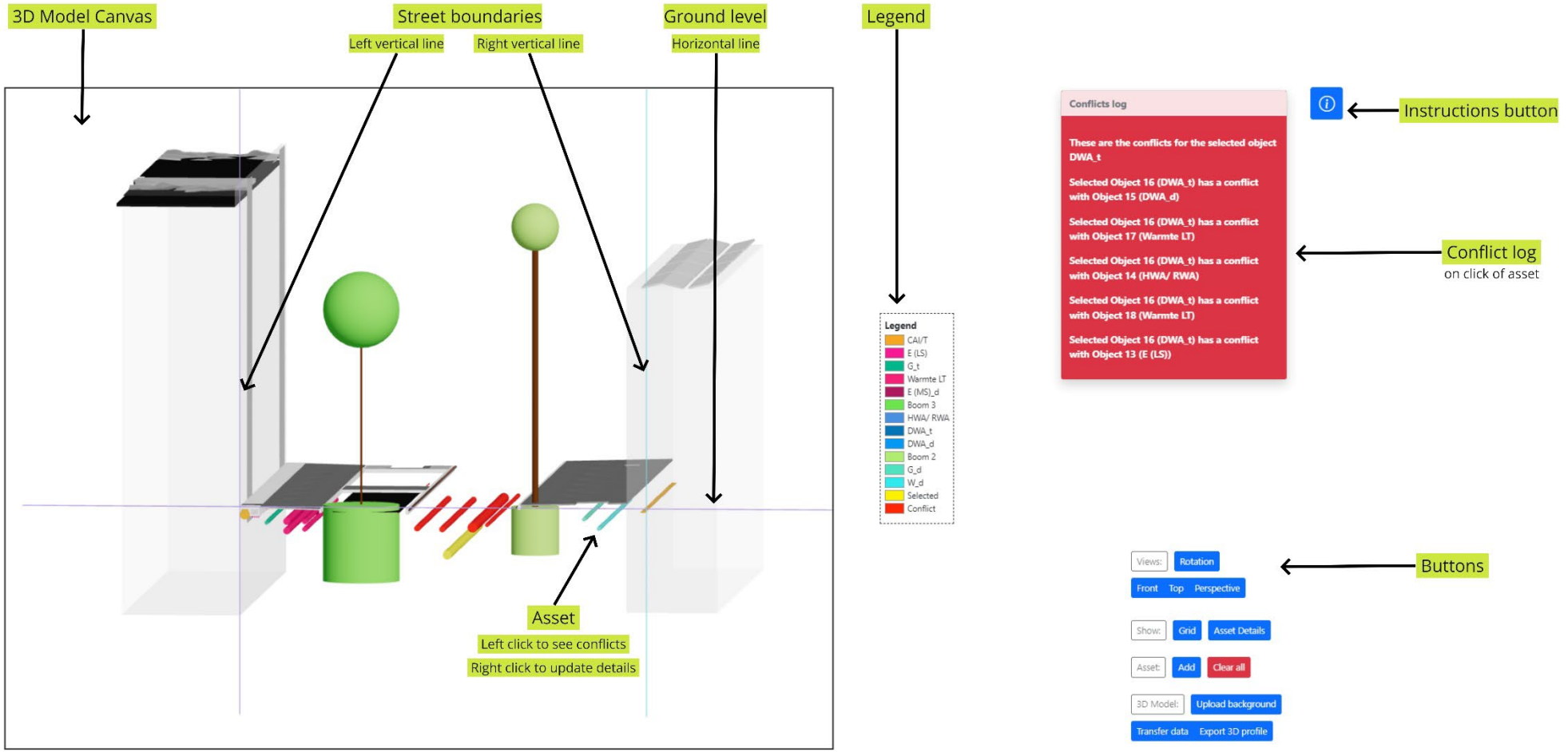
Layout

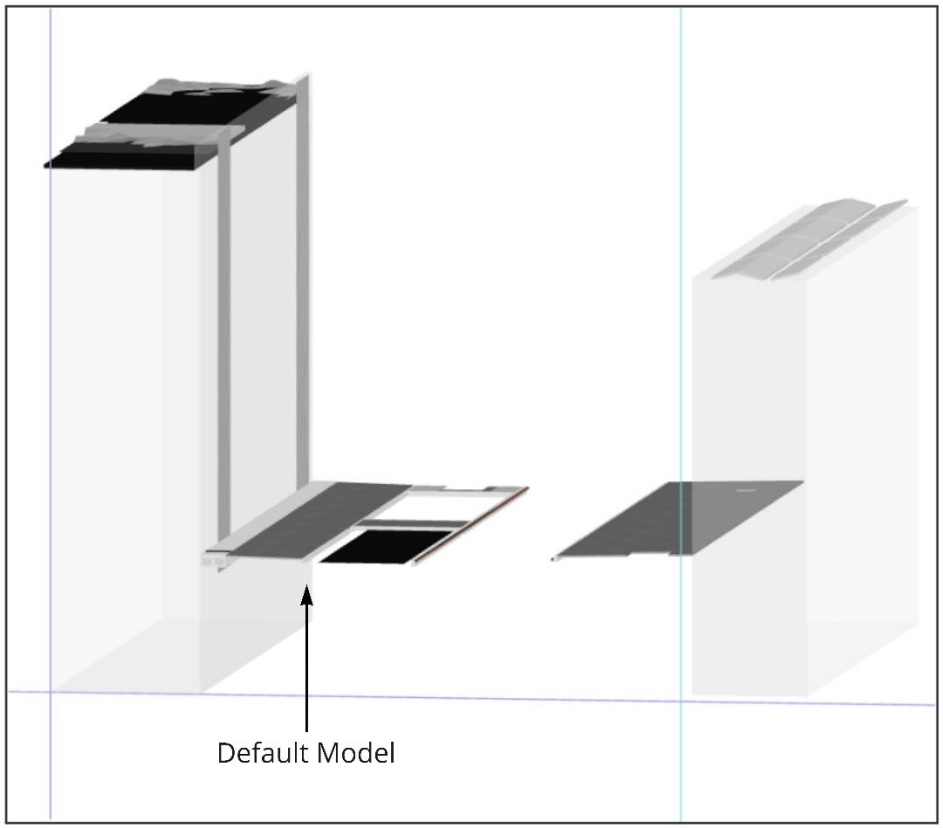

3D Model Canvas
Street boundaries
Left vertical line
Right vertical line
Ground level
Horizontal line
Legend
Asset
Left click to see conflicts
Right click to update details
Legend
CAI/T
E (LS)
G_t
Warmte LT
E (MS)_d
Boom 3
HWA/ RWA
DWA_t
DWA_d
Boom 2
G_d
W_d
Selected
Conflict
Conflicts log
These are the conflicts for the selected object DWA_t
Selected Object 16 (DWA_t) has a conflict with Object 15 (DWA_d)
Selected Object 16 (DWA_t) has a conflict with Object 17 (Warmte LT)
Selected Object 16 (DWA_t) has a conflict with Object 14 (HWA/ RWA)
Selected Object 16 (DWA_t) has a conflict with Object 18 (Warmte LT)
Selected Object 16 (DWA_t) has a conflict with Object 13 (E (LS))
Instructions button
Conflict log
on click of asset
Views:
Rotation
Front
Top
Perspective
Show:
Grid
Asset Details
Asset:
Add
Clear all
3D Model:
Upload background
Transfer data
Export 3D profile
Buttons

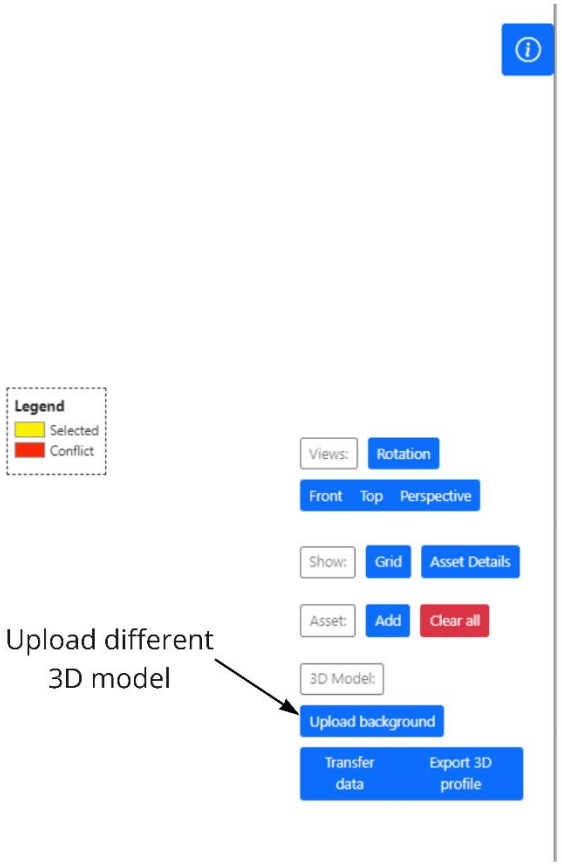
Instructions

- All values are in meters
- Use point (.) for decimal values not comma (,)

Steps to use the tool

1. **3D background**: Default 3D model in background is Haaksbergweg profile, to change it click on the Upload 3D Model button and select a 3D file (gltf) from your computer. File size should be max 50 MB.

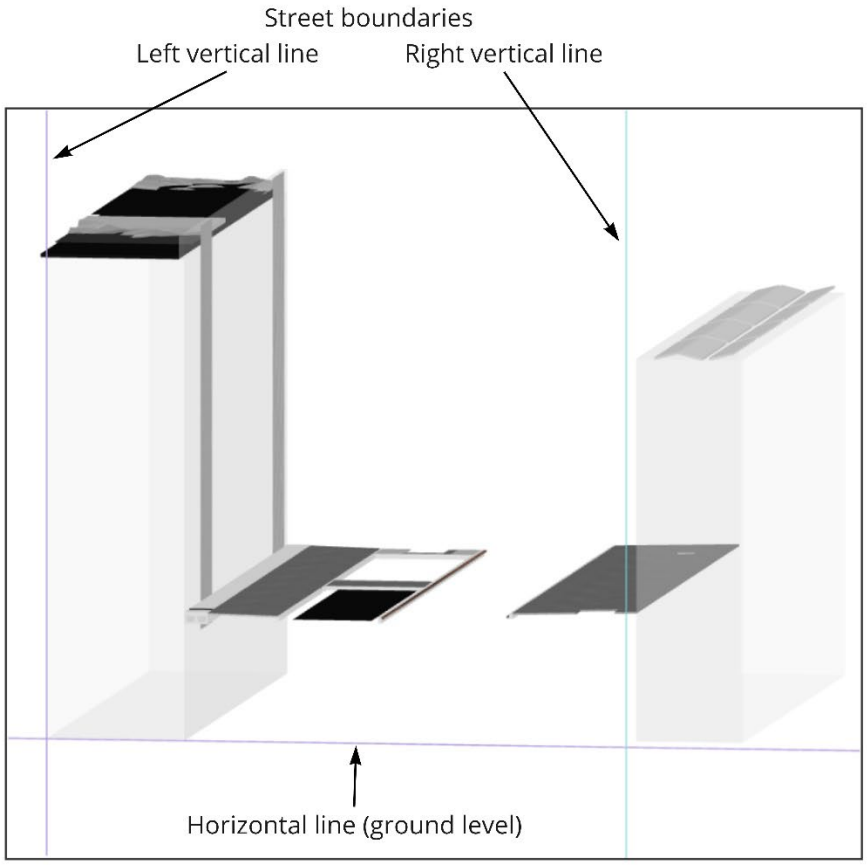




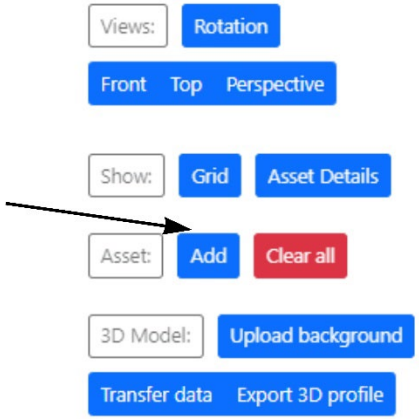
2. **Reference line (x and y axis):** To set the reference lines for the ground level and street boundaries, user should get the exact values from the 3D model of street.
    a. Double-clicking on the horizontal line and set the reference ground level (in meters)
        - Note: Ground level is just reference height of the street and is always same for the whole street.

    b. Double-click on the left vertical line (dark blue in color) and set it to the left end of the street. (in meters)
    c. Double-click on the right vertical line (light blue in color) and set it to the right end of the street. (in meters)
        - Note: Street width is the value of the right vertical line minus the left vertical line

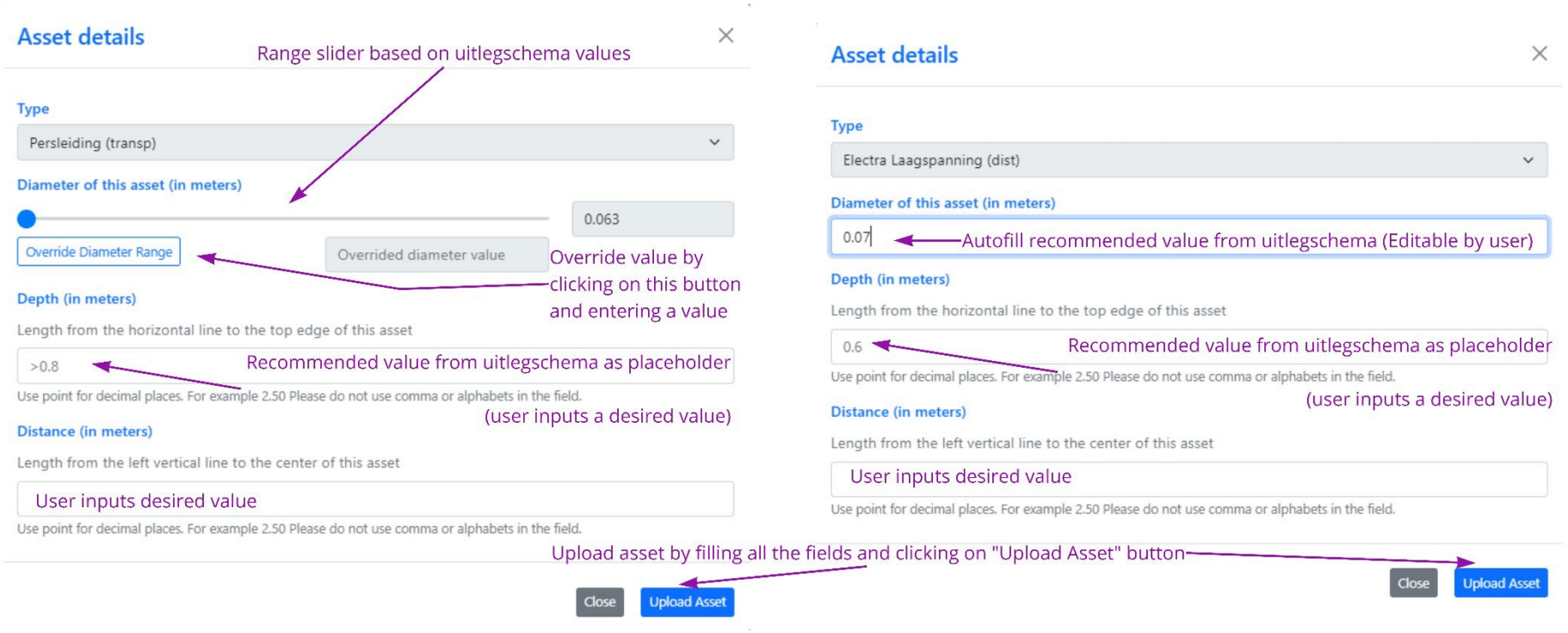
Double click on the line to change values



3. **Adding assets:** The different assets can be added to the street profile in the following manner.
    a. Click on the button “Add asset”



b. Choose the asset type. And then define asset properties



- Recommended diameter from the uitlegschema is shown for the asset. Set the Diameter of the asset. This value can be changed as choice
- Recommended Depth of the asset is shown in a placeholder. You still need to enter the value. The depth is the 3D Model is from the horizontal line to the top edge of the asset.
- Enter the distance of the asset from the left vertical line. In 3D model, this is shown from the left vertical line to the center of the added asset.
- Upload the asset.
- Add all the assets for the profile in a similar manner.

Legenda

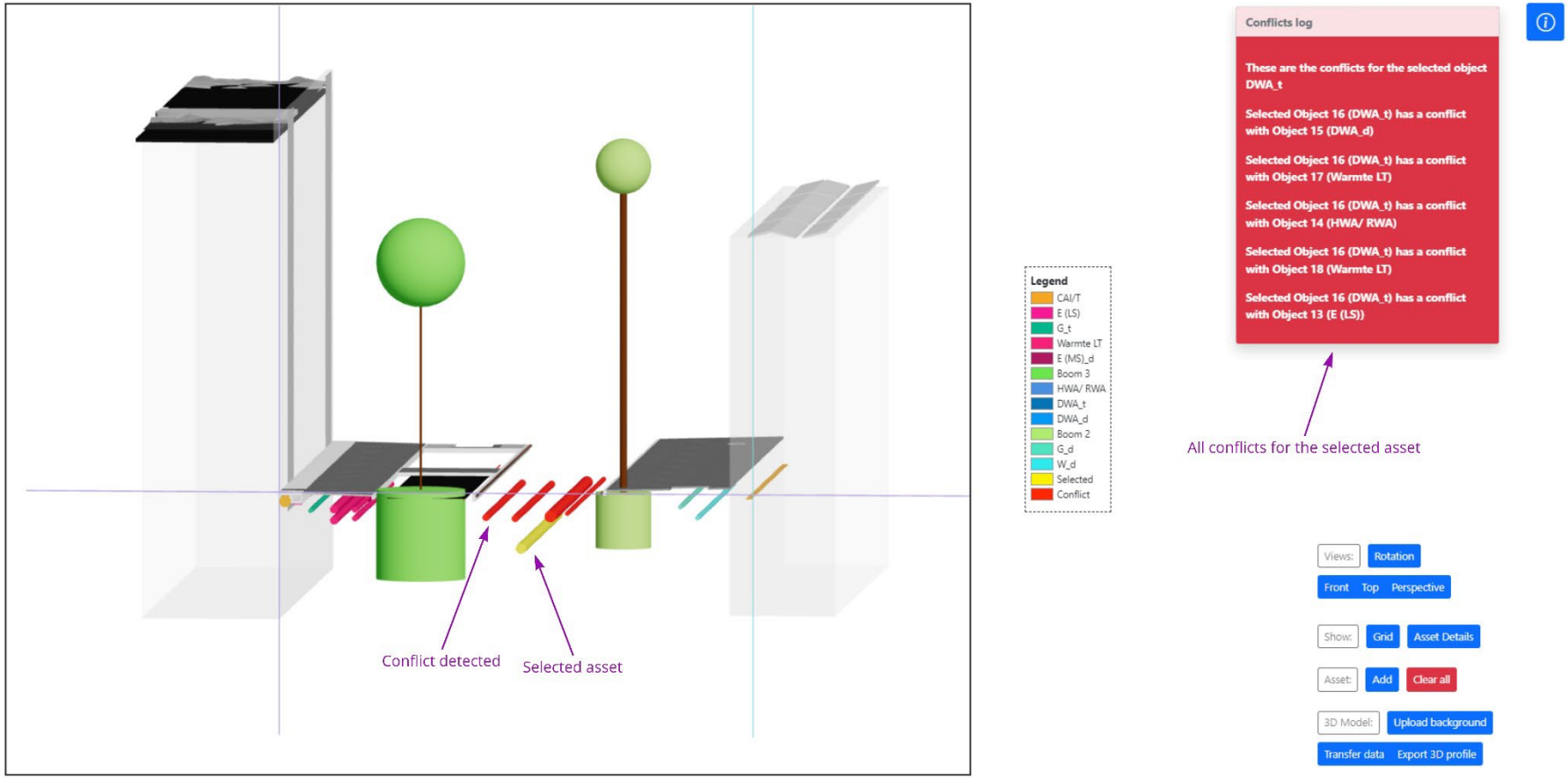
* transp -> transport
* dist -> distribution

- CAI/T - CAI/ TV/ Telecom (transp)
- Data – Glasvezel (dist)
- E (LS) - Electra Laagspanning (dist)
- E (MS)_t - Electra Middenspanning (transp)
- E (MS)_d - Electra Middenspanning (dist)
- E (HS) - Electra Hoogspanning (transp)
- DWA_t - DWA Droogweerafvoer (onderheid riool) (transp)
- DWA_d - DWA Droogweerafvoer (riool) (dist)
- DWA+RWA (gemengd)_t - DWA+RWA (gemengd) Droogweerafvoer (onderheid riool) (transp)
- DWA+RWA (gemengd)_d - DWA+RWA (gemengd) Droogweerafvoer (riool) (dist)
- HWA/ RWA - Hemelwaterafvoer (riool) (dist)
- PL – Persleiding (transp)
- Warmte_HT - Warmtenet Hoogtemperatuur (HT) (transp)
- Warmte_MT - Warmtenet Midden temperatuur (MT) (dist)
- Warmte LT - Warmtenet Lage Temperatuur (dist)
- W_t – Drinkwater (transp)
- W_d - Drinkwater (dist)
- G_t – Gas (transp)
- G_d - Gas (dist)
- O.A.T. - Ondergronds Afval Transport (transp)
- Boom 1 – Tree height more than 15 meters
- Boom 2 - Tree height between 10 and 15 meters
- Boom 3 - Tree height between 6 to 10 meters
- Gebouwen

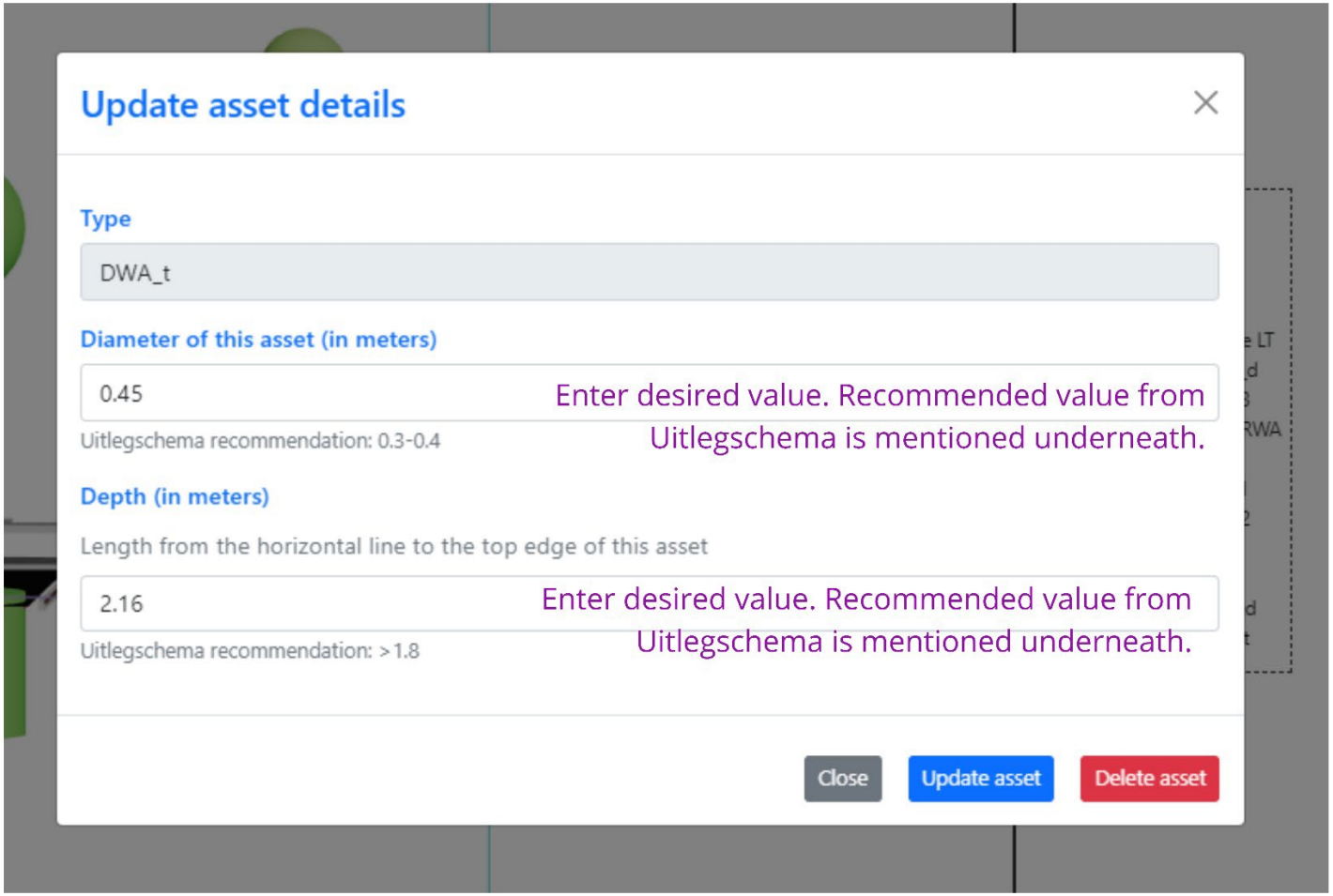
Uitlegschema used in the tool

afstand/Asset	afstand/Beschrijving	afstand/Categorie	afstand/Color	afstand/Diameter	afstand/Depth	afstand/CAI/T	afstand/Data	afstand/E (LS)	afstand/E (MS)	afstand/E (HS)	afstand/DWA	afstand/HWA/ RWA	afstand/PL	afstand/Warmte	afstand/Warmte LT	afstand/W	afstand/G	afstand/Boom 1	afstand/Boom 2	afstand/Boom 3	afstand/Gebouwen
CAI/T	CAI/ TV/ Telecom	transp	#F5A623	0.08-0.1	0.6	0.5	0	0.5	0.75	2	0.75	0.75	0.75	0.7	0.7	0.5	0.3	2	1.5	1	0.25
Data	Glasvezel	dist	#E5934D	0.04-0.05	0.6/0.5	0.5	0	0.25	0.25	2	0.75	0.75	0.75	0.7	0.7	0.5	0.3	2	1.5	1	0.25
E (LS)	Electra Laagspanning	dist	#F81C94	0.07	0.6	0.5	0.25	0.1	0.1	2	0.75	0.75	0.75	2.5	2.5	0.5	0.3	2	2	1	0.5
E (MS)_t	Electra Middenspanning	transp	#C53B86	0.1	0.9	0.75	0.25	0.1	1	2	0.75	0.75	0.75	2.5	2.5	0.75	0.3	1	2	2	1
E (MS)_d	Electra Middenspanning	dist	#AF1960	0.1	0.7/0.9	0.75	0.25	0.1	0.1	2	0.75	0.75	0.75	2.5	2.5	2	0.3	2	2	1	1
E (HS)	Electra Hoogspanning	transp	#ED2E52	0.14	1.2	2	2	2	2	3	2	2	2	2	2	2	5	2	2	2	2
DWA_t	DWA Droogweerafvoer (onderheid riool)	transp	#0674B7	0.3-0.4	>1.8	2.5	2.5	2.5	2.5	3	3	3	3	3	3	3	3	5	4	3	5
DWA_d	DWA Droogweerafvoer (riool)	dist	#0999F4	0.25	0.8	0.75	0.75	0.75	0.75	2	Undefined	0.75	0.75	1	0.75	1	0.75	2	1.5	1	3
DWA+RWA (gemengd)_t	DWA+RWA (gemengd) Droogweerafvoer (onderheid riool)	transp	#073CAF	0.3-1.8	>1.8	2.5	2.5	2.5	2.5	3	Undefined	3	3	3	3	3	3	5	4	3	5
DWA+RWA (gemengd)_d	DWA+RWA (gemengd) Droogweerafvoer (riool)	dist	#0955F4	0.3-1.8	>0.8	0.75	0.75	0.75	0.75	2	Undefined	0.75	0.75	1	0.75	1	0.75	2	1.5	1	3
HWA/ RWA	Hemelwaterafvoer (riool)	dist	#4A90E2	0.3-1.5	>0.8	0.75	0.75	0.75	0.75	2	0.75	Undefined	0.75	1	0.75	1	1	2	1.5	1	3
PL	Persleiding	transp	#9013FE	0.063-1.8	>0.8	0.75	0.75	0.75	0.75	2	0.75	0.75	0.75	1	0.75	1	1	2	1.5	1	3
Warmte_HT	Warmtenet Hoogtemperatuur (HT)	transp	#A10041	0.5-1	1	0.75	0.75	2.5	2.5	2	1	1	1	0.4	0.3	1.5	1	2	1.5	1	1.5
Warmte_MT	Warmtenet Midden temperatuur (MT)	dist	#C8125C	0.5-1	0.8	0.7	0.7	2.5	2.5	2	1	1	1	0.4	0.3	1.5	1	2	1.5	1	1.5
Warmte LT	Warmtenet Lage Temperatuur	dist	#F52378	0.25	0.8/1	0.7	0.7	2.5	2.5	2	0.75	0.75	0.75	0.3	0.3	1.5	1	2	1.5	1	1.5
W_t	Drinkwater	transp	#06AEB0	0.315-1.2	1	1	1	1	2	2	1	1	1	2	2	1	1	2	2	2	3
W_d	Drinkwater	dist	#2FEBED	0.015-0.315	0.8	0.5	0.5	0.5	2	2	1	1	1	1.5	1.5	0.5	0.5	2	2	2	2
G_t	Gas	transp	#03B78D	0.075-0.4	0.8	0.3	0.3	0.3	0.3	5	1	1	1	1	1	0.3	0.3	2	2	1	2.0/3.5
G_d	Gas	dist	#50E3C2	0.075-0.4	0.8	0.3	0.3	0.3	0.3	5	1	1	1	1	1	0.3	0.3	2	2	1	1.2
O.A.T.	Ondergronds Afval Transport	transp	#EFB17C	0.4	1-1.5	0.75	0.75	0.75	0.75	2	0.75	0.75	0.75	0.75	0.75	1	1	2	1.5	1	3
Boom 1	Boom 1		#7ED321	Undefined		2	2	2	1&2	2	5&2	2	2	2	2	2&2	2&2	Undefined	Undefined	Undefined	Undefined
Boom 2	Boom 2		#B1EC72	Undefined		1.5	1.5	2	2&2	2	4&1.5	1.5	1.5	1.5	1.5	2&2	2&2	Undefined	Undefined	Undefined	Undefined
Boom 3	Boom 3		#6DE54F	Undefined		1	1	1	2&1	2	3&1	1	1	1	1	2&2	1&1	Undefined	Undefined	Undefined	Undefined
Gebouwen	Gebouwen		#9B9B9B	Undefined		0.25	0.25	0.5	1&1	2	5&3	3	3	1.5	1.5	3&2	2 | 3.5&1.2	Undefined	Undefined	Undefined	Undefined

4. **Conflict detection:** To check for conflicts in the profile, you need to check the conflicts for each asset.
    a. Click on an asset to see the conflicts for the asset
        - The selected asset is in yellow color
        - The conflicted assets are shown in red color
        - Upon clicking on an asset, on the top right, the name of the conflicting assets are shown.

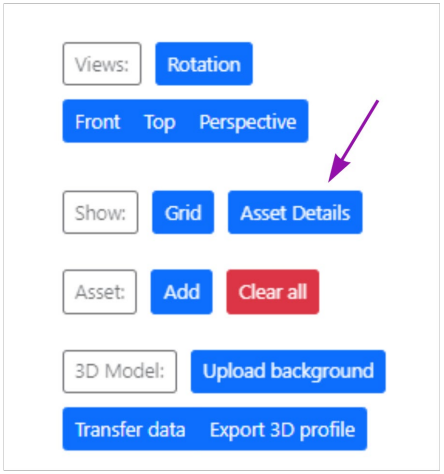


5. **Update diameter and depth of the asset in profile:** To change the diameter or depth of the asset, right click on the asset and change the respective values.



6. **Delete asset:** To remove an asset from the profile, right-click on the asset and choose “Delete Asset”

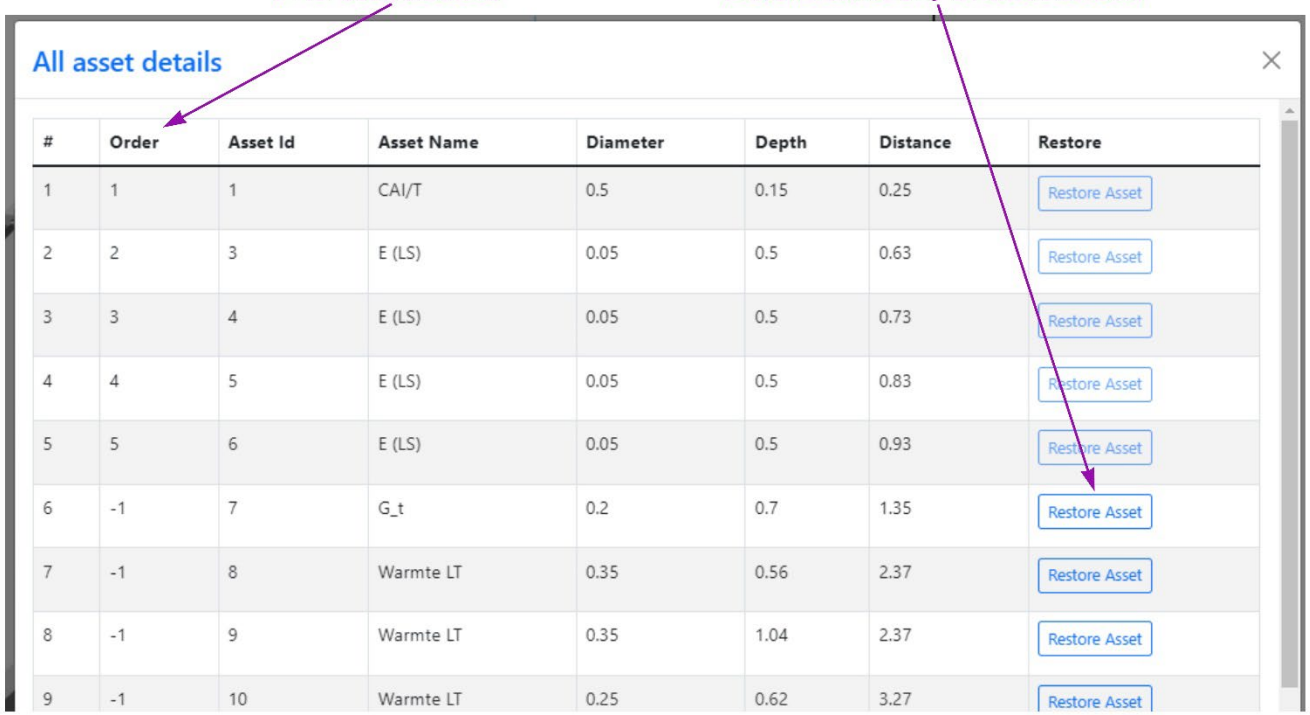
7. **Drag and drop:** To change the position (distance) of the asset, drag the asset (left click and hold the mouse button) and drop it in a desired position.
8. **Asset Details:** To see a list of all the assets (existing or deleted), click on the “Asset Details” button.



9. **Restore asset:** A deleted asset can be seen at the bottom of the list upon clicking on “Asset Details”. To restore the asset, click on “Restore Asset” button. Once you restore an asset, the asset will reappear in the 3D model based on the previous data (diameter, depth, distance)

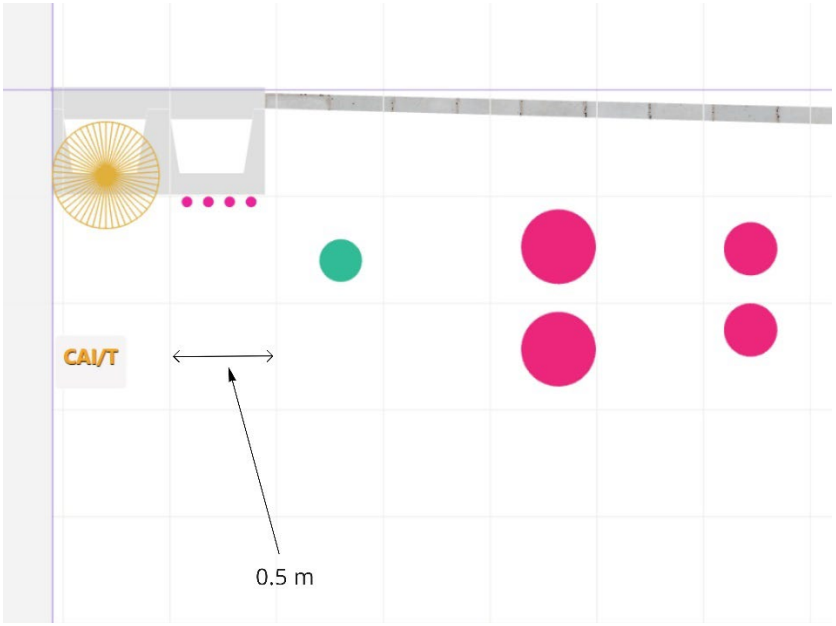
Asset order in profile
(-1 for deleted assets)

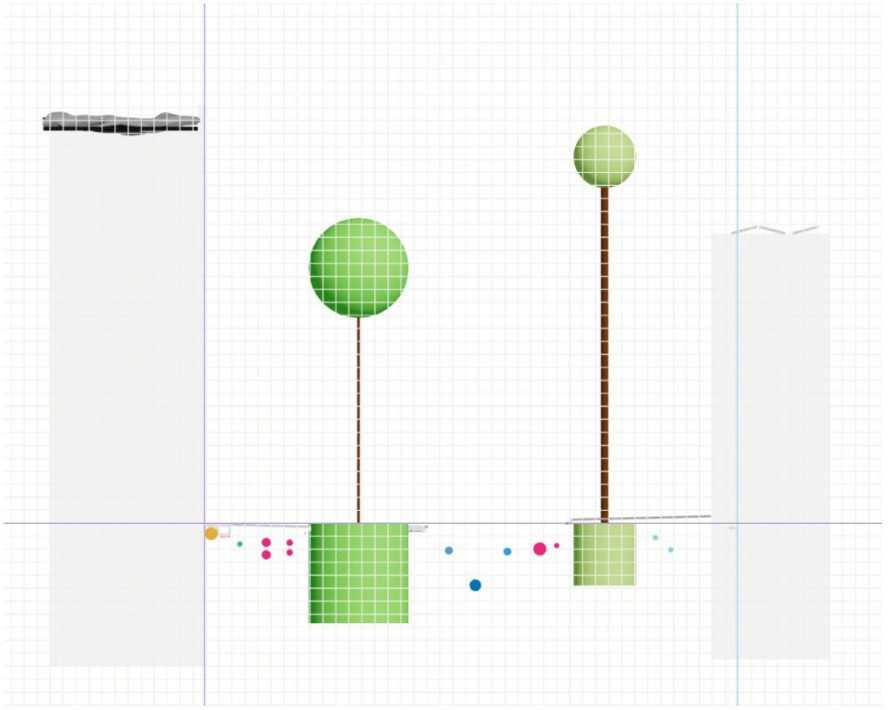
Restore assets that are deleted
(Button enabled only for deleted assets)



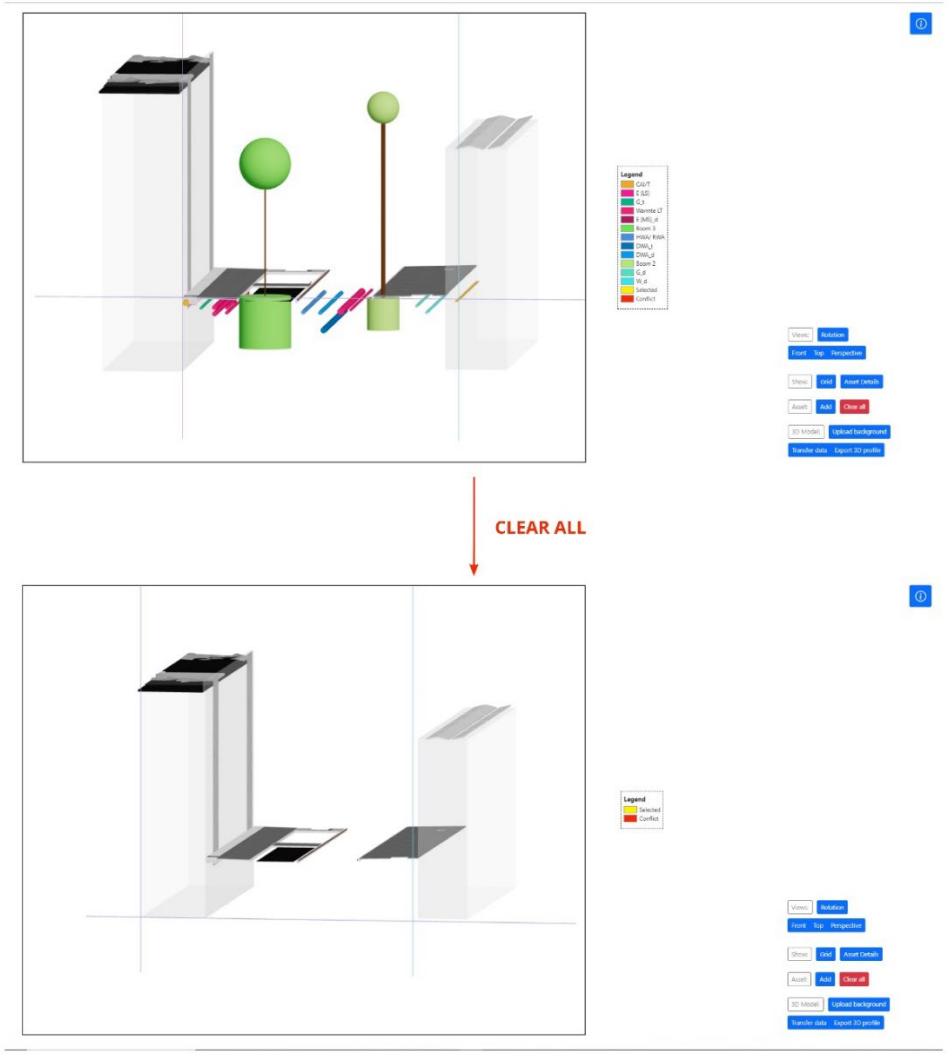
#	Order	Asset Id	Asset Name	Diameter	Depth	Distance	Restore
1	1	1	CAI/T	0.5	0.15	0.25	Restore Asset
2	2	3	E (LS)	0.05	0.5	0.63	Restore Asset
3	3	4	E (LS)	0.05	0.5	0.73	Restore Asset
4	4	5	E (LS)	0.05	0.5	0.83	Restore Asset
5	5	6	E (LS)	0.05	0.5	0.93	Restore Asset
6	-1	7	G_t	0.2	0.7	1.35	Restore Asset
7	-1	8	Warmte LT	0.35	0.56	2.37	Restore Asset
8	-1	9	Warmte LT	0.35	1.04	2.37	Restore Asset
9	-1	10	Warmte LT	0.25	0.62	3.27	Restore Asset

10. **Grid:** Click on “View Grid” button to see the grid in the model. Each grid is 0.5 meter size and can be used to estimate the length in the profile.
    - Note: It is best to use Grid in Front view



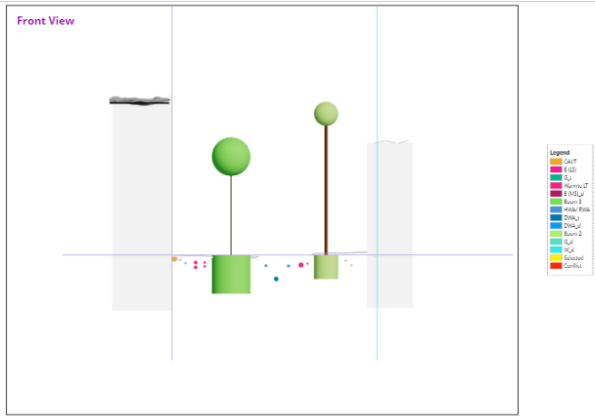


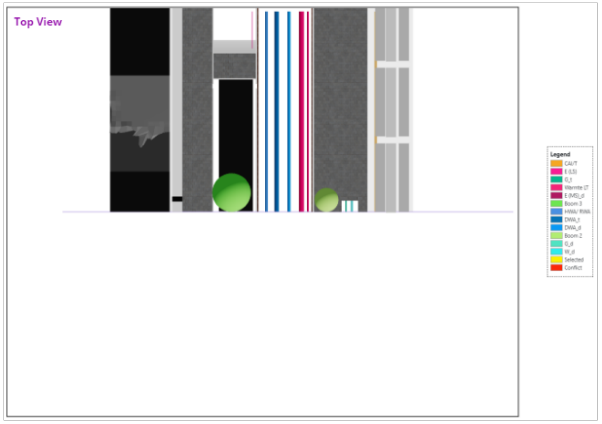
11. **Reset profile:** Use the "Clear all" button to reset the profile and remove all the added assets, reset the ground level, street boundaries and view settings. Once cleared, any data cannot be restored.

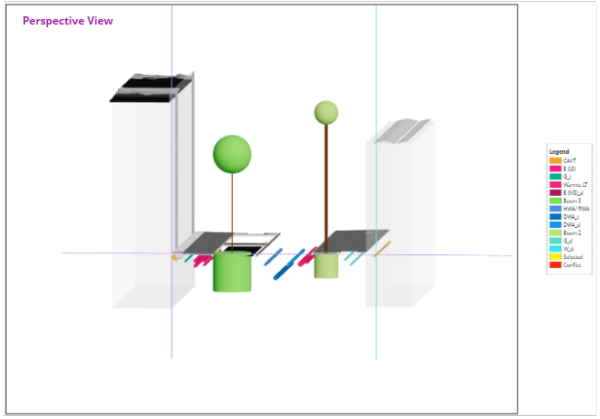


Views

1. To enable rotation of the view, click on “View rotation button”. Left click the mouse button and move around to rotate. You can right click on the mouse and drag to move around in the 3D model, in x or y axis.
2. To save the view settings, click “Alt + R”.
3. Choose the different views to select the Front View, Top View or Perspective View button.
4. The saved view settings are reflected in Perspective View.





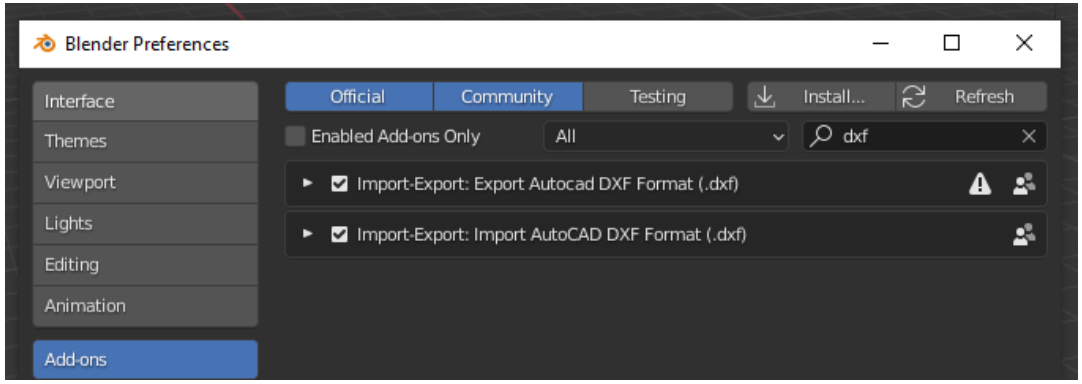


Export Model – Click on Export 3D Model button to save a copy of the profile in your computer. This is saved in GLTF format.

To convert GLTF to DXF format or vice-a-versa, use Blender Add-on. (https://all3dp.com/2/stl-to-dxf-how-to-convert-stl-files-to-dxf-autocad/).

Steps to install the add-on to convert GLTF to DXF or vice a versa in Blender:

1. Open Blender, and go to Edit -> Preferences
2. Choose Add-Ons
3. Search “DXF” using the search bar
4. Install the two add-ons for import and export of DXF files



Steps to convert GLTF to DXF:

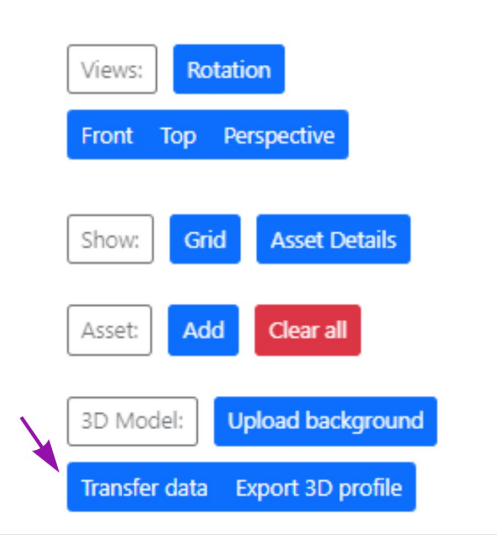
1. Open Blender, go to File -> Import
2. Import the GLTF file (gltf 2.0) in Blender
3. Go to File- > Export
4. And export to AutoCAD DXF

Steps to convert DXF to GLTF:

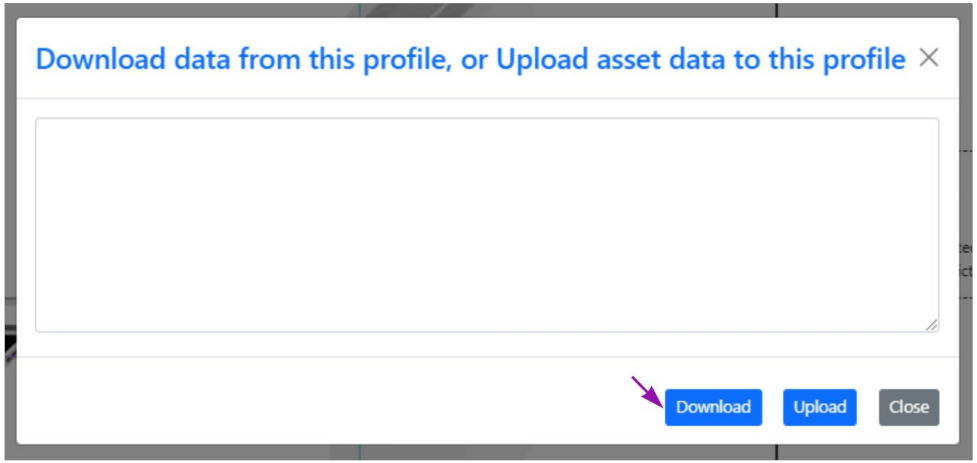
1. Open Blender, go to File -> Import
2. Import the AutoCAD DXF file in Blender
3. Go to File- > Export
4. And export to GLTF (gltf 2.0)

Transfer profile to another computer or browser

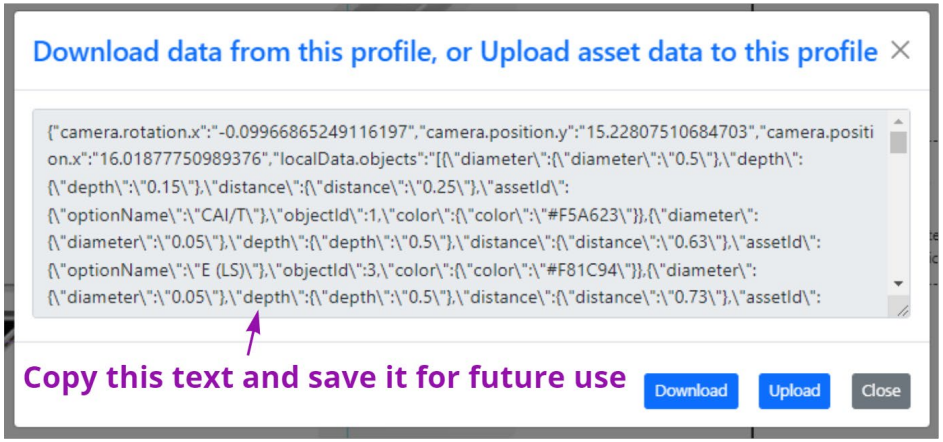
1. On a browser where a profile is built, choose “Transfer data” button.



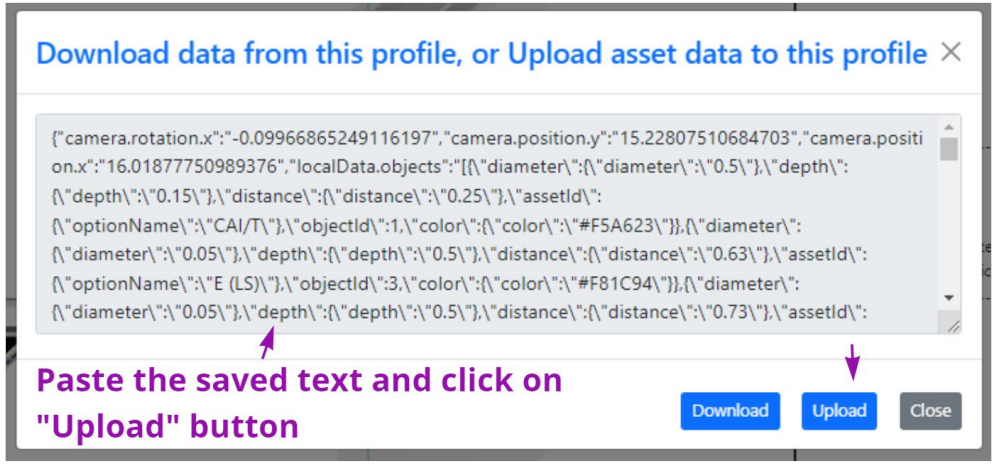
2. Next, click on “Download”



3. Copy the data shown in the textbox.



4. Go to another browser or computer, open the web-app. Again, choose the “Transfer data” button (Image in Step 1).
5. Paste the copied data to the empty textbox and click “Upload”.



6. The profile is transferred to the new computer/browser.