

1 SETTING UP THE 3D SCANNER



- Mount the 3D Scanner on to the tripod.
- Plug in the power (12 VDC) and the USB cable into the scanner and your computer.
- Turn the scanner on.



FLEXSCAN3D

- Log in to our website at <https://www.polyga.com/my-account/> to download and install FlexScan3D.
- Open FlexScan3D.
- To add the scanner, go to the **Scanners Panel** tab located on the top left of the screen and click on **New**.
- In the drop-down menu, select the type of scanner which you have purchased. The scanner should be showing up if all the connections are correct.
Choose **Compact S,L,H** for: S1, L6 & H3
- Select the scanner and hit **OK**.

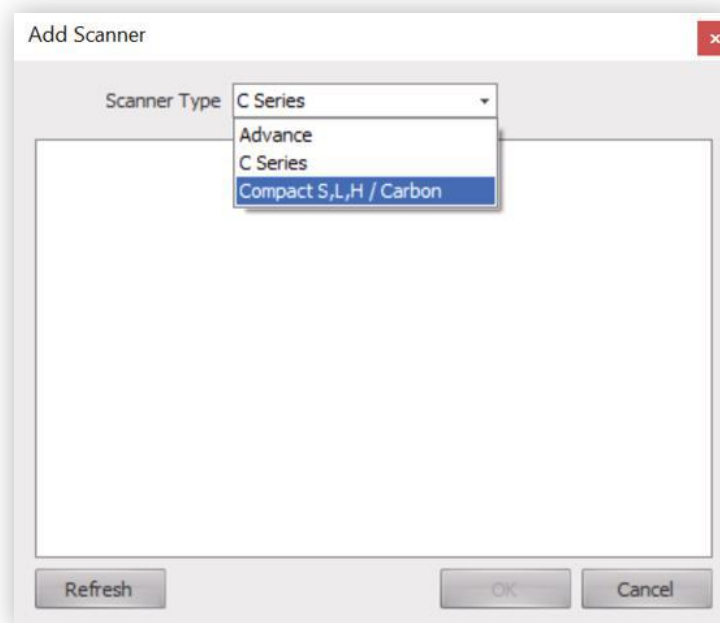


Figure 1

2 TAKING YOUR FIRST 3D SCAN

- Determine the clearance distance between your scanner and your target object using the table below.
- Place the object to be scanned at approximately the same clearance distance away from the 3D scanner. This ensures that the cameras will be focused to get the most amount of data out of a scan.

Scanner Type	Clearance Distance(mm)
HDI Compact L6	680
HDI Compact S1	220



Figure 2 : Adjust the scanner and the tripod in such a way that the scanner is at a 45-degree angle looking down on the object.

- Navigate to the **Project** tab in FlexScan3D and you should be able to see the object in the live feed of the camera window on the bottom right of the screen.

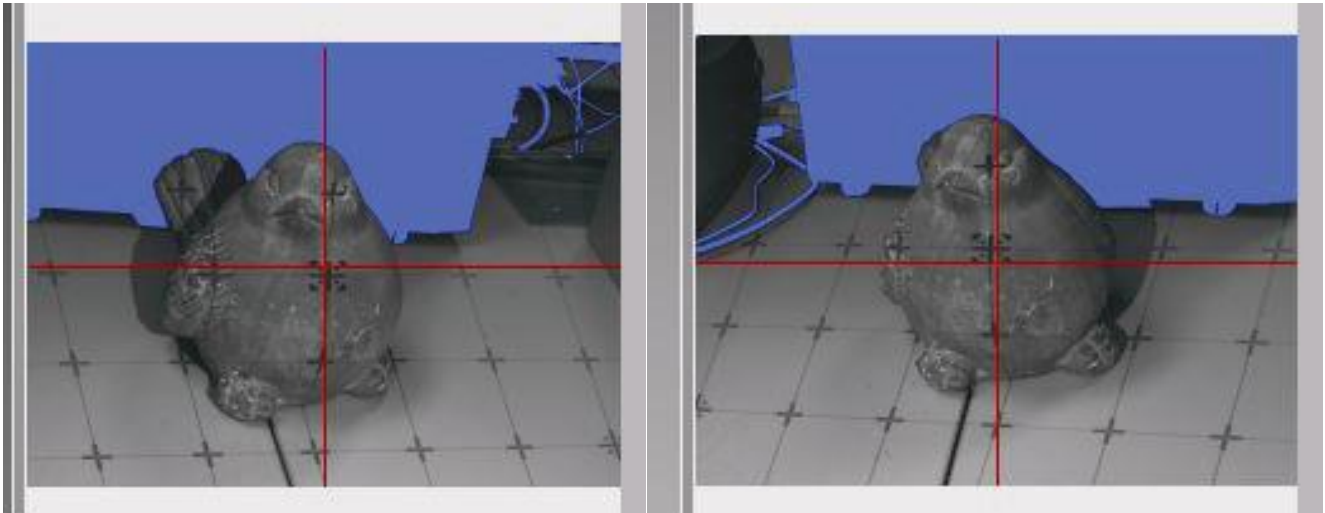


Figure 3

- To get the correct camera focus, adjust the distance between the scanner and the object so that the red crosshairs in both the cameras intersect at the same point on the object as shown in Figure 3. You can set the projector pattern to FOCUS and align the red crosshairs over the crosshair of the focus pattern.
- Adjust the exposure such that there are no red spots (over-exposed) or blue spots (under-exposed) on the object. The Exposure slider can be found on the top right corner of the screen.
- After completing all the above steps, the scanner should be ready to take its first scan. Click the **SCAN** button located on the left-hand side of the screen.

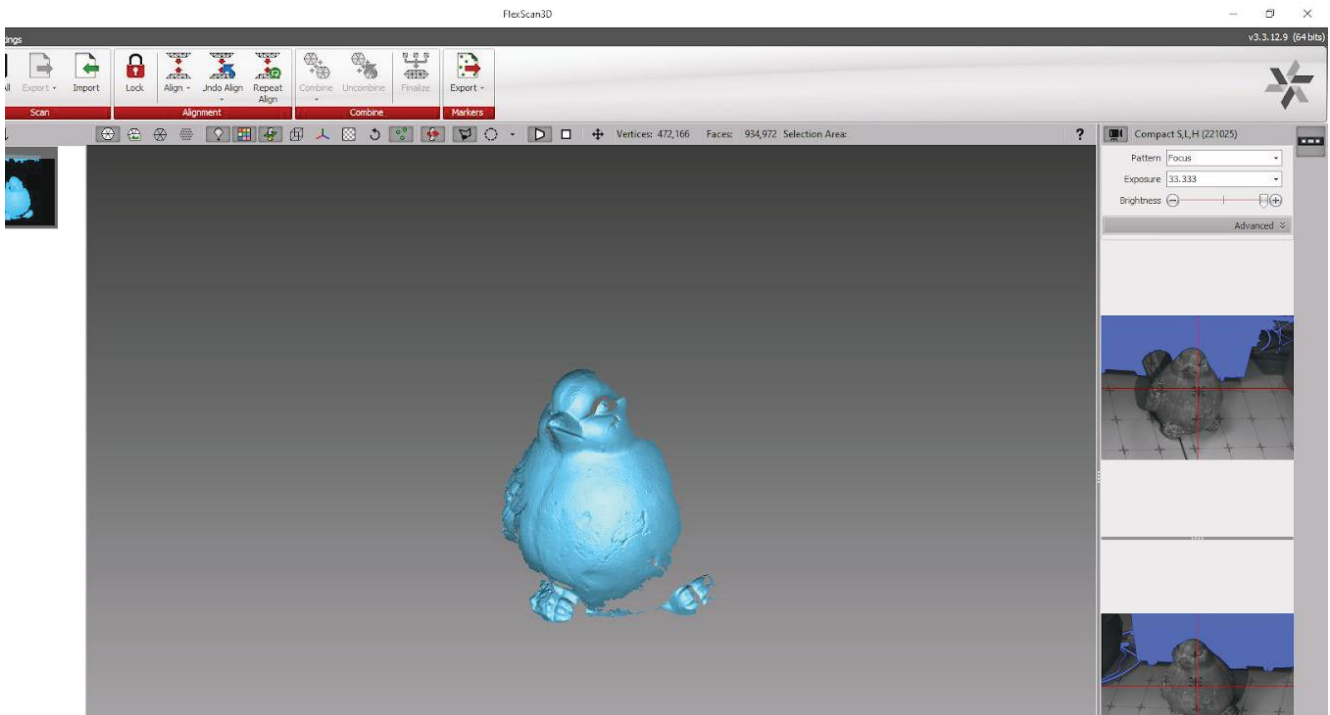


Figure 4: Data of the object after being scanned

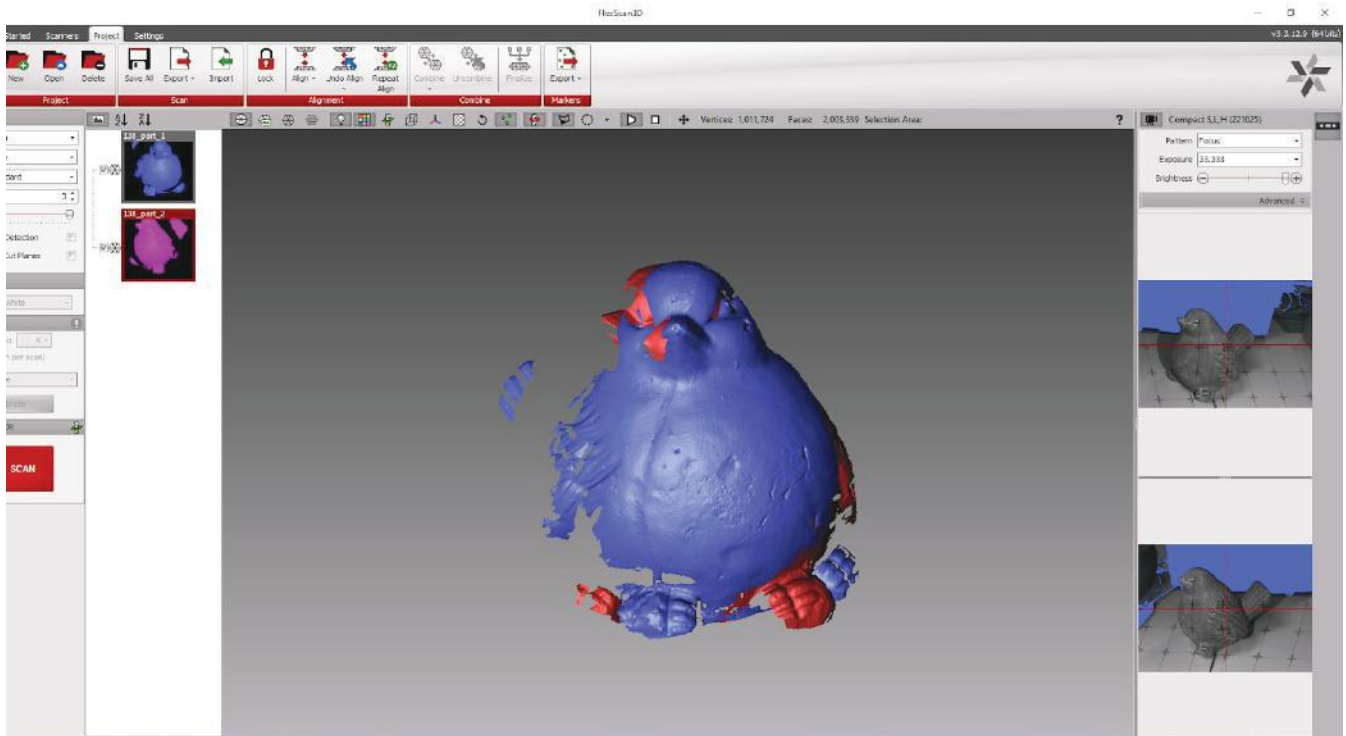


Figure 5

- In order to take multiple scans of the object, change the orientation of the object with respect to the scanner. Take a new scan and you should be getting a new scan data overlapping the previous scan similar to Figure 5.
- Make sure that there is enough overlapping data between every new scan and the one before that to ensure successful alignment.
- To align the 2 scan data, click on the new scan data and change the orientation while holding **Alt + Left Mouse Button**. *It is also possible to pan the new scan data while holding Alt + Mouse Scroll Button.*
- Align the old and the new scan data by selecting the desired alignment type. Select more than one scan to be aligned by holding Ctrl and click the scan data list as shown in the screenshot.
- Click **Align** button on the top of the screen.

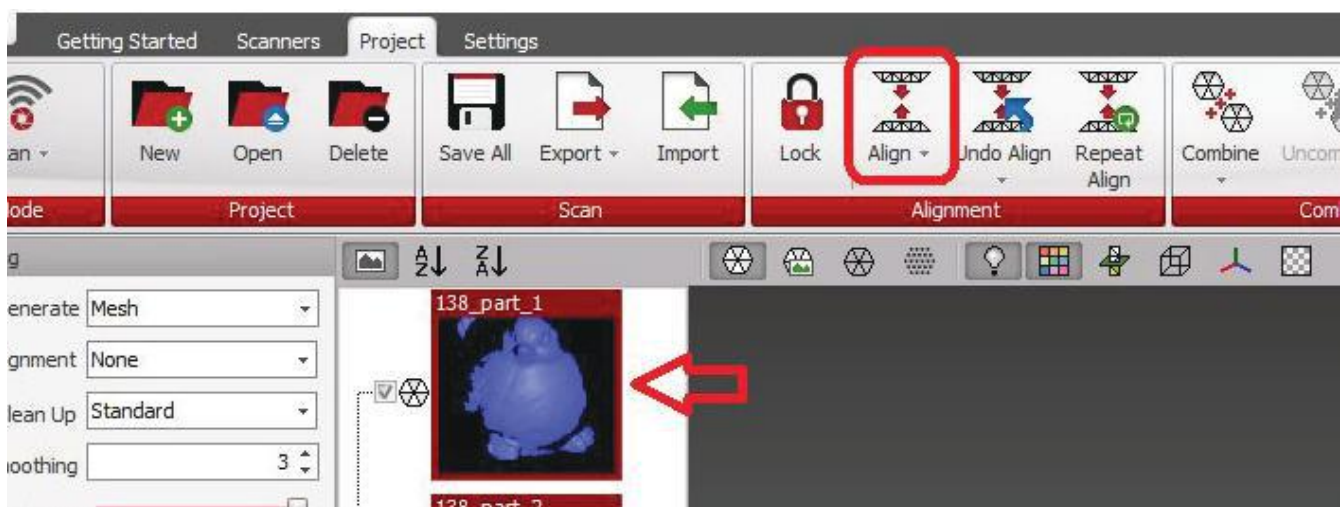


Figure 6

Once, you are able to successfully align the multiple scans, the object should look more complete similar to the below screenshot.

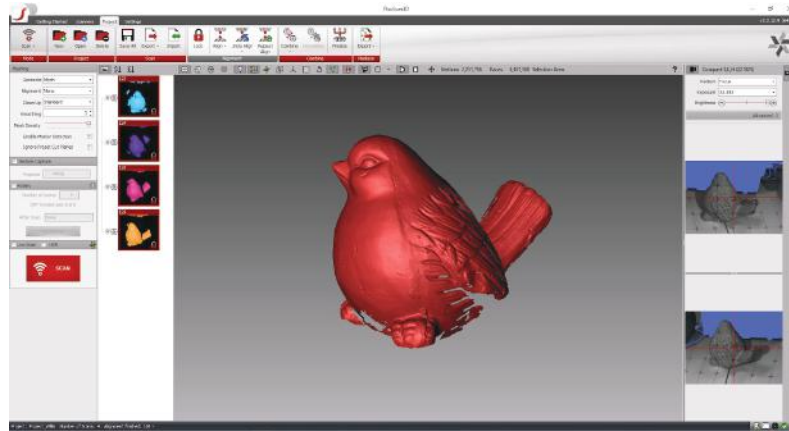


Figure 7



Figure 8: Sample of unsuccessful scan alignment due to lack of overlapping data or the orientation of the scan data to be aligned is wrong.

Take multiple scans of the object by changing the orientation. Once all the scans are complete, select all the scans and click the **Combine** button on the top of the screen. Select the **Finalize** button to generate a mesh. You have now completed your 3D scan project.

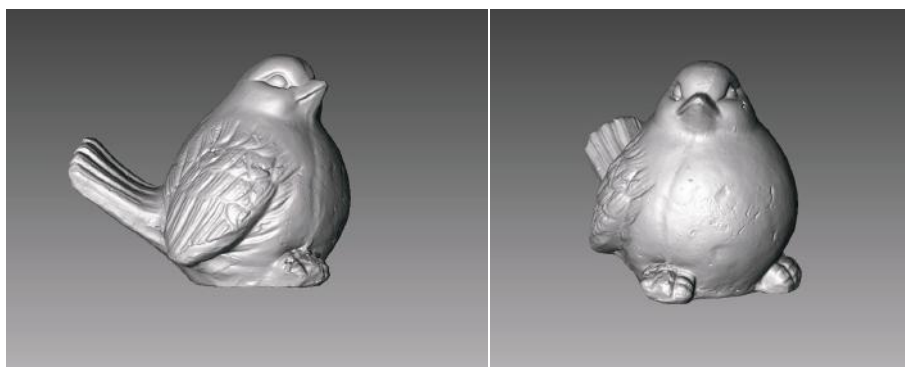


Figure 9