low**
- define a due date by which to complete the Task (arrow 3 Figure 20);

	usBIM.browser – User Manual		Ed.	1
			Rev.	1
			Date	12/07/2022

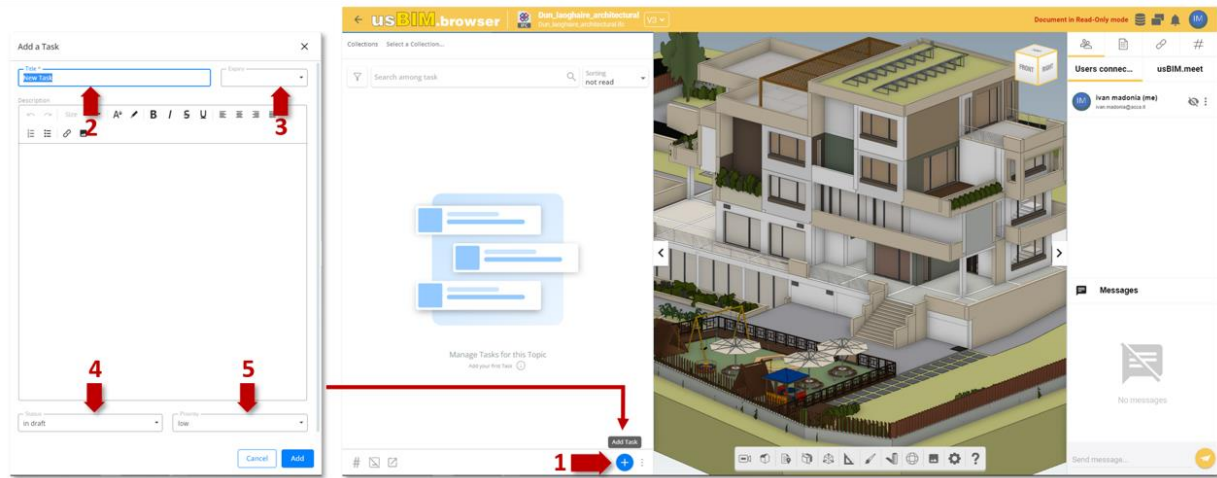


Figure 20. Task Section

usBIM.browser also allows you to enrich Task descriptions with graphical annotations. In fact, using dedicated tools (arrow 1 Figure 21), you can insert text markups or shapes, for example to describe the instructions to be followed on the graphical model or highlight an exact point where to intervene.

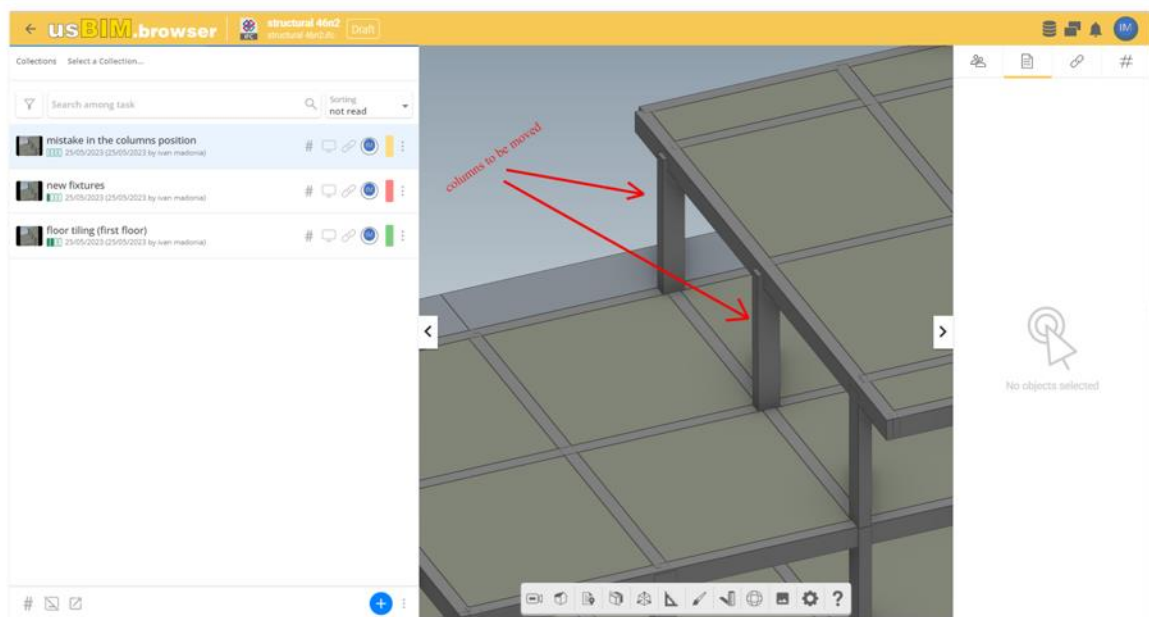


Figure 21. Task creation screen

Once the Task has been created, you can assign its resolution to a collaborator. To proceed with the addition of new participants, click on the "Participant Management" button (arrow 3 Figure 22) accessible from the context menu of the Task represented by the three-dot symbol and enter, in the appropriate bar, the email address of the user we intend to profile ().

	usBIM.browser – User Manual	Ed. 1
		Rev. 1
		Date 12/07/2022

You can also edit the Task at any time, from the same context menu click on "Edit Task" (arrow 2 Figure 22). To delete the Task click on the "Delete" button (key 5 Figure 22). In addition, clicking on the Chat button (key 4 Figure 22) will open a modal window dedicated to the Chat associated with the Reference Task (Figure 24).

The user opens the Task details (arrow 1 Figure 22) and finds all the information necessary to execute it with a possible description and comments.

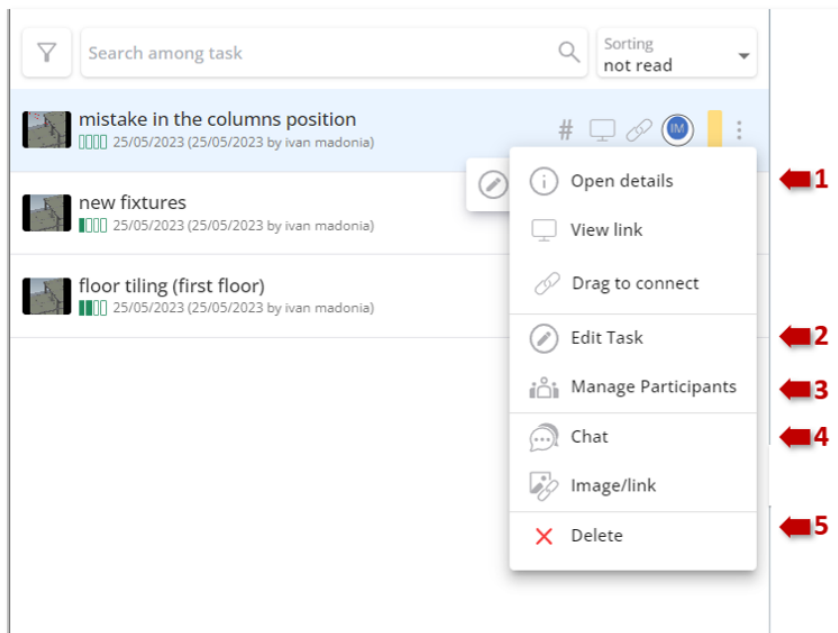


Figure 22. Task Context Menu

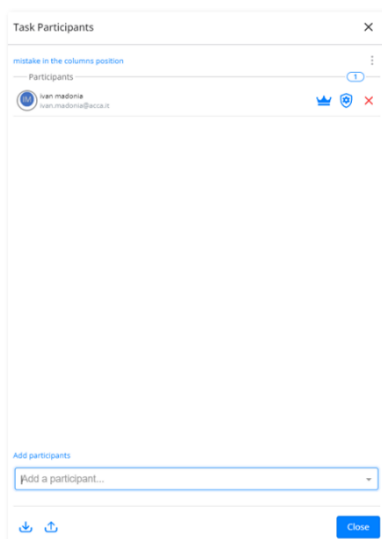


Figure 23. Participant Management

	usBIM.browser – User Manual	Ed. 1
		Rev. 1
		Date 12/07/2022

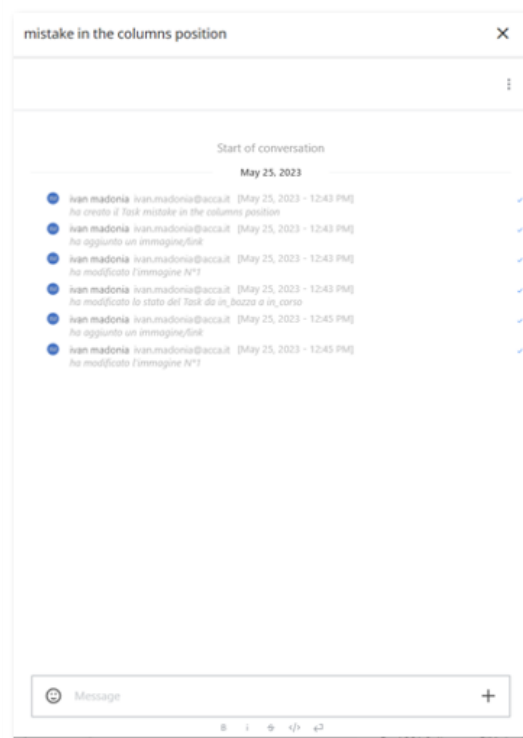


Figure 24. Chat

	usBIM.browser – User Manual	Ed. 1
		Rev. 1
		Date 12/07/2022

1.2.6 Data management

By accessing the data management context menu (Figure 25), we have various functions that allow you to:

- copy data from an inactive version: #TagBIM, links, annotations, visibility, transparency and colours;
- delete the data added to the model: #TagBIM, links, annotations, visibility, transparency and colors;
- export data added to the template in CSV or Excel format.

In the case of #TagBIM it is possible to export them in full or grouped.

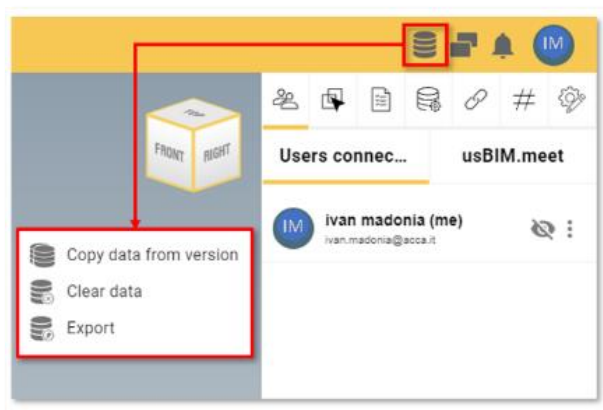


Figure 25. Data Management Context Menu

1.2.7 Notifications

By accessing this section (Figure 26) the users connected to the project view the notifications concerning all the operations carried out on the model through the usBIM.browser service (e.g. connection or disconnection from the model, addition of a topic, etc.). The notification system alerts the user with a progressive number of incoming notifications indicated on the red sticker and by an audible notification.

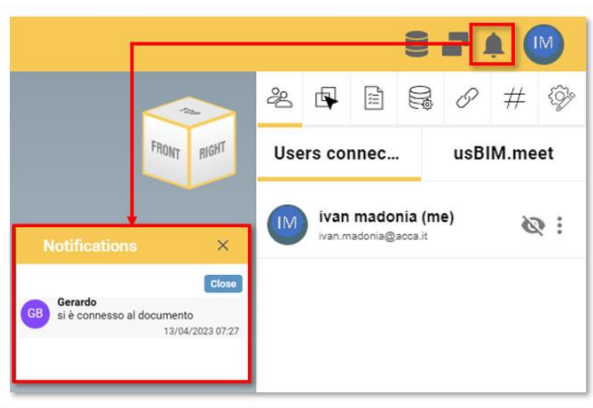


Figure 26. Notification in usBIM.browser

	usBIM.browser – User Manual	Ed. 1
		Rev. 1
		Date 12/07/2022

1.2.8 Logged in users

Multiple users can be connected to the same project at the same time. The user is displayed on the screen specified in Figure 19 key 3.

1.2.8.1 Collaborative work

Thanks to this feature, other users connected to the document can work on the same model after receiving the notification of the user connected to the document. These same users will have the ability to work simultaneously. By clicking on the context menu, Arrow 1 Figure 27, you have the ability to show your avatar to other collaborators connected to the same document. After enabling the avatar, the gray eye icon will now be coloured in red

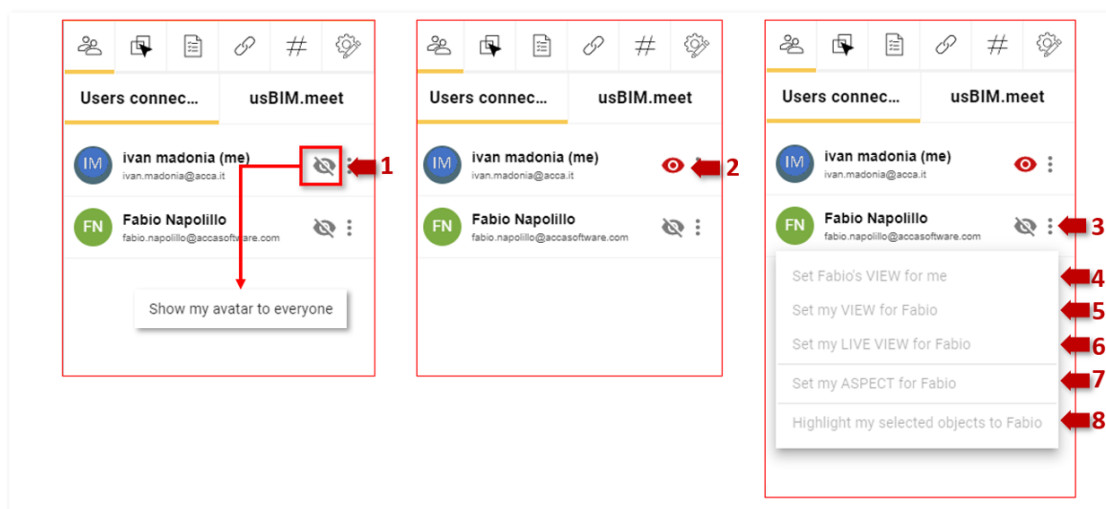


Figure 27. View my avatar

With the avatar enabled, in the context menu, by clicking on the three dots, Arrow 3, you can (Figure 27):

- set the other connected user's view (Arrow 4 Figure 27);
 - in this mode, you can set your view to the connected user's model view
- Set your view to the connected user (Arrow 5 Figure 27);
 - In this mode, the connected user can see the collaborator's shared viewpoint of the model
- Set your Live view also for the other connected user (Arrow 6 Figure 27);
 - In this mode, the connected user can see a Live view of the the model being shared and worked with on behalf of other collaborators
- set the model appearance in the other user's view (Arrow 7 Figure 27).
 - In this mode, connected users can see the graphical appearance (e.g., changing object colours) of the shared model Figure 28
- highlight selected objects in other user's view (Arrow 8 Figure 27);

	usBIM.browser – User Manual	Ed. 1
		Rev. 1
		Date 12/07/2022

- o this mode allows you to share the view of the selected objects on the model also to other connected users, Figure 29



Figure 28. Set my view

	usBIM.browser – User Manual	Ed. 1
		Rev. 1
		Date 12/07/2022



Figure 29. Highlight my selected items

	usBIM.browser – User Manual	Ed. 1
		Rev. 1
		Date 12/07/2022

1.2.8.2 Instant Messaging

Taking advantage of the instant messaging service in the browser (button 4 Figure 19) you can also communicate to have an immediate comparison on the job with all the users connected to a project. To facilitate collaboration, it is possible to take advantage of the features that usBIM.browser provides for the visibility and colouring of model entities (par. 1.2.1 Figure 4).

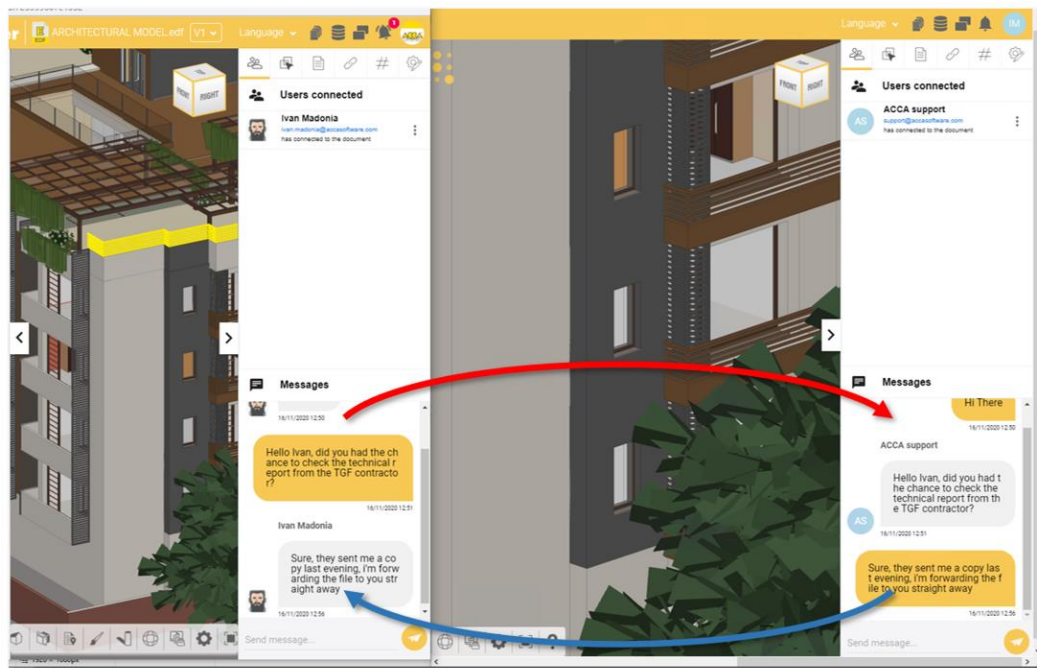


Figure 30. Instant Messaging

1.2.9 Applications

Using the "Applications" key (key 5 Figure 28) you can create API links (acronym for Application Programming Interface) to allow you to connect the model with other products or services. For example, it is possible to connect the real-time video transmission of the physical webcam located in the same position to the webcam object in the model for video surveillance reasons or to manage the building's home automation.

	usBIM.browser – User Manual	Ed. 1
		Rev. 1
		Date 12/07/2022

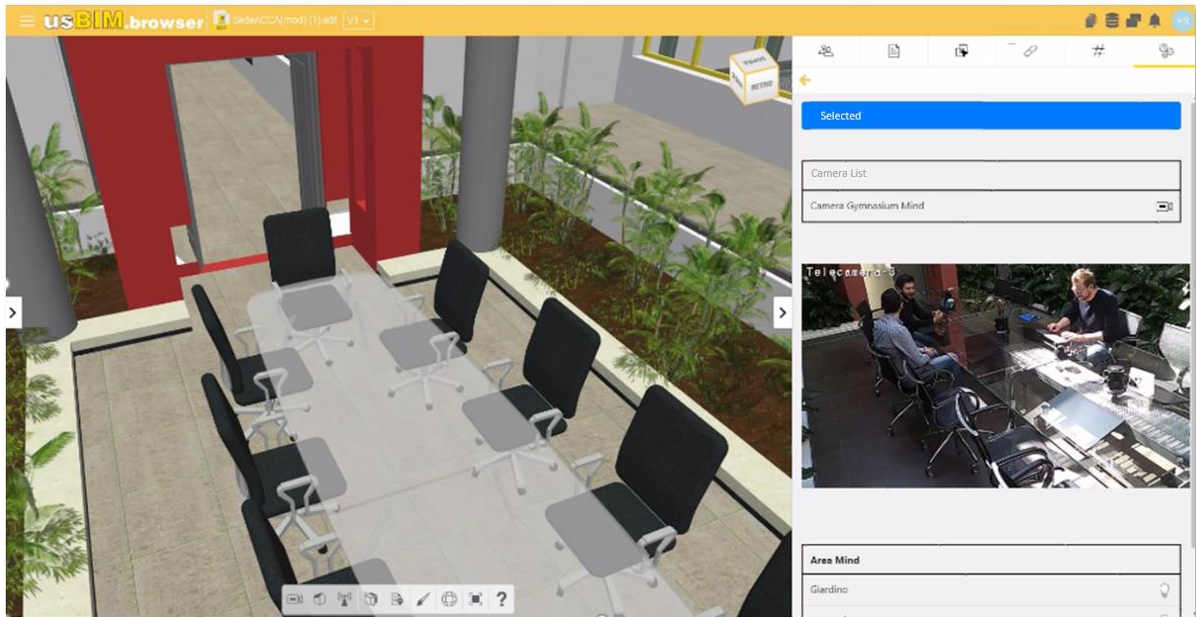


Figure 31. Example of API connection with an IFC model (a)

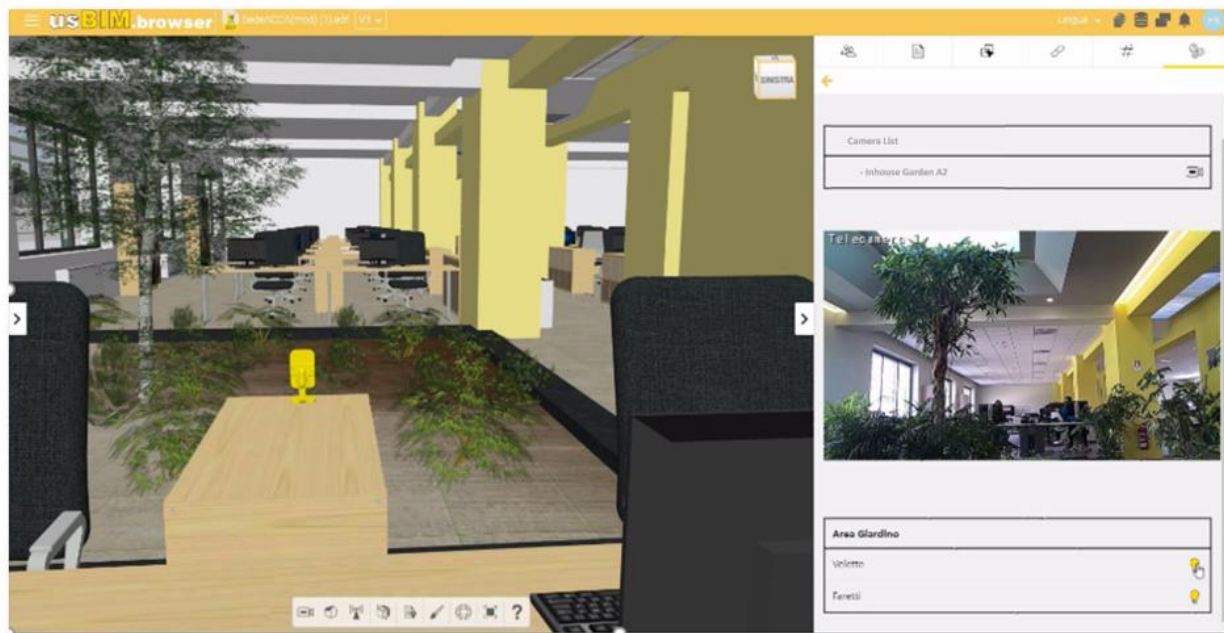


Figure 32. Example of API connection with an IFC model (b)

	usBIM.browser – User Manual	Ed. 1
		Rev. 1
		Date 12/07/2022

1.3 PDF Format

1.3.1 Opening an IFC file in usBIM.browser

From the project documents grid view by clicking on the view button (see par.1.2.1 Figure 2), you can open the documents in the various formats managed by usBIM.browser, as described in the previous paragraph 1.1. The main page is composed as described in Figure 33.

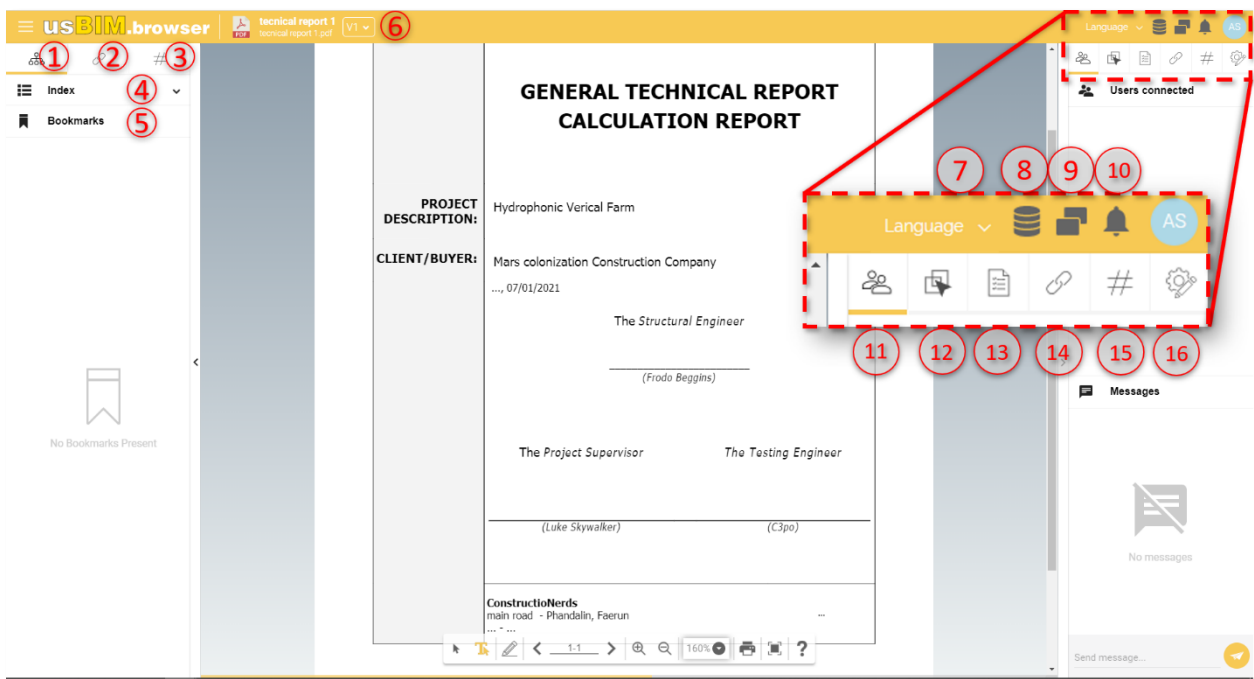


Figure 33. Composing the usBIM.browser page with an IFC file

- [1] **Structure:** allows you to view the structure of the PDF document.
- [5] **Document filters:** allows you to view the links of the documents associated with the template.
- [6] **Tag Filter:** from here you can set the search filters based on the #TagBIM entered.
- [4] **Index:** From here you can view and use the index structure of the document.
- [5] **Bookmarks:** shows all created bookmarks.
- [7] **Version management:** from here you can change the version of the opened model. This operation is not reflected within the folder where the document is stored.
- [7] **Language:** menu for setting the language.
- [8] **Data management:** allows you to delete all information added and changes made to the document thanks to the use of usBIM.browser.
- [9] **Duplicate Screen:** A feature that allows you to open multiple browser screens at once.
- [10] **Notifications:** new notifications indicator.

	usBIM.browser – User Manual	Ed. 1
		Rev. 1
		Date 12/07/2022

- [11] **Connected users:** specifies the number of connected users on the project.
- [12] **IFC Properties Tab:** This section shows the IFC properties of the selected objects.
- [13] **Property Tab:** Selected IFC entities.
- [15] **Documents Tab:** section that highlights the presence of any links associated with the object; allows you to add information to the model itself by associating links to documents that are present both inside the platform and outside.
- [16] **Tab #TagBIM:** section for inserting #TagBIM on 3D model objects.
- [17] **Applications:** Section for creating API links (acronym for Application Programming Interface) to connect the model with other products or services.

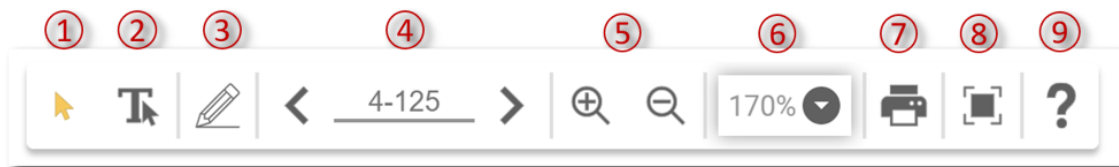


Figure 34. Features panel of the usBIM.browser service with a PDF file

Opening a PDF document with usBIM.browser (Figure 34), we find the functionality panel composed as follows:

- [1] **Selection key.**
- [2] **Enable text selection.**
- [3] **Edit and Create Bookmark Tools:** Enables the tools for creating bookmarks on the document.
- [4] **Search page.**
- [5] **Zoom in – Zoom out**
- [6] **Zoom percentage.**
- [7] **Print document.**
- [8] **Full screen.**
- [9] **Help:** Shows basic commands to navigate, view, and print the document.

1.3.2 Managing the Index from Word Files

To view the index of a PDF file, it must have been saved (for example, from a text file in Microsoft® Word®) with this feature. In this case, the user must use the styles provided by Microsoft® Word® to create an index within the text document (Figure 35).



Figure 35. Creating a document index in Microsoft® Word® using styles

Once the writing phase has been completed, the user must first click on the "File" tab of the ribbon and from here press on "Save as" (arrow 1 Figure 36); specified the path where he/she intends to save the document (as well as its title), he/she must set the extension (*.pdf) as the saving format (arrow 2 Figure 36) and, subsequently, click on the "Options..." button (arrow 3 Figure 36); in the pop-up that appears, simply tick first "Create bookmarks using" and then the "Headers" option (arrow 4 Figure 36); finally, click on "Save" (arrow 5 Figure 36).

The index section, as created within Microsoft® Word® (Figure 35) will be visible in full in the PDF document opened in usBIM.browser (Figure 37): this index allows you to switch from one paragraph to another dynamically, without the need to view the document in full.

The PDF document opened in usBIM.browser is indicated by the icon of a black folder (arrow 1 Figure 37); when a chapter does not have further sub-chapters it presents the icon of a cube (arrow 2 Figure 37); if, finally, a chapter has sub-chapters it will be represented by a white folder (arrow 3 Figure 37).

	usBIM.browser – User Manual		Ed.	1
			Rev.	1
			Date	12/07/2022

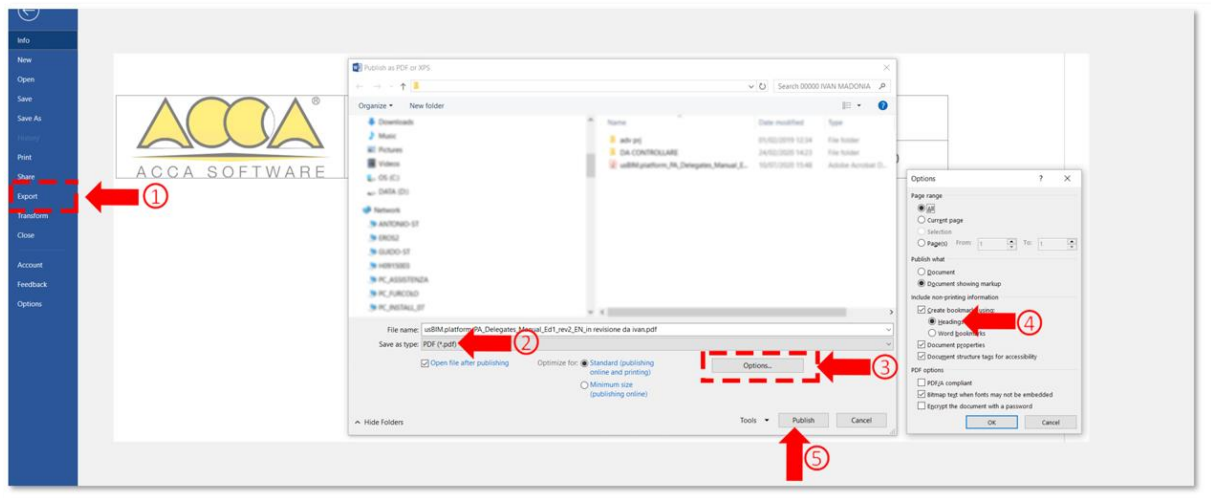


Figure 36. Saving a PDF with an index created in Microsoft® Word®

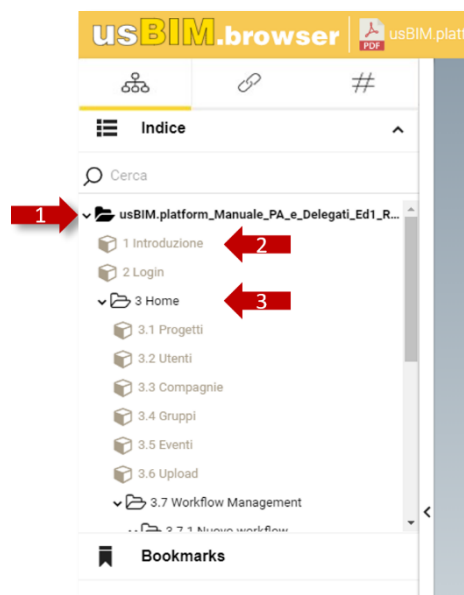


Figure 37. Index of the PDF document in usBIM.browser

1.3.3 Creating a Bookmark

When managing documents in PDF format, usBIM.browser presents the possibility to create bookmarks on the document. A bookmark can be seen as a dynamic shortcut that allows you to quickly move from one section of the document to another, regardless of the structure of the index; it is then used to highlight the paragraphs, phrases or keywords of the document, which need to be easily accessible for the management and consultation of the document.

To create a bookmark, first select the part of the text concerned and then click on the "Create a new bookmark from the selected text" button (key 3 Figure 36).

	usBIM.browser – User Manual	Ed. 1
		Rev. 1
		Date 12/07/2022

A list of all bookmarks created in the document appears in the bookmarks panel (key 5 Figure 35). Here you can make a multiple selection (key 1 Figure 38) in order to delete them (key 2 Figure 38) or to link a document or even assign them a common #TagBIM; using key 3 Figure 38 of you can rename it while pressing key 4 deletes the single bookmark.

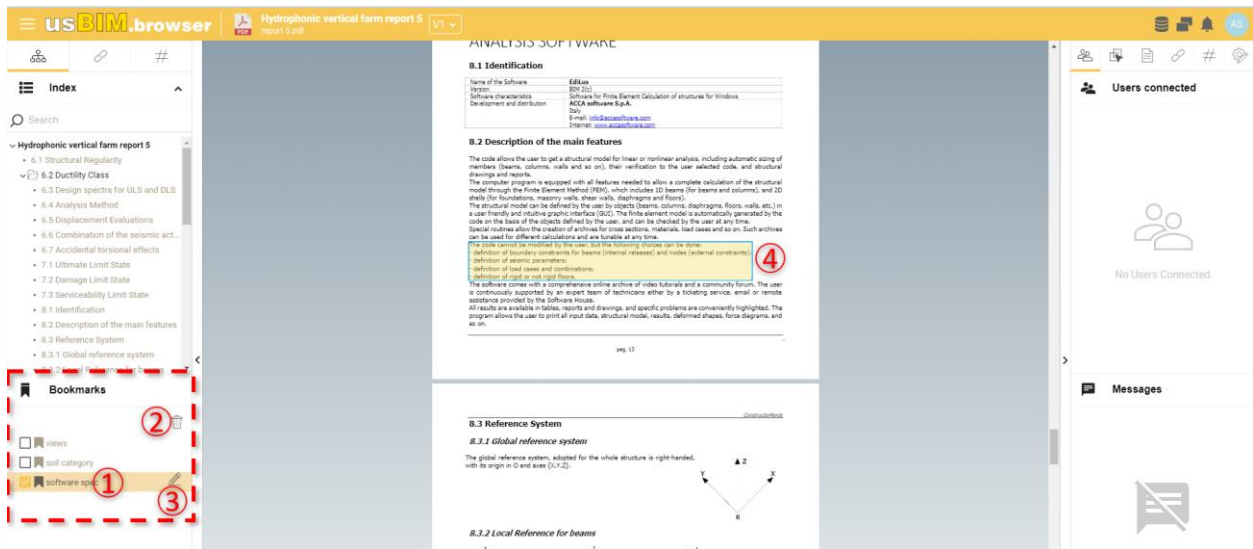


Figure 38. Editing a bookmark

1.3.4 #TagBIM on PDF document and bookmarks

In the same way as in usBIM.browser with the display of an IFC document (see par. 1.2.2), it is possible to define, associate and filter the #TagBIM within the document itself and on the bookmarks created by the user, thus becoming information that enriches the PDF.

The procedure for inserting the #TagBIM on the PDF document consists of selecting the #TagBIM feature (arrow 1 Figure 39). Just like #TagBIM metatags on documents, you can define new #TagBIM keywords (arrow 23 Figure 39) or edit them (arrow 2 Figure 39).

	usBIM.browser – User Manual	Ed. 1
		Rev. 1
		Date 12/07/2022

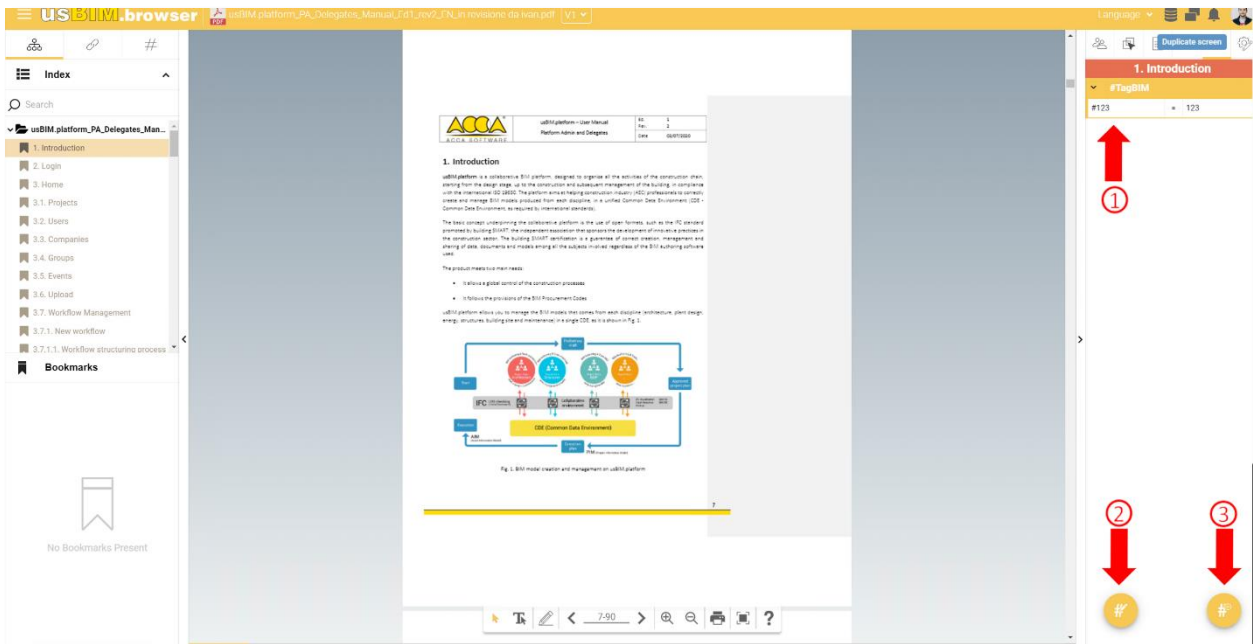


Figure 39. Creating #TagBIM metatagging set of keywords within a PDF document

The procedure for inserting the #TagBIM on the bookmarks (Figure 40) of the PDF document consists of selecting one or more bookmarks from the corresponding panel (key 1 Figure 38); from here you move to the #TagBIM section and proceed in the same way as said for the #TagBIM on the document.

For a description of the appearance and operation of the Tag Filter section, please refer to content as described in chapter 1.2.2.

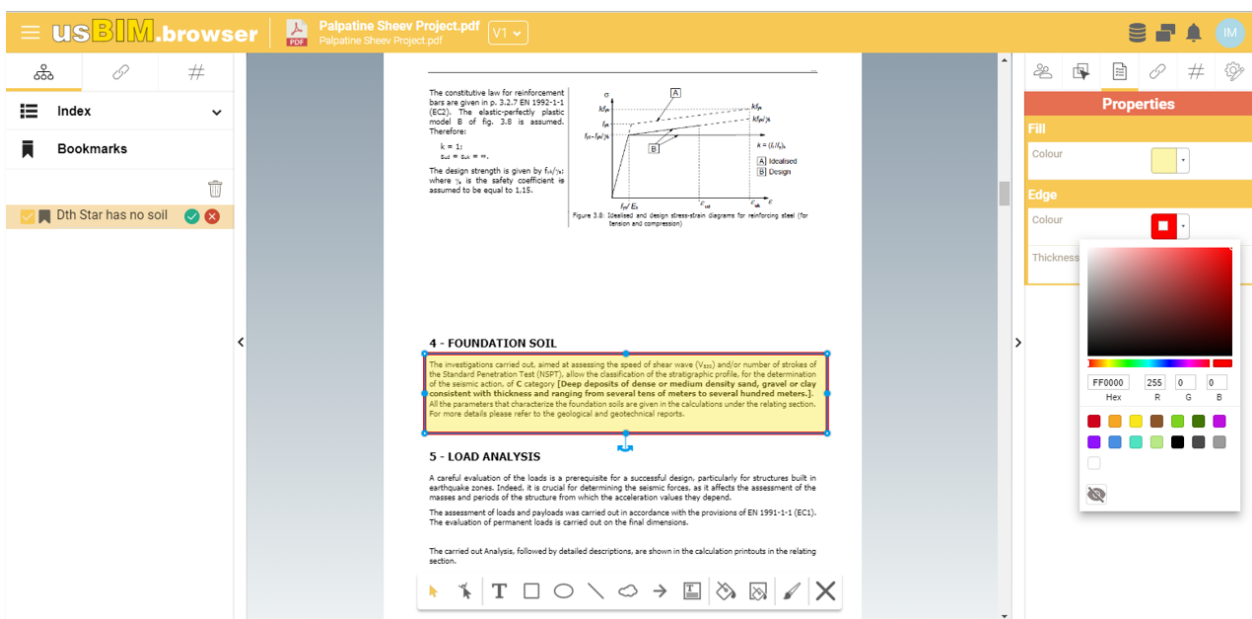


Figure 40. Creating #TagBIM on a PDF document bookmark

	usBIM.browser – User Manual		Ed.	1
			Rev.	1
			Date	12/07/2022

1.3.5 Adding links to the PDF document

1.3.5.1 Bookmark Link

The procedure for associating links to documents, templates that are located within the platform and URLs, internal and external to usBIM.platform with a bookmark is described below. As a first step, similar to what is described in the paragraph 1.2.3.1, one or more bookmarks must be selected in the PDF document. After the selection, you can go to the usBIM.platform document that you want to link and use the Drag & Drop function.

After you drag the document to the dashed area as shown in Figure 41, the document is associated with the selected bookmark. Hovering the mouse arrow over the attached document (in the example, a PDF file) activates a preview. The attached document can be renamed or even disconnected from the model entity; finally, using the GoTo function, the linked document can be located within usBIM.platform.

A second way to link documents to objects is to copy, in usBIM.platform, the link of the document to be attached; then, in usBIM.browser, select the relevant bookmark and go to the "Documents" tab (key 13 Figure 33), described in par. 1.3.1, and press the "Link document" button (arrow Figure 41): in the pop-up you can name and paste the URL. This second mode does not directly link the document, but the URL of the document uploaded to usBIM.platform.

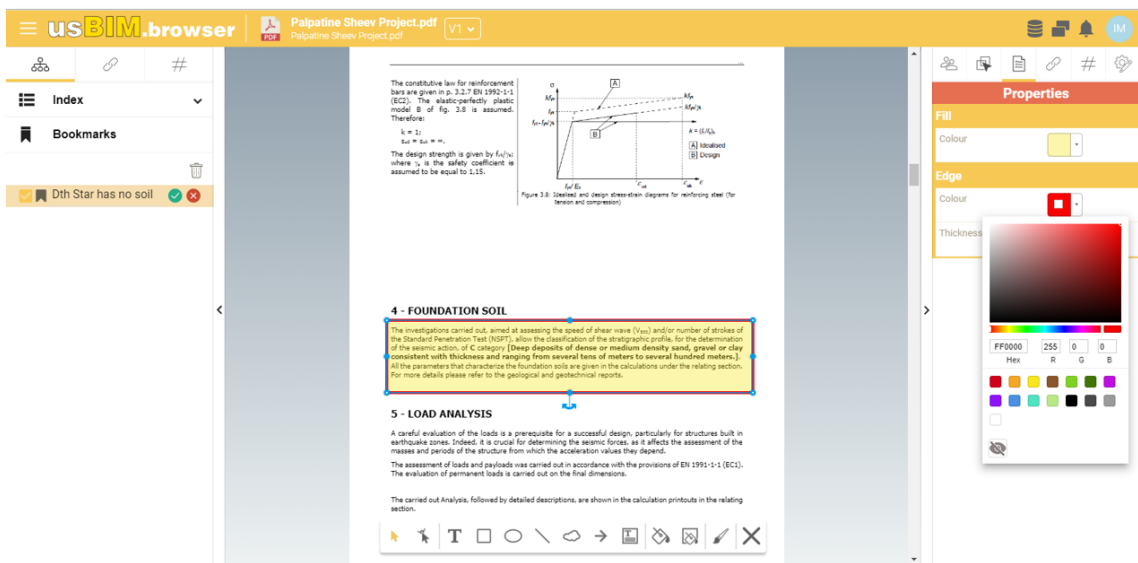


Figure 41. Link to a PDF document's bookmark

1.3.5.2 Direct link to the document

Similar to what we have seen in the previous paragraph, links to documents, models that are located within the platform and URLs of websites can be added directly to a PDF document. In this case, simply go to the usBIM.platform document that you want to link, and use the Drag & Drop function or paste the link URL (Figure 42).

	usBIM.browser – User Manual	Ed. 1
		Rev. 1
		Date 12/07/2022

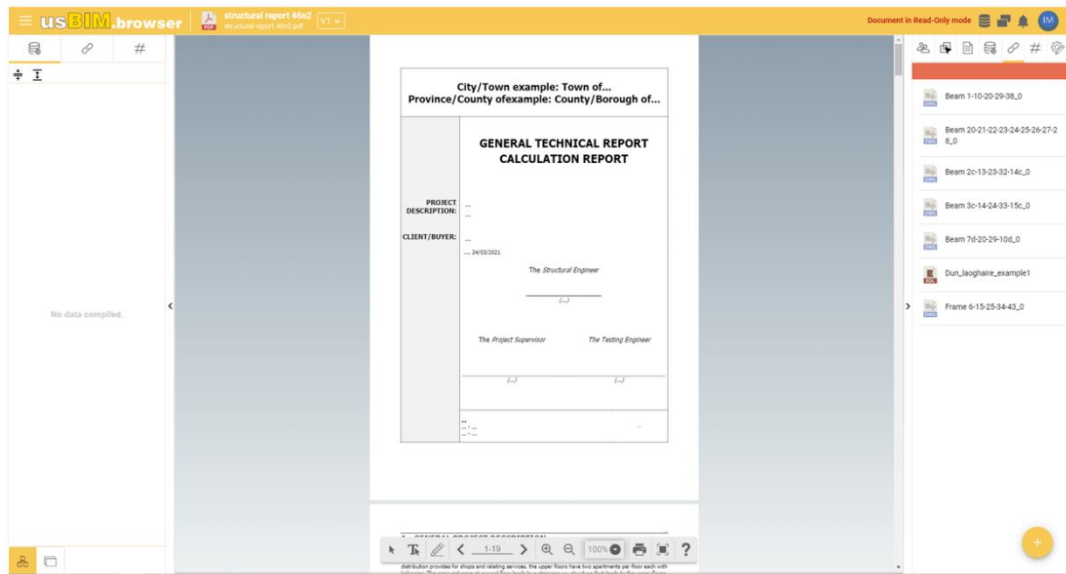


Figure 42. Direct link to a PDF document

1.3.6 Notifications

By accessing this section (Figure 43) the users connected to the project view the notifications concerning all the operations carried out on the model through the usBIM.browser service (e.g., connection or disconnection from the model, addition of a topic, etc.). The notification system alerts the user with a progressive number of incoming notifications indicated on the red sticker and by an audible notification.

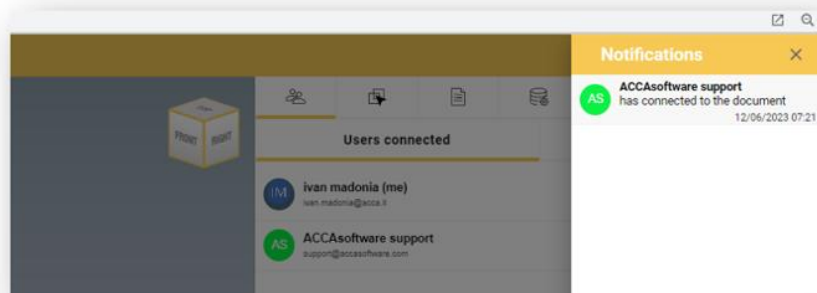


Figure 43. Notification panel in usBIM.browser

1.3.7 Applications

Even with a PDF document, using the "Applications" key (key 15 Figure 33) you can create API links to allow you to link the document with other products or services. For example, it is possible to connect the records of an accelerometer during the test phase to a structure of a floor to monitor the trend and the deformation speeds of the floor concerned.

	usBIM.browser – User Manual		Ed. 1
			Rev. 1
			Date 12/07/2022

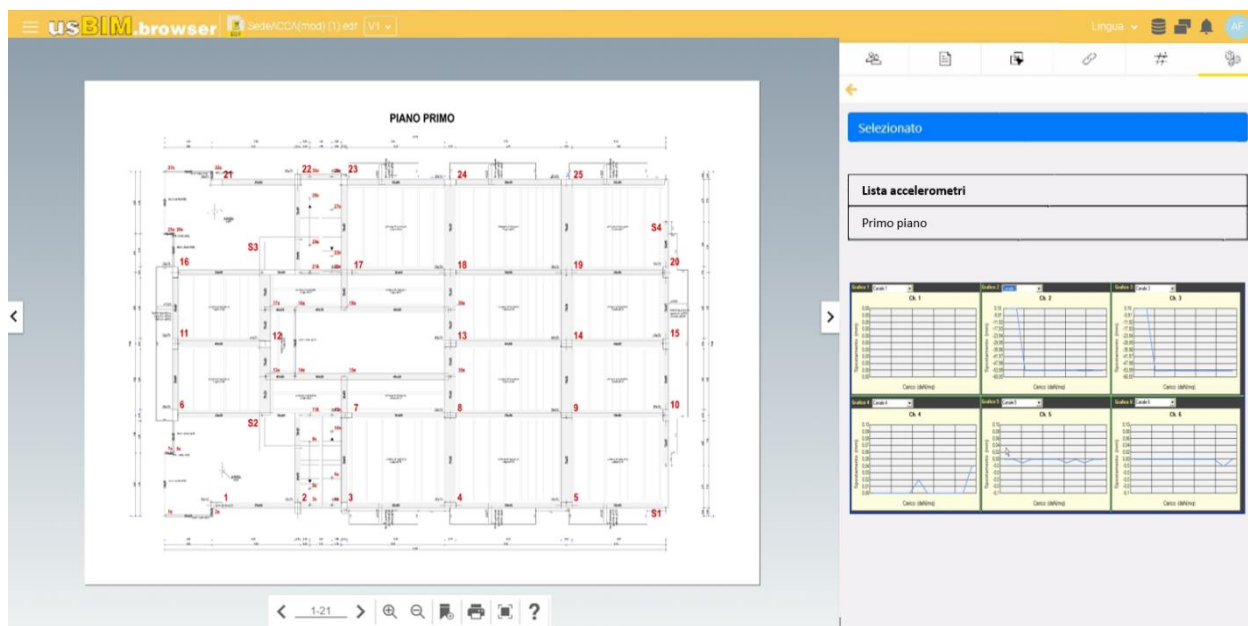


Figure 44. Example of API link with a PDF document

1.3.8 Data management

By accessing the context menu of data management (key 8 Figure 33), we find the following functions that allow you to:

- copy data from an inactive version.
- erase the data added to the model;
- export data added to the model in CSV or Excel format.

In the case of #TagBIM it is possible to export them in full or grouped.

	usBIM.browser – User Manual	Ed. 1
		Rev. 1
		Date 12/07/2022

Appendix A: Supported formats

This section lists all the formats supported by the service. Please note that the digital collaborative platform, with its integrated services, offers different methods of interaction with the different documents uploaded within it and specifically:

- Upload and download sharing
- Display with usBIM.browser services (see par.
- Editing with other integrated services:

Below are 9 tables that show, in an exhaustive way, all the formats supported by the different services:

usBIM.platform - Supported formats and interaction modes		
File format	Description	Interaction
All	-	Upload and Download

usBIM.platform - Supported formats and interaction modes		
File format	Description	Interaction
.IFC	IFC OPEN BIM Format	Visualization
.EDF	Edificius Format	Visualization
.DAE	3D format	Visualization
.OBJ	3D format	Visualization
.3DS	3D format	Visualization
.SKP	3D format	Visualization
.RVT	3D format	Visualization
.RFA	3D format	Visualization
.FBX	3D format	Visualization
.GLTF	3D format	Visualization
.X3D	3D format	Visualization
.STL	3D format	Visualization
.GLB	3D format	Visualization

usBIM.platform - Supported formats and interaction modes	
File format	Description
.IFC	IFC OPEN BIM Format
.EDF	Edificius Format
.DAE	3D format
.OBJ	3D format

	usBIM.browser – User Manual	Ed. 1
		Rev. 1
		Date 12/07/2022

.3DS	3D format
.SKP	3D format
.RVT	3D format
.AM (RFA)	3D format
.FBX	3D format
.GLTF	3D format
.X3D	3D format
.STL	3D format
.GLB	3D format

usBIM.platform - Supported formats and interaction modes

File format	Description
.IFC	IFC OPEN BIM Format

usBIM.platform - Supported formats and interaction modes

File format	Description	Interaction
Bcf	BIM Collaboration Format (BCF) files	Editing

usBIM.platform - Supported formats and interaction modes

File format	Description	Interaction
GEOJSON	GIS map in the .geojson format	Editing

usBIM.platform - Supported formats and interaction modes

File format	Description	Interaction
whtml	HTML-type TEXT document / TEMPLATE	Editing

usBIM.platform - Supported formats and interaction modes

File format	Description	Interaction
CSV	Comma-Separated Values	Visualization
DOC	Word Document	Visualization
DOCM	Word Document	Visualization
DOCX	Word Document	Editing
DOT	Word Document	Visualization
DOTM	Word Document	Visualization
DOTX	Word Document	Visualization
ODP	Open Document Presentation	Visualization

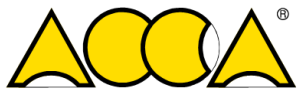
	usBIM.browser – User Manual	Ed. 1
		Rev. 1
		Date 12/07/2022

ODS	Open Document Spreadsheet	Visualization
ODT	OpenDocument Text	Visualization
ONE	OneNote Document	Visualization
ONETOC2	Microsoft OneNote Table of Contents File	Visualization
PPT	Power Point template	Visualization
POTM	PowerPoint Open XML Macro-Enabled Presentation Template	Visualization
POTX	PowerPoint Template	Visualization
PPS	PowerPoint Document	Visualization
PPSM	PowerPoint Document	Visualization
PPSX	PowerPoint Document	Visualization
PPT	PowerPoint Document	Visualization
PPTM	PowerPoint Document	Visualization
PPTX	PowerPoint Document	Editing
RTF	Rich Text Format	Visualization
VSD	Visio Drawing File	Visualization
VSDM	Visio Macro-Enabled Drawing	Visualization
VSDX	Visio Drawing File	Visualization
XLS	Excel Document	Visualization
XLSB	Excel Document	Visualization
XLSM	Excel Document	Visualization
XLSX	Excel Document	Editing

usBIM.platform - Supported formats and interaction modes		
File format	Description	Interaction
.IFC	IFC OPEN BIM Format	Visualization
.EDF	Edificius Format	Visualization
.BOL	Edificius Format	Visualization
.EDL	EdiLus Format	Visualization
.HSBIM	CerTus-HSBIM	Visualization
.DAE	3D format	Visualization
.OBJ	3D format	Visualization
.3DS	3D format	Visualization
.SKP	3D format	Visualization

	usBIM.browser – User Manual	Ed. 1
		Rev. 1
		Date 12/07/2022

.RVT	3D format	Visualization
.AM (RFA)	3D format	Visualization
.FBX	3D format	Visualization
.GLTF	3D format	Visualization
.X3D	3D format	Visualization
.STL	3D format	Visualization
.GLB	3D format	Visualization
.BLEND	3D format	Visualization
.DXF	2D format	Visualization
.DWG	2D format	Visualization
.DGN	2D format	Visualization
.SVG	2D format	Visualization
.ICDD	ISO Data Drop	Visualization
.PDF	Document	Visualization
.JPG	Image	Visualization
.JPEG	Image	Visualization
.PNG	Image	Visualization
.TIFF	Image	Visualization
.TIF	Image	Visualization
.BMP	Image	Visualization
.TGA	Image	Visualization
.GIF	Image	Visualization
.PTS	Point cloud	Visualization
.XYZ	Point cloud	Visualization
.PLY	Point cloud	Visualization
.E57	Point cloud	Visualization
.LAS	Point cloud	Visualization
.LAZ	Point cloud	Visualization
.LAX	Point cloud	Visualization

 ACCA SOFTWARE	usBIM.browser – User Manual	Ed. 1
		Rev. 1
		Date 12/07/2022

.XYZCIRN	Point cloud	Visualization
.JPEG360	Picture 360	Visualization
MP4	Multimedia	Visualization
MP4	Multimedia	Visualization
OPUS	Multimedia	Visualization
OGV	Multimedia	Visualization
M4V	Multimedia	Visualization
M4A	Multimedia	Visualization
MP3	Multimedia	Visualization
AAC	Multimedia	Visualization
CAF	Multimedia	Visualization
OGA	Multimedia	Visualization
WAW	Multimedia	Visualization