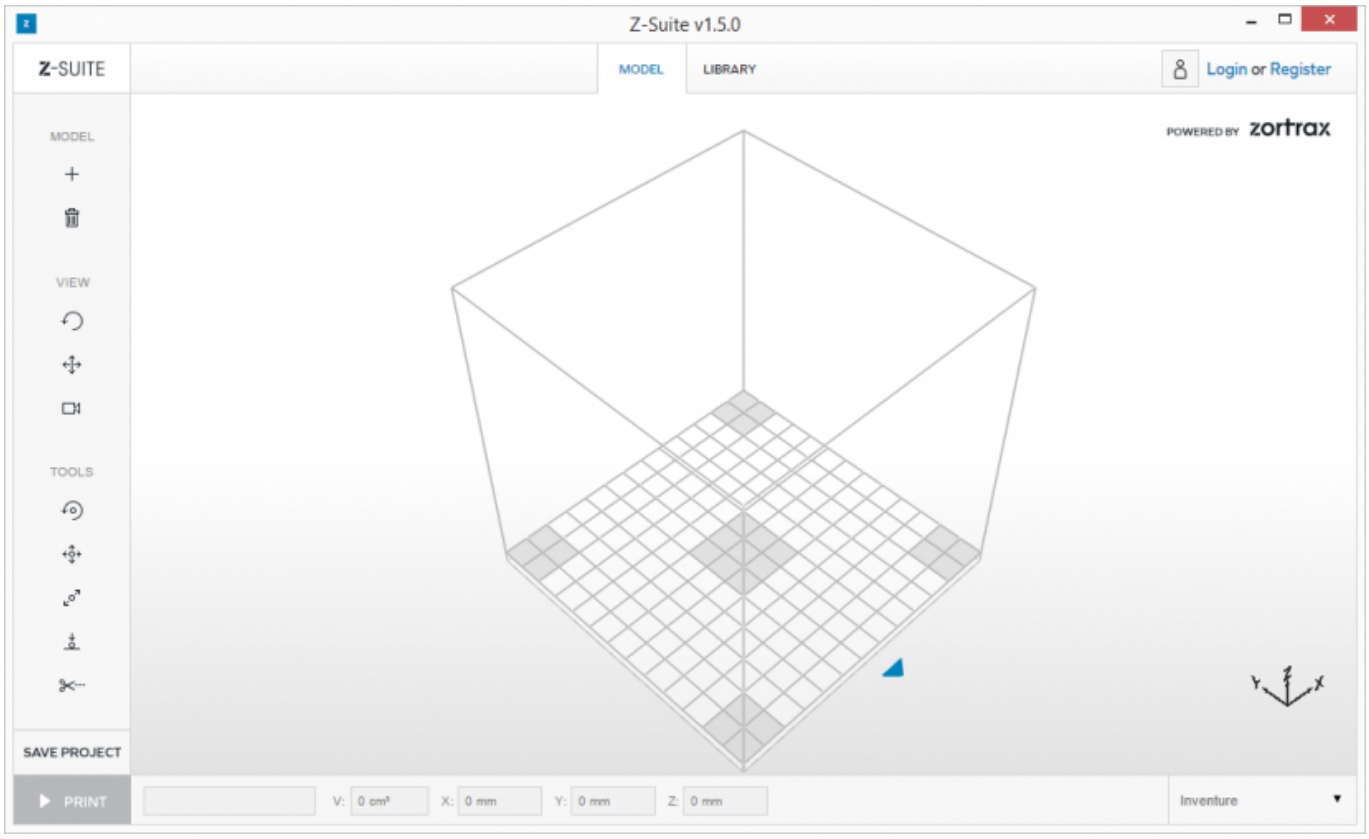
Z-Suite Manual

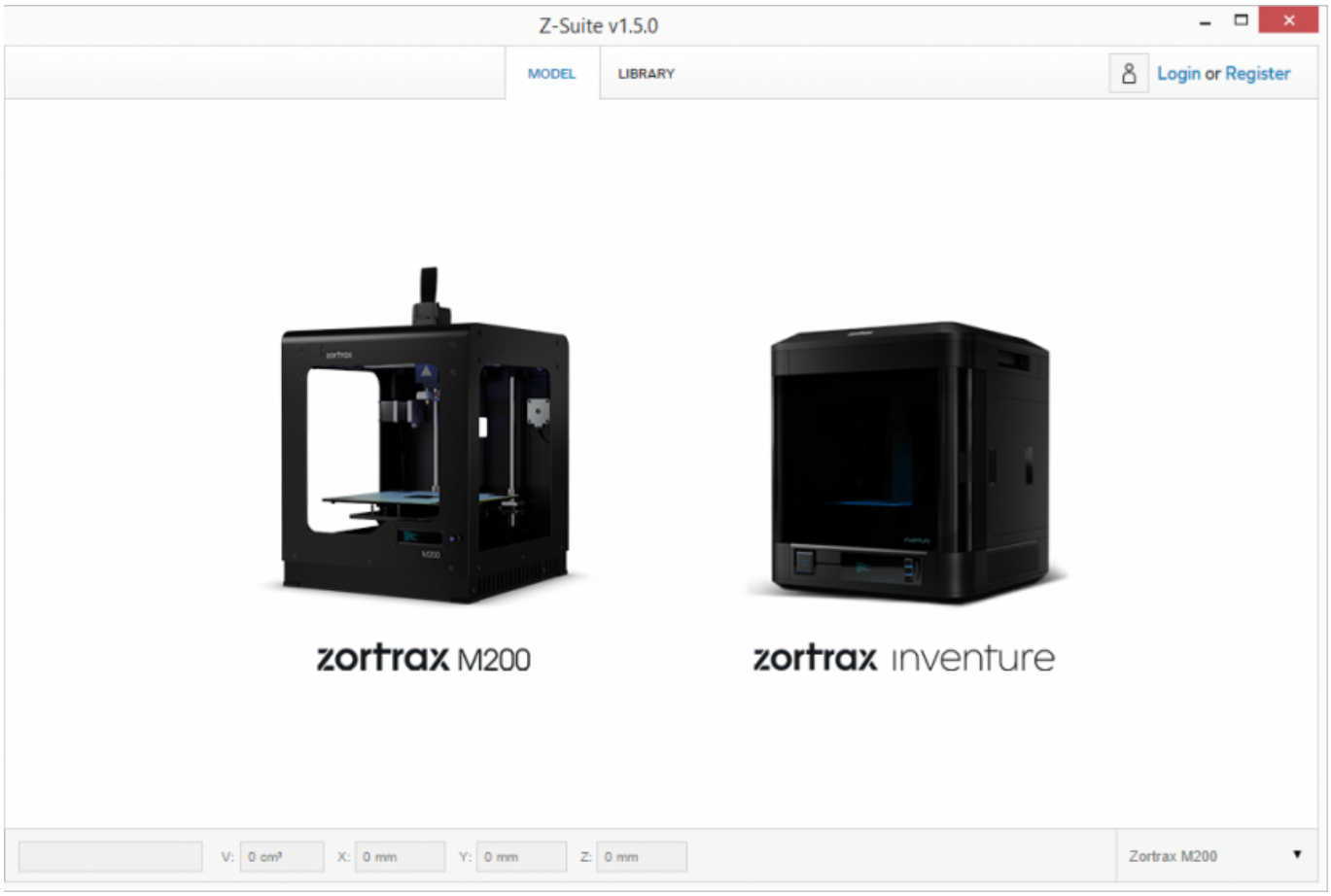
Please see this manual which shows how to use Z-Suite correctly. Respective topics have been described and explained step by step in order to facilitate as much as possbile the usage of our software.

Downloading Z-Suite

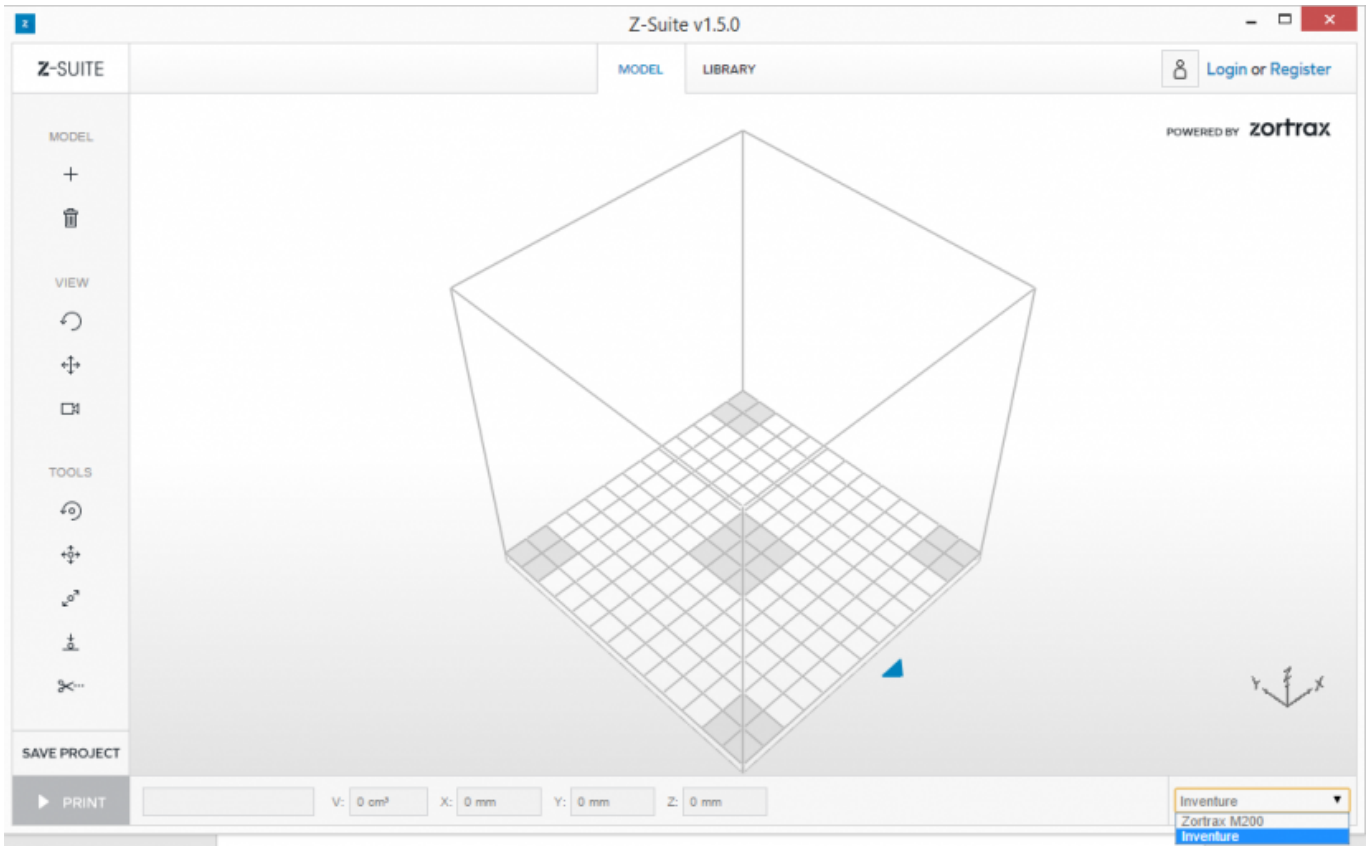
Download the latest version of Z-Suite from Zortrax Support from the Download section. You will need a serial number of your printer to complete the download. To find the serial number, go to “Information” option on the display and choose “Serial Number.” Also remember to update your Firmware to the newest version. The newest version is available on the Support Center in the Download section – to update, extract a zip file. Copy update.bin on your memory card, insert it into the printer, then turn on the printer.



Printer selection



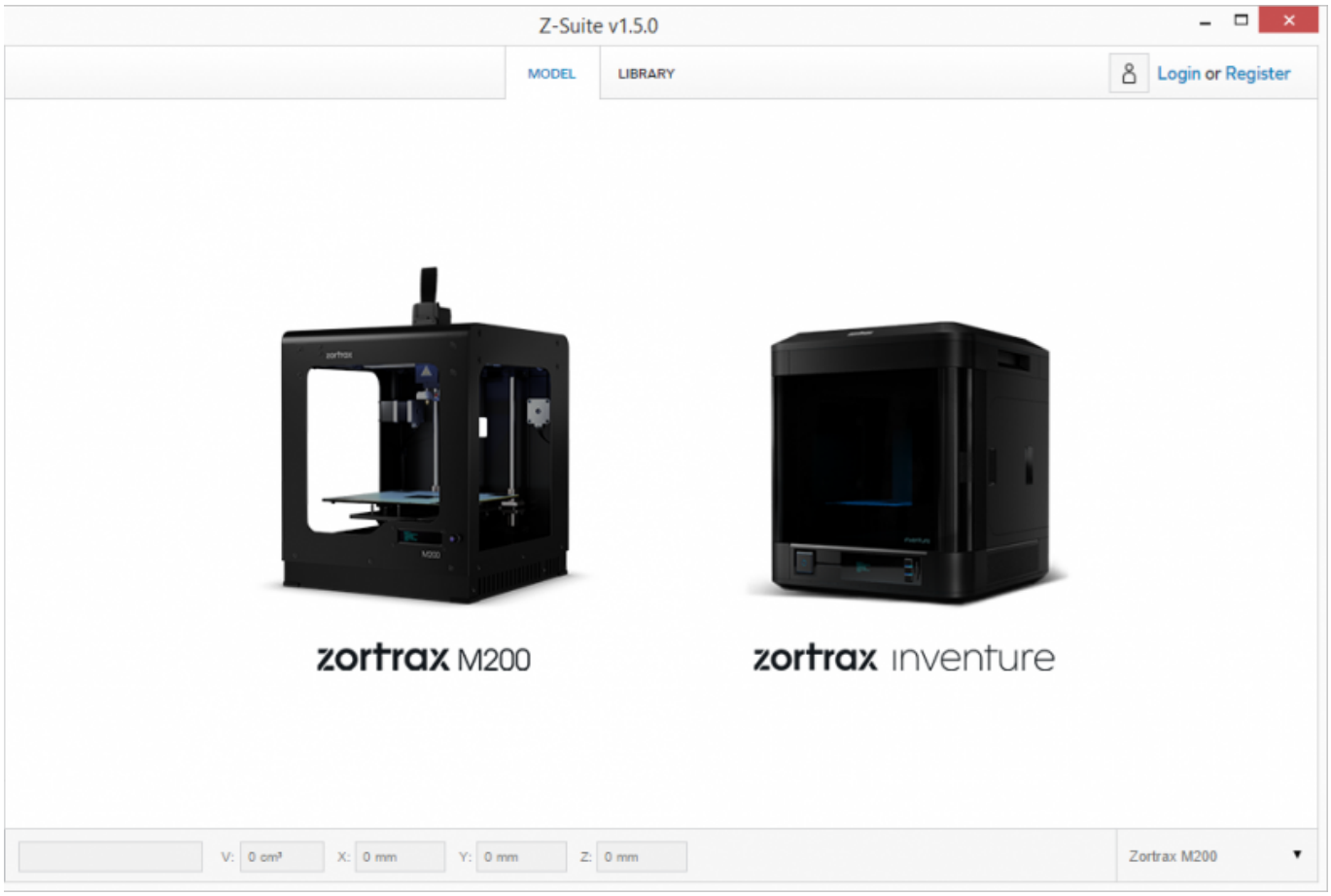
1. On Z-Suite start screen, select the model of the printer you are going to use.



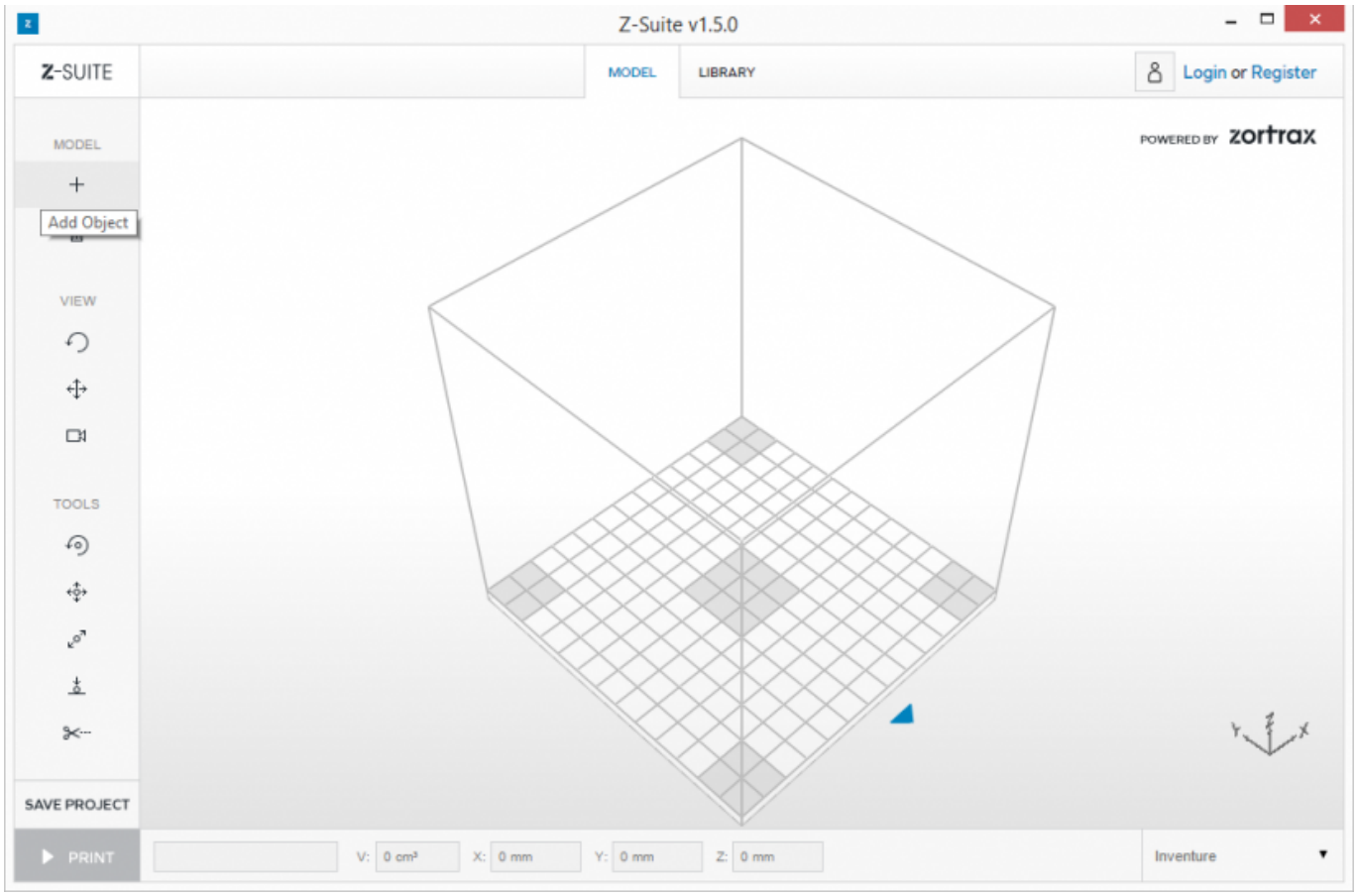
2. Recently selected model of the printer is displayed at the bottom right of the screen. You can change the model at any point of planning the print by selecting the other model from the list.

Adding a model

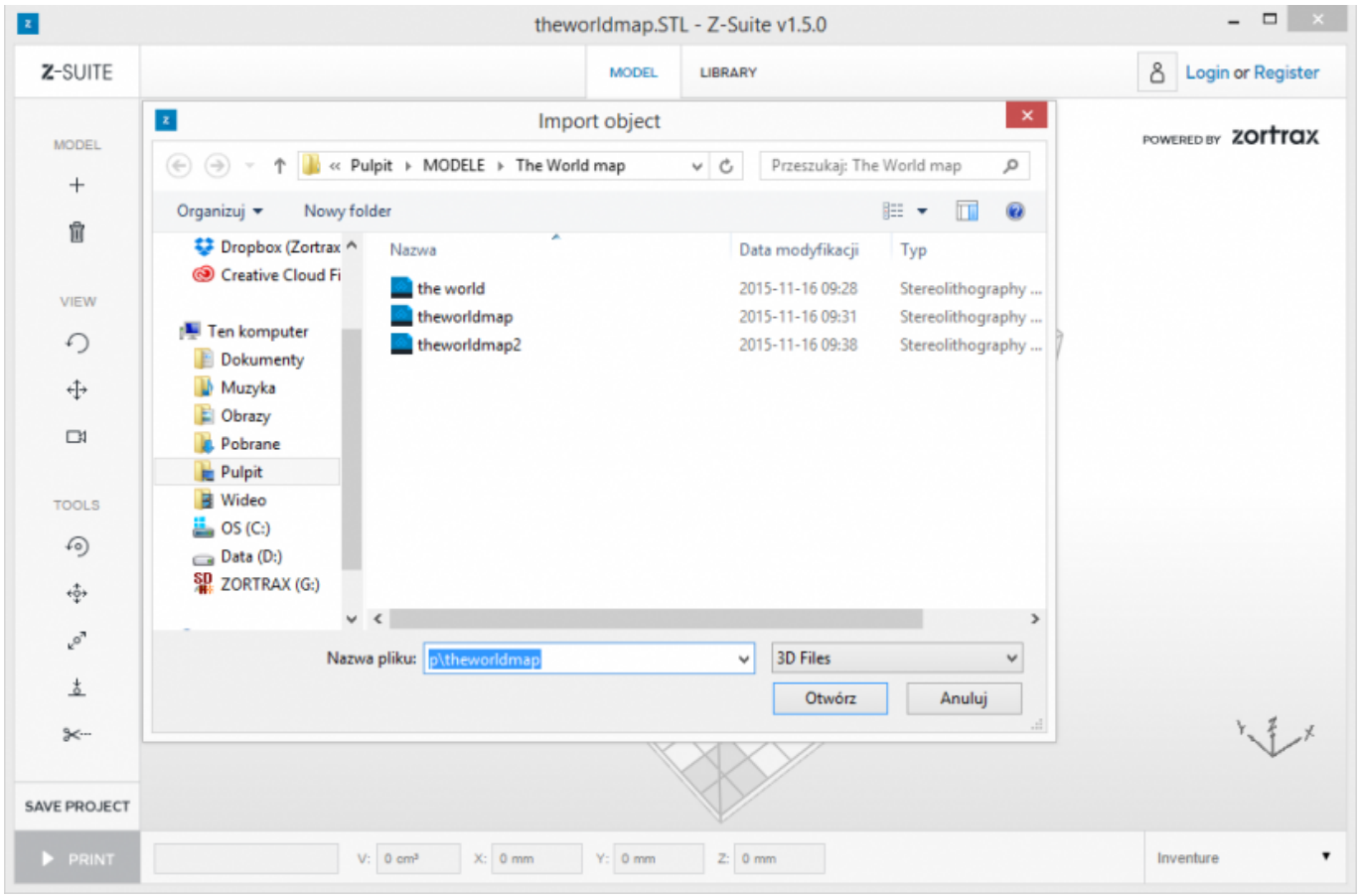
ADDING A MODEL IN A .STL OR AN .OBJ FORMAT



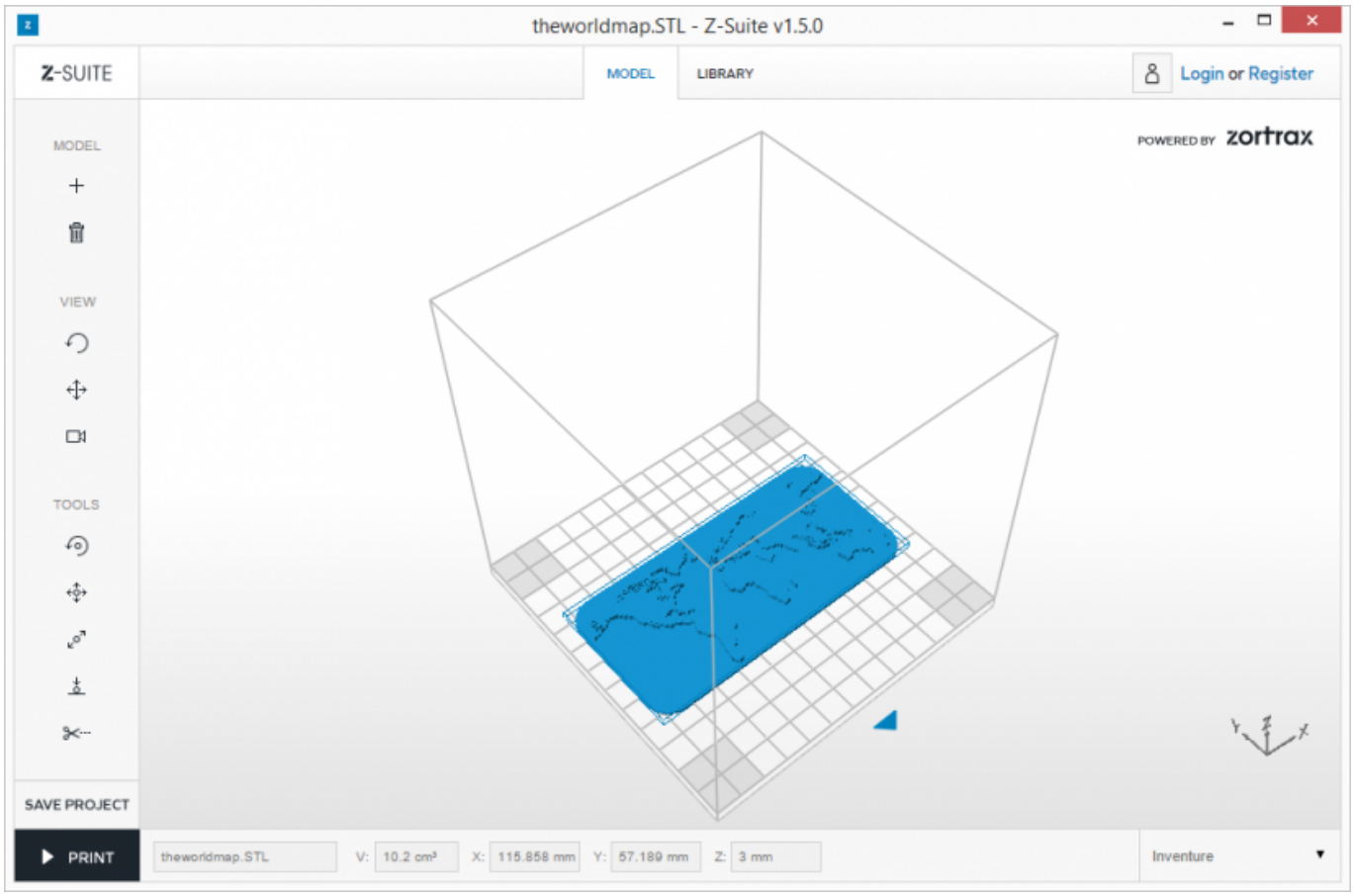
1. On the start screen, select the model of your printer which will be used.



2. Use + icon or use drag and drop option to upload a model. You may do so with models saved in an .stl or an .obj format.



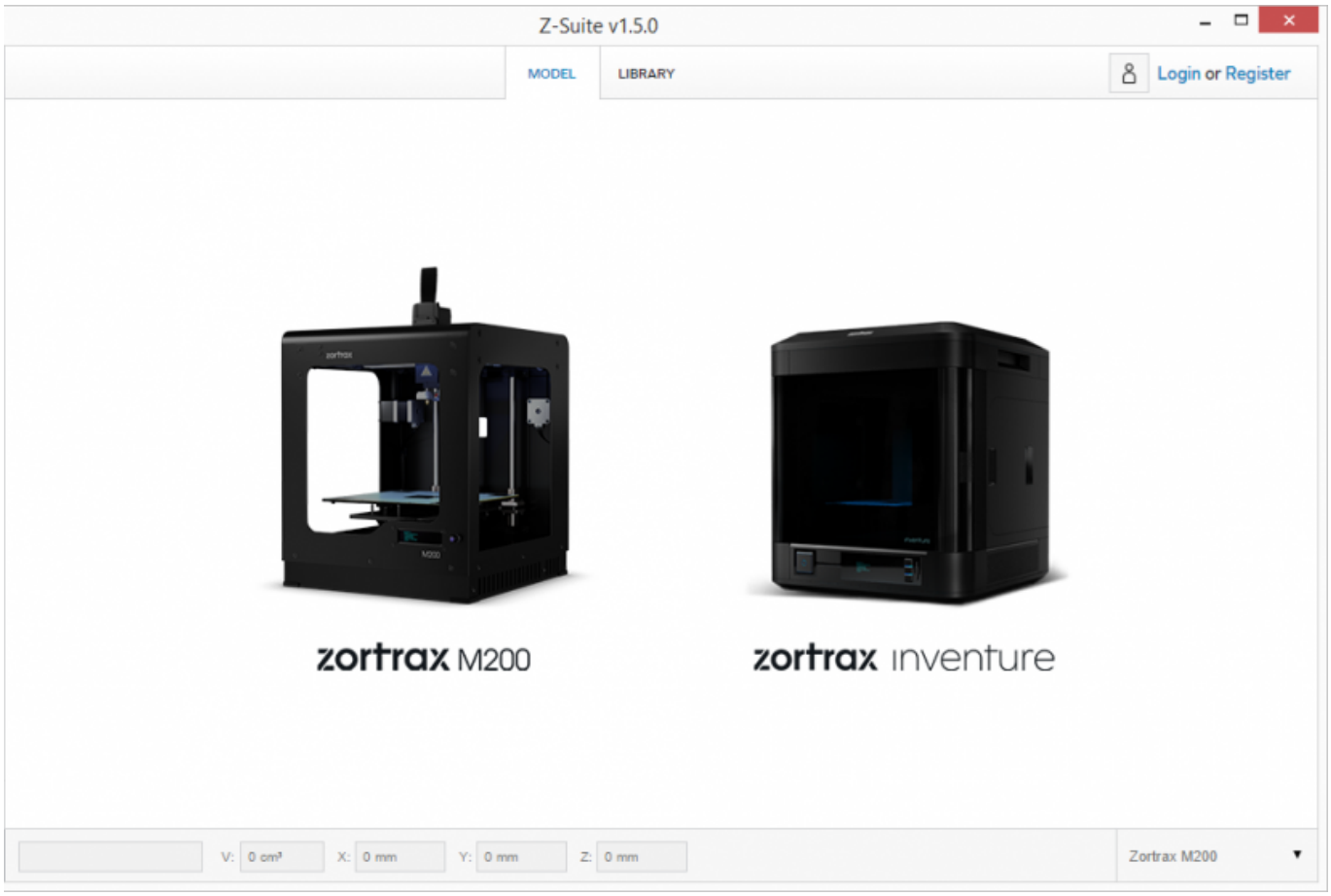
3. Select a model and click OPEN.



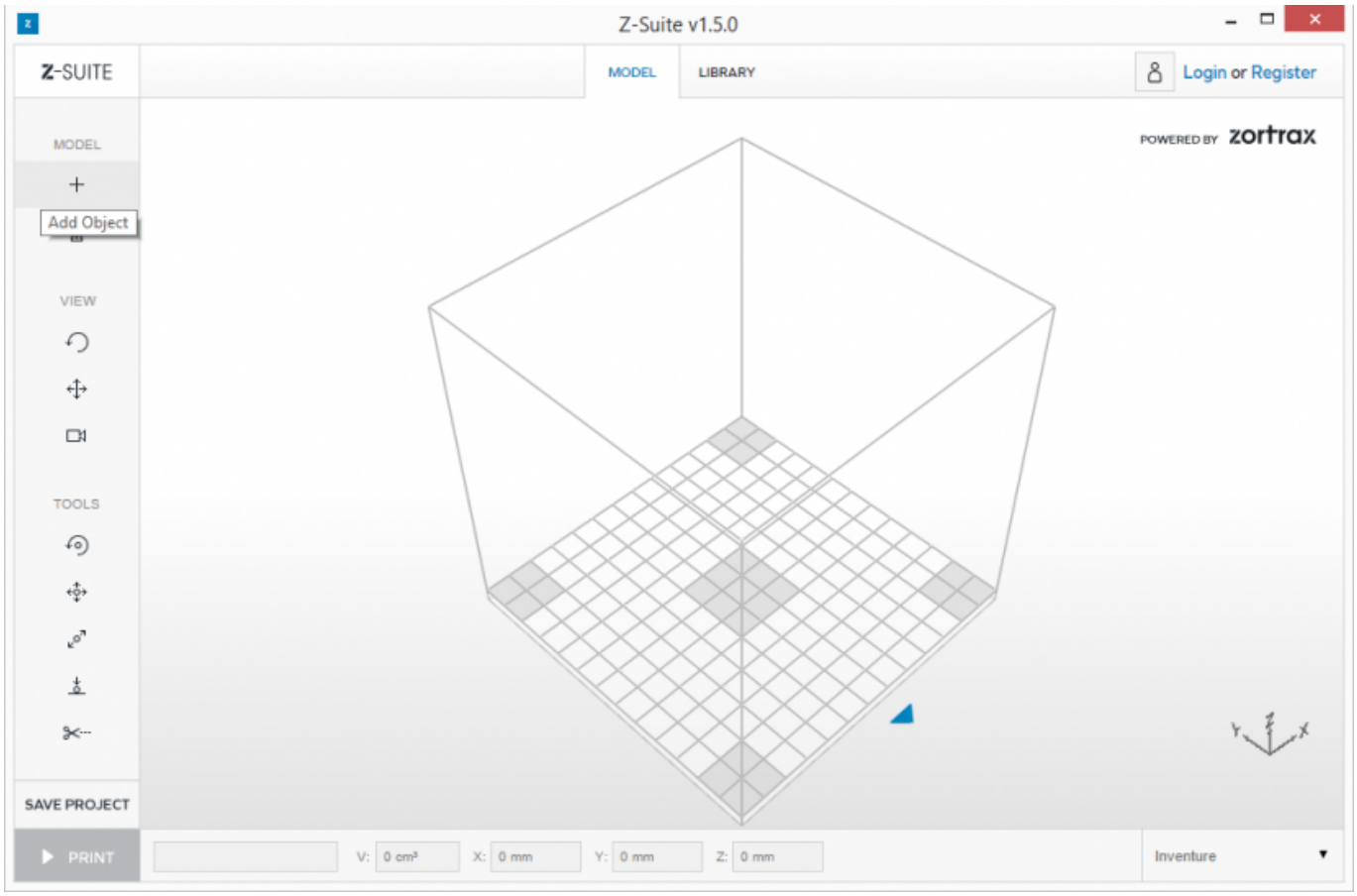
4. Your model is now within the workspace. To select the model, click the right mouse button. You can save your model at any time by clicking SAVE.

DXF Files (2D to 3D)

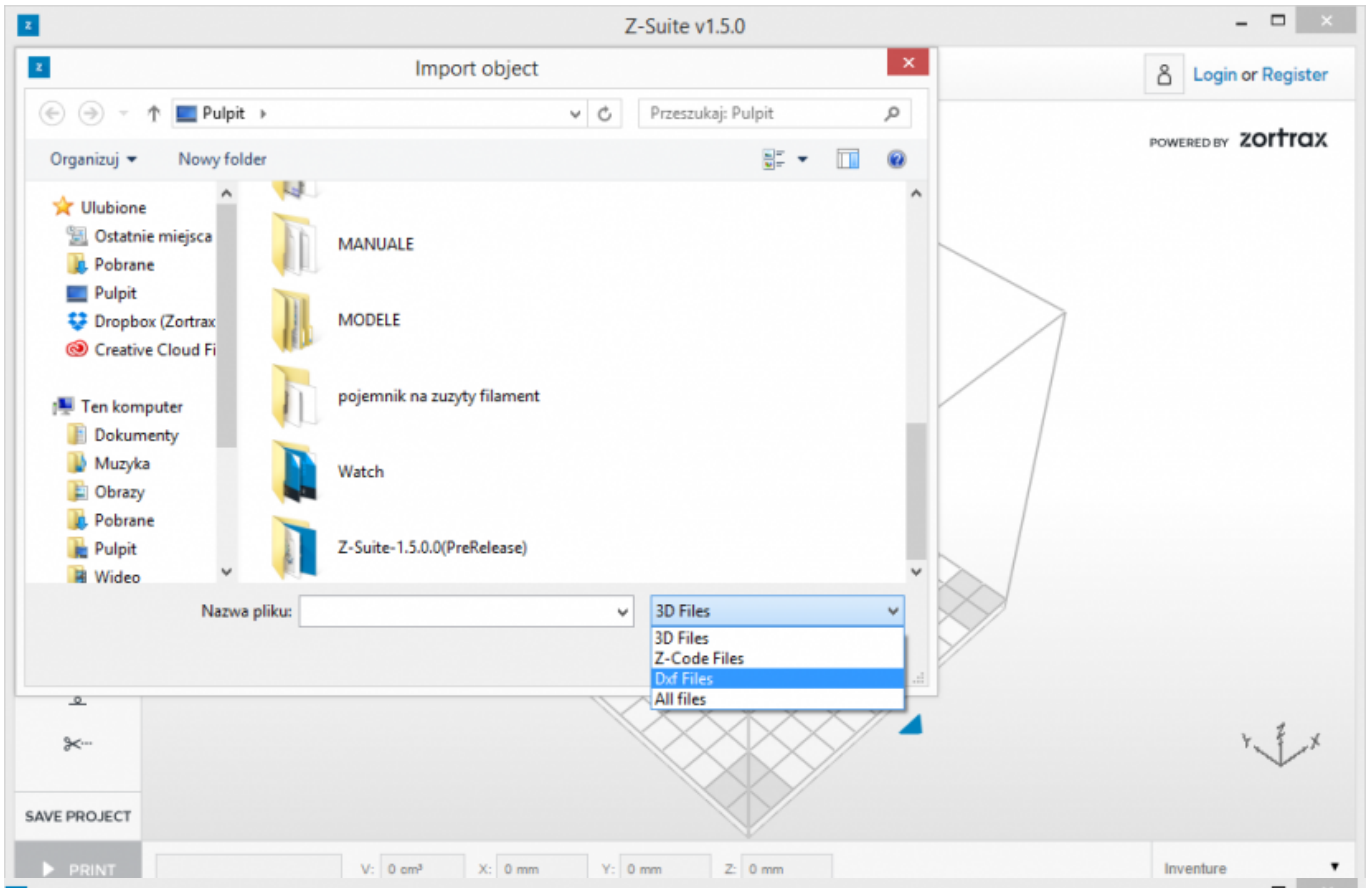
ADDING A MODEL IN A .DXF FORMAT

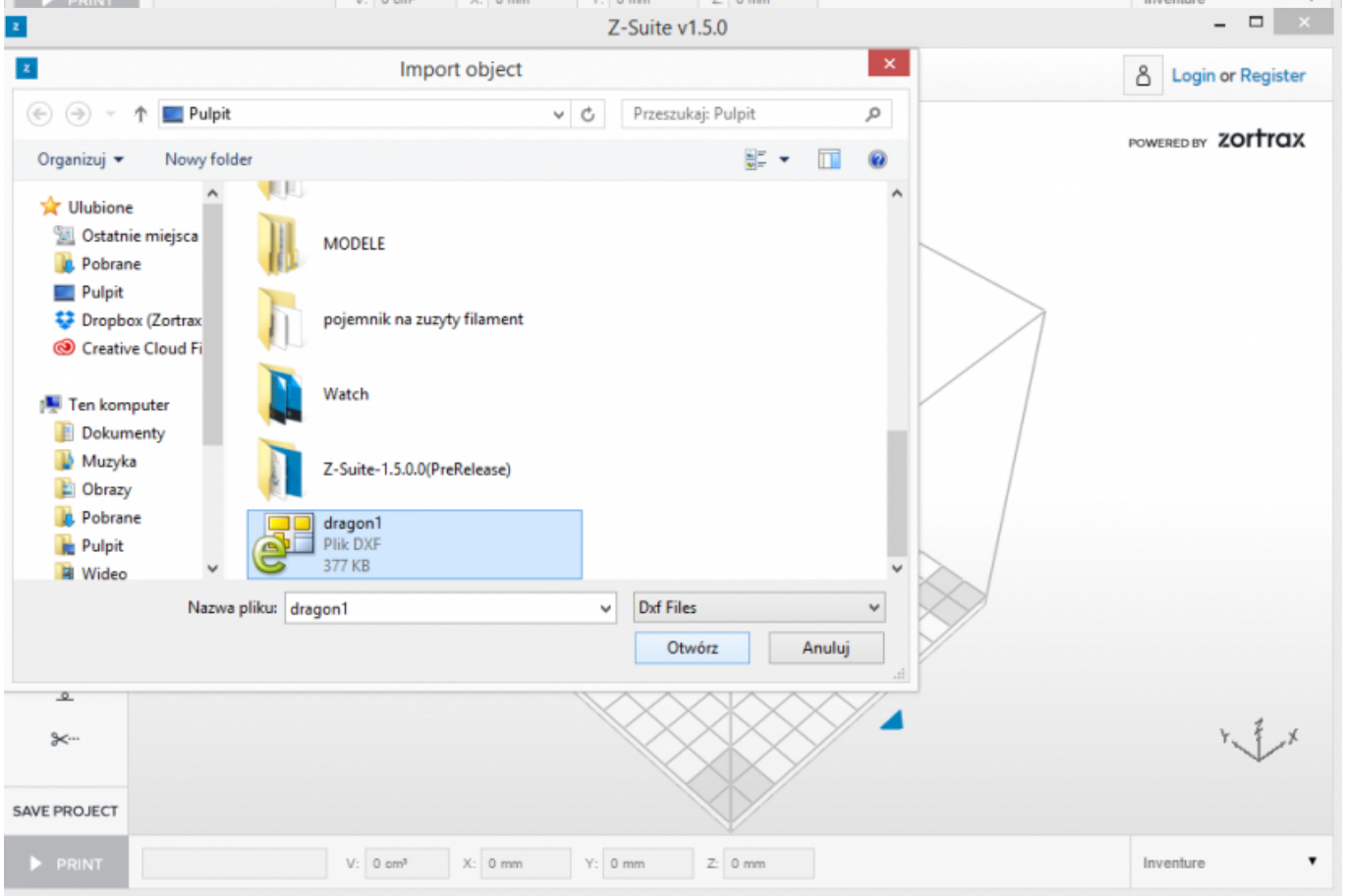


1. On the start screen, select the model of your printer which will be used.



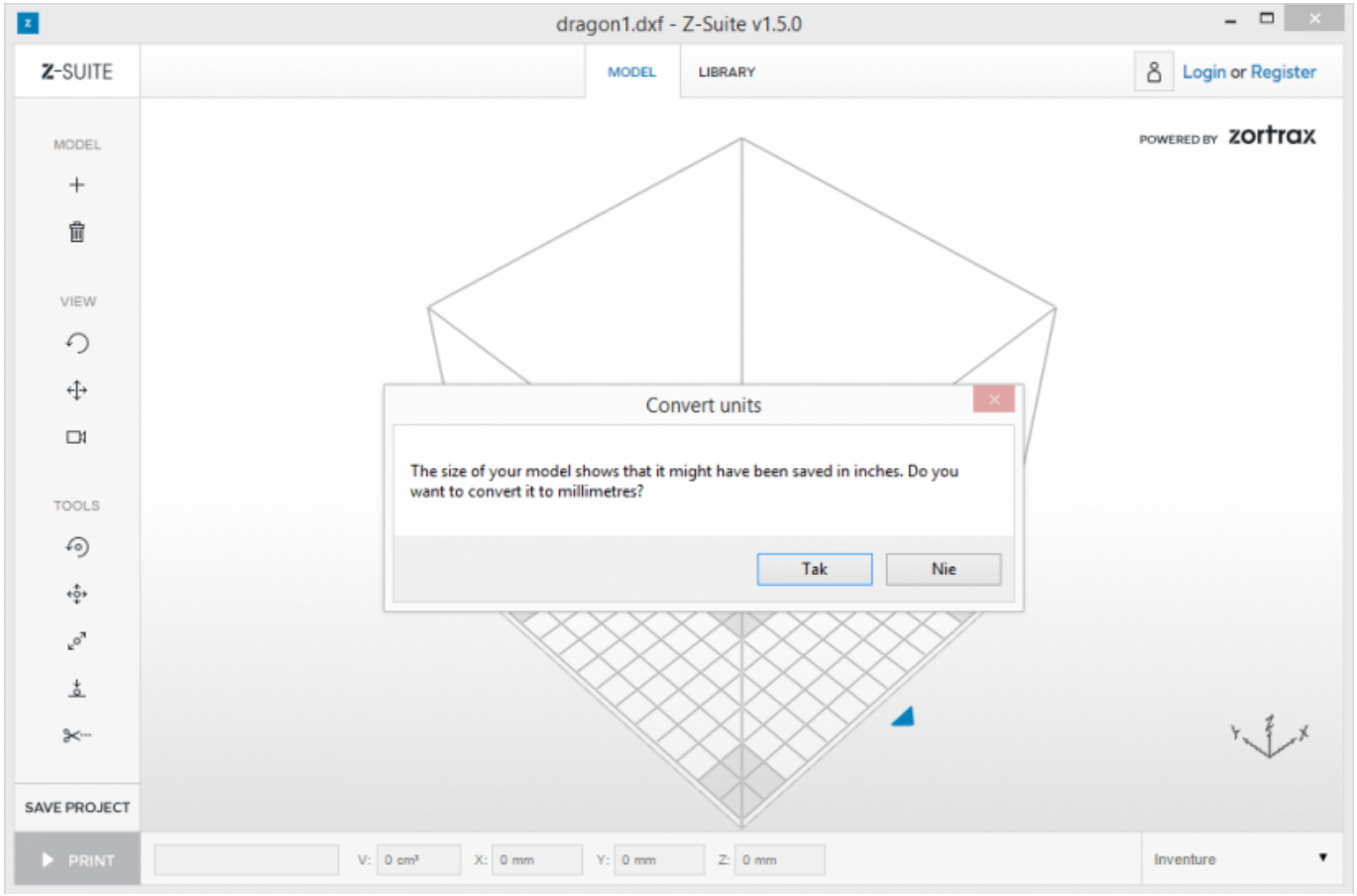
2. Use + icon or use drag and drop option to upload a model in .dxf format.





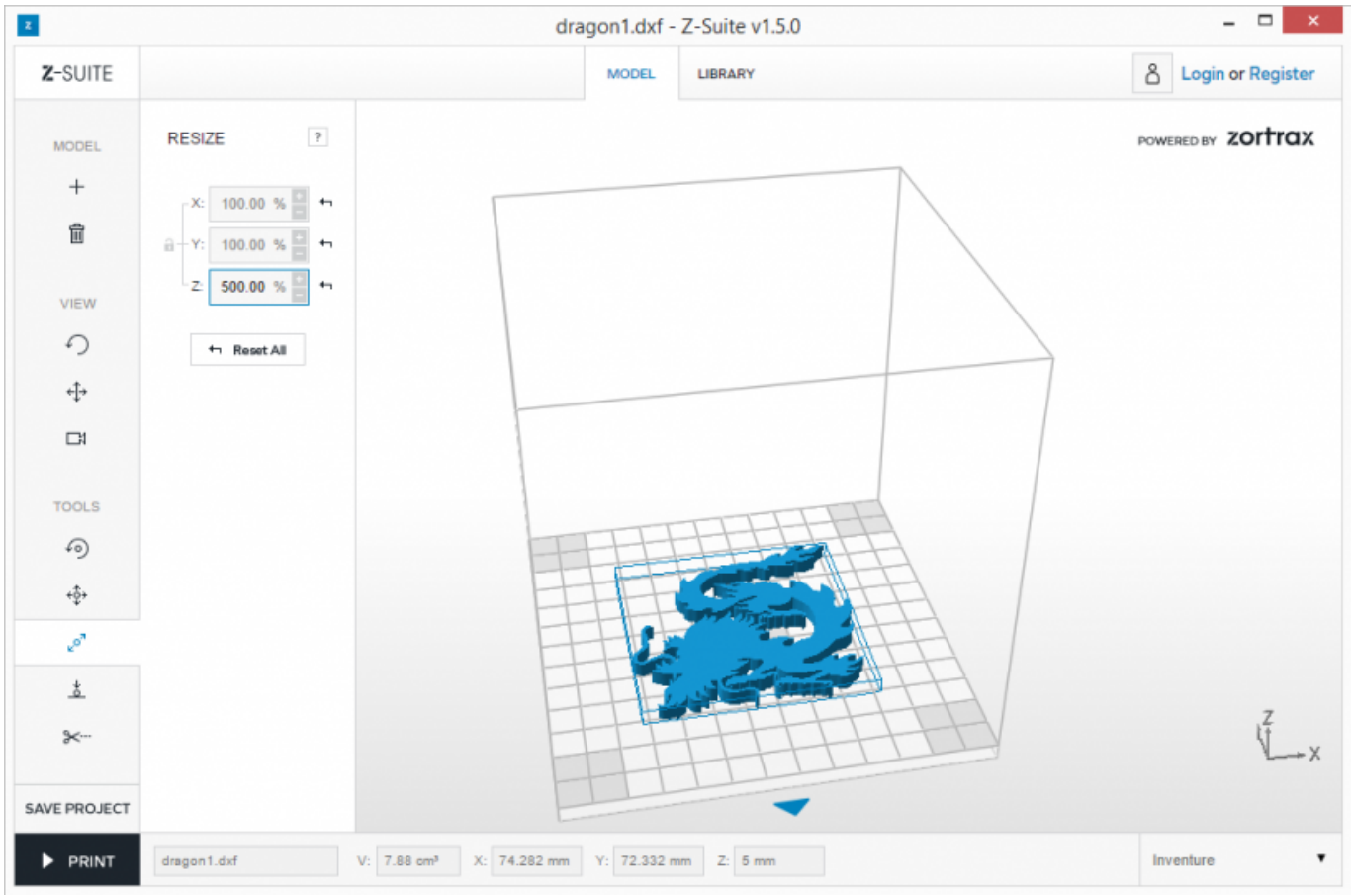
3. From the list select Dxf files and click OPEN. Make sure that your .dxf model is saved as a polyline of two dimensions –

R12 ASCII type. Also, your model should contain closed polylines.



4. While adding the model, Z-Suite will display a message about converting units (from inches to millimeters).

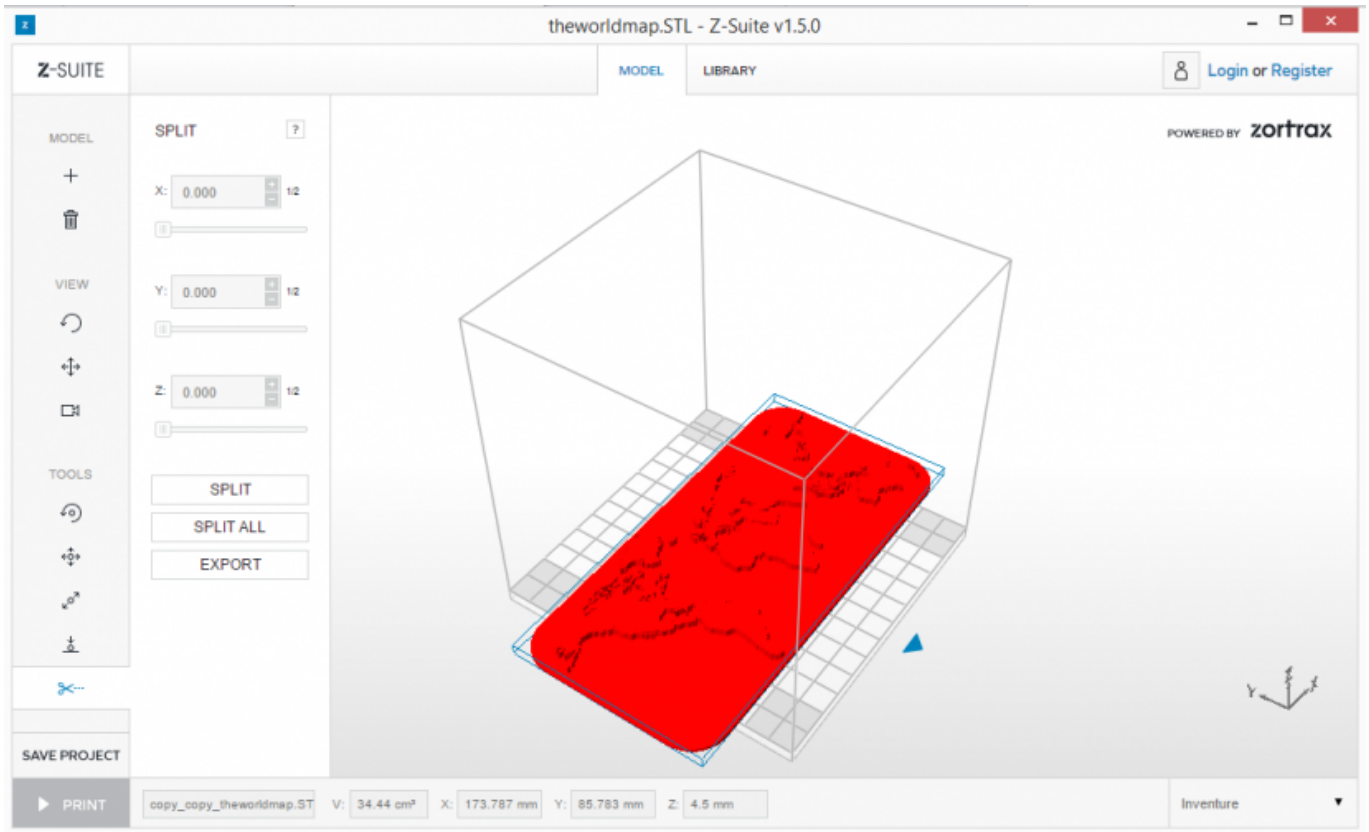
5. A .dxf 2D model is automatically converted into a 3D model of 1mm height.

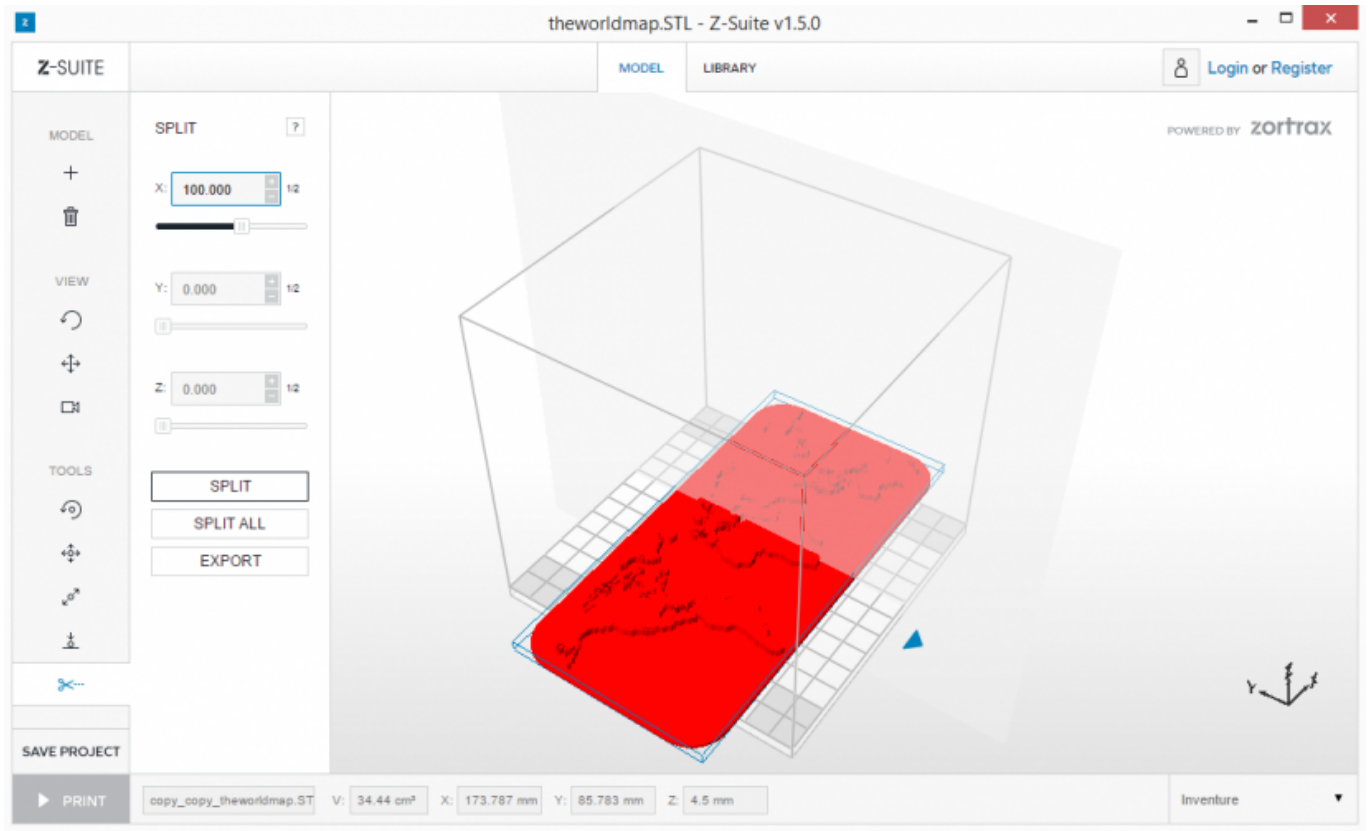


6. If you wish to change the height of your model, click Resize Object. You can enlarge the model with respect to Z axis. Click a padlock icon to change only one measurement. If your model needs to be 50mm high, change its height 5 times (500%).

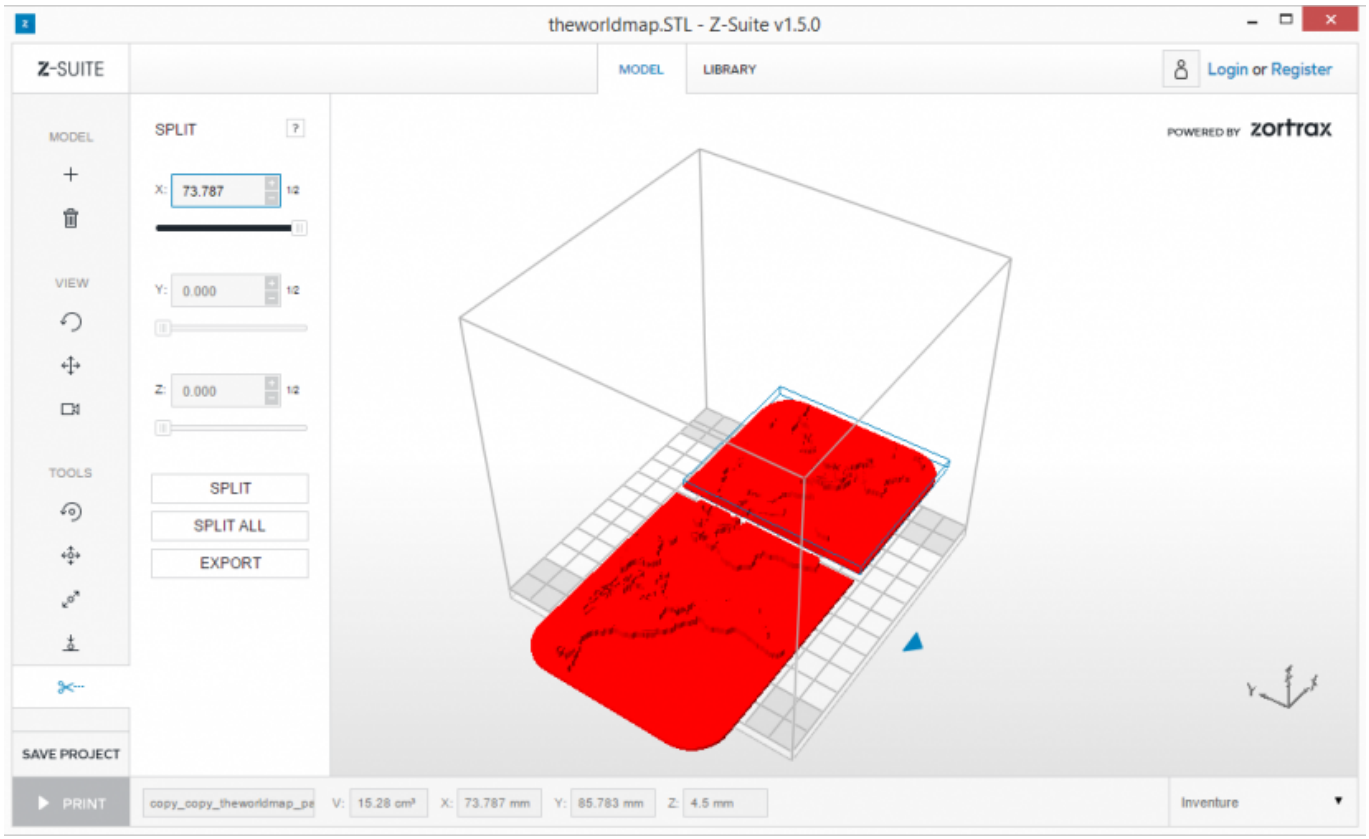
Splitting a model

If your model does not stay within the workspace, you can split it into smaller parts.

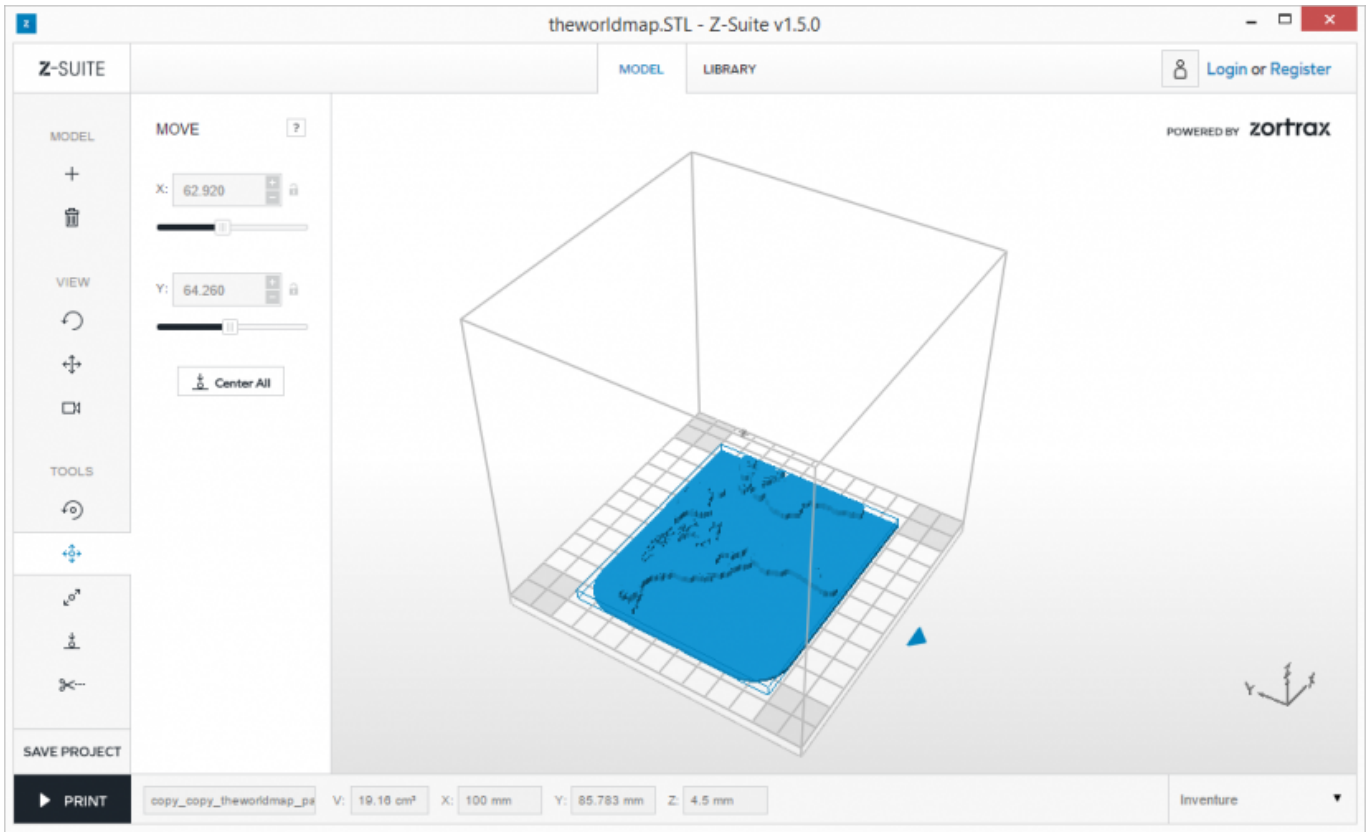




1. Click “Split” icon to split the model.

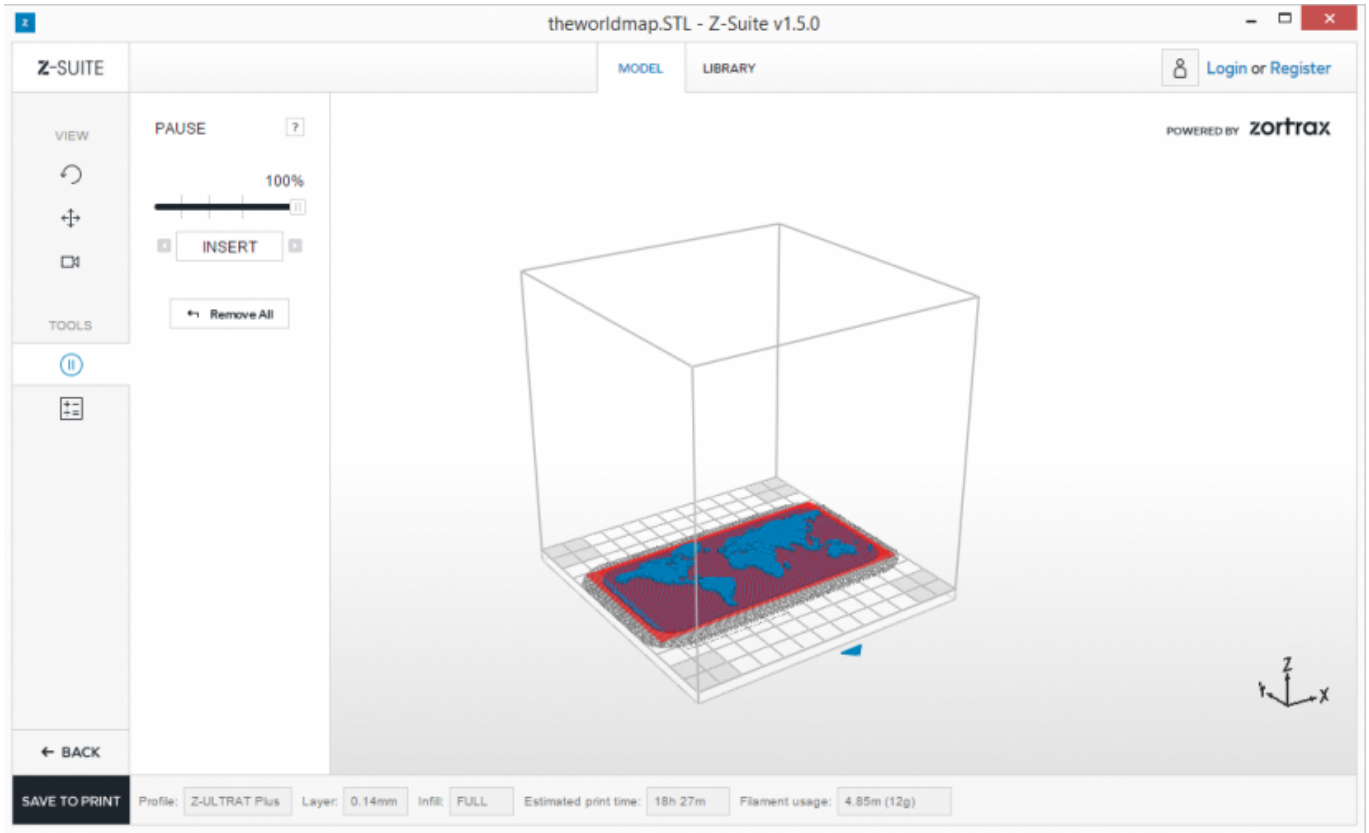


2. Choose the position of the cutting plane. You can change the parameters manually or adjust the slider and click “Split” or”Split All”. Each separate part can be saved by clicking Export.



3. Delete one part of the model and Auto arrange the other part in the workspace to prepare it for printing.

Slicing a model



1. Generate Z-code when preparing the model for print. Read “Preparing the model to print” article – Click here

2. Z-suite will show information on material usage and estimated print time.

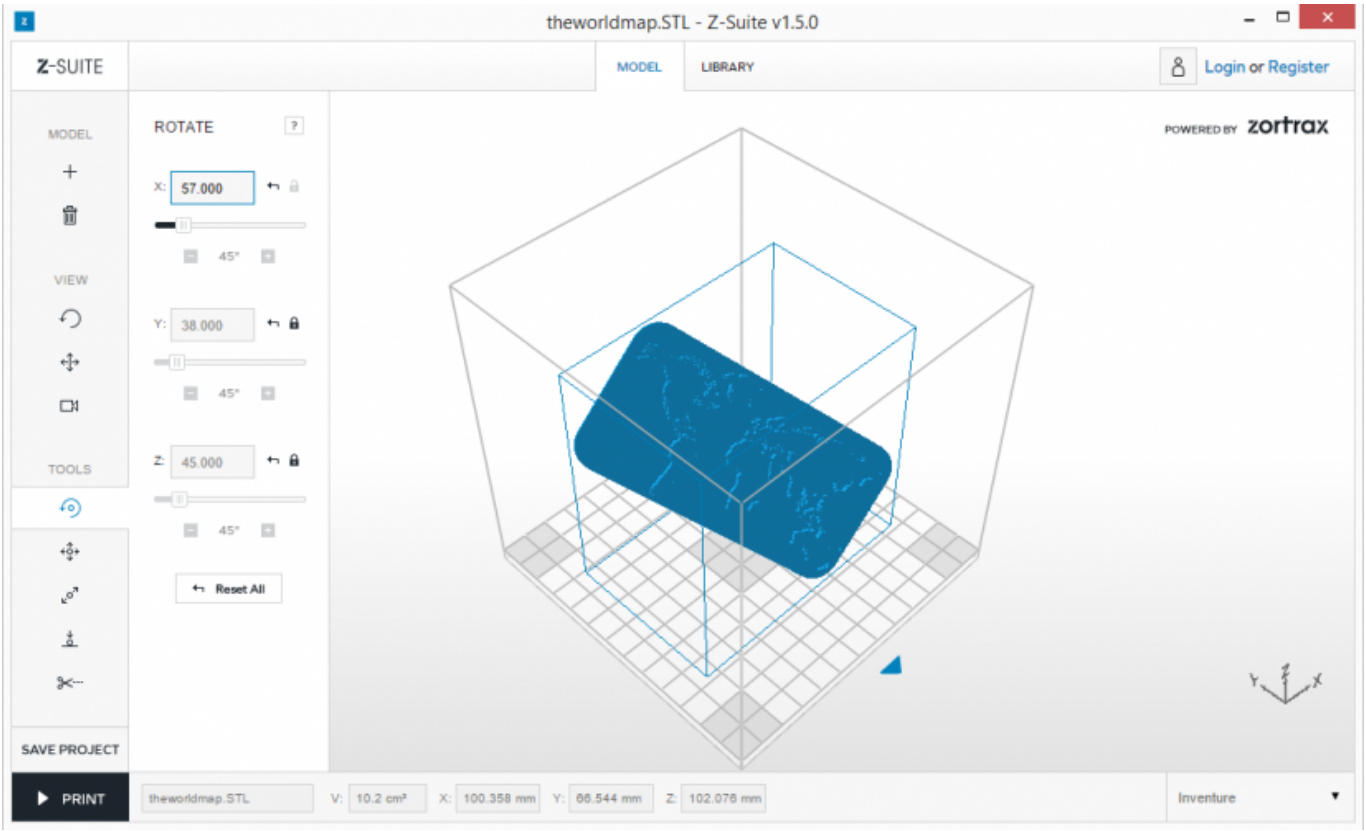
3. Add a pause – “PAUSE” function allows to hold the printing process in order to change the material colour and divide the print into stages.

To plan the pause during the print, move the slider on a desired layer.

– “INSERT” function allows to set the pause in a chosen place. You can use this function several times in order to plan multiple pauses during one print.
– “REMOVE” function allows to remove a pause.
– “REMOVE ALL” function allows to remove all pauses.

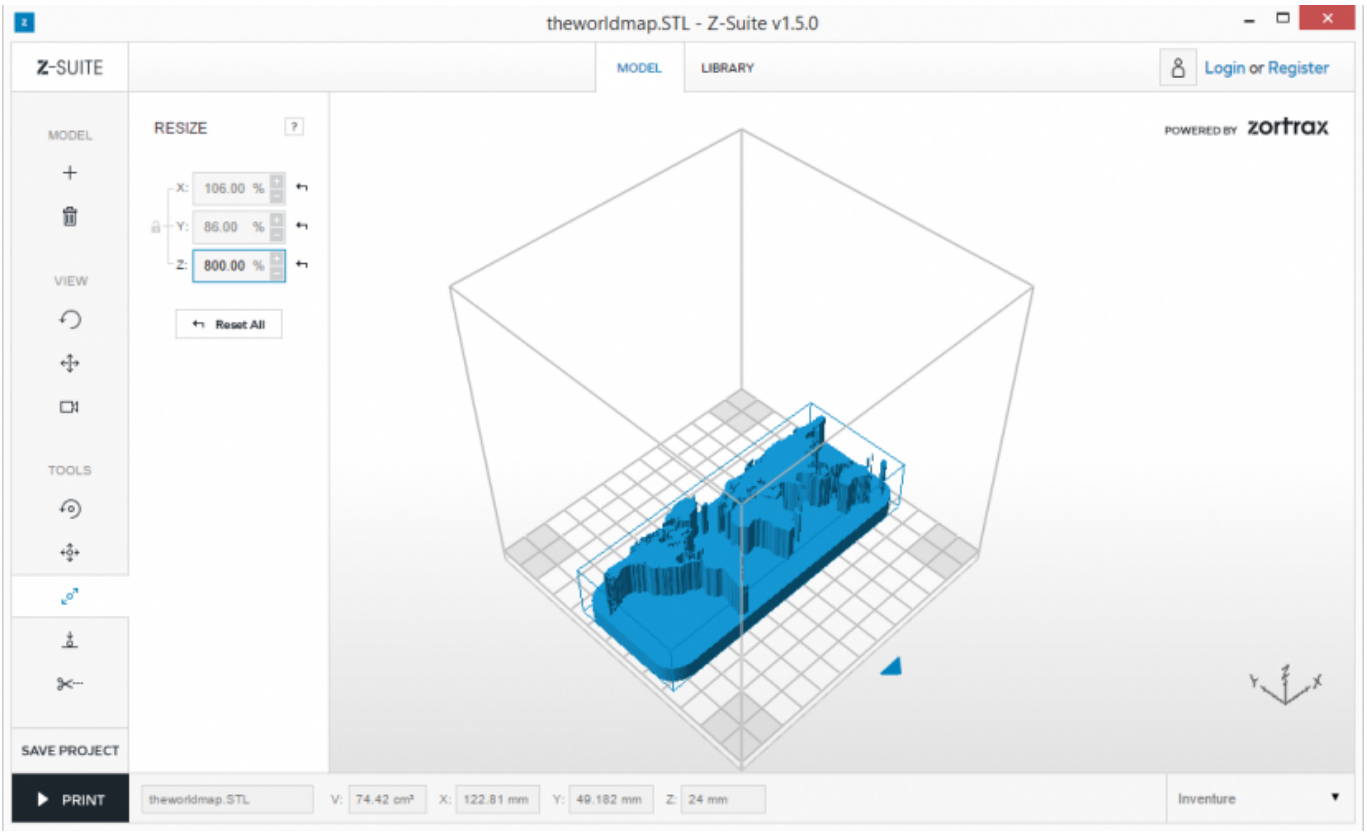
4. Save your Z-code (with pauses) on a hard drive or directly on the SD card – click Save to print button.

Rotating a model



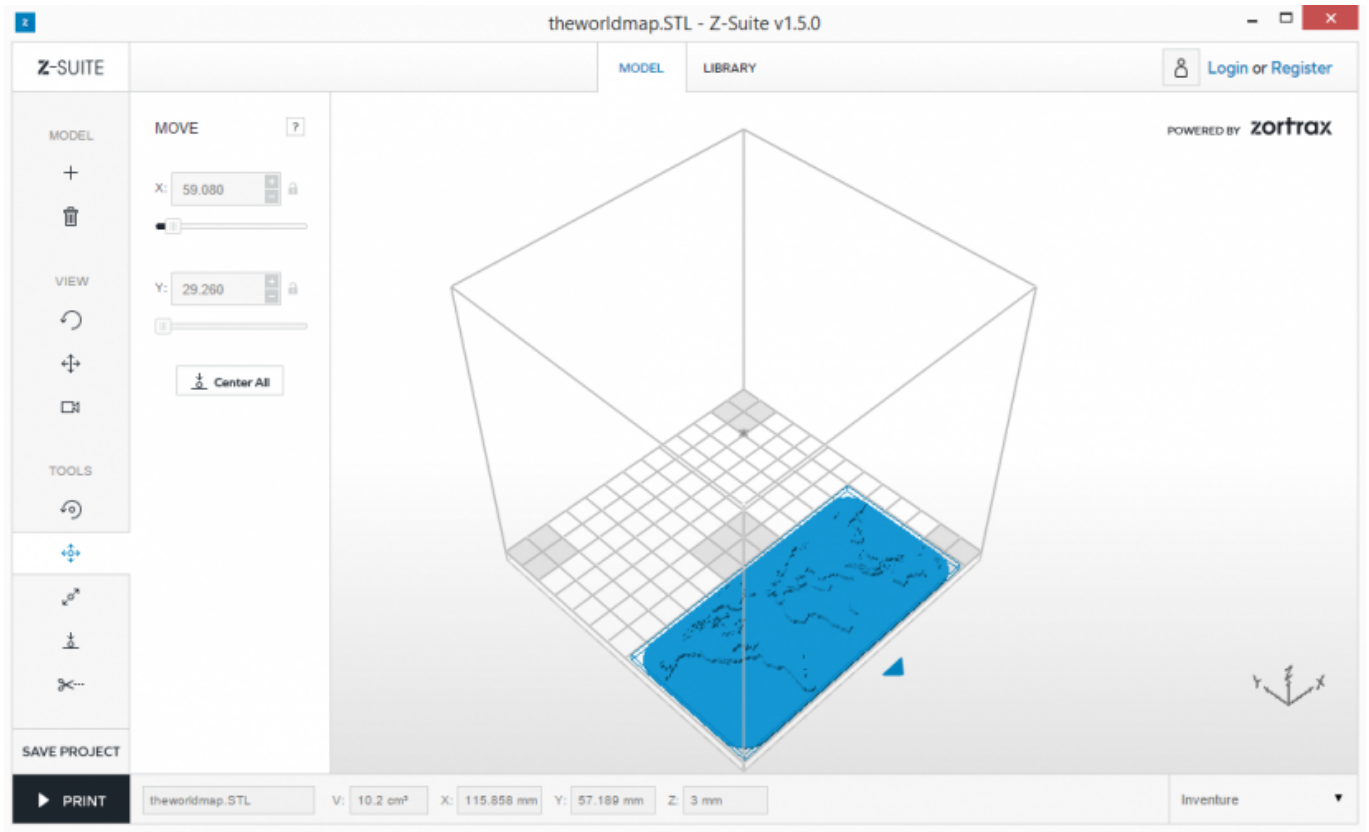
1. With “Rotate Object” option you can rotate a model in the workspace in three directions. You can rotate the model by adding an angle or clicking and dragging the selected model. Choose one of the three axes: X, Y or Z to decide in which direction you want to rotate the model.

Resizing a model



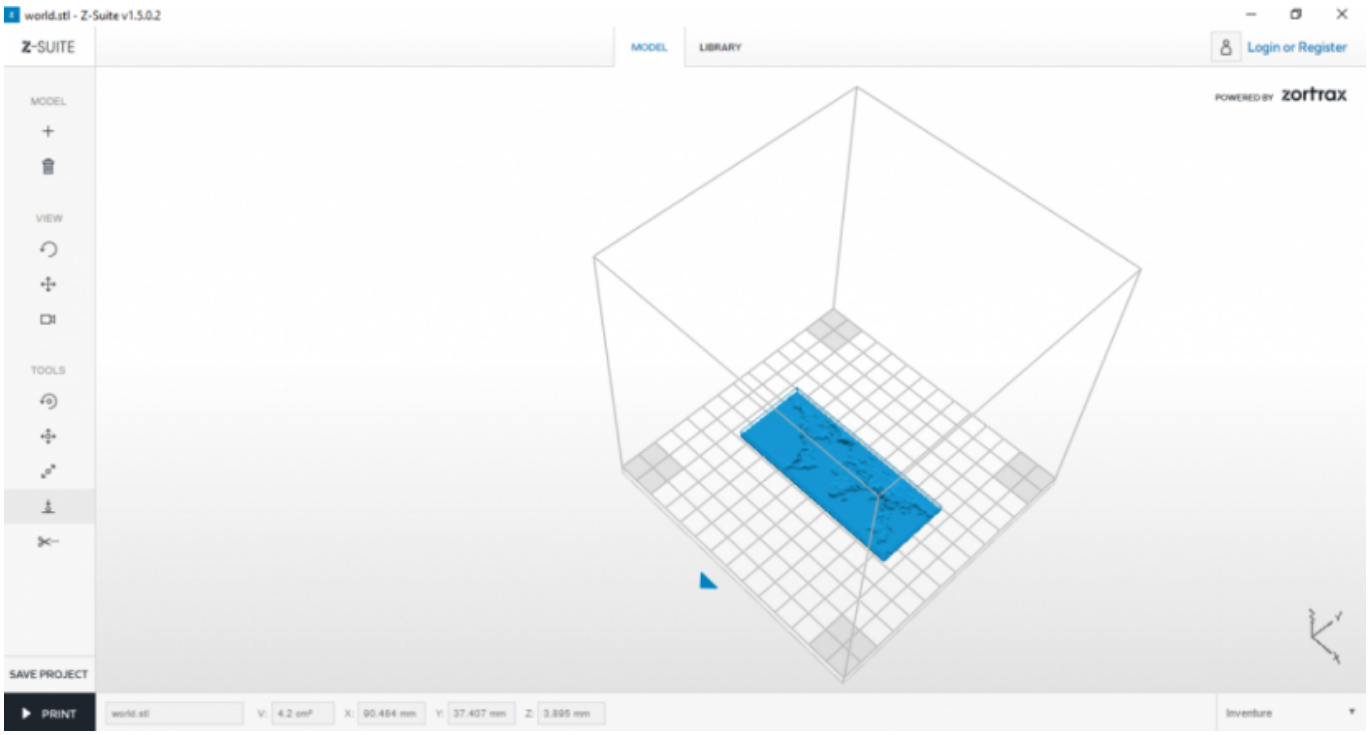
1. Click “Resize Object” icon to scale the model. You can resize the model by changing the parameters in the table or by using click and drag option. If you want to enlarge you model in all axes click and secure the padlock icon. With an unsecured padlock you can change the parameters independently of one another.

Moving a model



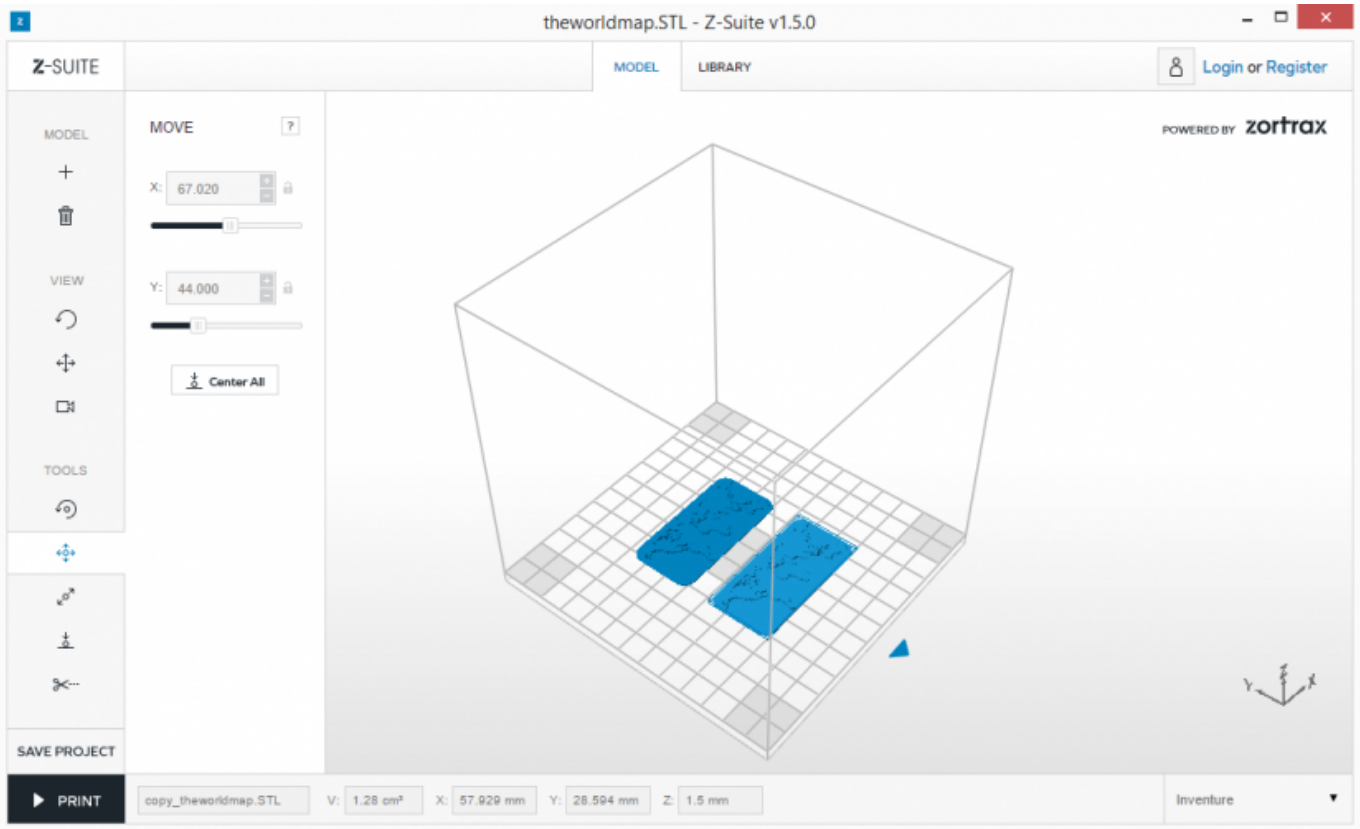
1. Click “Move Object” icon to move the model in the workspace. You can move the model by editing X and Y parameters or click and drag the selected model.

Model auto arrange

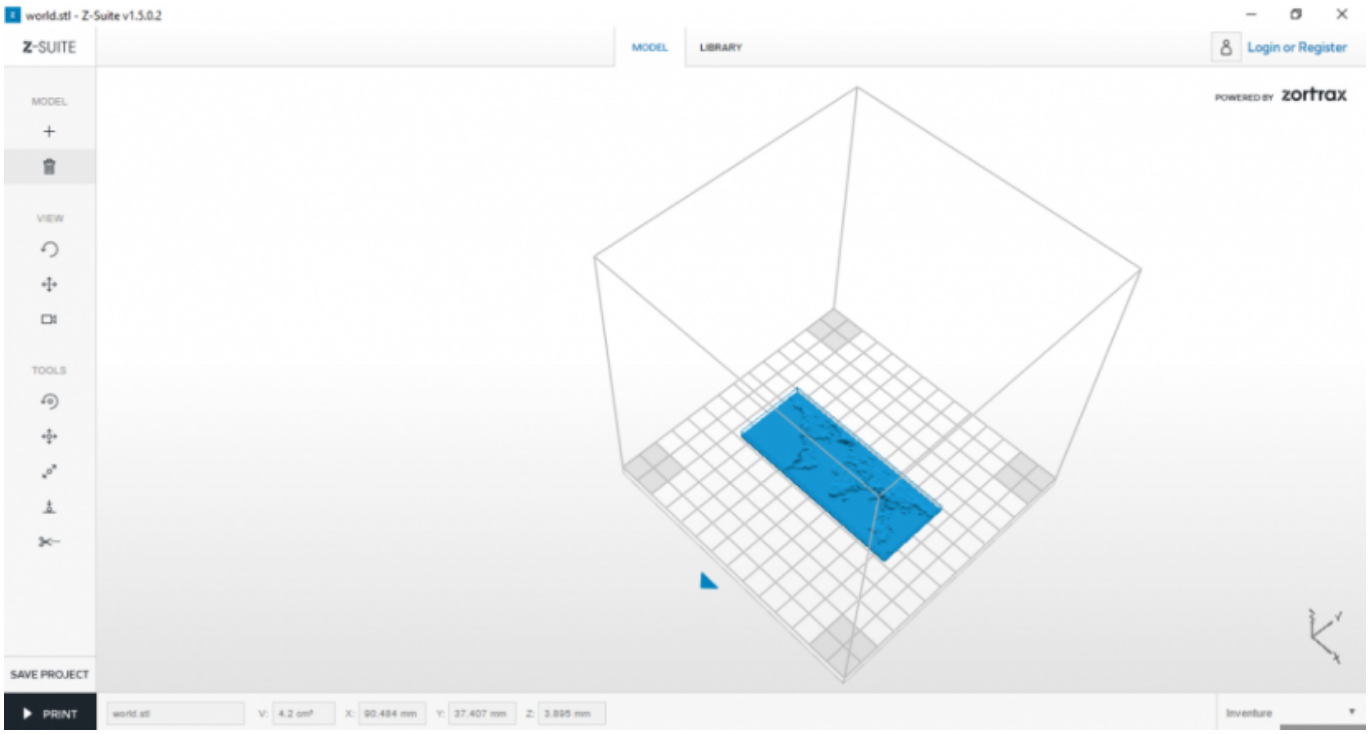


1. Click “Auto Arrange” icon to auto arrange your model in the workspace.

Copying and deleting a model



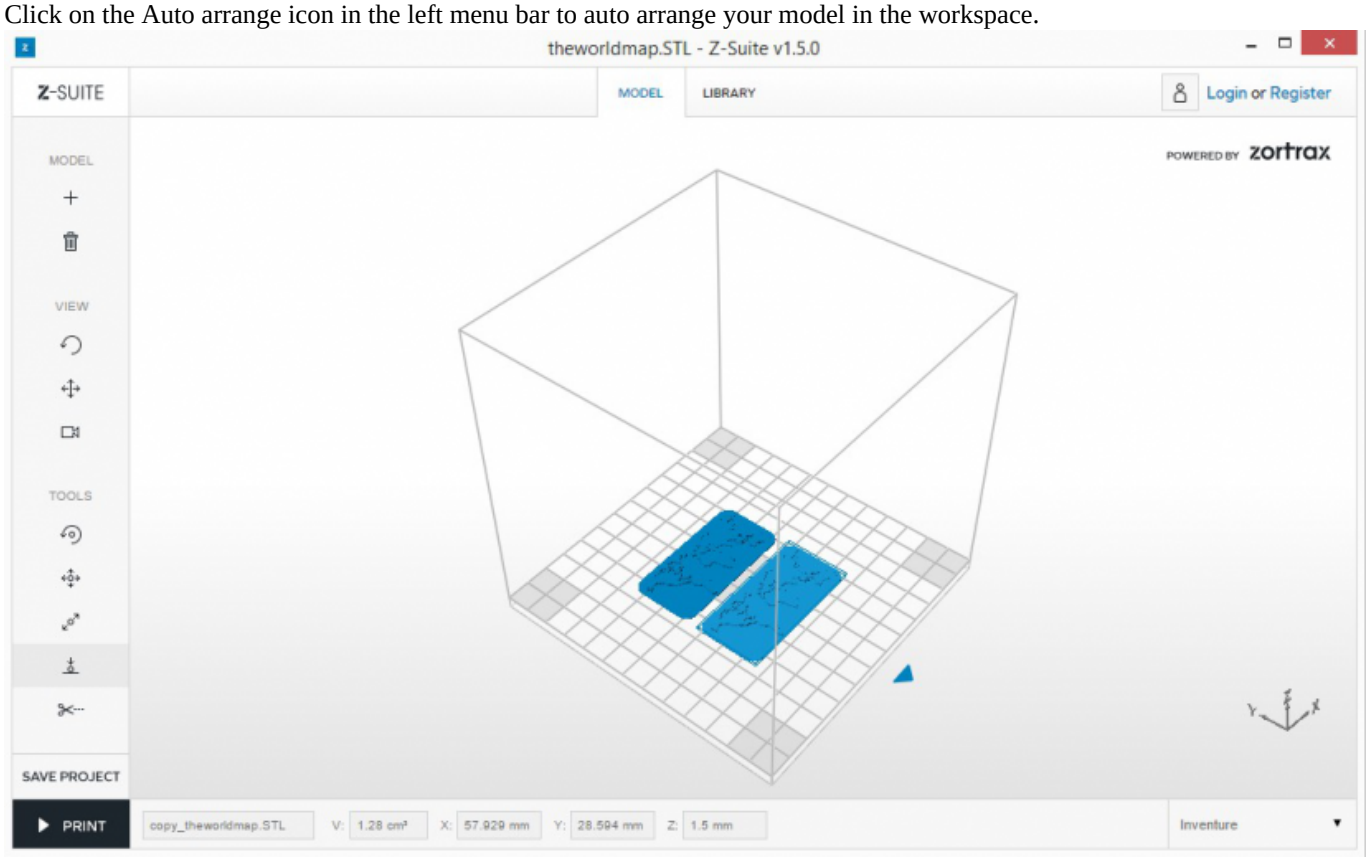
1. To copy a model, select an object and press CRTL + C keys.

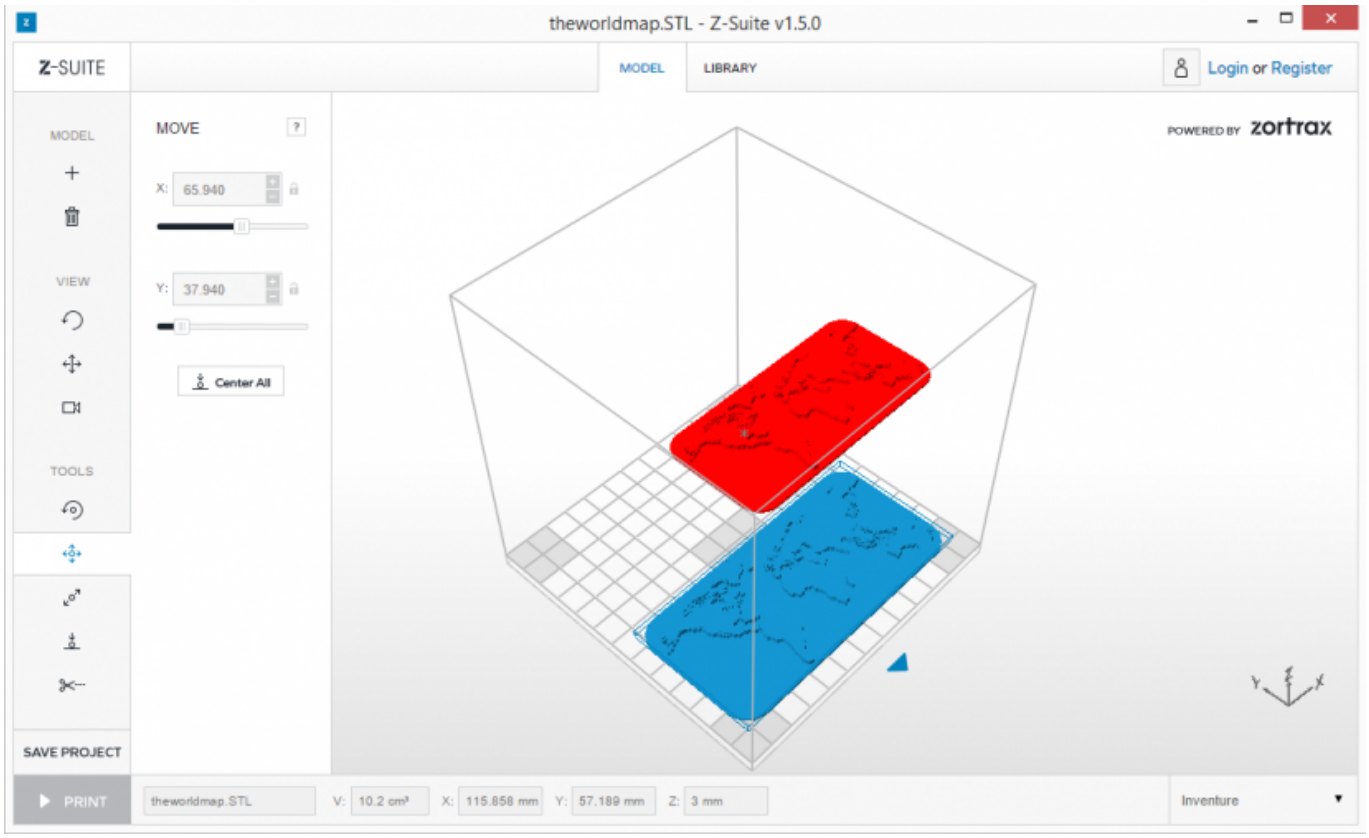


2. Select the model and click trash icon or press delete key on your keyboard to delete it.

Placing models in the workspace

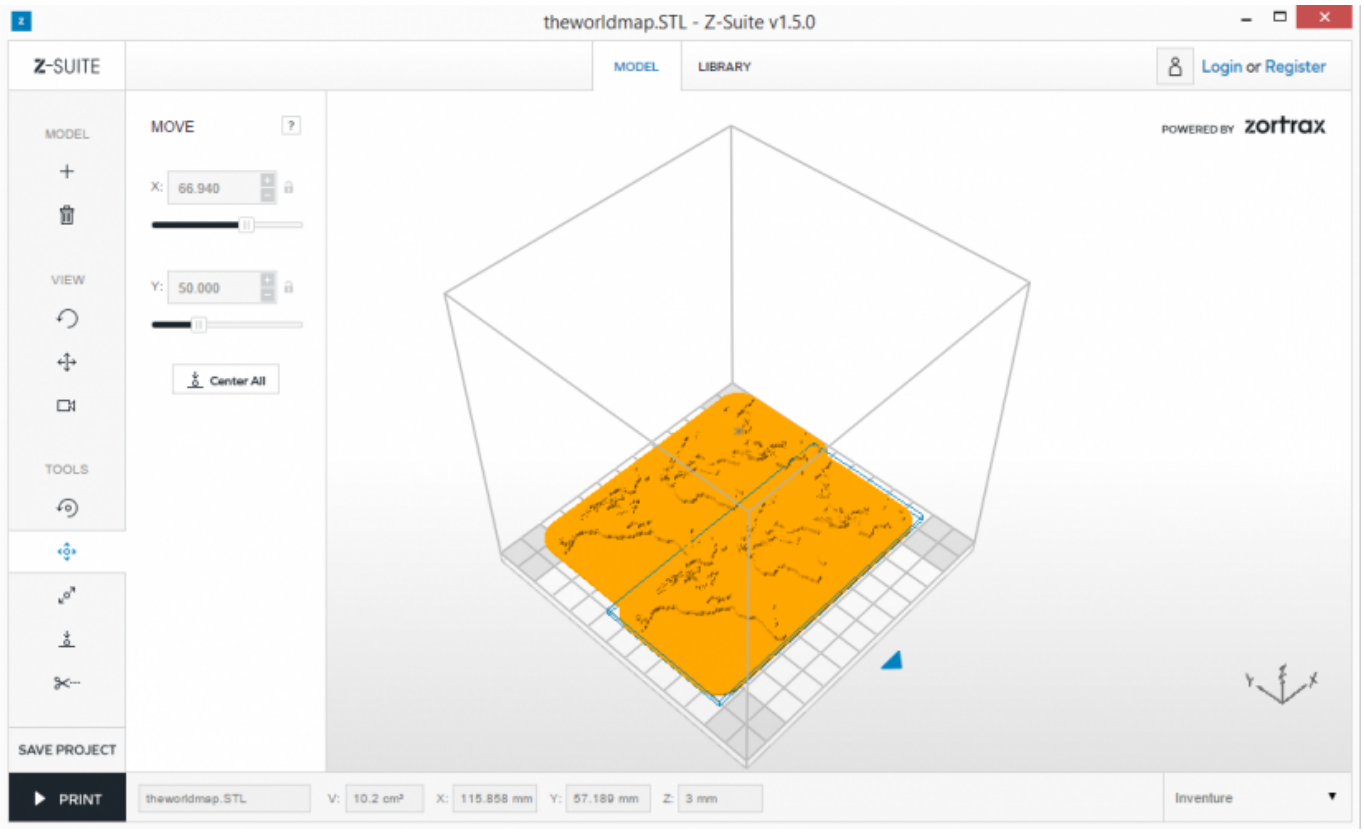
Click on the Auto arrange icon in the left menu bar to auto arrange your model in the workspace.





1. When the model’s colour turns red, it means that your model is outside the workspace. Resie or move the model to mould it to the workspace.

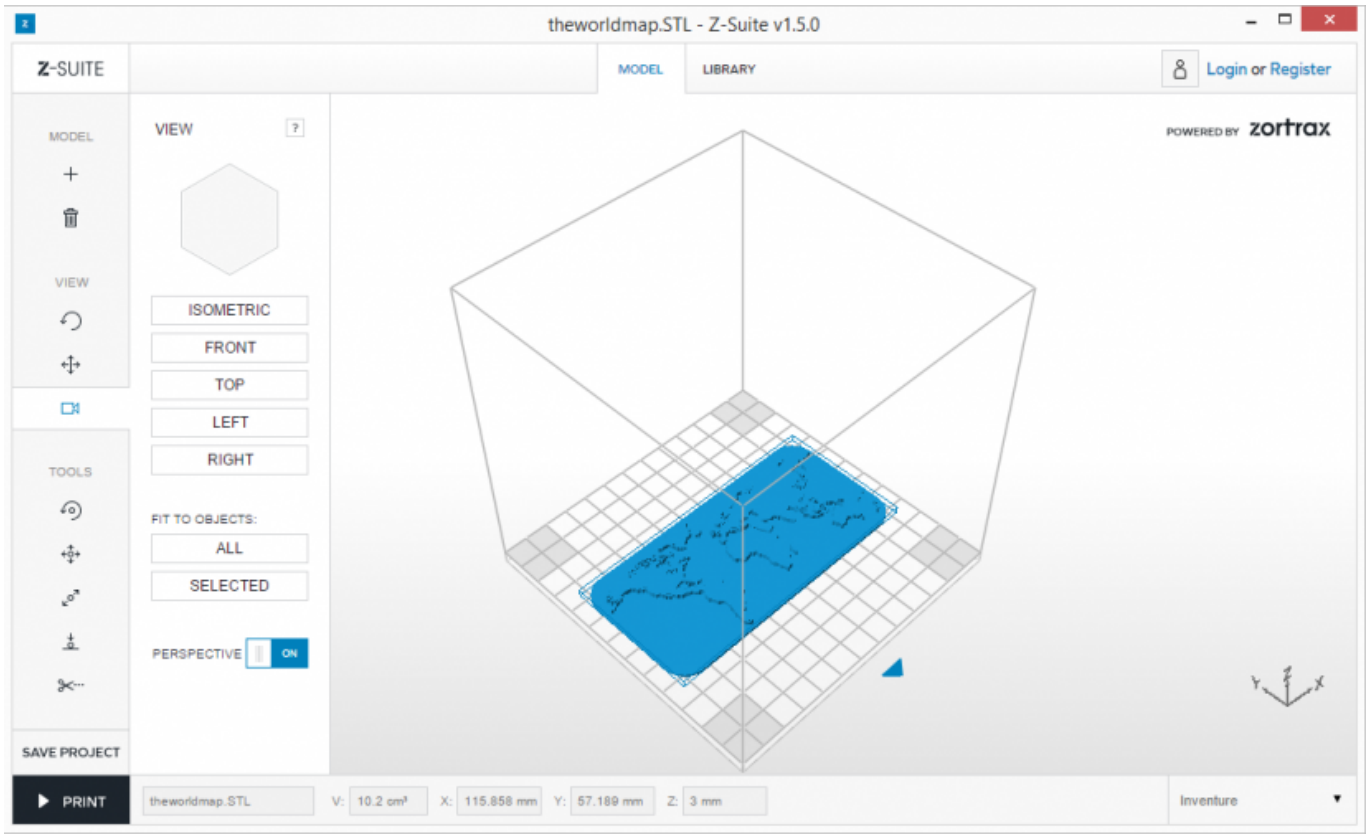
Merging and manual positioning models

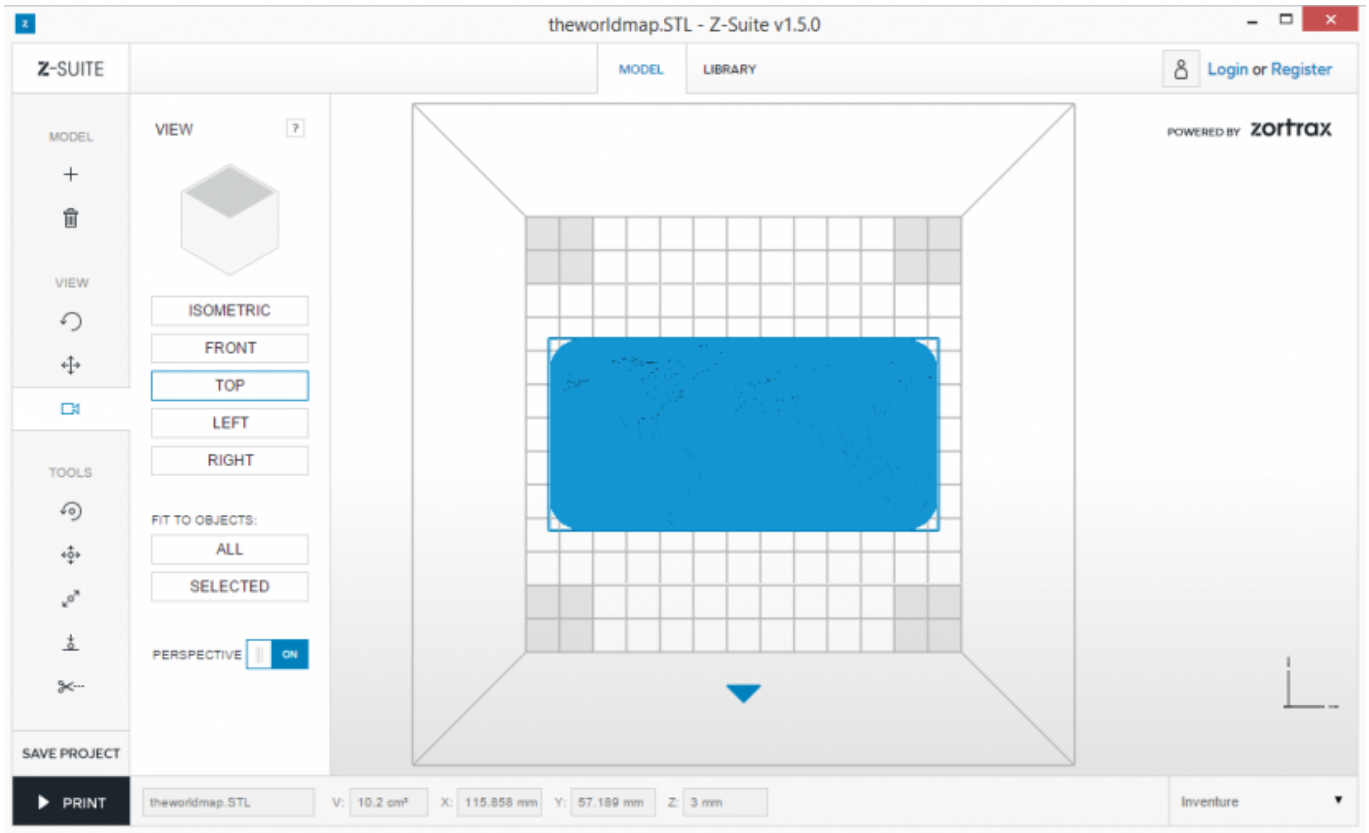


2. When the model’s colour turns orange, it means that a collision between the two models has been detected. You can still prepare them for print. The models will be merged together and printed as one.

If you don’t want them to be printed as one, resize or move the models around the workspace.

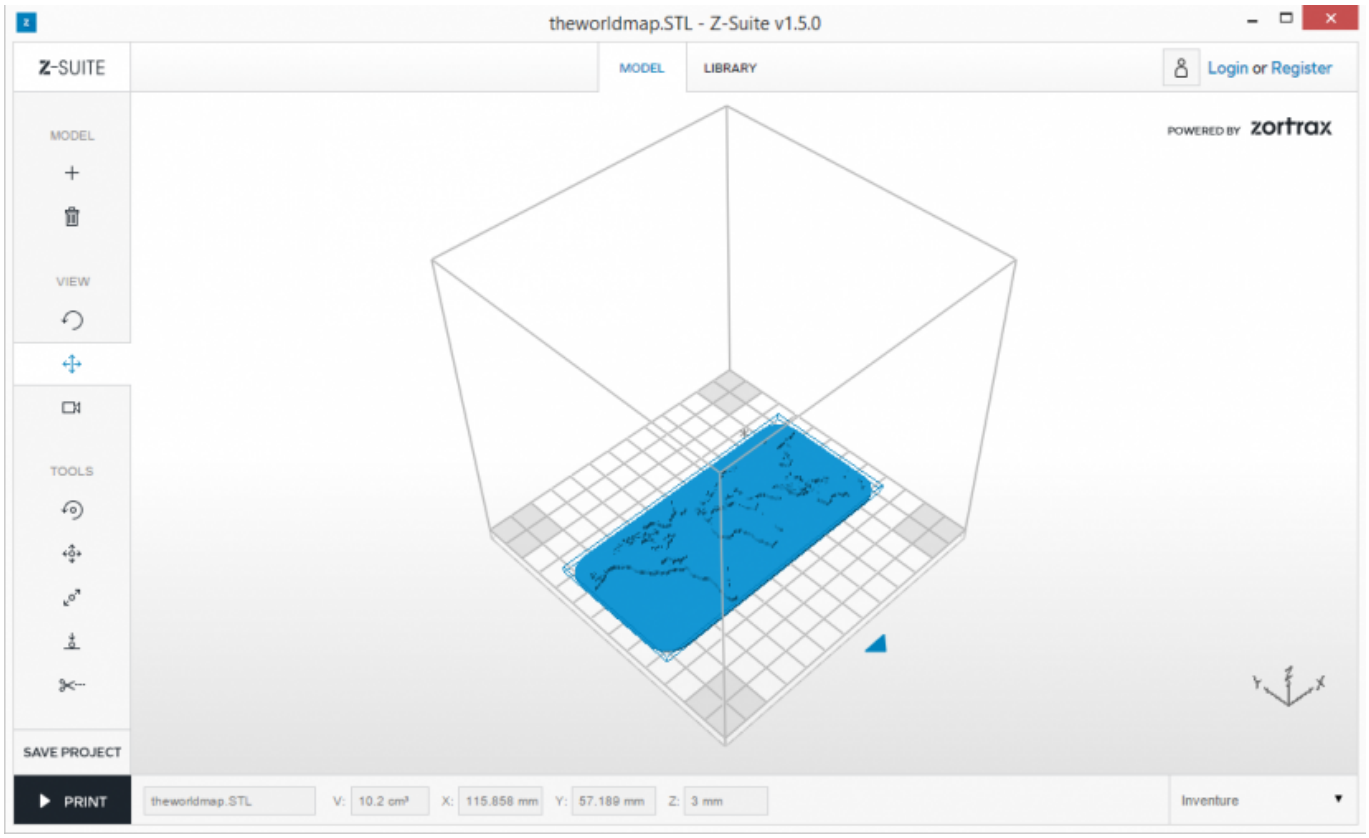
Selecting the workspace view



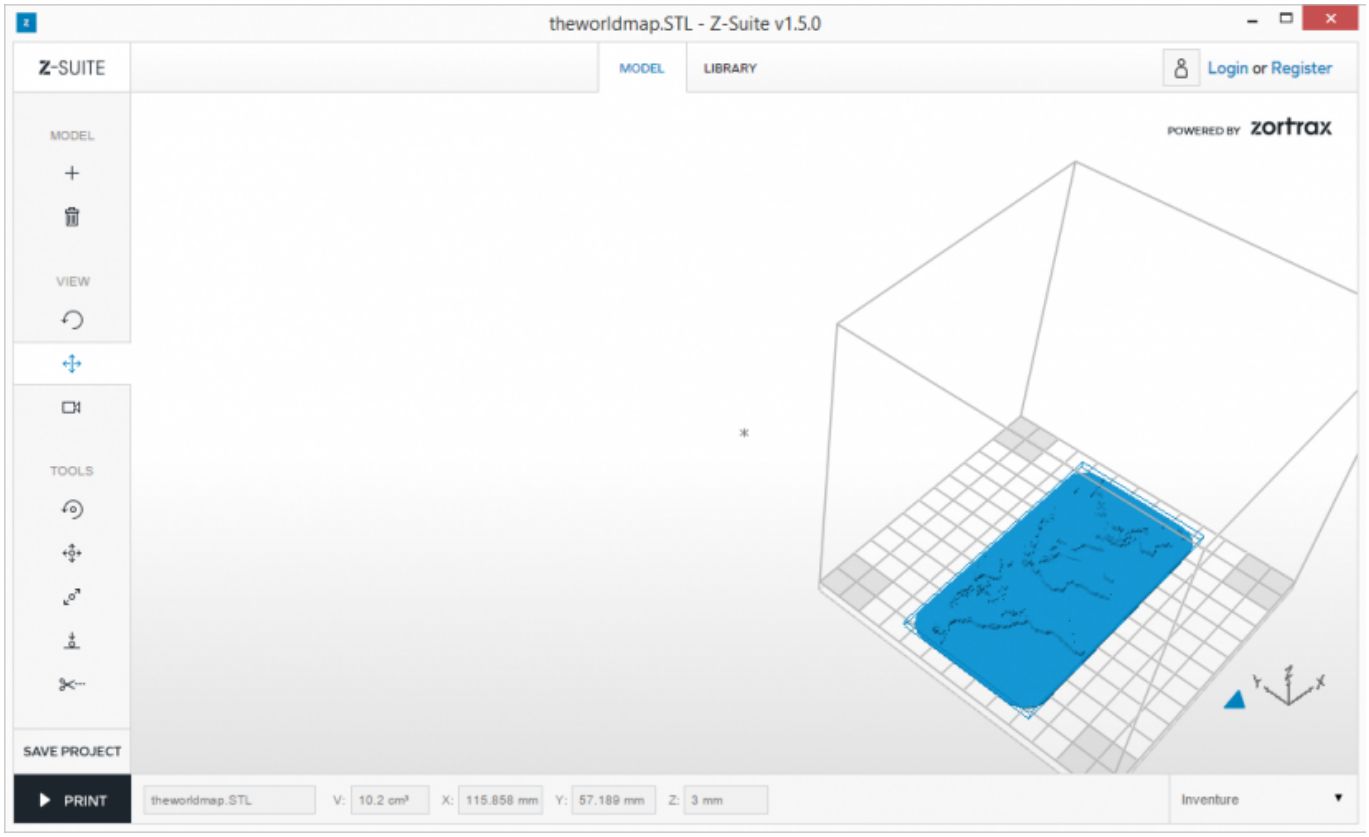


1. Click “Select View” to quickly select a view of the model.

Moving the workspace view

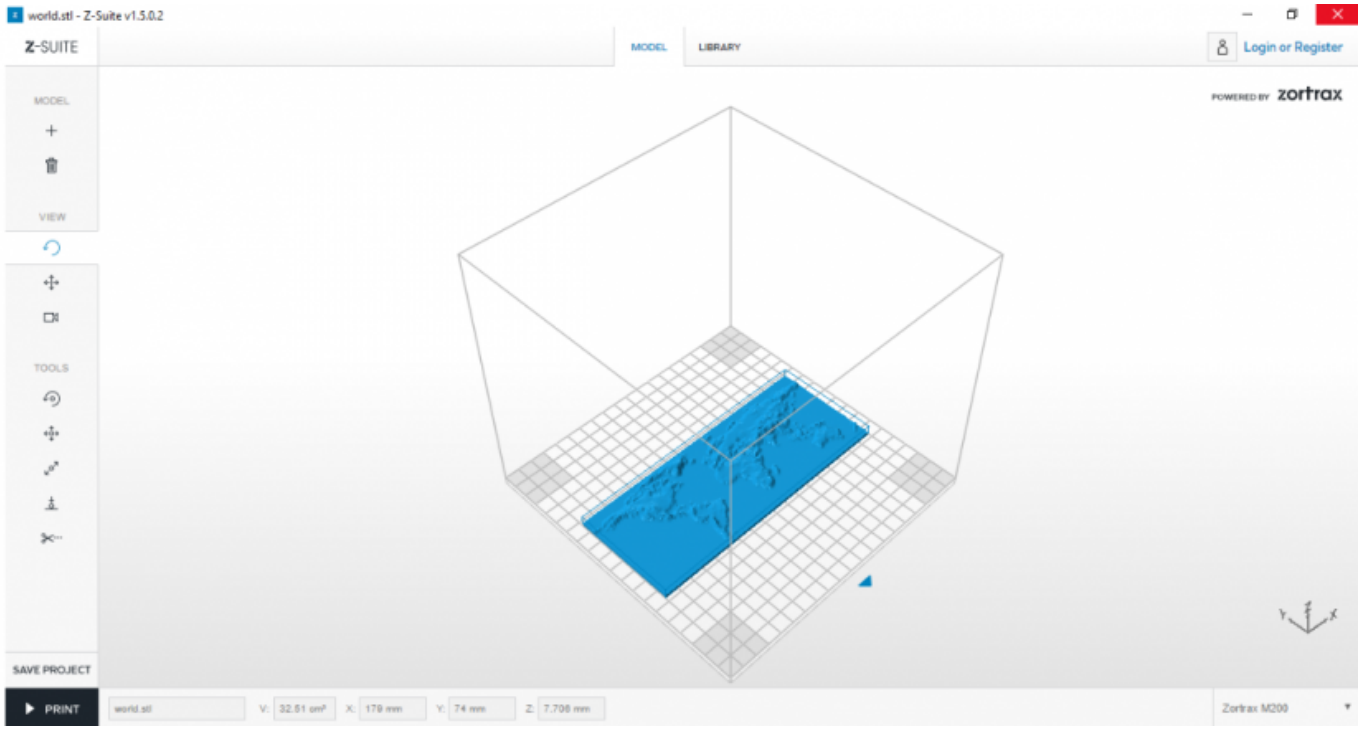


1. Use Move view icon to move the the workspace view around the screen.

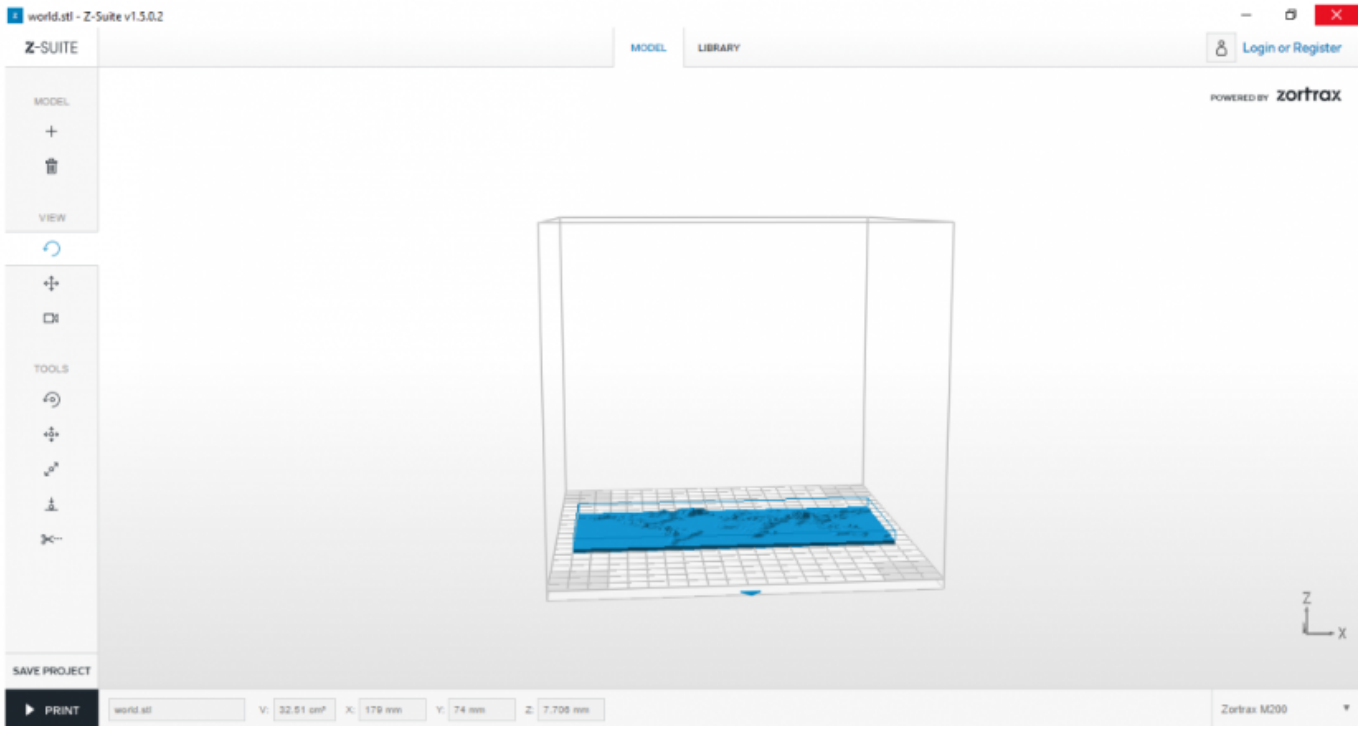


2. Hold the left mouse button and move your mouse to relocate the view around the screen.

Rotating the workspace view

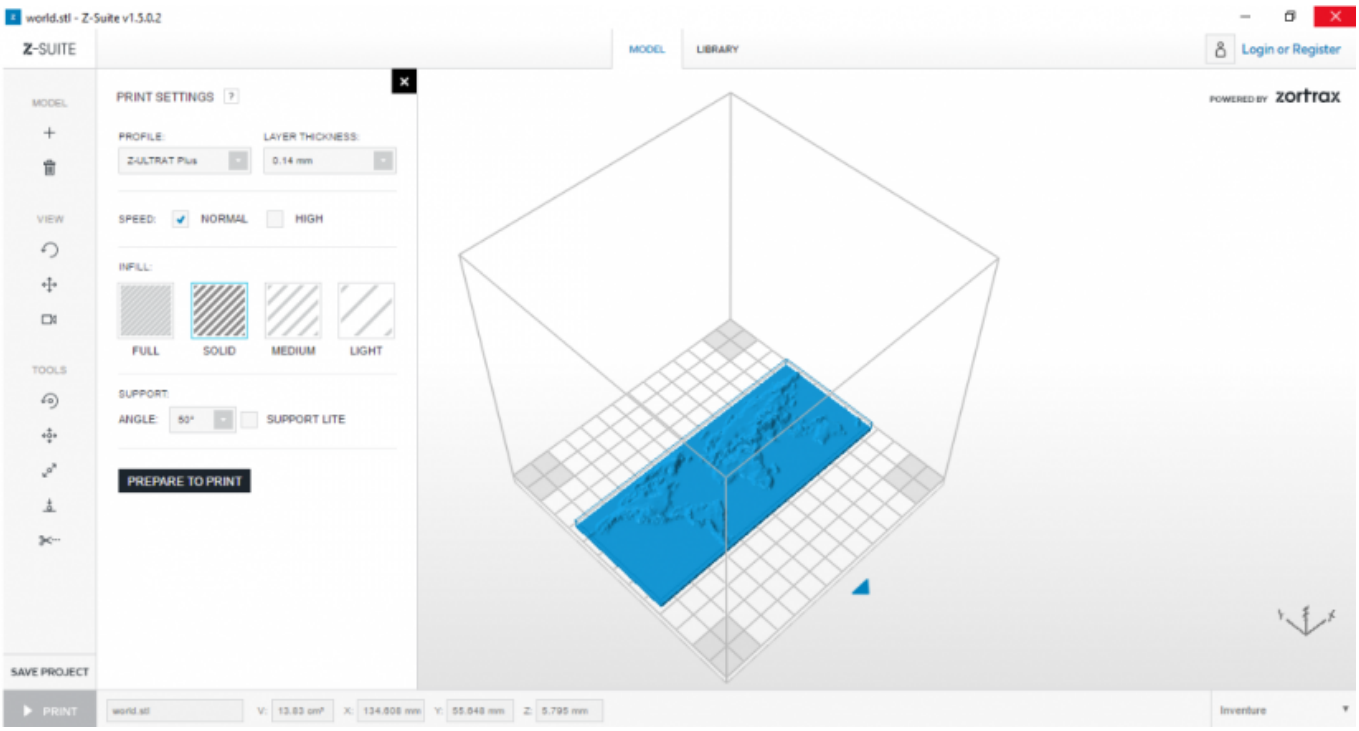


1. Select “Rotate view” icon available in the menu on the left in order to rotate the workspace view.



2. Hold the left mouse button and move your mouse to rotate workspace view. Hold the right mouse button to move the workspace view around the screen. Use the mouse wheel to zoom in and out.

Print options



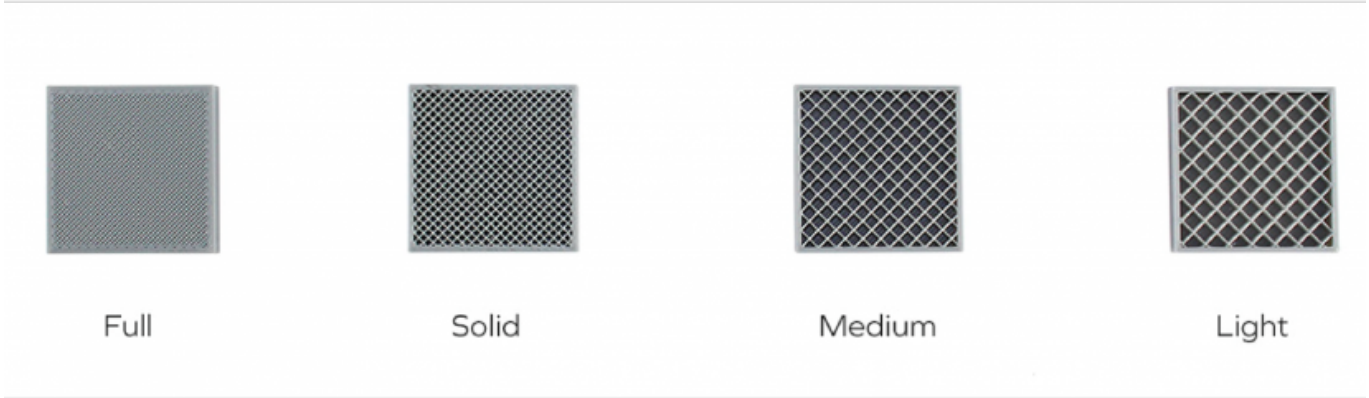
1. Print settings:

Profile: Z-ULTRAT Plus is the only material intended for Inventure at the moment.

Layer thickness: choose the height of one layer: 0,14mm/0,19mm. Finer layers provide better surface quality but make printing more time- and material-consuming.

Speed: select the print speed: NORMAL/HIGH. Choosing high speed will decrease the printing time but it will also reduce the print quality.

Infill: choose the model infill: FULL/SOLID/MEDIUM/LIGHT. All four types of infill are presented in the picture below. FULL infill allows printing with the highest strength level. But the larger infill, the more time and material is needed for such a print.



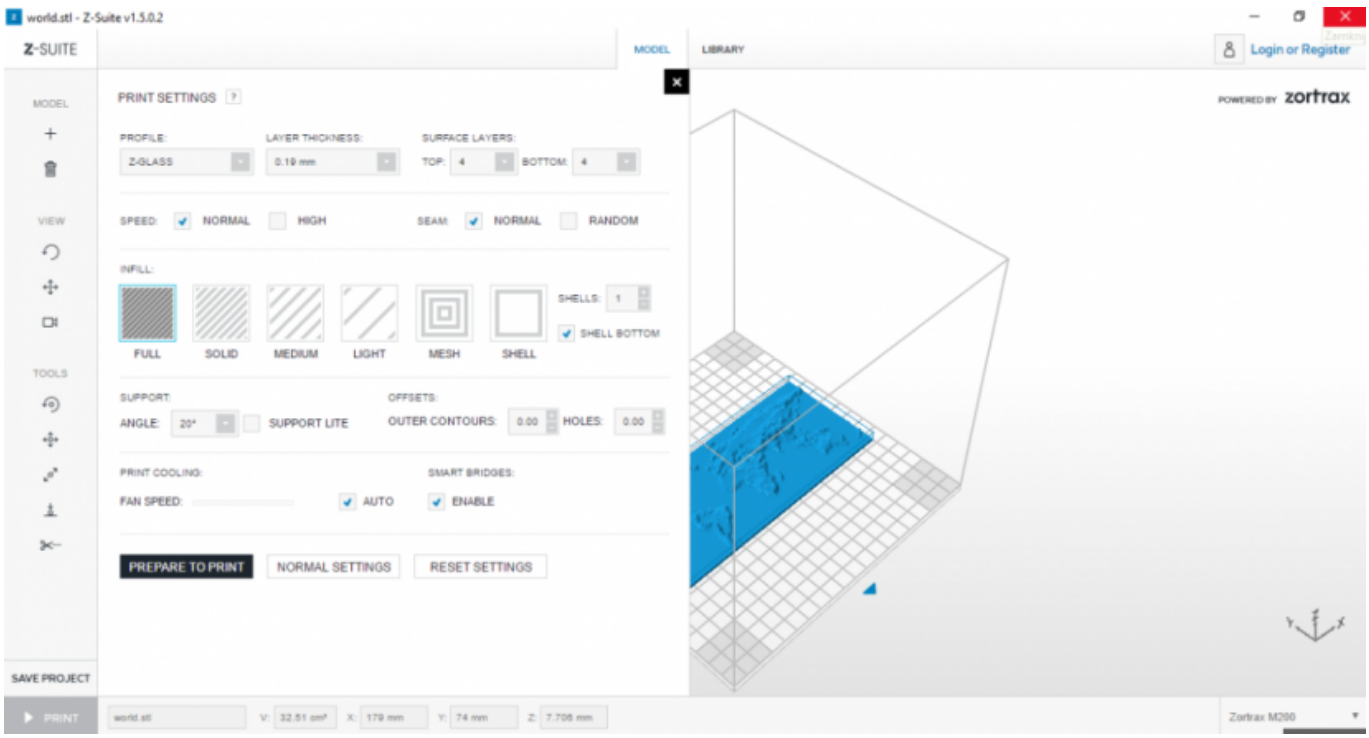
SUPPORT – Select the angle at which the support structure is generated. 20° is the default option. It means that for all hanging

parts of the model the support structure is generated at a 20° angle.

SUPPORT LITE – Choose this option to generate the support structure without the outer perimiter. Support lite consumes less filament and is easier to remove.

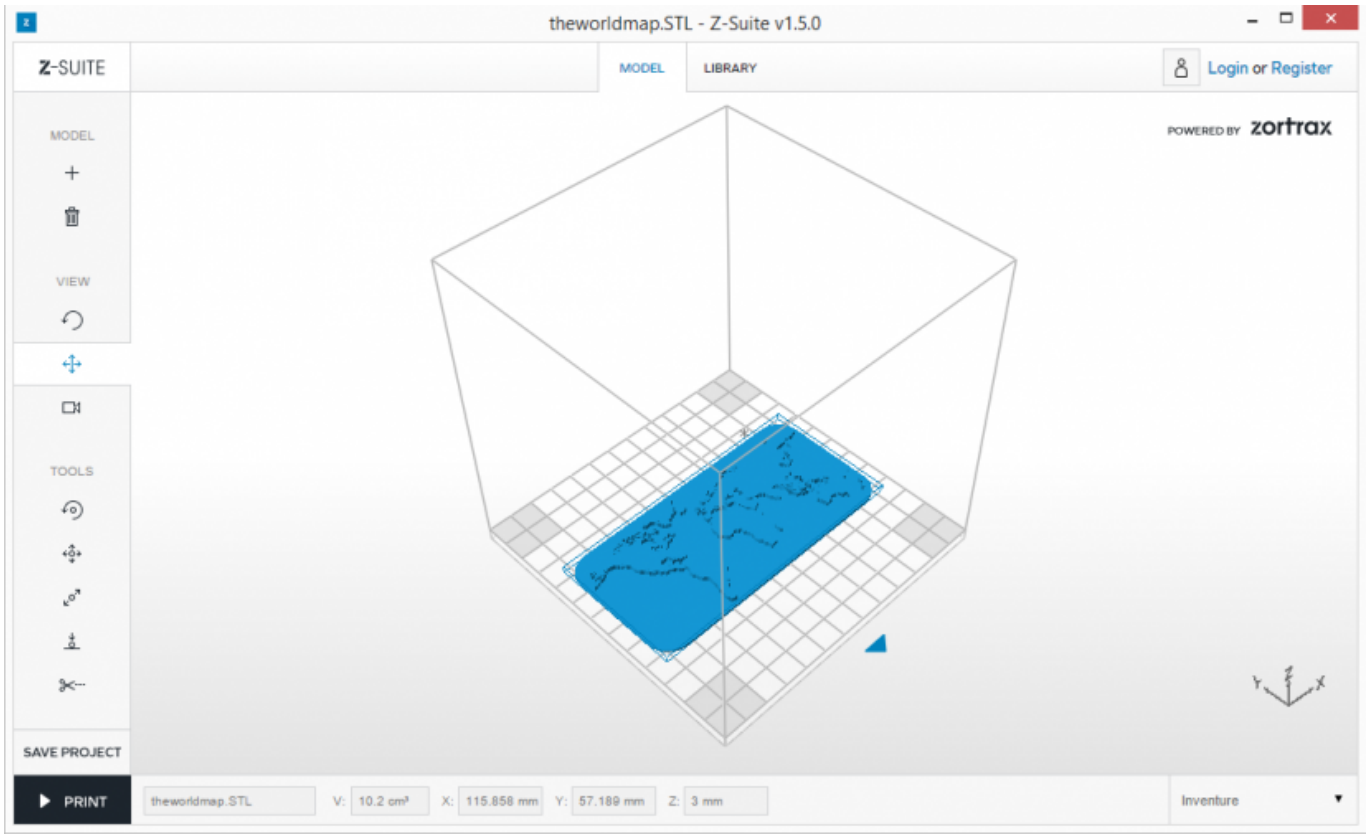
PRINT COOLING – You can choose the fan speed which cools down the model that is being printed. Cooling is not useful for big prints without any thin parts, whereas high cooling is better for small and thin prints. We recommend leaving the default option – AUTO. The printer will adjust the fan speed accordingly.

2. Advanced print settings for M200

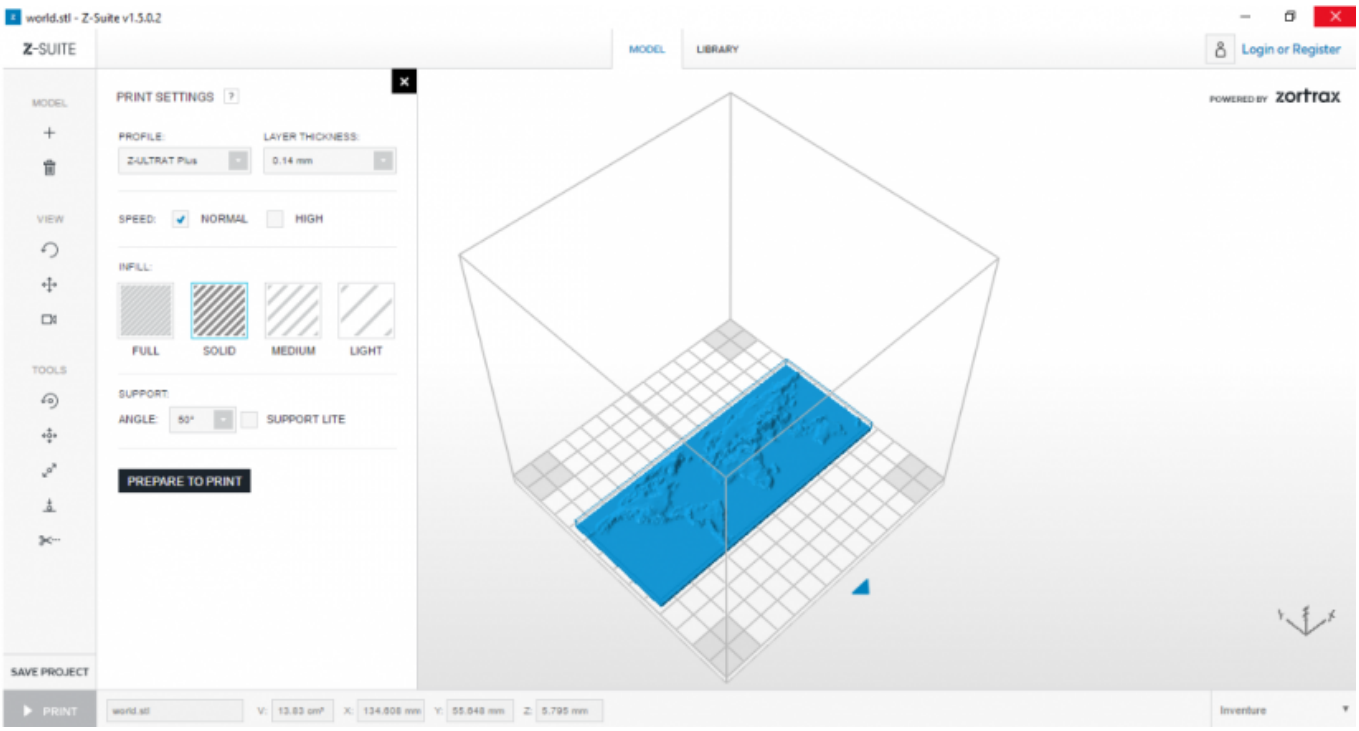


- SEAM – It allows you to choose the starting point of the new layer (fixed or random)
- SURFACE LAYERS – If you aim at achieving a thicker finishing of the model, use this function. It helps you to choose the amount of layers at the top and at the bottom
- OFFSET – it helps to correct the internal and external dimensions of a model. It is possible to modify outer contours and holes dimension
- INFILL Advanced:
    - MESH – Prints the model with 0% infill with horizontal surfaces (top and bottom) and the walls
    - SHELL – Prints the model with 0% infill and no horizontal surfaces (top and bottom). This option allows to choose the amount of the model wall

Preparing to print



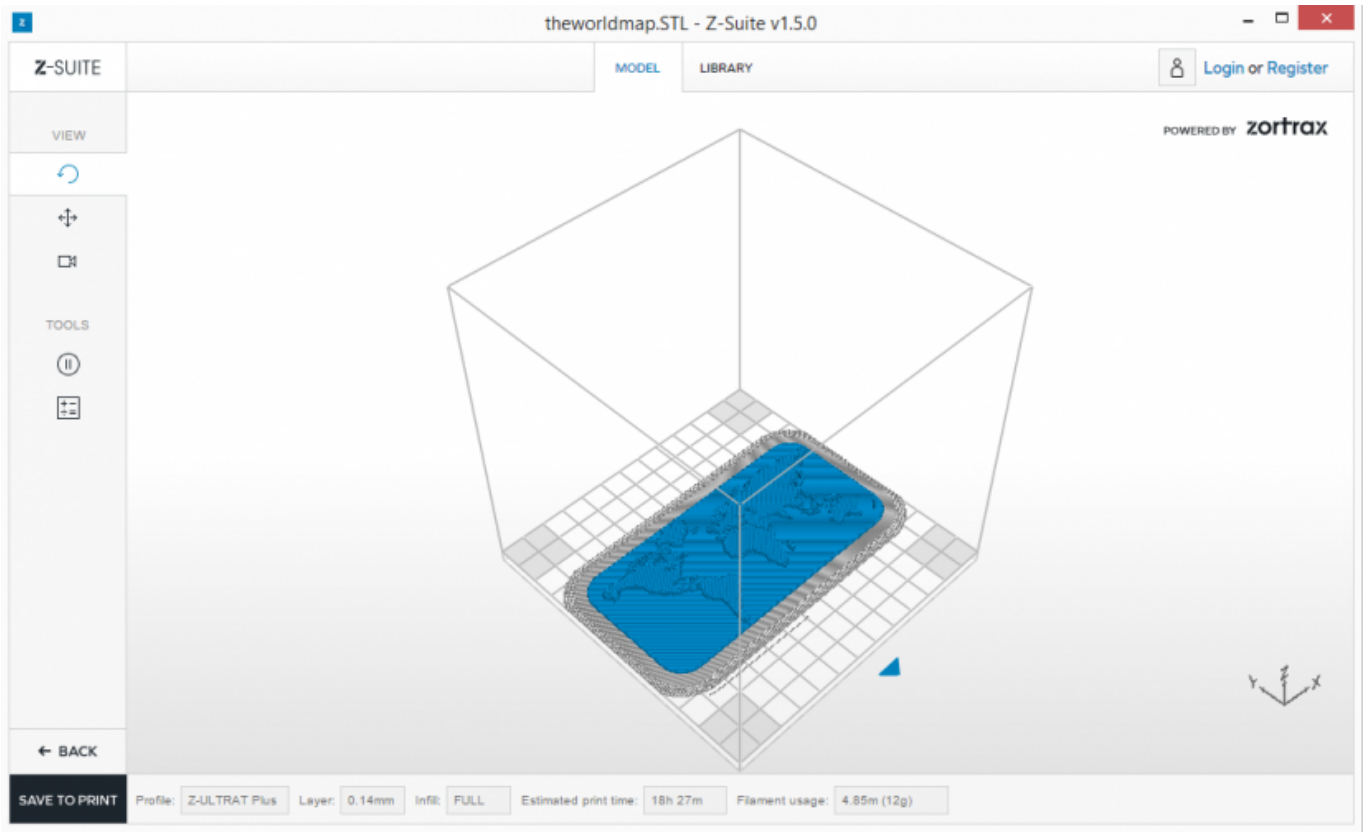
1. If your model is ready to be printed, click “Print”.



2. Set printing options: PROFILE/LAYER THICKNESS/SPEED/INFILL. Read Print Options article Click here

Calculating print cost

Gain more control over the printing process. The Print cost calculator in Z-Suite software allows you to estimate the cost for an individual print. To calculate your print cost, simply type the cost of a single cartridge: printing material and support material. Press Calculate button to know the total cost of the print.



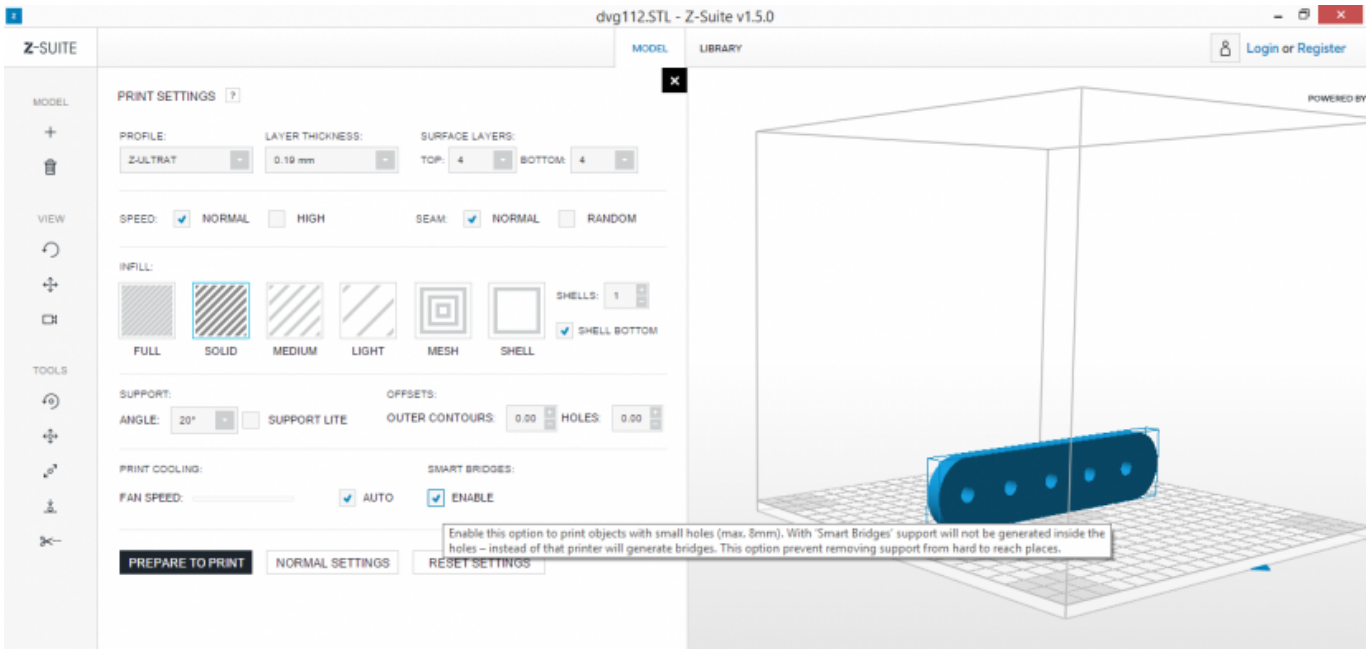
3. Click “Prepare to print”. Z-Suite will generate Z-code.

4. Once Z-code has been generated, your model is ready to be saved on the SD card. Information about your print: profile, layer thickness, infill as well as an estimated print time and material usage will be shown at the bottom of the screen.

5. Save your Z-code on a hard drive or directly on the SD card by clicking “Save to print” button. Insert the SD card into the printer and start printing.

Smart Bridges

Enable this option if you wish to print an object with small holes (max. 8mm). These holes are “Smart Bridges” with no support structure inside them. The printer will generate bridges in the model. Thanks to this option, removing the support structure is not necessary.

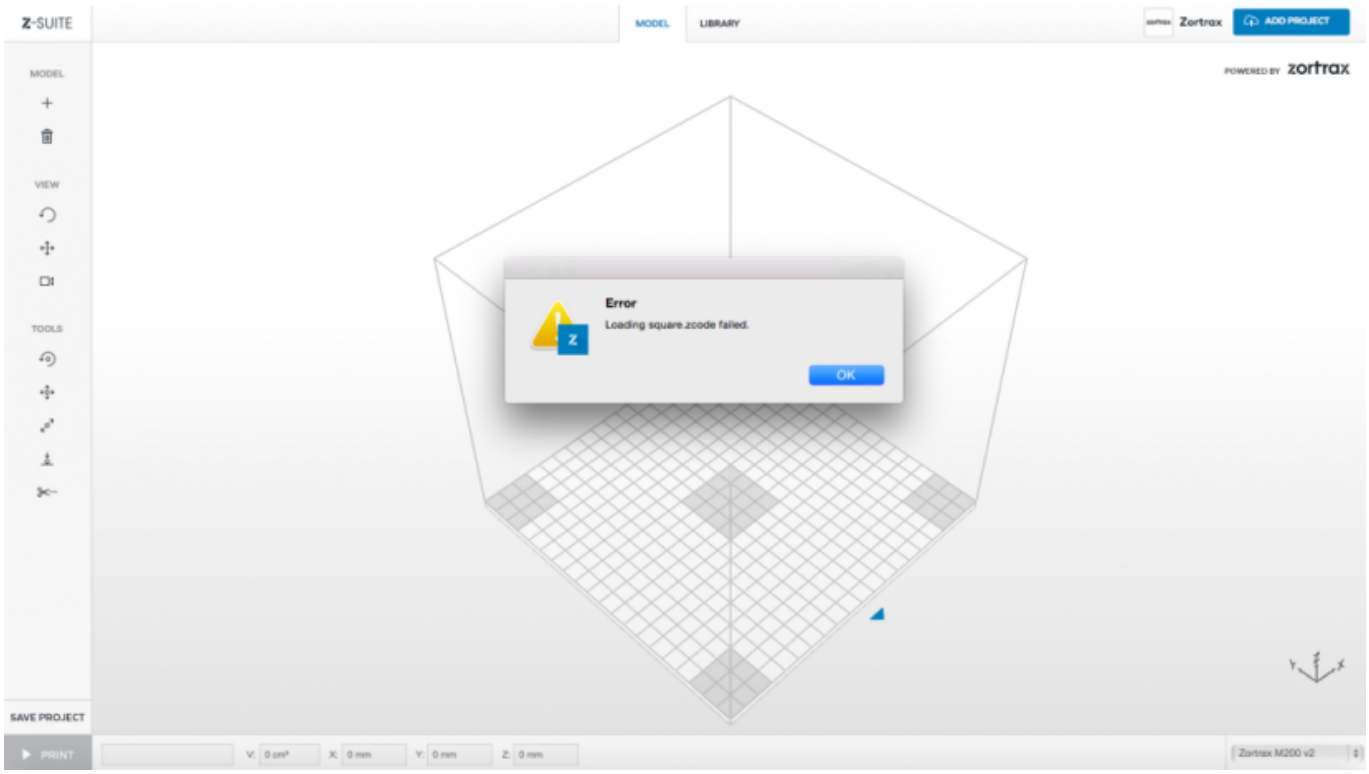


An error while .zcode loading

A file has not been saved correctly – the program was shut down too quickly or the SD card was removed before saving has been completed. Also, make sure that your SD card is working properly:

1. Oxidized SD card pins issue – clean the SD card pins.

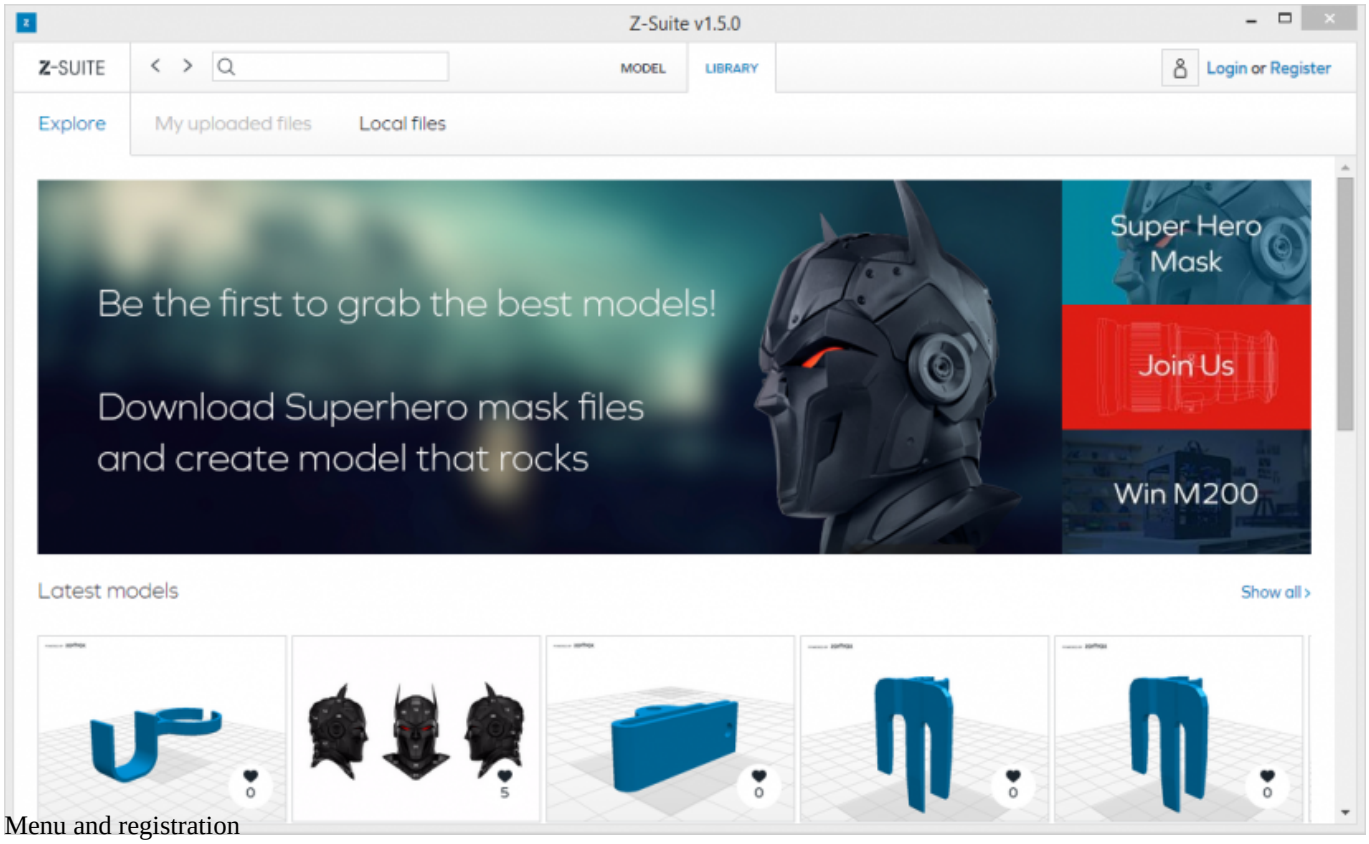
2. Card needs to be formated – format the card using the FAT 32 file system and upload your .zcode file again.



Z-Suite Model Library Manual

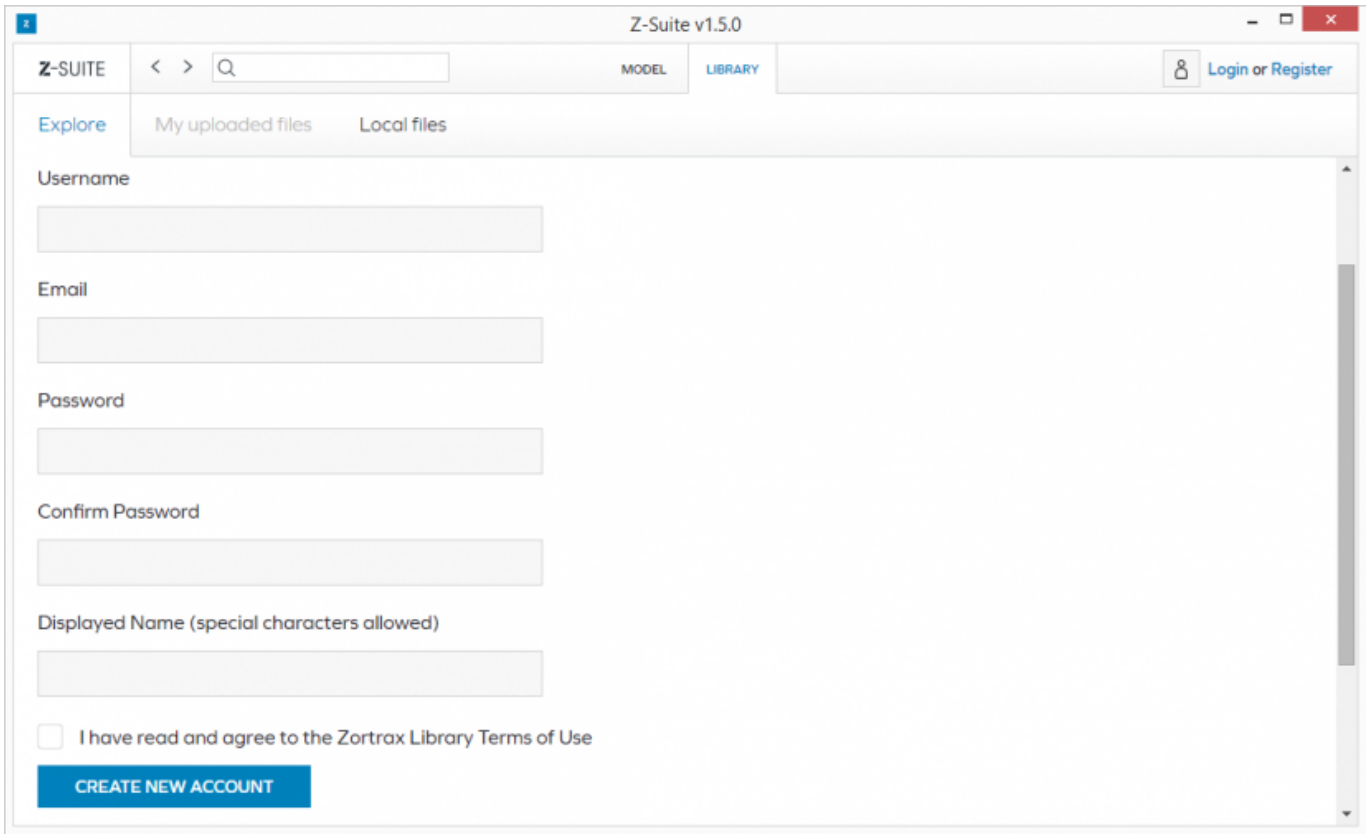
Introduction
We are proud to present Zortrax Model Library available within the Z-Suite Software. To use Zortrax Model Library you don’t need to install any additional programs or visit separate web sites.

Installation
To gain access to Zortrax Model Library, all you need to do is install the latest version of Z-Suite on your computer. To run and enter the Zortrax Model Library, you need to open your Z-Suite and click on the “Library” bookmark on the top of the Z-Suite main screen. After clicking on the Library, you are going to be automatically transferred to the “Explore” bookmark where you can see all latest models, categories and featured models, along with the registered users avatars.



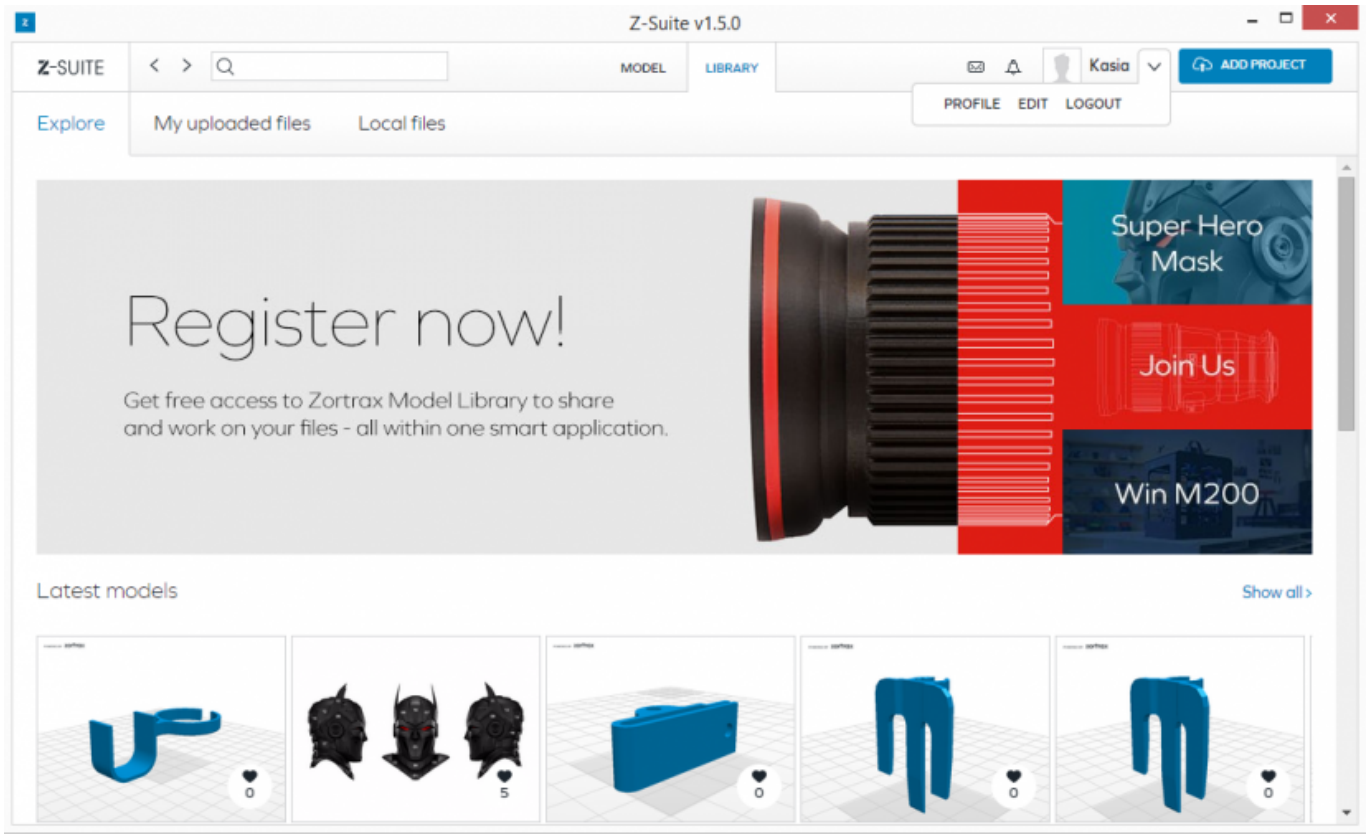
Menu and registration

After entering the Library, you will see that the main screen is a place where you can find the “Explore” and “Local Files” bookmarks along with the third unavailable bookmark named “My uploaded files.” To enter all sections and upload your own projects into the Zortrax Model Library, you need to create an account. To do so, you need to click on the “Register” button in the top right corner of the main screen and enter your login and e-mail. After creating an account, you are going to be automatically logged into the Zortrax Model Library.

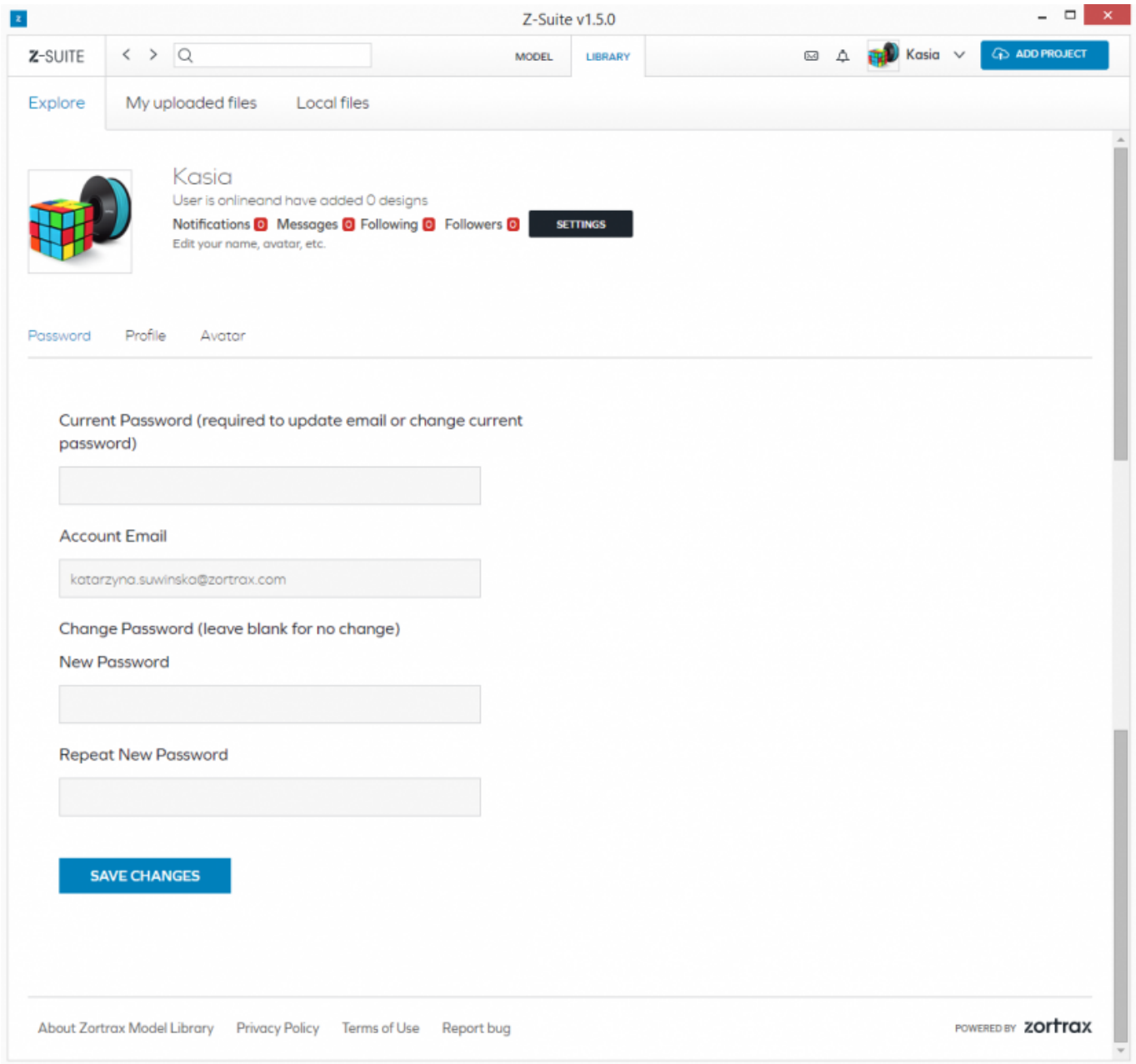


Profile

Once your account has been created, you can enter your profile edit section by clicking on the “Edit” button in the top menu bar.

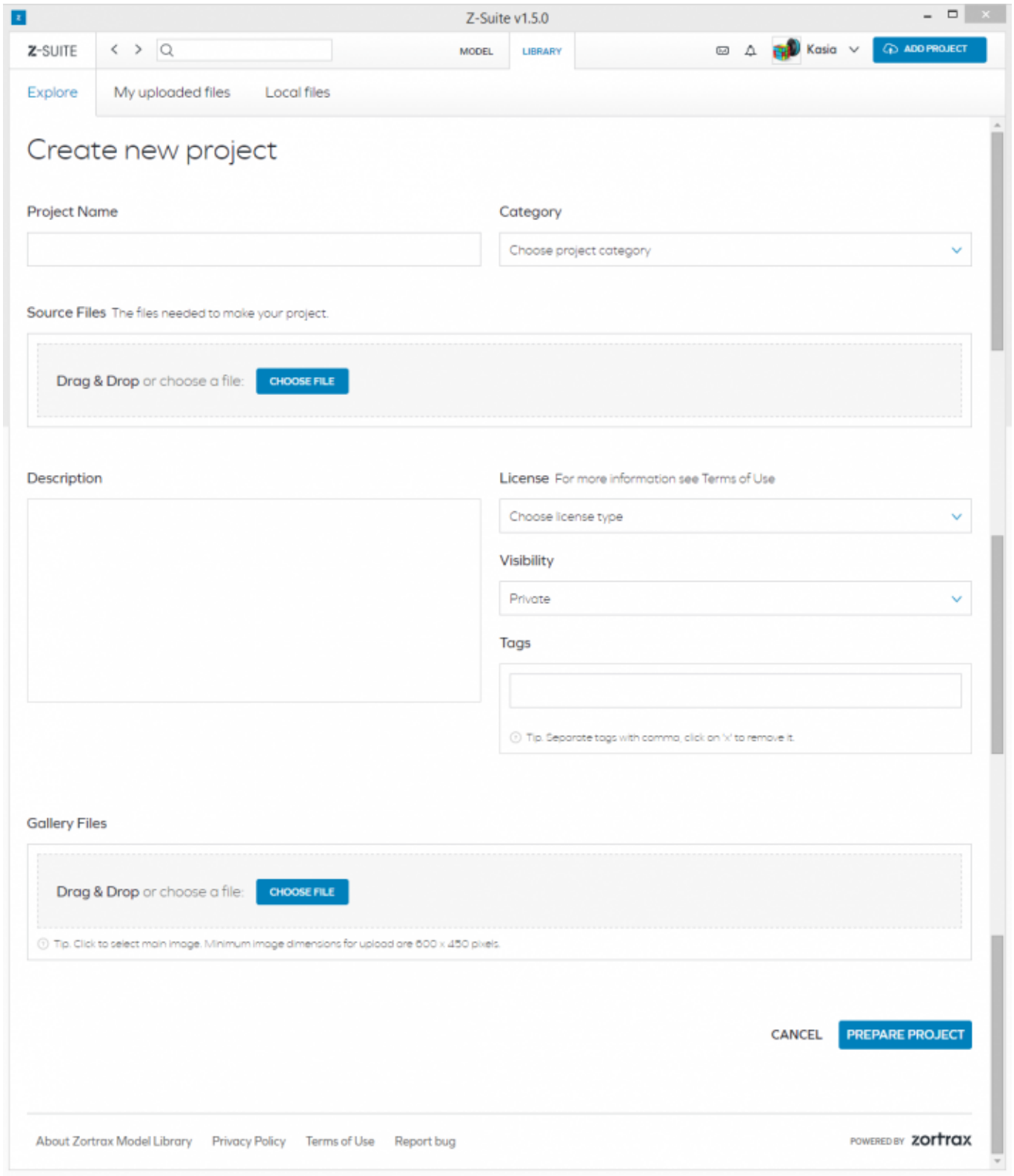


Here, you can change your current password, an e-mail address, a profile name or add more information about yourself, such as your country or a short bio. You can also upload and set your own avatar



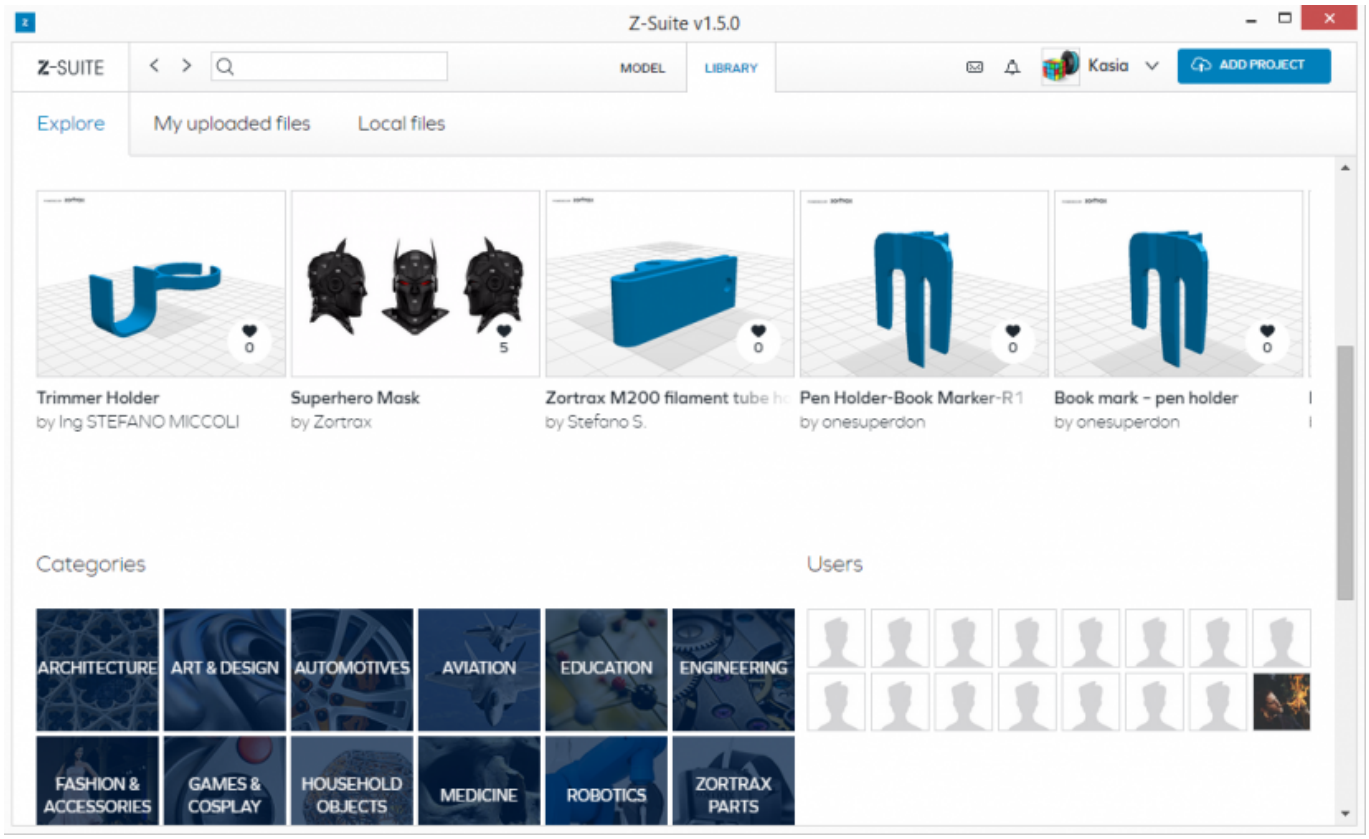
Adding your own projects

To upload your own project, you need to click on the “Add Project” button in the top right corner of the main screen. Then you will have to enter all the necessary data concerning the model like: its name, a category to which it belongs, tags, a product description and a license type. After adding the project, you are going to be transferred to its page. The project is now public and available to download by all the users of the Zortrax Model Library



Project page

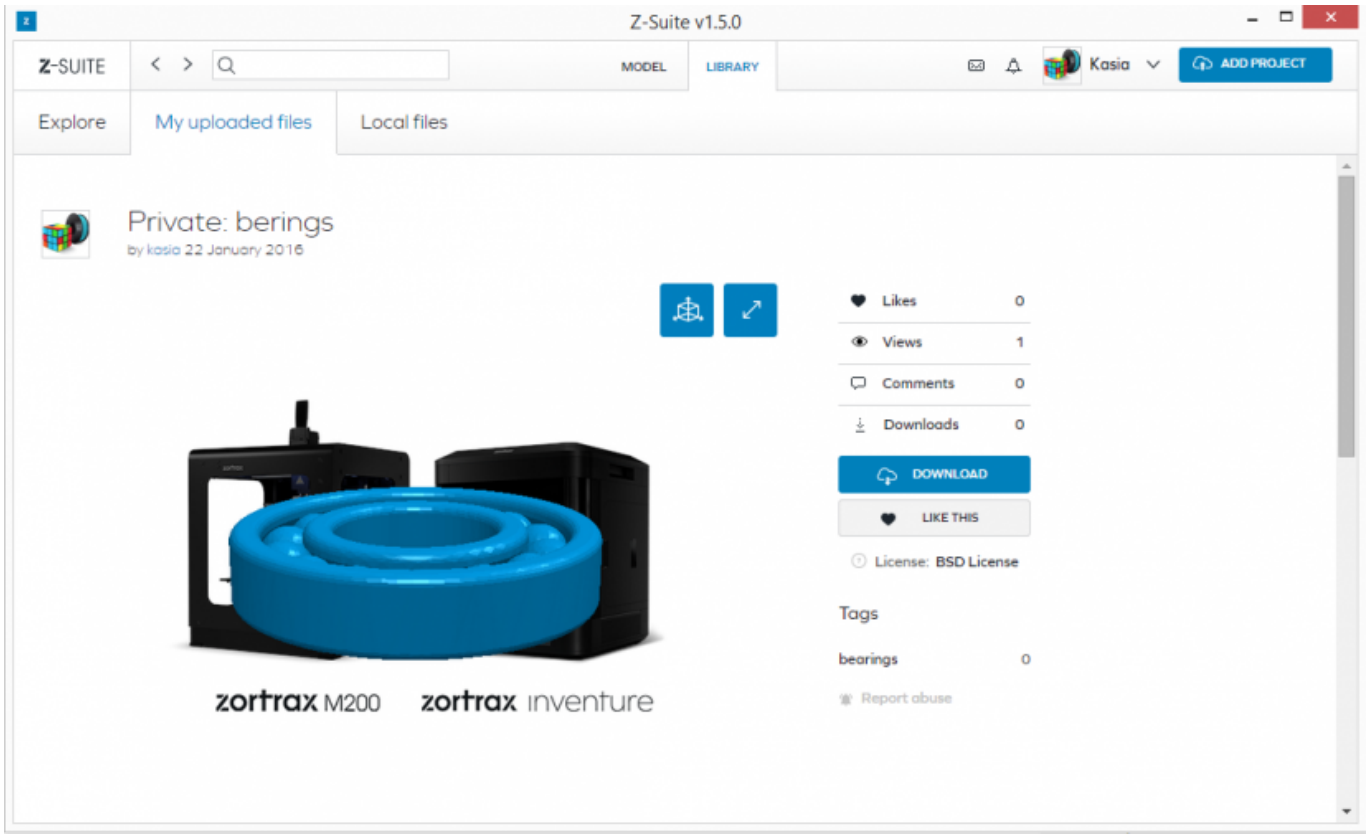
After entering the project's page, you can download a project, like it, watch all the files added to the project or add a comment to it.

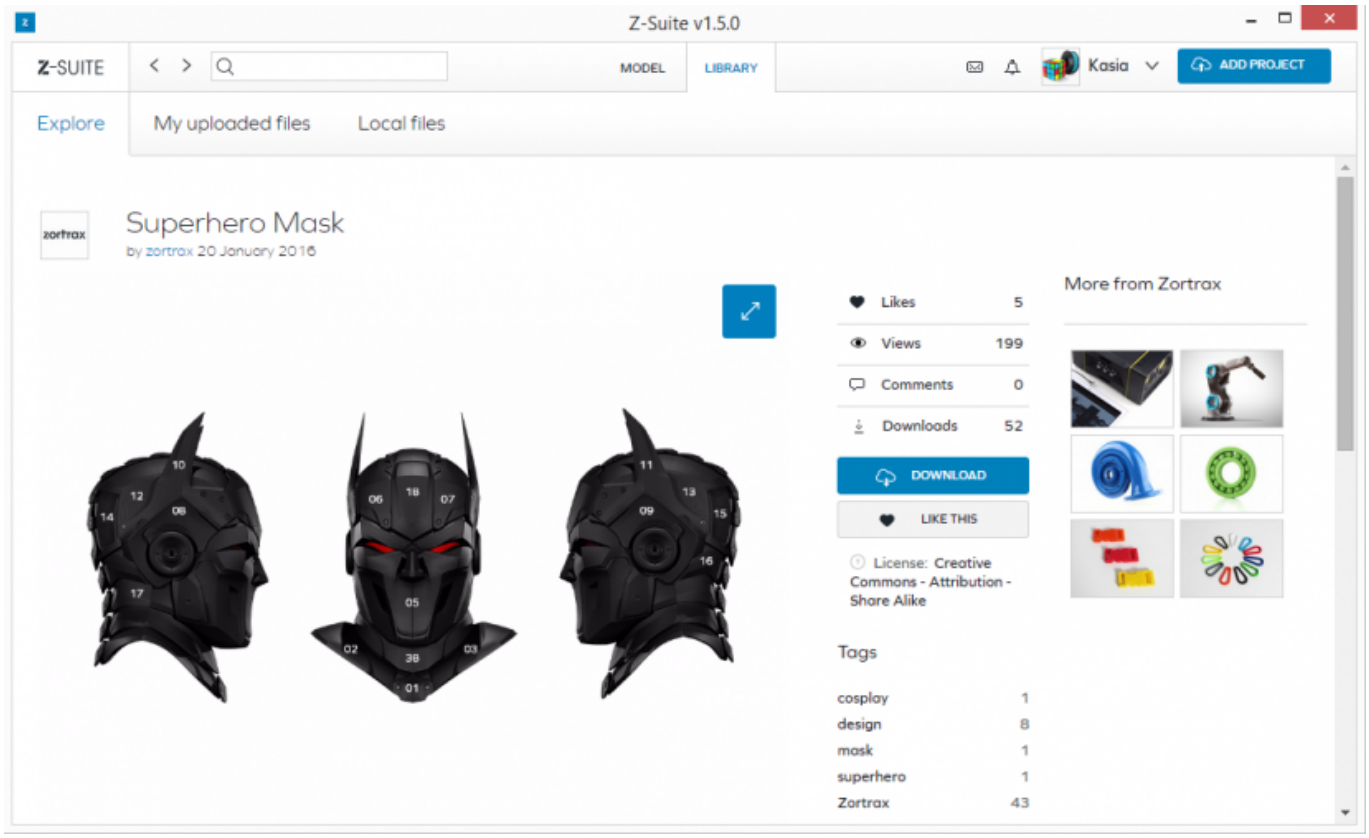


Local files

You can also download a project of your choice. Choose it from the “Explore” bookmark, enter its page and click “Download” button on the right. The models are grouped in the following categories: architecture, art & design, engineering, fashion & accessories, games & cosplay, household objects, Zortrax parts. Click on “Local files” bookmark to access already downloaded models. Click on the “Delete” button to delete any model that was added to your local files.

Models added by you into the Library are going to be available from all accounts created in this particular system. But all local files are going to be available to see or delete only from your own account.

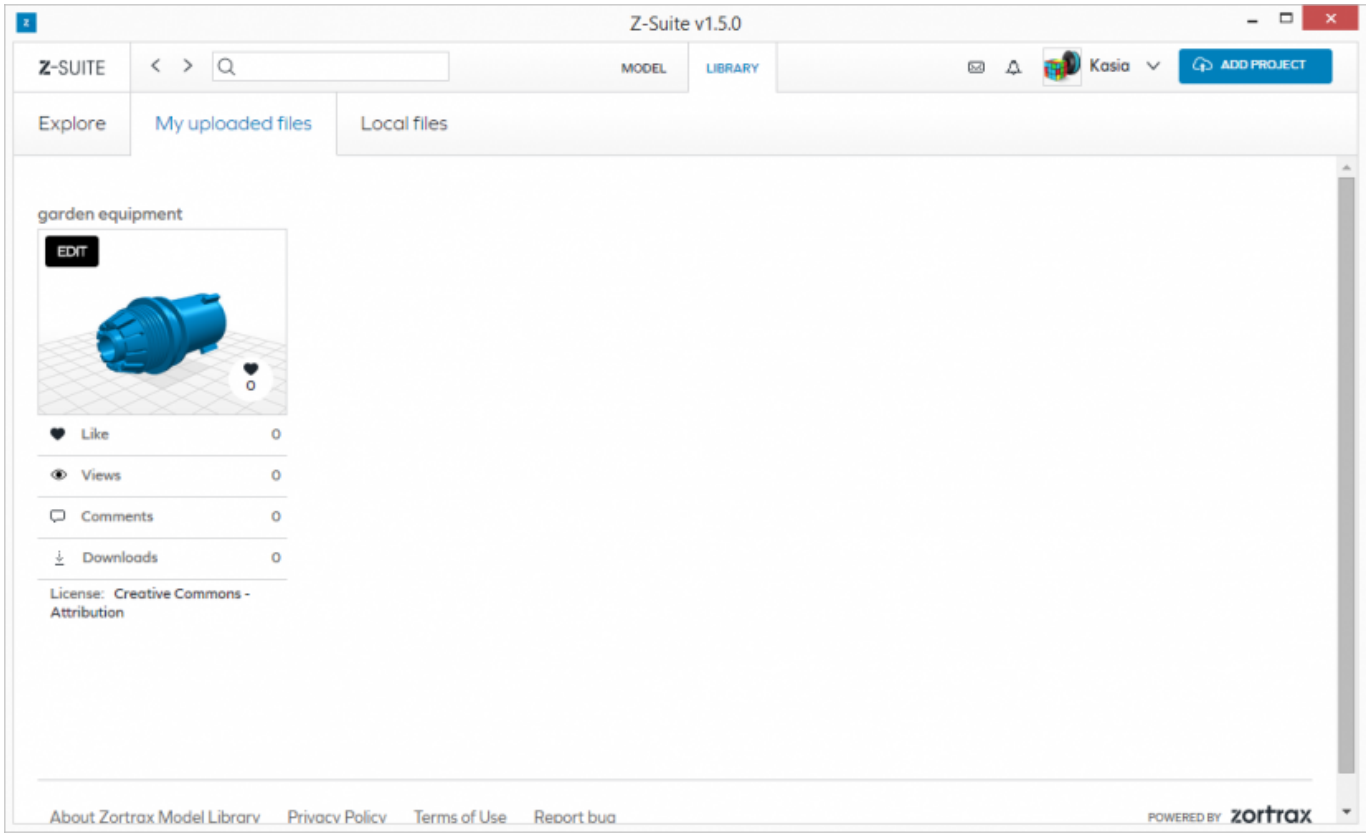




Editing and deleting a model from the Library

Enter „My uploaded files” in order to edit or delete your model, then choose „Edit” on the model which needs to be edited or

deleted. You’re going to be redirected to the Edit project page where you can edit your project data or delete it permanently from the Zortrax Model Library.

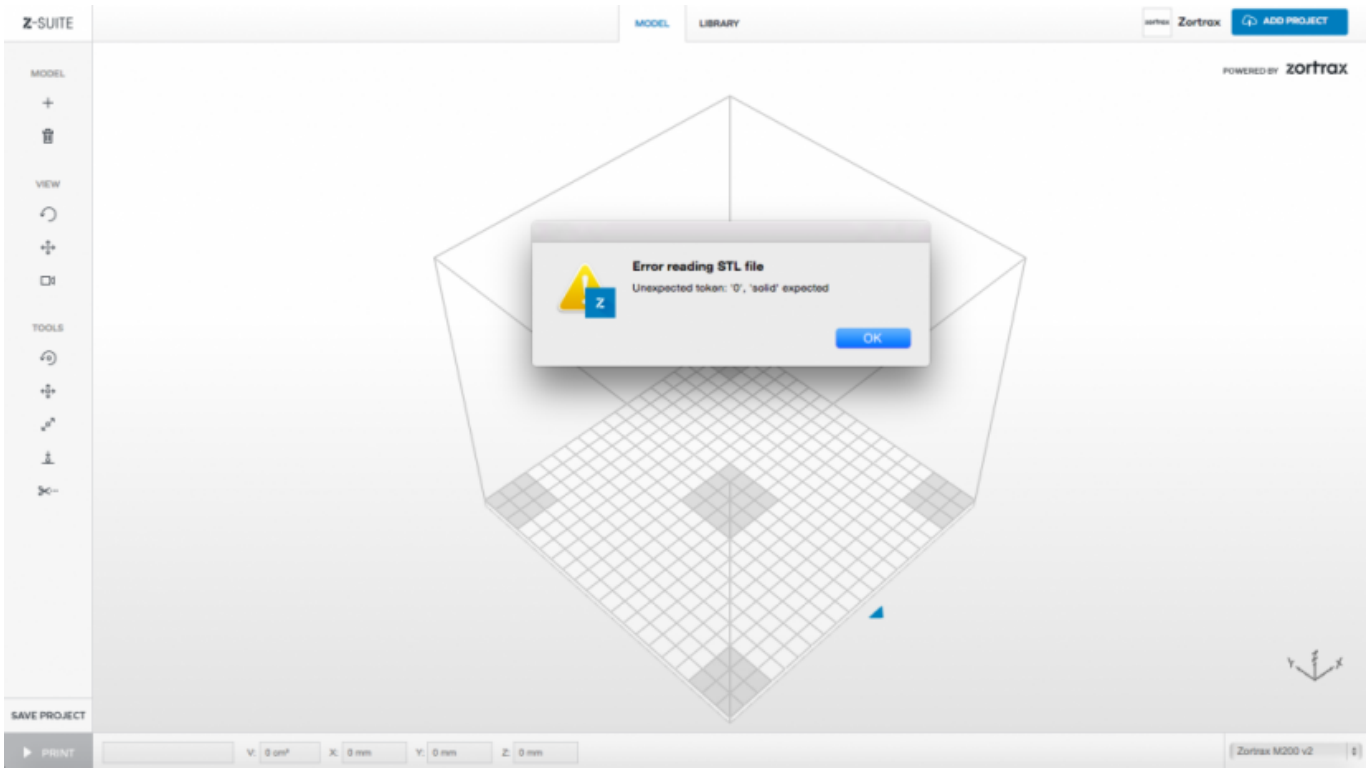


The preview is not loading

Full preview of large models with complex structures is possible with high-performance computers, e.g.:
Processor: i5 / i7
Memory: 8GB DDR3 minimum
Graphics card: 2GB minimum

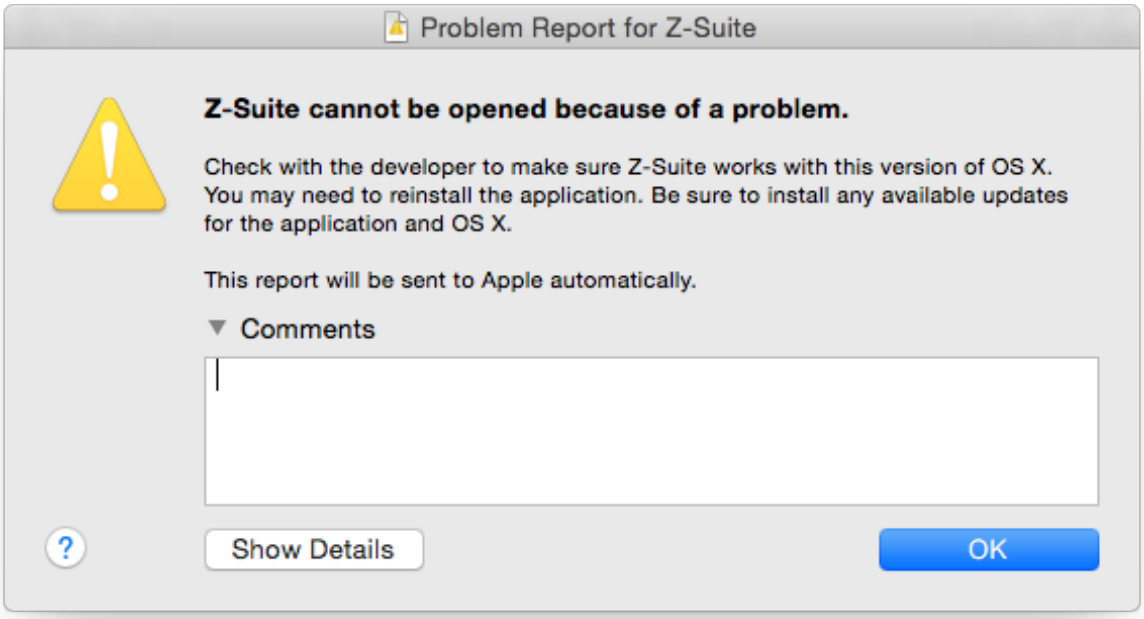
Z-Suite is not loading the model (failed to load)

Make sure that you saved the file in .stl or .obj format.



Z-Suite is not running/I can’t open the Z-Suite (Mac OSX)

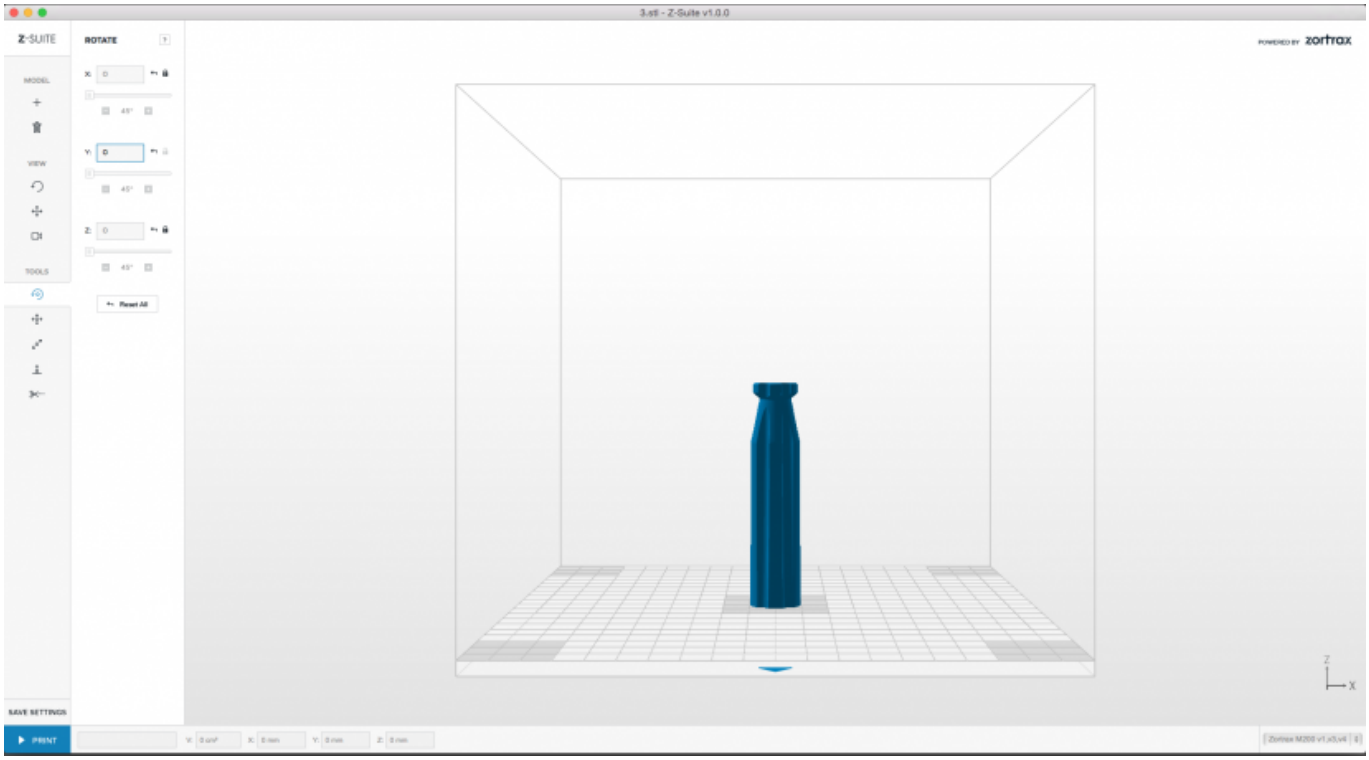
To fix the problem, install Mono framework.



Position and print quality

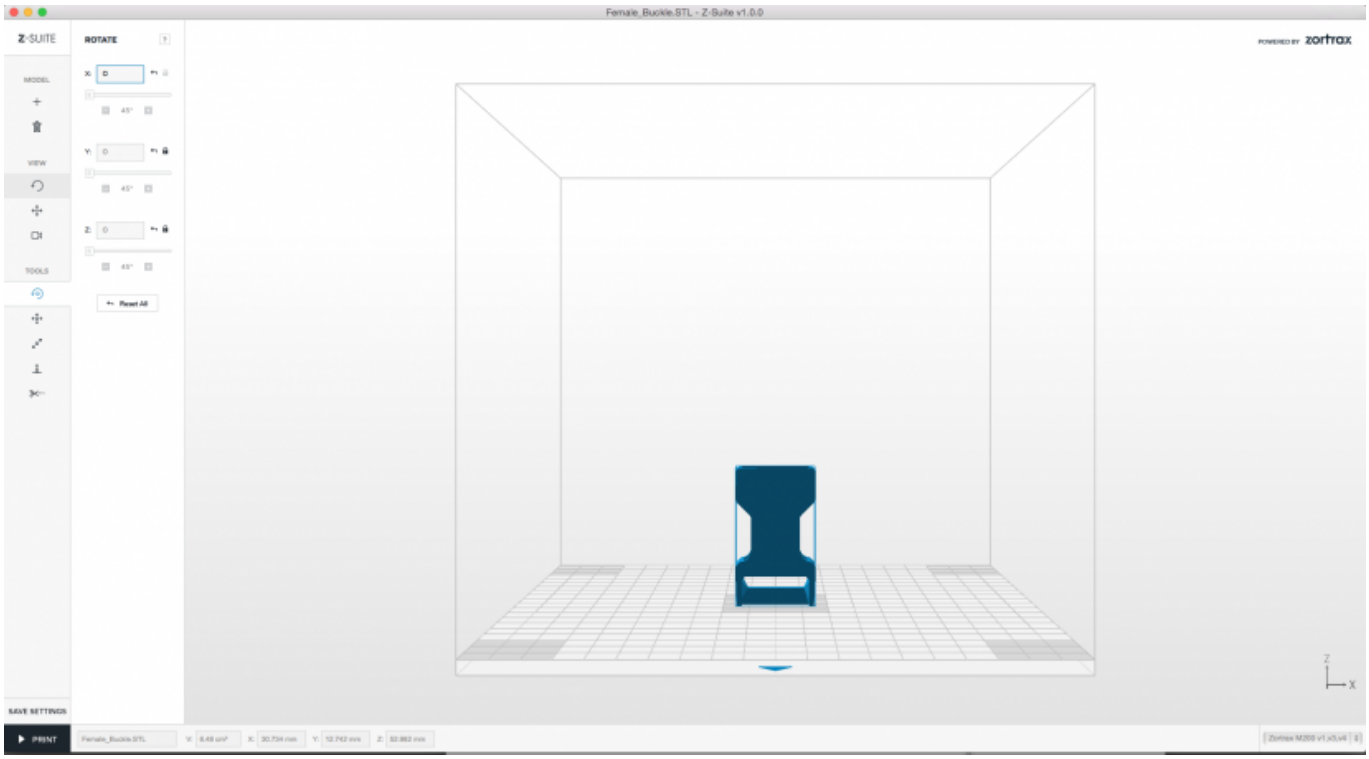
Choosing your print’s orientation can highly influence the outcome of 3D printing process. By selecting the proper orientation, you can easily eliminate most defects that may appear on your print and, as a result, you can obtain a much smoother surface.

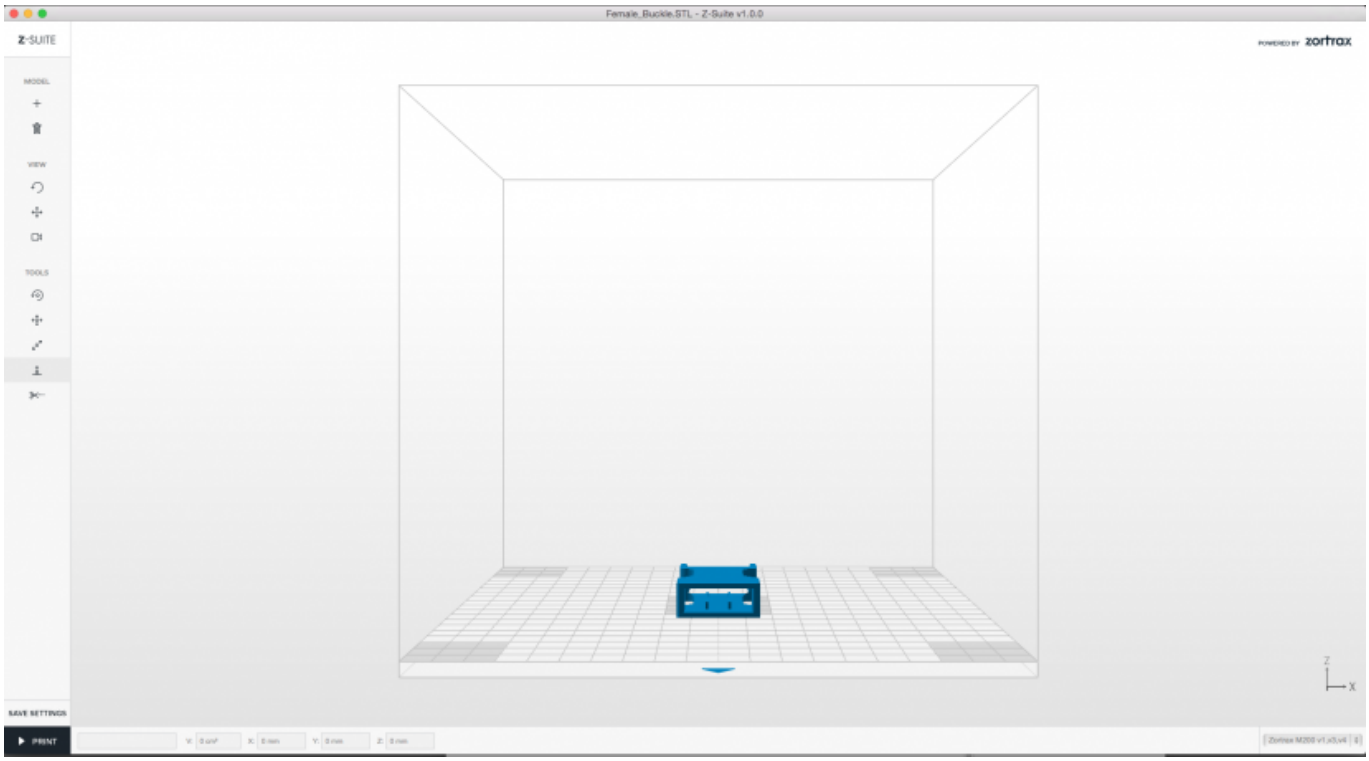
As your model is being printed one layer after another, you may notice some imperfections on its external shape. Every layer sticks to the already dried previous layer, so the two layers cannot stick to each other without leaving a visible mark on the surface. In case of large prints, where the printing surface is much wider, it is even more visible because the material dries faster. The easiest and most effective solution is to place your model vertically.



Weak spots

The way to avoid weak spots that may appear on the surface of your print in the process of printing is to change the position of your model. Weak spots may influence the model’s resistance. Placing the model in the vertical orientation instead of horizontal, may eliminate the problem of weak spots.





Assembling parts

If you want to print an object consisting of two or more seperate parts that are to be put together, remember to leave the proper space between the parts. The distance between these elements is crucial to avoid friction which may damage the final shape of the object. The minimal space recommended for such prints is 0.3 mm between each part.