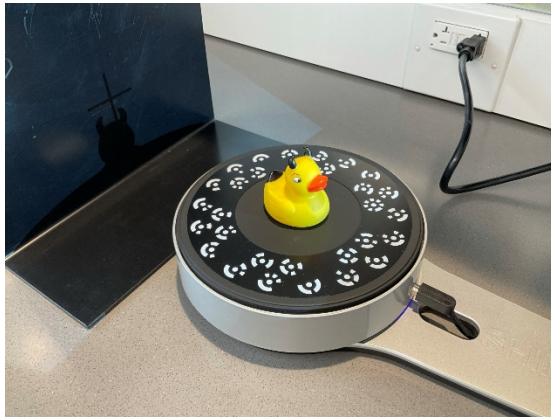# 3D Scanner Basics

MAKER SPACE INSTRUCTIONS

The EinScan SP 3D Scanner can scan any object to create a digital 3D copy.

1. Place the item on the turntable. The black divider behind the turntable helps the scanner.
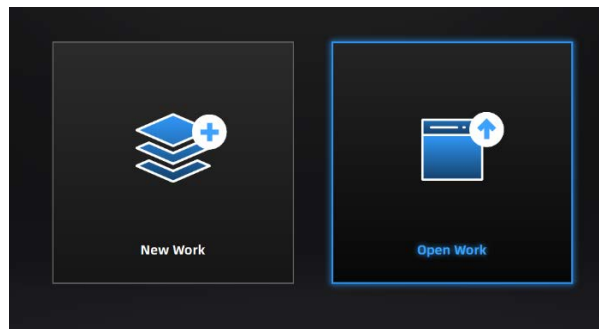

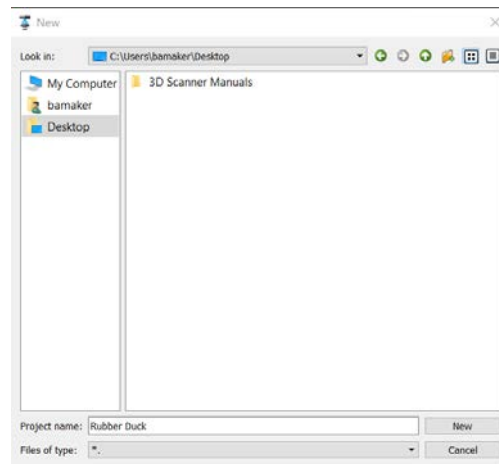2. Click on the **EXScan S** software on the desktop.
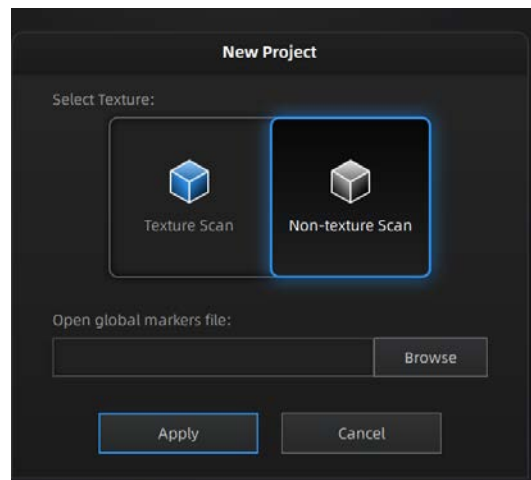

3. Choose the **EinScan SP**

4. Choose **New Work**
   a. You can choose **Open Work** to continue scanning if needed.
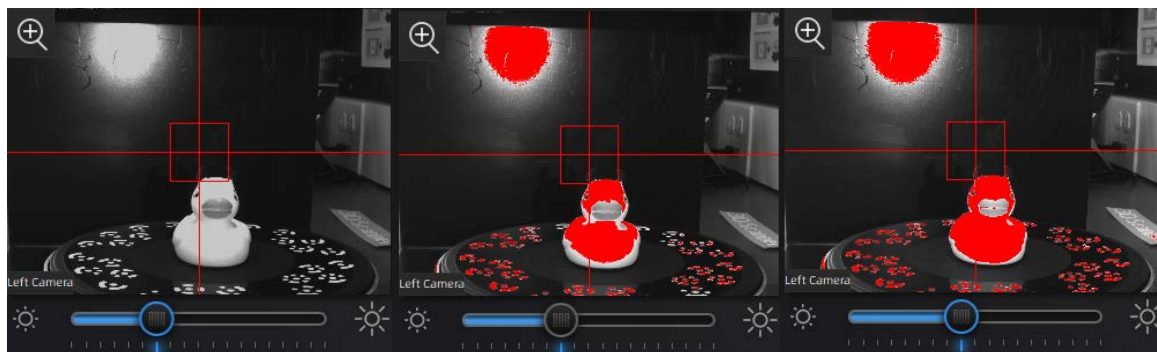
5. Name your project and open the folder where you will save the data. Then click **New**.

6. Choose **Texture** or **Non-texture Scan.**
   a. Texture will collect the color and more data for the scan. For 3D printing, choose **Non-texture**. Click **Apply**.

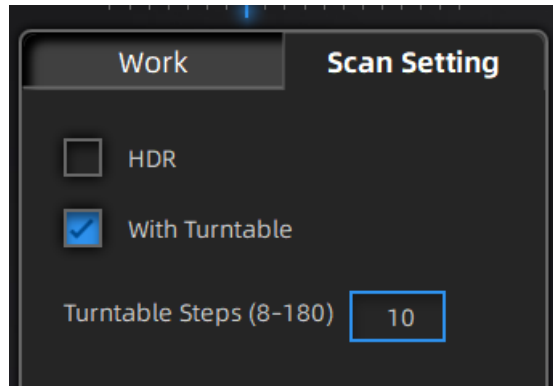7. Set up the proper lighting on the item for the scan.
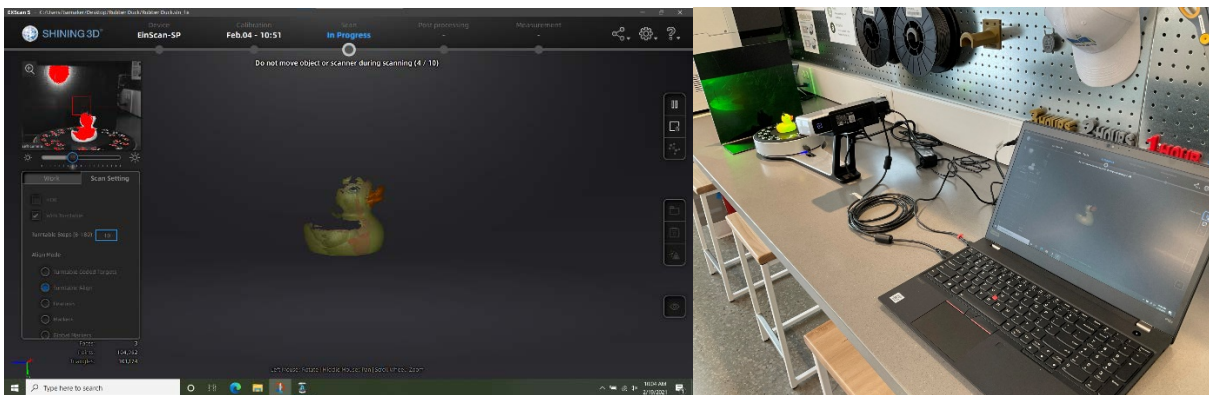

| Too Little | Just Right | Too Much |

8. Choose how many **Turntable Steps** or separate scans on one turn.
   a. More steps will collect more data and more scans. If the item is very detailed, more scans can help get a better image.

9. Press **Play**

10. The scanner will start scanning as the turntable turns the item.

11. After the scan is finished, you can see the digital image so far. It is normal for there to be missing information.
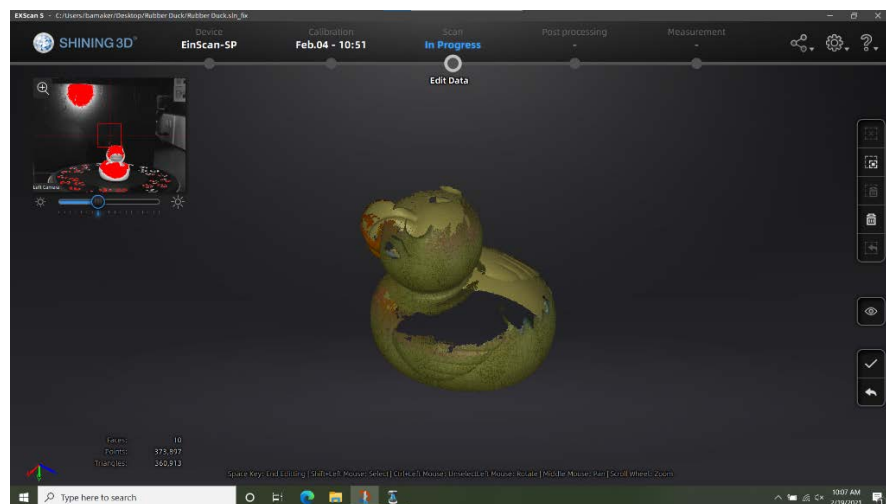
12. Use the toolbar on the right side to edit the scan such as removing unnecessary data. Then click

the checkmark:

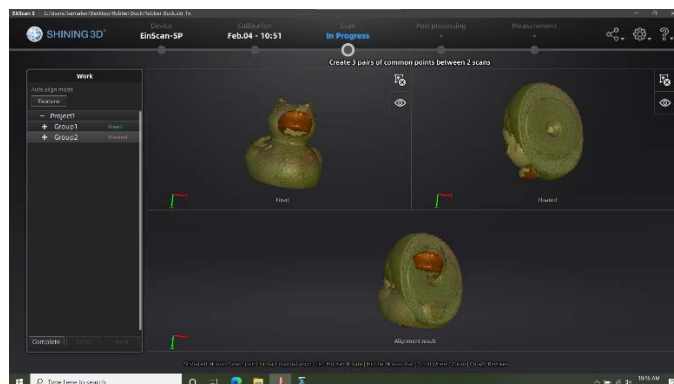13. Turn the item to show a different angle to the scanner and do another scan.

14. The different scans will overlap. The software attempts to line up the data, but sometimes miss.
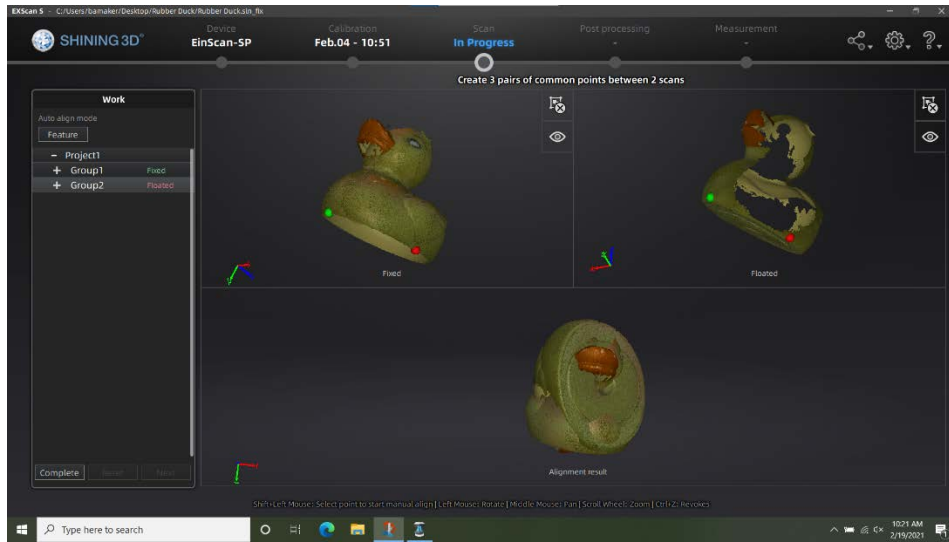

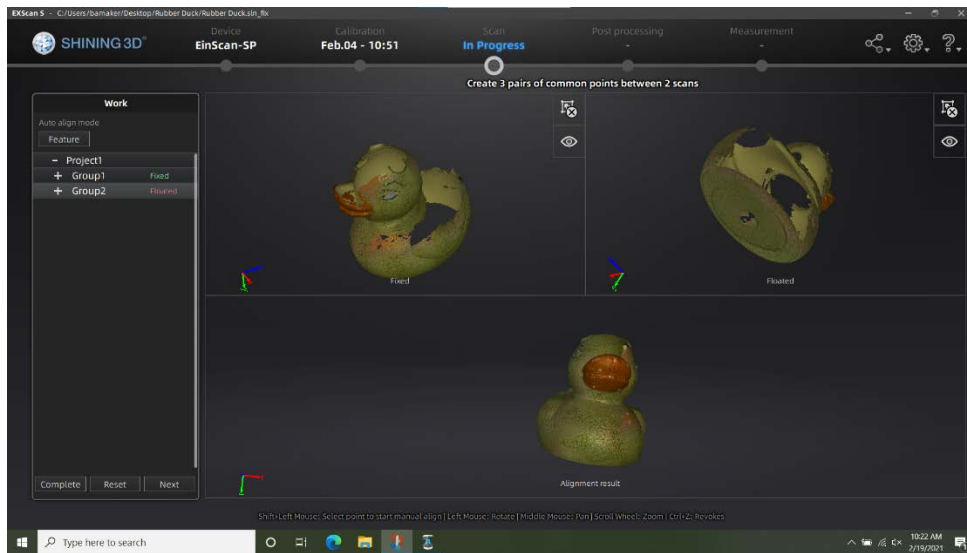15. Click **Align** to line up the scans.
    a. Click and drag each scan to the two top windows.

b. Mark the x, y, and z points on each scan to align them.
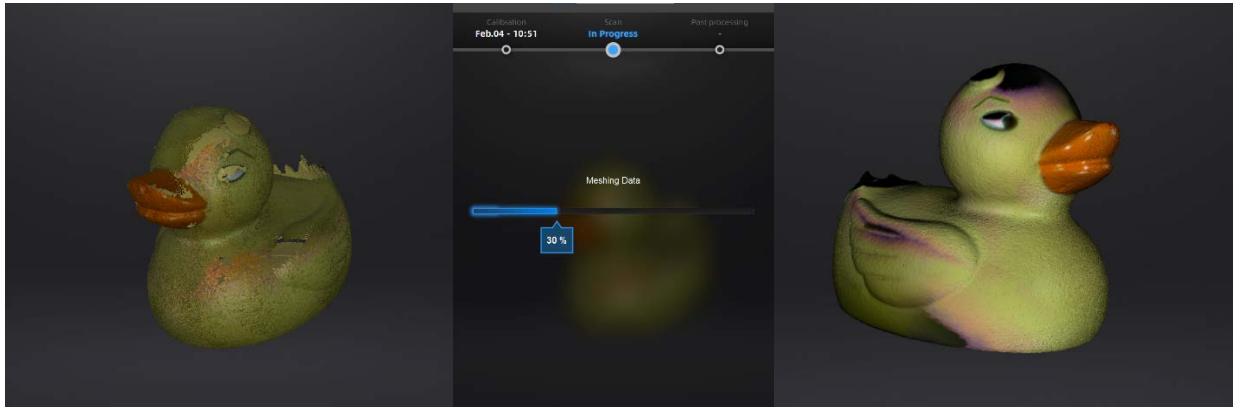

c. Once marked, the scans will align.

16. Close the align window and make more scans if needed.

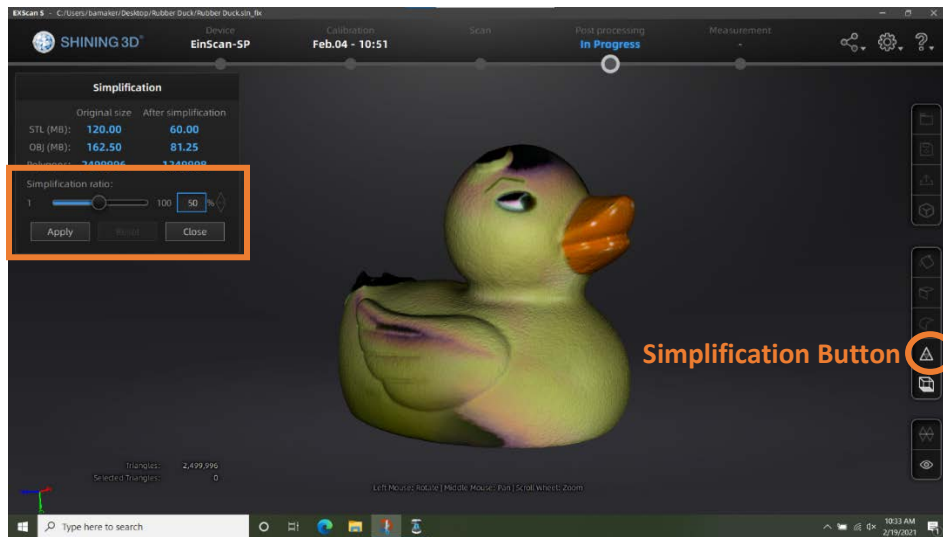17. If most of the item is displayed, click the **Mesh** button.

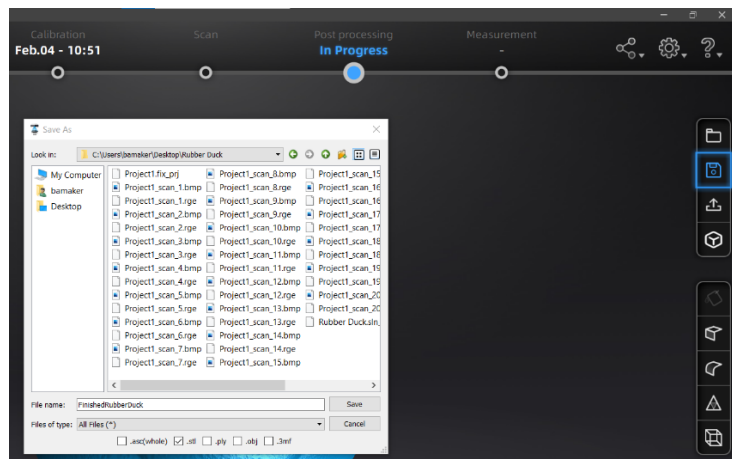a. Choose the **Watertight Model** to fill the gaps.

Finished scan.

18. Click on **Simplification** and shrink the size down to **10%**. Otherwise the file size is too big and too difficult to open in any other software. This will also ensure the scan will be small enough to 3D print.

19. Once all edits are finished, click the **Save** icon. Name your final file and save it as an STL file.

20. A window appears for zooming. If you do not wish to zoom, click **Apply**.

21. Measurement is a way to look at the final scan. You are finished scanning and have the final STL file.