

3D Juump Infinite Web User Manual

[UMW_EN] version 3.3

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Introduction

1 - Overview

The 3D Juump Infinite main application displays a selected DMU in 3D and lets the user navigate, search and filter both 3D and metadata.

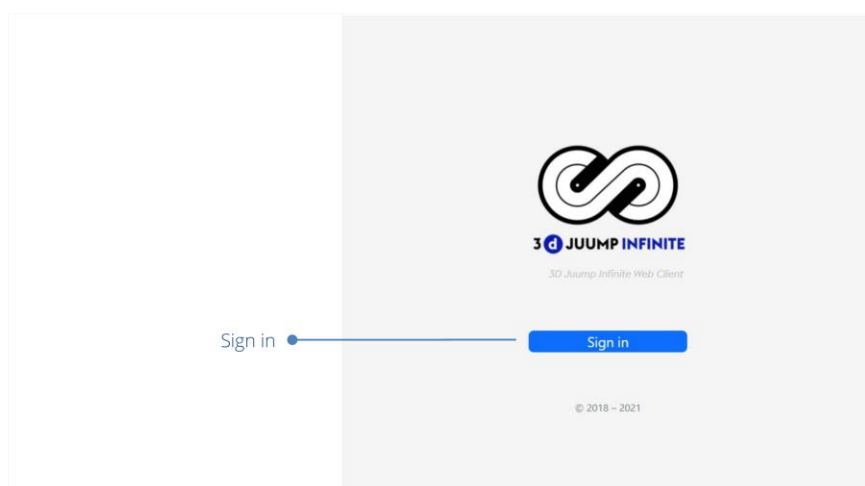
2 - Scope

This document thoroughly describes 3D Juump Infinite Web application and is intended for end-users. It covers neither the back-end administration of 3D Juump Infinite, nor the integration of 3D Juump Infinite in your enterprise infrastructure and production process. These aspects are covered elsewhere in dedicated documents.

Hub

1 - Login screen

When launching the web version of 3D Juump Infinite, the login screen appears



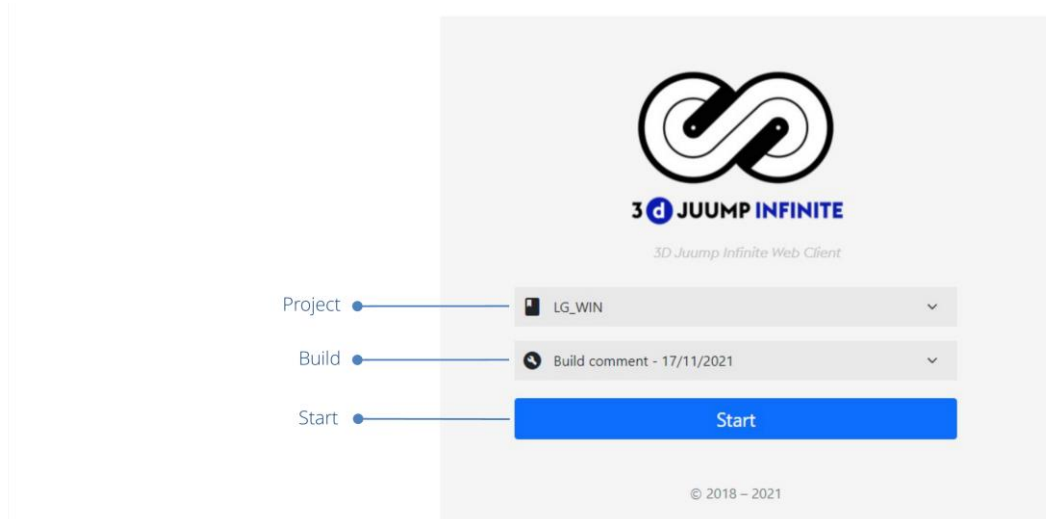
Login screen

To connect to the application, you must authenticate yourself to the information system set up in your organization. Feel free to contact your local administrator to check your access rights.

Sign In: Enables to validate

2 - Project screen

The project screen grants access to projects management



Login / Project

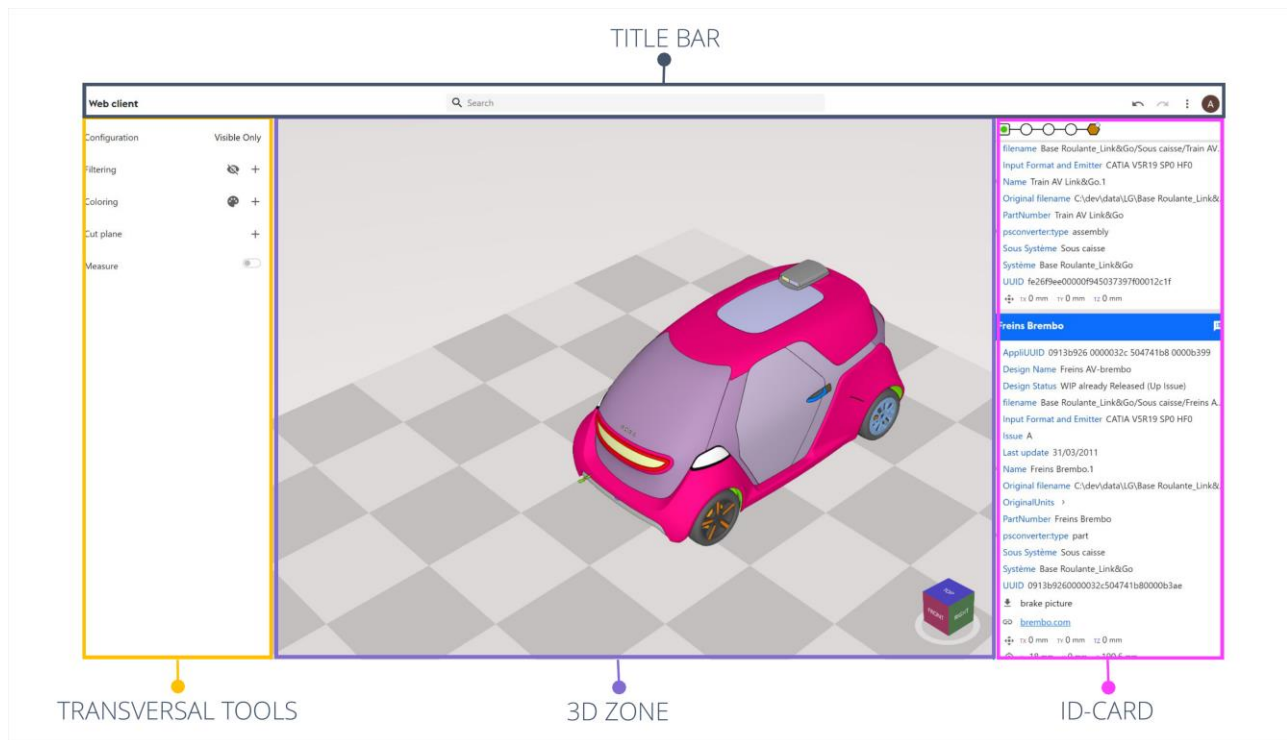
Project: Incremental set of data describing a DMU.

Build: Project data compilation performed on a specific date.

Start: Launches the application.

Browser - Overview

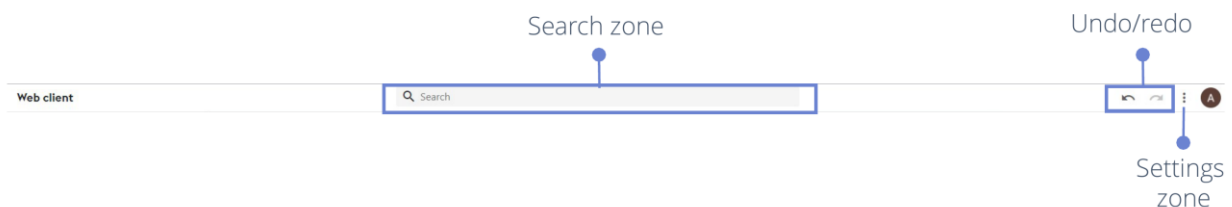
3D Juump Infinite Web-Browser is a *Consultation* environment enabling to search, filter or analyse quickly a project. No interaction can be saved. Its HMI is composed of main zones. Each zone plays its own and well-defined role.



HMI Display

Each zone is detailed in the following chapters.

1 - Title bar



Title bar

Undo: Cancels last operation performed.

Redo: Reverses undo operation.

1.1.1 - Search zone

The **Search Zone** enables to look for a particular word or phrase /group of words in the DMU (mainly by Metadata).

Search in this zone is limited to the first 49 results. Should the query return more than 49 results, the mention **49+ results** appears on the right of the query search box and **"..."** appears at the end of the search box. This information indicates the search should be refined to get more precised results.

1.1.1.1 - Main features

Simple search

Way forward for a simple search:

- Type the value to search and press [Enter] in its name but also its metadata values
 - eg. abc to get all parts containing abc (abc, abc123, xyzabcdef ...)
- The value is not case sensitive
 - eg. abc will also return parts named ABC

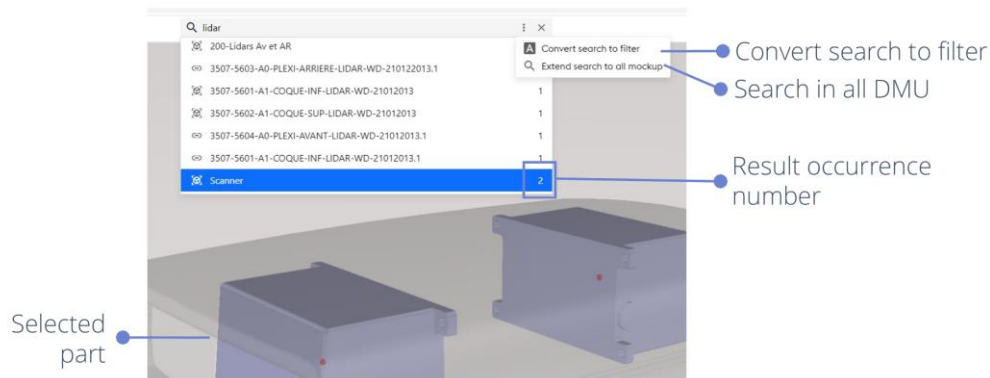
Advanced search

Way forward for an advanced search:

- Value containing spaces: use quotes
 - eg. *"front left wheel"*
- Key: use colon (the key is case sensitive)
 - eg. *:ComponentResponsable=Joe*
- Key with wide value match: use simple equal
 - eg. *:name=abc* to match all parts containing 'abc'...
- Metadata with exact value match: use double equal
 - eg. *:Food==apple* to match 'apple' but not 'applepie'
- Operators for numerical values: use <, <=, >, >=, <>
 - eg. *:weight>42*
- Logical operators to combine the criteria: use 'and', 'or', 'not' and parenthesis
 - eg. *(:producer=granma or :price>12) or :name=="apple pie"*
 - eg. *:name=="Mad hatter" or :name=rabbit* to match parts named 'Mad hatter', 'Rabbit' or 'White mad hatter rabbit'
 - eg. *:name=Alice and :name=wonderland and :name=in* to match any part containing all terms in name ('Alice in Wonderland' but not 'Alice')
 - eg. *Alice not wonderland* match any part containing 'Alice' but not 'wonderland'
- 1 ? or more replace(s) 1 or more character(s)
 - eg.: *vis_???_ will* return all parts named *vis_3 characters_* (for instance 'VIS_CHC_M6X60', '4xVIS_CHC_M4X12', etc.)
- * replaces several characters
 - eg.: *vis_*_ will* return all parts named *vis_anything_* (for instance 'VIS_TOLE_D3X6', 'VIS_NFL22259_M6X20', etc.)

1.1.1.2 - Search result display

Once a search has been launched, new features are accessible.



Search zone / Launched search display

A left click on the designated result under the search bar displays:

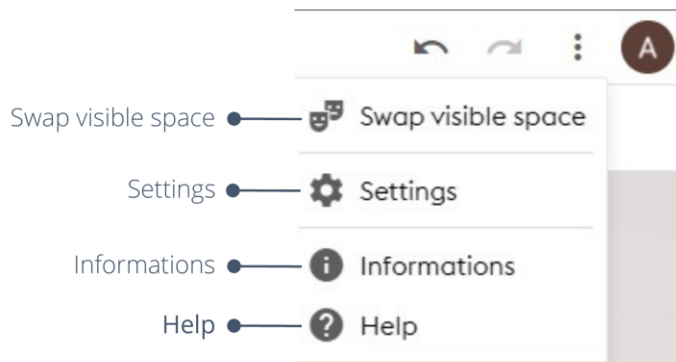
- **Result occurrence number:** number of result occurrences in the DMU
- **Selected part:** selected part in Search result is also highlighted in the 3D view.

💡 Corresponding id-card information scrolls up/down the product structure accordingly.

Convert search to filter: Tool enabling to create a new literal filter further the exact search value.

Search in all DMU: Starts a search not limited to the current display if a filter has been previously launched

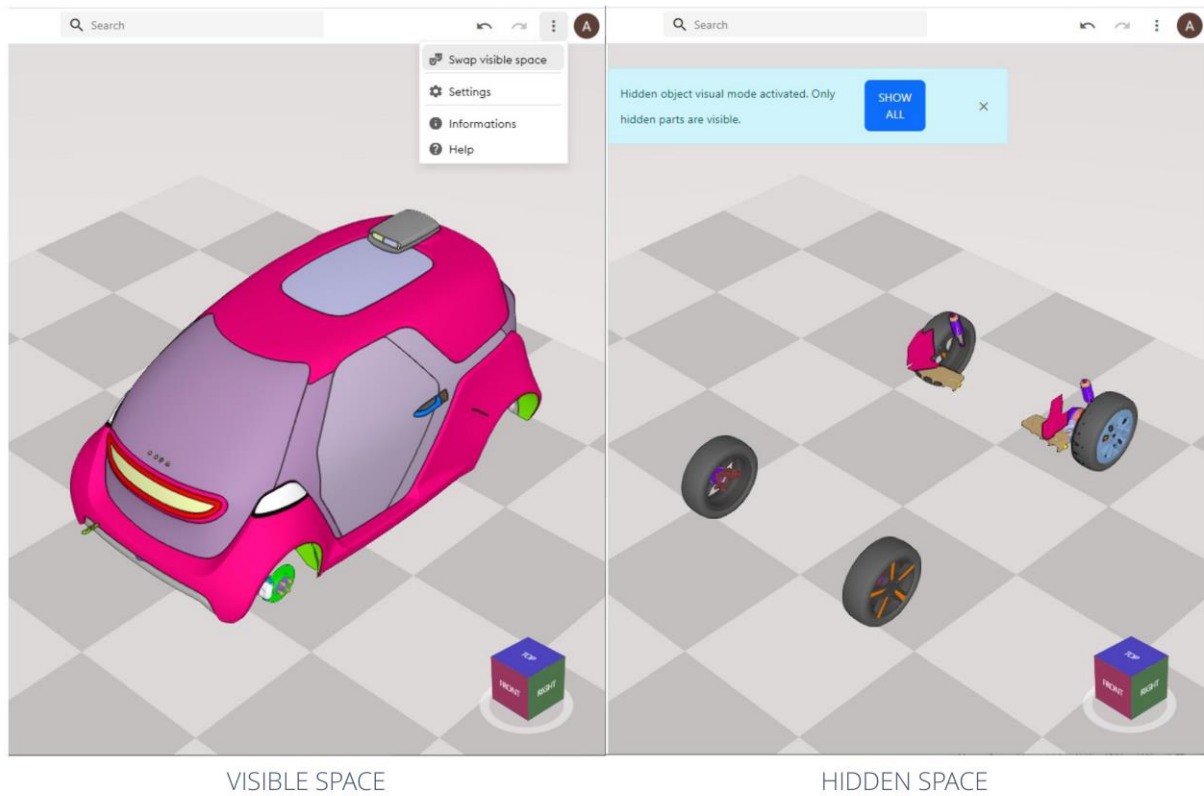
1.1.2 - Settings zone



Settings zone

1.1.2.1 - Swap visible space

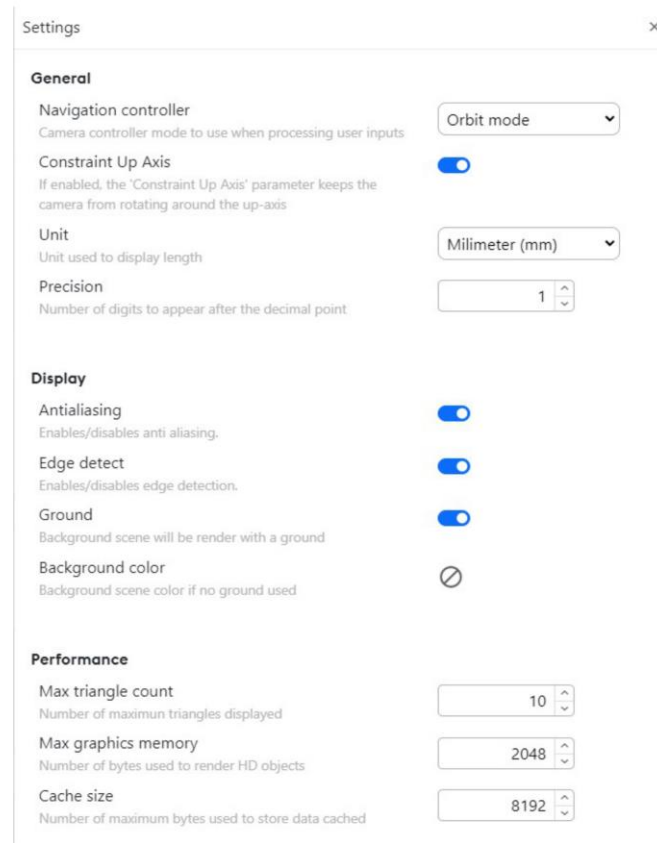
Swap visible space Allows to switch between the visible and the hidden spaces.



Swap visible space

1.1.2.2 - Settings

The *Settings* is the control panel that enables the user to configure 3D Juump Infinite appearance and actions.



Settings

Navigation controller: Camera controller mode to use when processing user inputs (*Orbit mode* or *Examine mode*).

Constraint Up Axis: If enabled, the 'Constraint Up Axis' parameter keeps the camera from rotating around the up-axis

Unit: Unit used to display length

Precision: Number of digits to appear after the decimal point

Antialiasing: Enables/disables anti aliasing.

Edge detect: Enables/disables edge detection.

Ground: Background scene will be render with a ground

Background color: Background scene color if no ground used

Max triangles count: Settings that caps the number of triangles rendered from each frame. Modern *GPU*¹ are able to display tens of millions of triangles per frame without altering the user

¹ *Graphic Processing Unit*, the additional video card inside a computer, in charge with graphics.

experience, though some low-end integrated *GPU* may struggle to process more than 20M triangles.

Max graphics memory: Settings that caps the *VRAM*² usage of the geometry loader. Loaded geometries reside in *VRAM* so this settings needs to be high enough lest it limit the overall number of high-detailed geometries visible at the same time.

Cache size: The amount of disk space allocated to the cache.

1.1.2.3 - Informations

Display information on the user profile, project and servers.



Informations

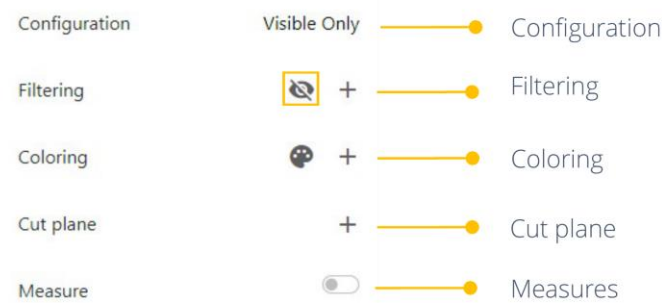
1.1.2.4 - Help

display this manual

2 - Transversal tools

Transversal tools is a group of tools provided to interact within the DMU.

² Video RAM, the memory of the GPU.



Transversal tools

Configuration: Configuration slices the DMU.

Filtering: allows to focus on a sub part of the whole DMU by specifying parts to remove or to keep depending on specific criteria.

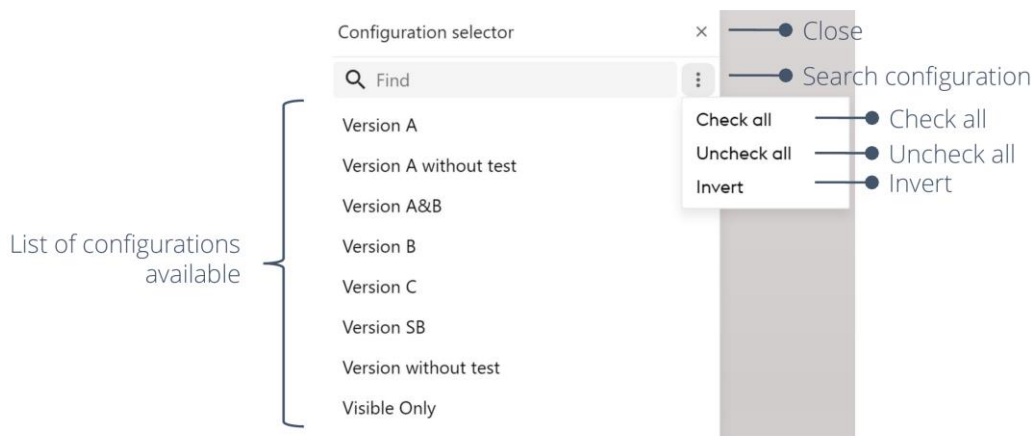
Coloring: allows you to color a sub-part of the whole DMU by applying a specific color according to specific criteria.

Cut plane: Slices the DMU.

Measures: Allows to calculate measures between elements.

2.1 - Configuration

Configuration slices the DMU. For instance, a vehicle manufacturer would probably opt for one project per car model.



Configuration

Close: Close the configuration dialog.

Search configuration: At this particular location, tool to look for a specific configuration.

List of configurations available: List of all configurations available for the selected Project.

Check all: Select all configuration in the list.

Uncheck all: Unselect all configuration in the list.

Invert: Select configuration formerly unselected in the selection and unselect configuration formerly selected in the selection.

2.2 - Filtering

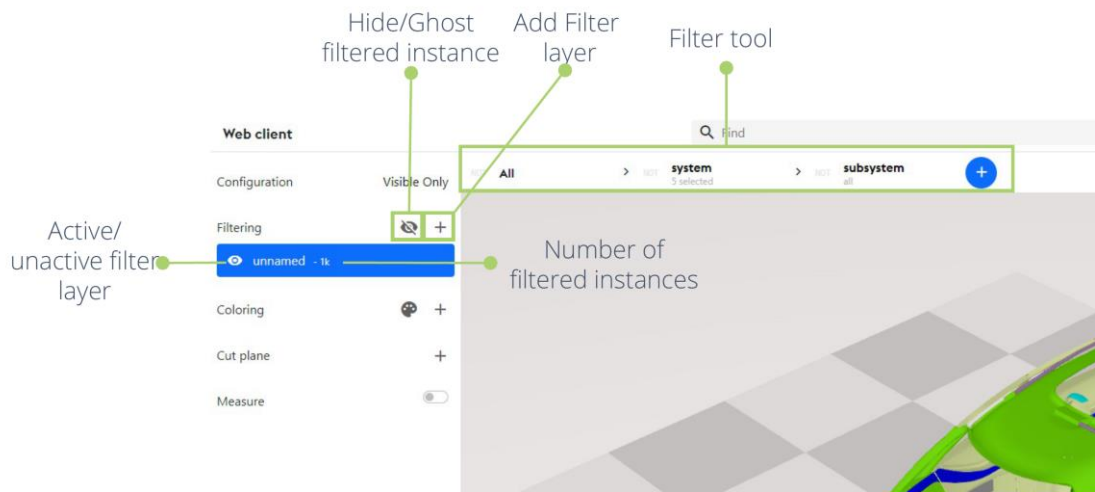
2.2.1 - Filter zone

The *Filtering tool* grants access to filtering mechanism in which successive Filters are displayed from left to right.

Filter: A particular criterion that adds (resp. removes) matching instances to (resp. from) a *Layer*.

Layer: A set of visible instances resulting from the application of several *criteria*.

Criterion: A value, partial value or set of values that an instance must match. A criterion can apply either to an instance's part model (metadata) or to its instanced properties (bounding box).



Filter zone

Add Filter layer: Create a new filter layer

Hide/Ghost filtered instance: Hide/ghosts elements filtered.

Active/unactive filter layer: Active/unactive the filter layer.

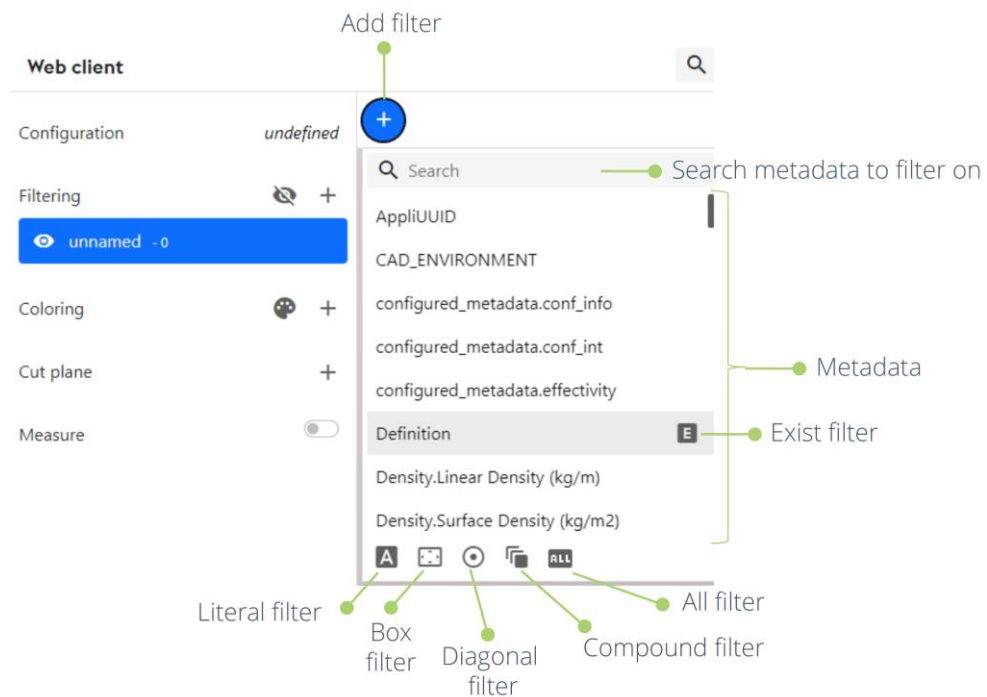
Number of instances filtered: Number of instances that match a filter (or a set of filters).

Instance filtered: Occurrence of *Parts* resulting from a filter.

Instance: Occurrence of a *Part*.

Part: Model or template, be it an assembly or a single element. This part is referenced by the digital mock-up but is not present (*instanced*) within it. It is not localized in the digital mock-up. (Ex: a wheel).

2.2.2 - Main features filter



Filter zone / Main features

Add filter: allows to create a filter on any metadata or 3D box which will be added to the current view.

the default filter is the metadata filter, but you can use other types of filters :

- Litteral filter
- All filter
- Box filter
- Compound filter
- Diagonal filter

Filter tool: Creates a new filter, it will be added to your current view.

Search metadata to filter on: Tool enabling to look for a particular word or phrase/group of words in the DMU (metadata value).

Exist tool: Tool enabling to filter components on existing attributes.

Metadata: List of data participating to the definition of a part but not represented in 3D. Metadata are composed of a Key (the name of this particular field of metadata) and a Value (either a textual, numeric or datum value, or a complex value like a list or a map).

Different kinds of filters can be applied on Metadata:

- Enumerated attribute: lists existing values available.

- Non-Enumerated attribute: available when metadata values are too numerous to be listed, enables to search for any value; please refer to here-under [additional features](#) for exact / partial match filters.
- Numerical attribute: enables to filter metadata by figure and/or range of figures.
- Date attribute: enables to filter metadata by date and/or range of dates.
- Boolean attribute: enables to filter true/false metadata.

Literal filter: Switch to literal filter.

Box filter: Switch to box filter.

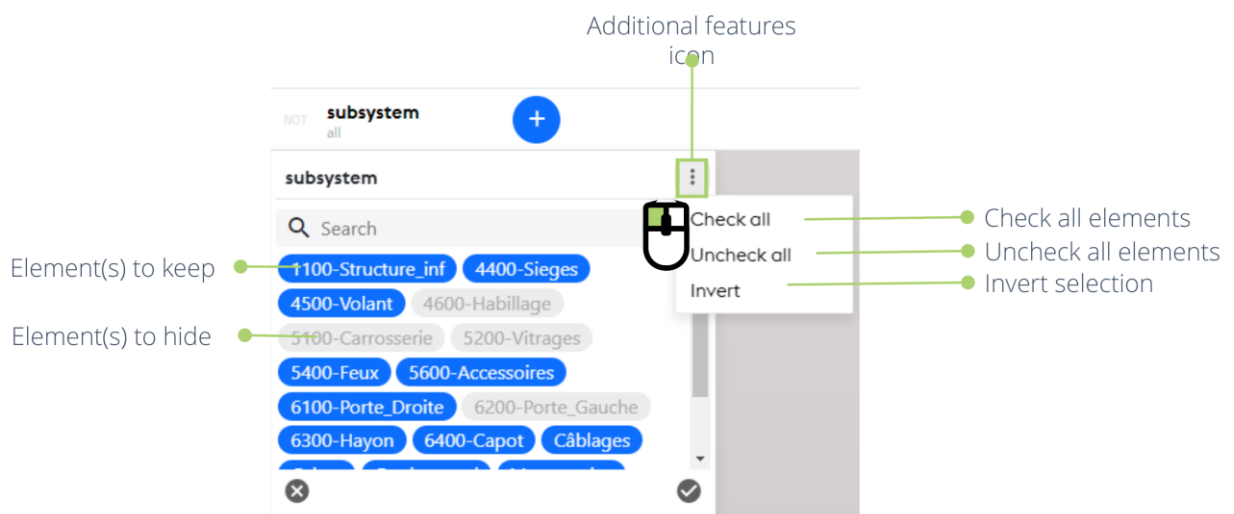
Diagonal filter: Switch to diagonal filter.

Compound filter: Switch to compound filter.

All filter: Switch to all filter.

2.2.2.1 - Additional metadata filter features

When an enumerated or Non-Enumerated filter has been selected, additional features are available by clicking in the additional feature icon



Filter zone / Additional features

Additional feature icon : shows/hides additional feature menu

Check all elements: Select all elements in the selection.

Uncheck all elements: Unselect all elements in the selection.

Invert selection: Select elements formerly unselected in the selection and unselect elements formerly selected in the selection.

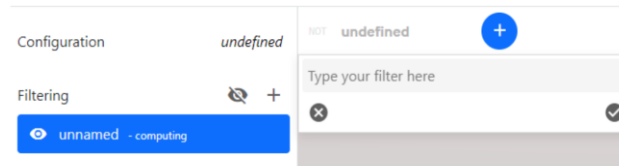
When clicking on the filtered element, the background color changes :

Element to keep: Displays on a blue background elements to be shown on the 3D view for which the typed search matches the settled metadata.

Element to keep - partial match: For non-enumerated values only, displays on a green background elements to be shown on the 3D view for which the typed search *partially* matches the settled metadata.

Element to hide : Displays without any background elements to ignore on the 3D view

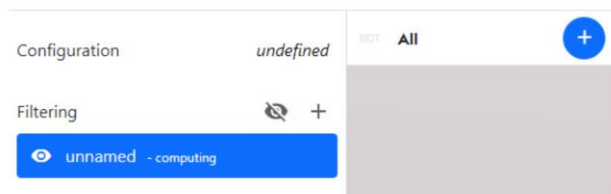
2.2.2.2 - Literal filter



Filter zone / Literal Filters

Literal filter: Tool enabling to filter on a text Search, either among Metadata or on a precise one. This Filter functions similarly with [Search](#). Specify any metadata in this box, result will be filtered in the full DMU and displayed in the 3D view.

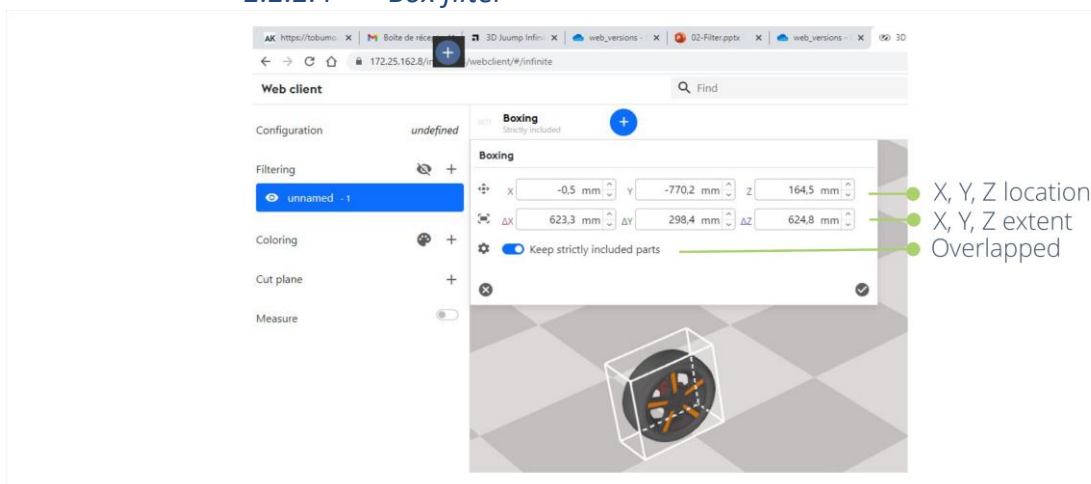
2.2.2.3 - All filter



Filter zone / All Filters

All filter: Tool enabling to filter the full DMU (appear or hide all the DMU).

2.2.2.4 - Box filter



Filter zone / Box Filters

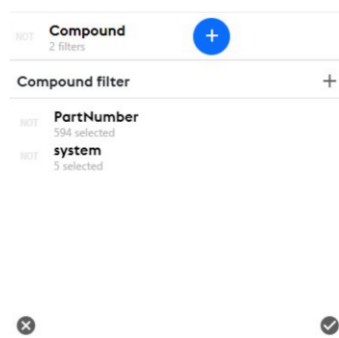
Box filter: Tool enabling to filter on a 3D box. Click on an element and a 3D box appears around this designated element. Otherwise, the location and dimension of the box can be modified manually by entering numerical values in the dedicated window.

X, Y, Z location: Specifies where the box is located within the DMU (based on axis x, y and z).

X, Y, Z extent: Set the dimensions of the box (based on axis x, y and z).

Overlapped: Option enabling to specify that only fully included parts in the 3D Box will be taken into account. Unless stated otherwise, 3D box crossing parts are added to the selection.

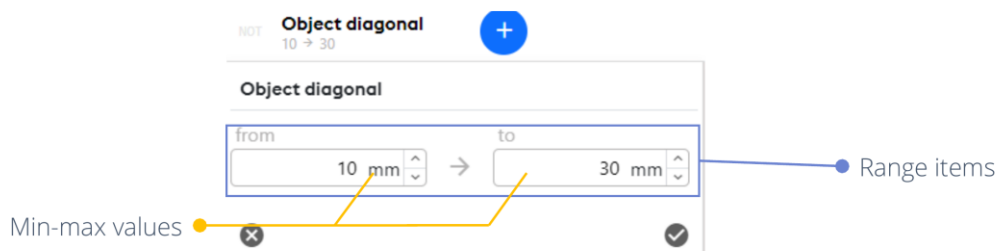
2.2.2.5 - Compound filter



Filter zone / Compound Filters

Compound filter: Tool enabling to filter further several criteria at the same node in the product structure scheme

2.2.2.6 - Diagonal filter



Filter zone / Diagonal Filter

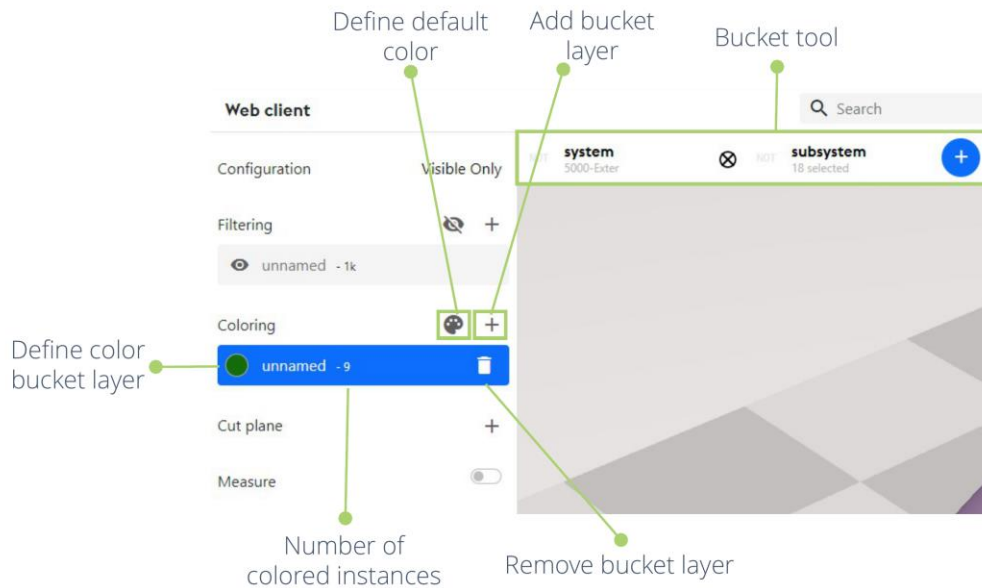
Diagonal filter: Tool enabling to filter on diagonal of the overall volume of parts. In terms of HMI, it is similar to range filter on metadata.

Range items: Holds the list of range items. Click on an item to edit its value.

Min-max values: For each range item, display the minimum and maximum diagonal length criteria.

2.3 - Coloring

The *Coloring tool* grants access to define Color Bucket. A filtering mechanism in which the successive filters are displayed from left to right allows to identify the instances to be colored.



Color Bucket zone

Add bucket layer: Allows to create a color bucket layer. The defined color will be applied to all selected instances by the bucket.

Define default color: Define the default color to be applied to all instances.

Define color bucket layer: Allows to create a color bucket layer. The defined color will be applied to all selected instances by the bucket. The current color will be overwritten by the color defined by the bucket.

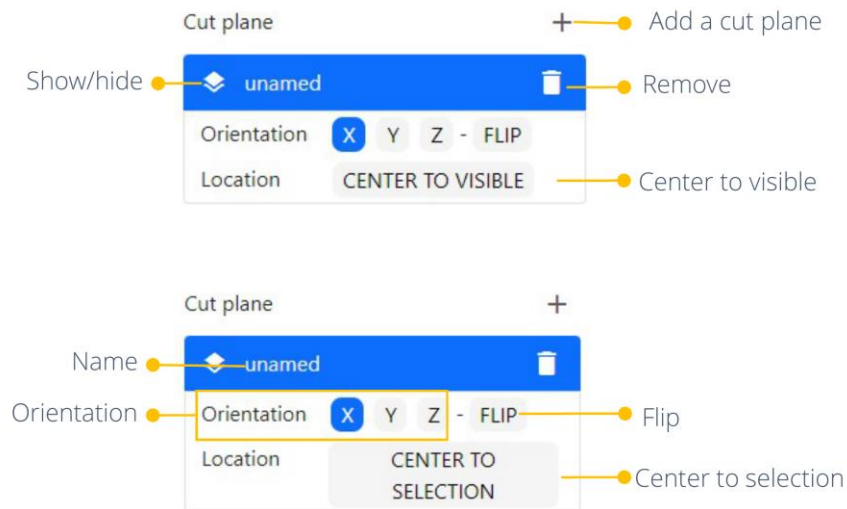
Number of colored instances: Display the number of colored instance by the bucket.

Remove bucket layer: remove the colored bucket layer

Bucket tool: Allows to select the instances to be colored. The mechanism for creating color buckets is similar to that for [creating filters](#).

2.4 - Cut Plane

Cut plane: Slices the DMU.



Cut Plane tool details

It is possible to create a cut plane, to move and rotate it in the DMU as wished.

Add a cut plane: Create a new cut plane

Remove: Remove the cut plane

Show/hide: Show/hide the cut plane

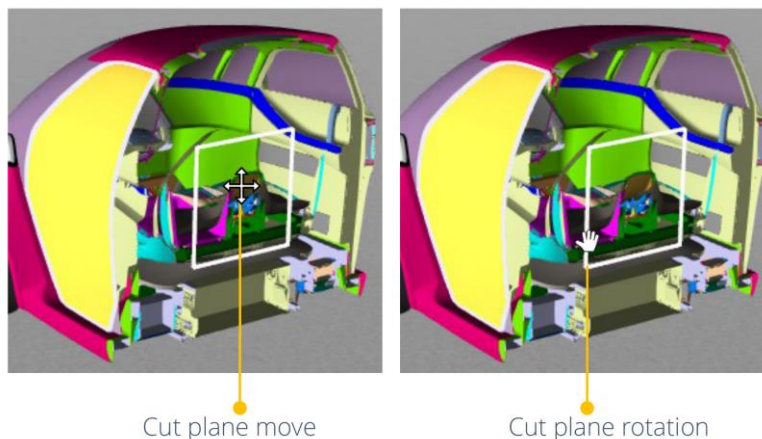
Name: Name the cut plane

Orientation: Choose the orientation of the cut plane.

Flip: Flips the cut plane, effectively switching the side that will be carved out.

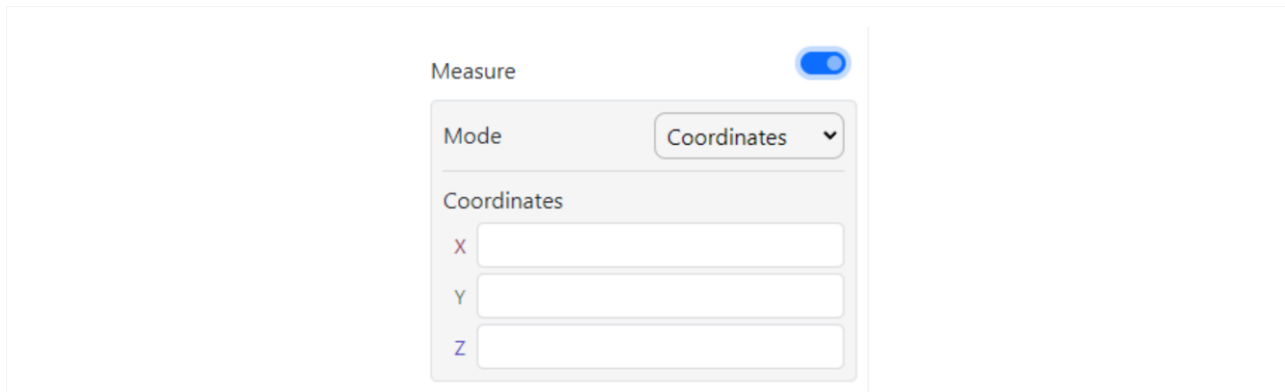
Center to visible: Tool to automatically move the cutting plane to the center of the visible elements.

Center to selection: TTool to move the cutting plane automatically to the center of the selected elements.



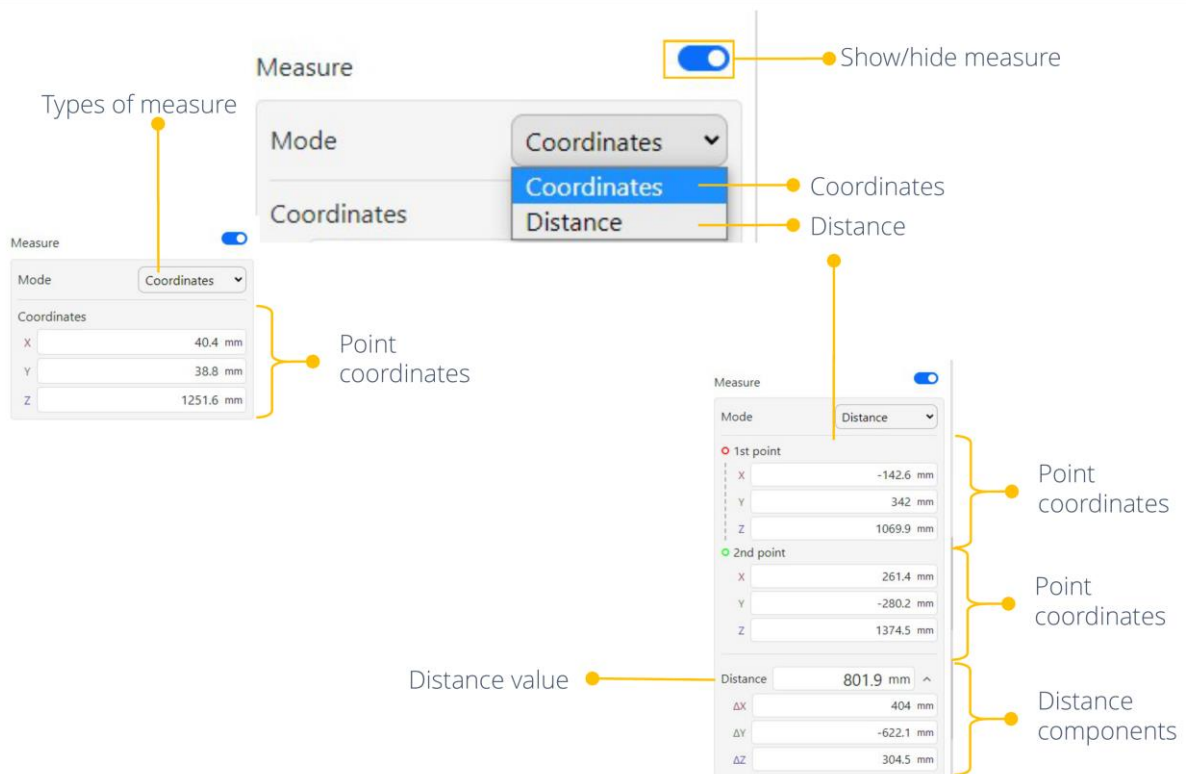
Cut Plane move and Cut Plane rotation

2.5 - Measure



Measure tool

Measure tool: Allows to calculate measures between elements.



Measure tool details

Two **Types of measure** are available: Coordinates, Distance.

Show/hide measure: Show/hide the measure tool

Coordinates: The Coordinate of a selected point in the 3D view is displayed.

Distance: The distance between two selected points in the 3D view is displayed.

Point coordinates: Indicates a designated specific point coordinates (x, y and z) within the DMU.

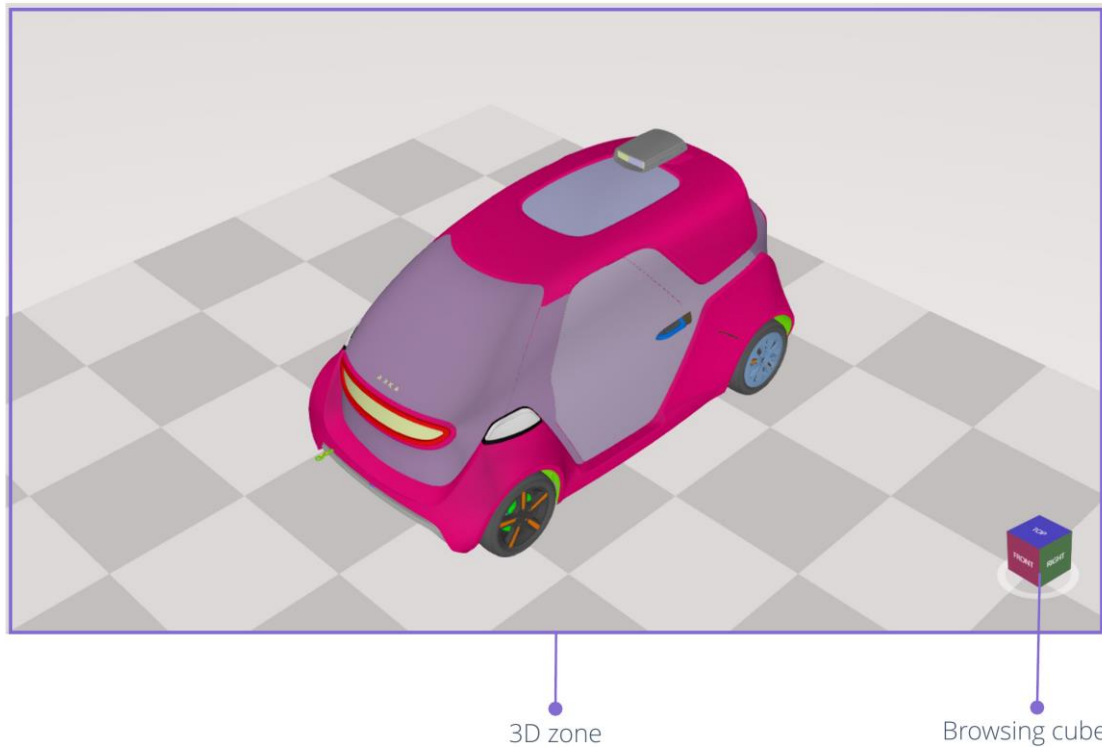
Distance components: Axis projected distance.

Distance value: Indicates the calculated distance from one point to another in the DMU

3 - 3D zone

The *3D Zone* is a digital working zone where your mock-up is displayed in 3D.

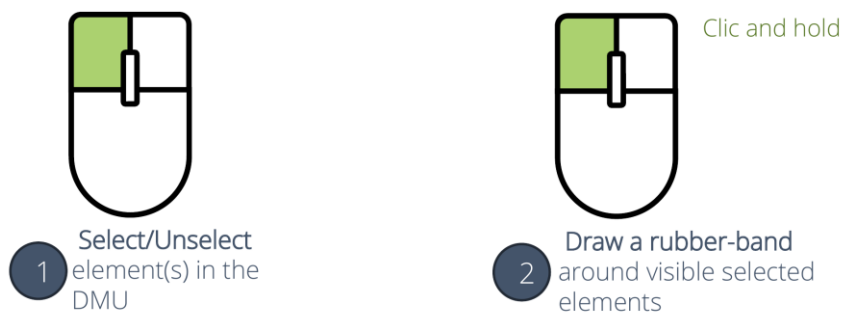
3.1 - Main features



3D Zone

Browsing cube: Tool to identify the current scene orientation from the ground plane. you can use it to easily change the scene orientation according to predefined orientations. Just click on a part of the browsing cube.

3.2 - Manipulation



Overview/ 3D Zone

Mouse left-click enable(s) to **select/unselect designated element(s)**.

A click + hold of the left mouse button enables to draw a form around a zone of *visible* elements to be selected. Release left button to validate selection. It is a **rubber-band**.

- To reinitialize the operation, just draw a new form from any unselected point in the 3D view. Any element fitting in the form will be added to the selection.
- To add a new rubber-band, simply press [CTRL] on the keyboard and draw a new rubber-band. Any element fitting in the form will be added to the selection.

💡 Simply press [CTRL] + left-click on designated element(s) to unselect or add them to the rubber-band.

3.3 - Navigation mode

3.3.1 - Definitions

Navigation in the DMU is done using either mouse interactions or touchscreen interactions.

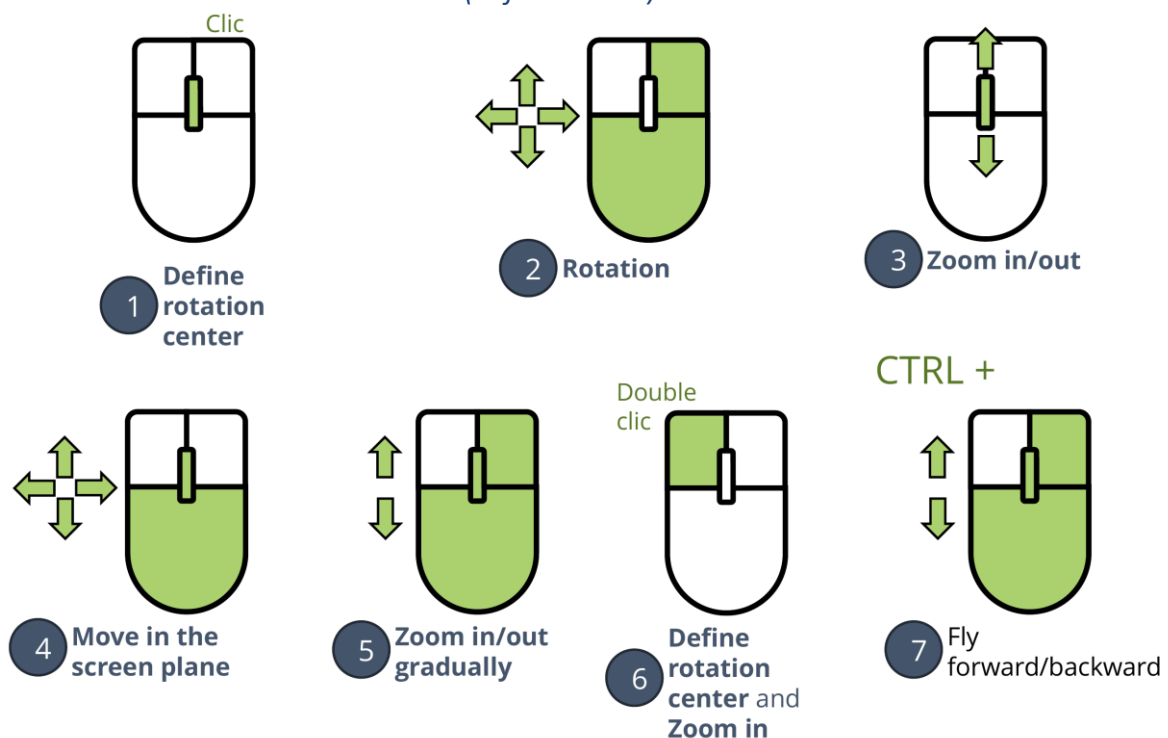
Orbit mode: Centered camera mode. The end-user can move the camera around its center of interest, zoom in or out, and change the center of interest by using the mouse.

Examine mode: Very similar to the Orbit mode but follows a metaphor more akin to the one used in a popular 3D CAD Design tool. It may feel more natural than the orbit mode to CAD designers.

3.3.2 - Mouse navigation

DMU browsing implies special basic manipulations using the mouse.

3.3.2.1 - Orbit Mode (default mode)



Overview / Orbit Mode browsing

Define rotation center: Defines the rotation center of the DMU. Object is automatically centered in the plan.

Rotation: Rotates the object in the 3D view.

Zoom in/out: Increases/decreases the magnification of the designated object.

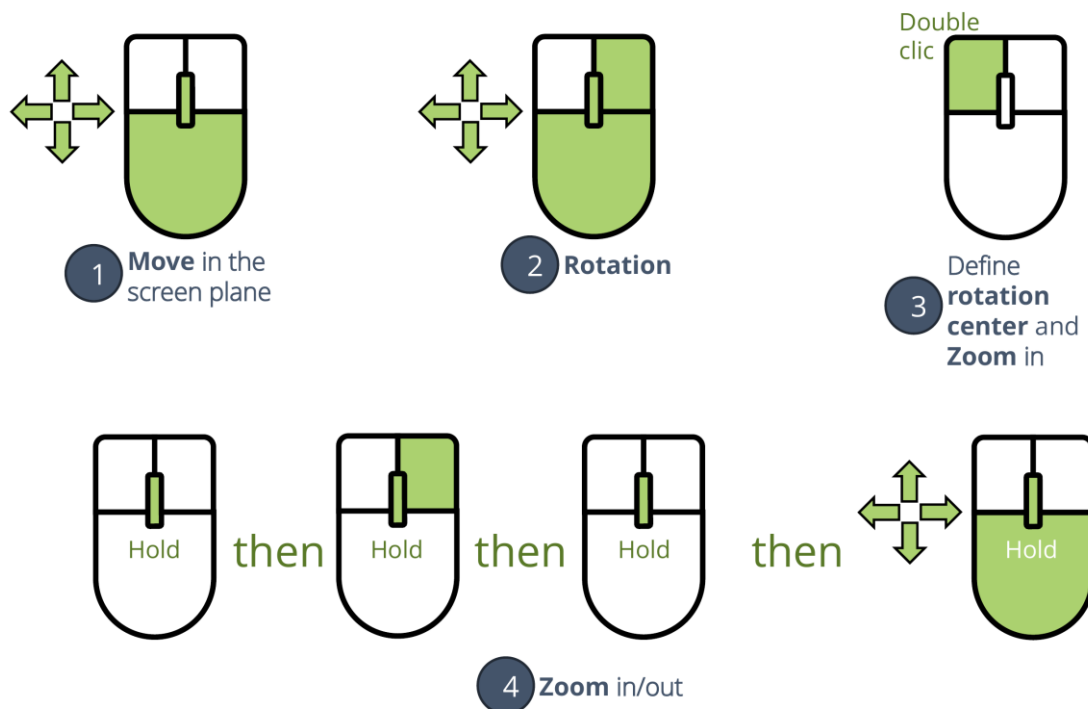
Move in the screen place: Moves the object in the image plan (pan).

Zoom in/out gradually: Increases/decreases gradually the magnification of the designated object.

Define rotation center and Zoom in: Defines the rotation center of the DMU and increases the magnification of the centered designated object.

Fly forward/backward: Hold the CTRL key during the "Zoom in/out gradually" action to fly smoothly forward or backward.

3.3.2.2 - Examine Mode



Overview / Examine Mode Navigation

Move in the screen plane: Moves the object in the image plan (pan).

Rotation: Rotates the object in the 3D view.

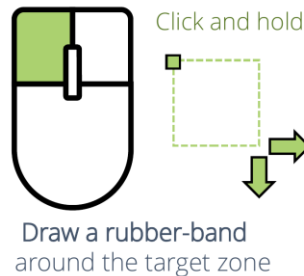
Define rotation center and Zoom in: Defines the rotation center of the DMU and increases the magnification of the centered designated object.

Zoom in/out: Increases/decreases the magnification of the designated object.

3.3.2.3 - Helpers

In order to quickly center the view on a zone of the DMU, you can use a quick helper: the rubberband zoom.

ALT +



Overview / Navigation Helpers

Draw a rubber-band: Keep the **ALT** key pressed while drawing a rubber-band using the left mouse button to define the zone of interest (left press then drag). Release the mouse button to automatically zoom to the desired zone.

3.3.3 - Touchscreen navigation

Alternatively, touchscreen is also supported.

3.3.3.1 - Orbit Mode - Touchscreen Navigation



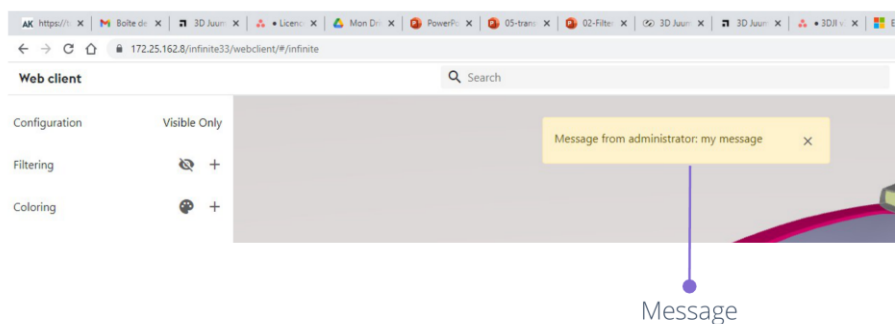
Overview / Orbit Mode - Touchscreen Navigation

Rotation: Rotates the object in the 3D view.

Zoom in/out: Increases/decreases the magnification of the designated object.

Move in the screen plane: Moves the object in the image plan (pan).

3.4 - Message

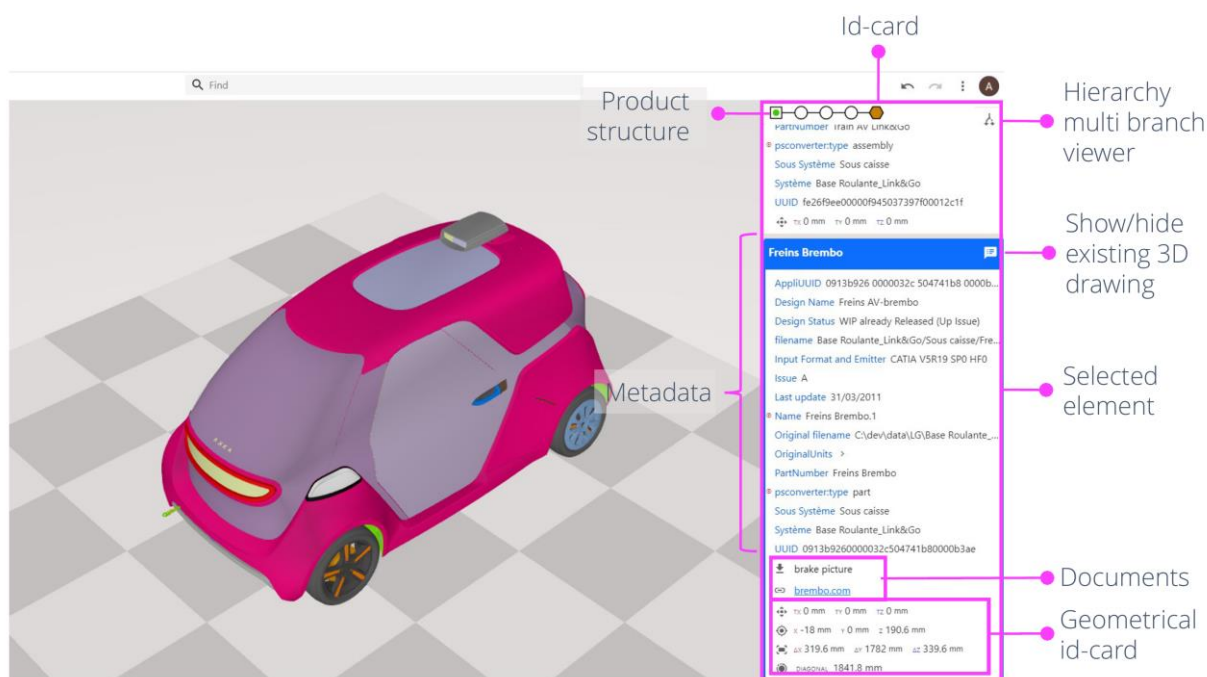


Message

Message: Toasted message box popping whenever the administrator needs to send a message to all connected users. Clicking on the message will acknowledge it.

4 - Id-Card zone

The *Id-Card* is the list of ordered metadata of elements.



Id-Card

Hierarchy multi branch viewer: show / hide the Hierarchy multi branch viewer to switch to an other Product structure.

Show/hide existing 3D drawing: show /hide the 3D drawing link to the part

Selected element: id-card of the selected element

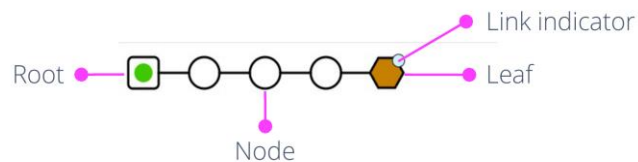
Documents: section displays the lists of documents available from the root and the selected elements. They are provided by the integrator upon DMU generation. They can be .pdf, images, links, ...

Geometrical Id-card: Display geometrical information of selected part: rotation, position and overall volume size.

Selected element: Selected metadata; using the image of a tree, an element is a leaf.

Metadata: Data participating to the definition of a part but not represented in 3D. Metadata are composed of a Key (the name of this particular field of metadata) and a Value (either a textual, numeric or datum value, or a complex value like a list or a map).

Product structure: Full list of the elements of a hierarchy; using the image of a tree, the product structure is a tree.



Product structure

Root: First element of a hierarchy; using the image of a tree, a root is a trunk.

Node: Basic element of a hierarchy; using the image of a tree, a node is a branch.

Leaf: Element at the very bottom of a hierarchy.

Link indicator: Sign indicating document is linked to the designated element.

Annexes

These annexes contain:

- the list of known limitations
- the ECCN
- the list of third-party licenses

1 - Range of use

1.1 - Minimum requirements

The ∞client runs on a Browser with the support of HTML5, CSS3, ECMAScript 5 and WebGL 1. The Application has been tested with the browser Chrome 64bits version 96, Firefox 64bits version 94 and Edge 64bits version 96.

2 - Export control classification

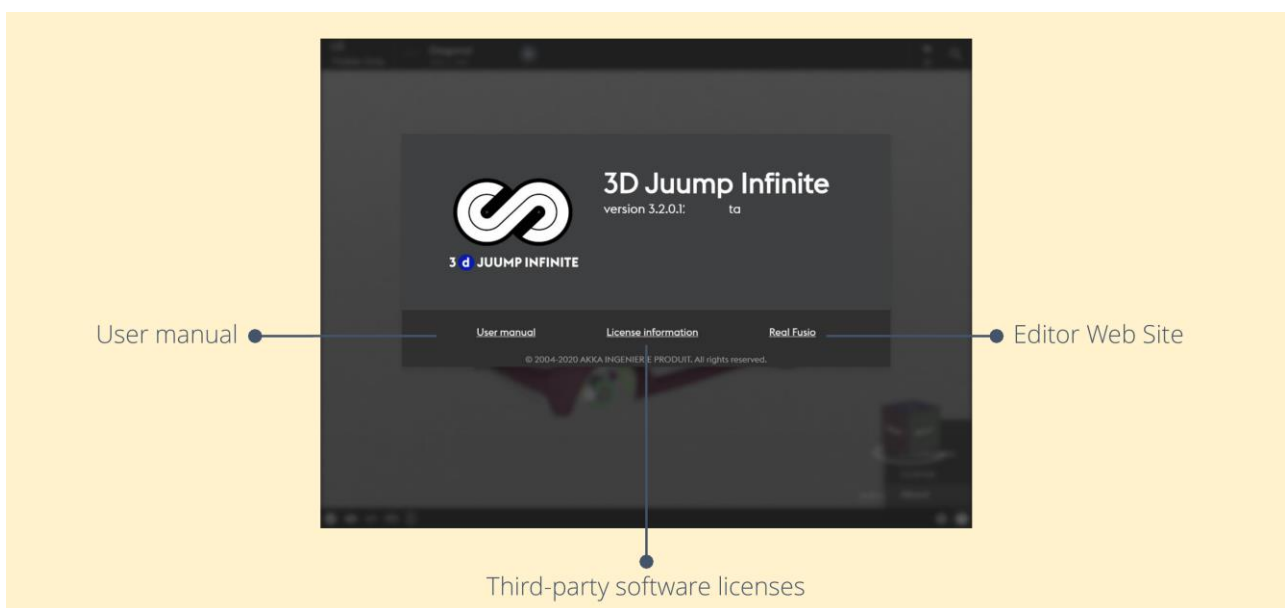
The Software, which integrates dual use information security items of American origin (ECCN 5D992.c <10%), is subject to the US Export Administrative Regulations (EAR) 15 C.F.R. part 730 et seq. for the country Group E:1 and E:2 which are, at the date of the License Terms and Conditions: Iran, North Korea, Sudan, Syria and Cuba. In particular, the User shall not use,

export or re-export the Software in those countries and with end users or for end uses in breach of the US export control regulations.

The Software has been the subject of a declaration of operations relating to a means of cryptology to the ANSSI (Declaration N ° 17070363). However, the Software does not come under Regulation (EC) N ° 428/2009 of May 5, 2009, setting up a Community regime for the control of exports, transfer, brokering and transit of dual-use items, as confirmed by the Direction Générales des Entreprises / Services des Biens à Double-Usage Goods in his mail N ° FR 80404.

3 - Third-party software licenses

The details of the used licenses are available in the [Status Bar](#), by clicking on About



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