MEDIT Scan for Labs

Revision 9

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Introduction

Medit Scan for Labs

Medit Scan for Labs is a software program that allows users to perform model and impression scans using Medit's scanner series. Users can edit data, complement it with data from the intraoral scanner and prepare for CAD/CAM processes.

Explicit explanations and guide messages for each step can be found on the left side of the window.

Medit Scan for Labs is to be run only on computers that meet the specifications outlined in the System Requirements. Otherwise, the device may not function properly.

In case Windows is not updated before the installation, USB 3.0 will not work properly.

> ⚠ Caution
> - This device is designed for USB 3.0 port only. Please make sure to connect it to a USB 3.0 port on your computer.
> - This device is compatible only with Windows 10 and later. It does not work with Mac operating systems.
> - Before installing the scanning S/W, please make sure that the Windows version in use, the mainboard, the VGA card, and the USB drivers are up to date.

General

Intended Use

The table top dental 3D scanner is intended to be used to digitally record the topographical characteristics of the teeth models. The system produces 3D scans for use in the computer-assisted design and manufacturing of dental restorations.

The scanner is intended to be used for the following cases:

- Single coping
- Bridges
- Full anatomic crown
- Full anatomical bridge
- Inlay / Onlay / Inlay bridge
- Veneer
- Single wax-up / Wax-up bridge
- Over-press crowns and bridge
- Post and core
- Telescopic crown
- Custom abutments
- Implant bars and bridges
- Removable partial denture
- Orthodontic cases
- Full denture
- Denture replica
- Provisional crown and bridge
- Attachments
- Splints

Workflow

The workflow is designed to provide high-quality scan data in the dental clinic or laboratory for any shape and size.

- **Model or Impression Scan**

Medit Scan for Labs will scan the model according to the information entered in the order form in Medit Link. This enables you to create a prosthesis directly by scanning the impressions compared to the conventional methods of prosthesis manufacturing.

- **CAD Processing**

Design the prosthesis using a CAD program.

- **CAM Processing**

Convert the designed prosthesis into NC data using a CAM program.

- **Manufacturing**

Fabricate the prosthesis using a machine according to the NC data.

- **Finishing**

Perform the finishing on the prosthesis.

Scanner & Software

The scanner comes equipped with the accompanying software.

- **Scanner: Medit Table Top Scanner (T-Series)**

The scanner is designed to acquire scan data from a variety of dental models and impressions in a convenient way. A full arch scan takes only 8 seconds (T500 takes 12 seconds).

- **Software: Medit Scan for Labs**

The accompanying software is designed to be user-friendly, making it easy to acquire scanned data.

Qualification of Operating User

The system can only be used by trained dental professionals or technicians.

You are solely responsible for the accuracy and completion of all the data acquired using your 3D scanner system. The user should verify the accuracy of each scan result and use it to evaluate the applicability of each treatment.

The scanner system must be used in accordance with the accompanying user manual.

Improper use or handling of the scanner system will void your warranty. If you need additional information or assistance in using the equipment, please contact your local service provider.

You cannot modify or change the device of the software system on your own.

System Requirements

Minimum System Requirements

	Laptop	Desktop
CPU	Intel Core i7-8750H or higher	Intel Core i7-8700K or higher
RAM	16 GB or higher	
Graphics	NVIDIA GeForce GTX 1060 6GB or higher	
OS	Windows 10 64-bit / Windows 11 64-bit	

Recommended System Requirements

	Laptop	Desktop
CPU	Intel Core i7-8750H or higher	Intel Core i7-8700K or higher
RAM	32 GB or higher	
Graphics	NVIDIA GeForce GTX 1060 6GB or higher	
OS	Windows 10 64-bit / Windows 11 64-bit	

Installation of Medit Scan for Labs

Installation

Medit Scan for Labs is installed as a package with Medit Scan for Clinics when you install Medit Link.

Please refer to Medit Link > Installation > Installation on Windows for installation instructions.

> ⚠ **Caution**
> The scanner may not function properly if you do not restart your PC after installation.
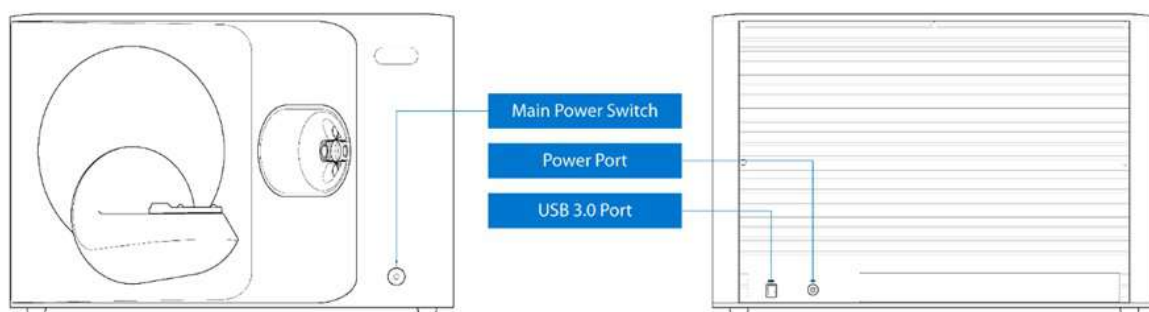
Hardware Configuration

Scanner Installation

Once the software installation is complete, reboot your PC before installing the hardware.

> ⚠ Caution
>
> The package includes a power cable and a USB cable. All cables used with the scanner must be properly connected to the PC.
> * Use only a USB 3.0 port when connecting the scanner to your PC.

How to connect T710/T510/T310

1. Connect the power cable.

2. Connect the USB cable via a USB 3.0 (indicated with Blue color) port. (*Important)

3. Turn on the power switch on the front of Medit 3D scanner device.

How to connect T500/T300
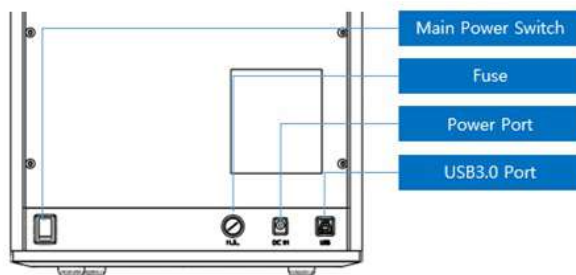
1. Connect the power cable.

2. Connect the USB cable via a USB 3.0 (indicated with Blue color) port. (*Important)

3. Turn on the power switch on the back of Medit 3D scanner device.

4. To verify that the scanner is installed correctly, open the Device Manager on the PC and check if it is detected.
5. To verify that the cameras are installed correctly, check if two cameras appear on the Device Manager.
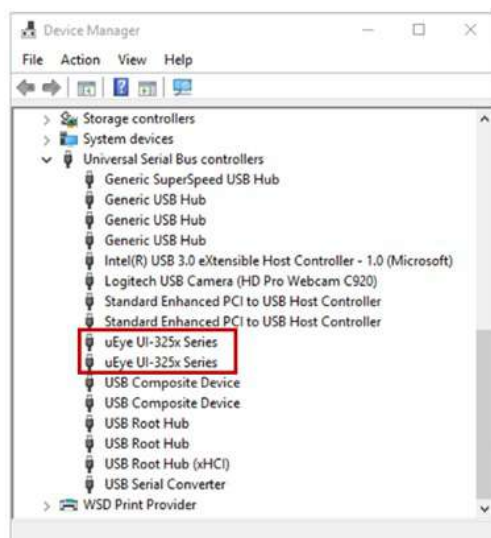
Scanner Calibration

Table Top Scanner Calibration

> **ℹ Note**
>
> It is recommended to calibrate the device periodically.
>
> Go to Menu > Settings >Table Top Scanner, and configure the calibration period in Calibration Period (Days) option. The default calibration period is 30 days.

Calibration is recommended for proper scanning and performance of the device.

Please calibrate the scanner when:

- The quality of scan data has decreased as compared to the previous scans.
- The external conditions, such as device temperature, changed during use.
- It is already past the configured calibration period.

> **⚠ Caution**
>
> The calibration panel is a delicate component. Please do not touch it.
>
> If the calibration fails, inspect the panel and contact the service provider if it is contaminated.

Calibration of T710/T510/T310

1. Turn on the scanner and connect the scanner to the software.
2. Click on the scanner icon at the bottom left to run the Calibration Wizard.
3. Prepare and place the calibration panel.

4. Select one of the two calibration options and click Next.
   - Auto calibration: Automatic calibration is conducted with the QR code on the back side of the calibration panel.
   - Manual calibration: The corresponding PNL file is required to conduct manual calibration.

5. Please enter the serial number of the calibration panel according to the option you chose above.
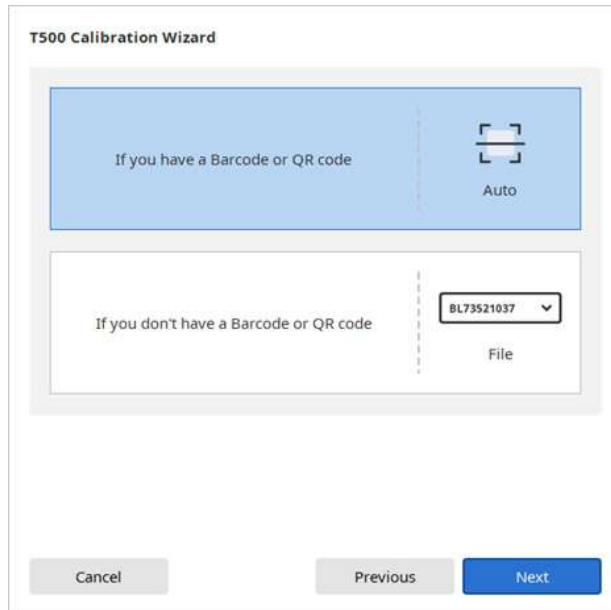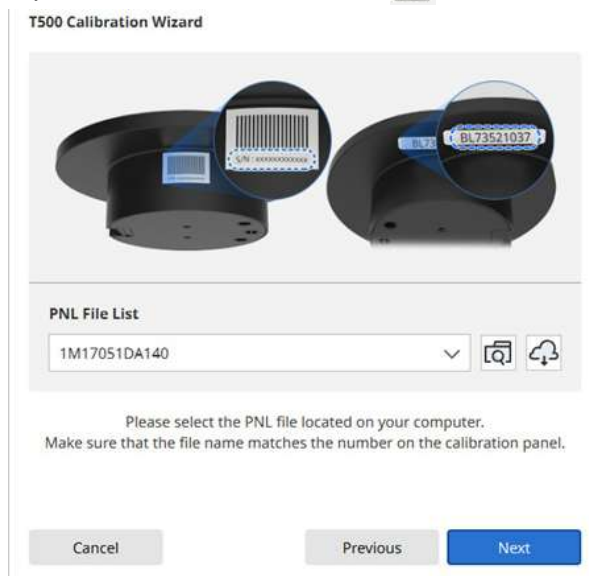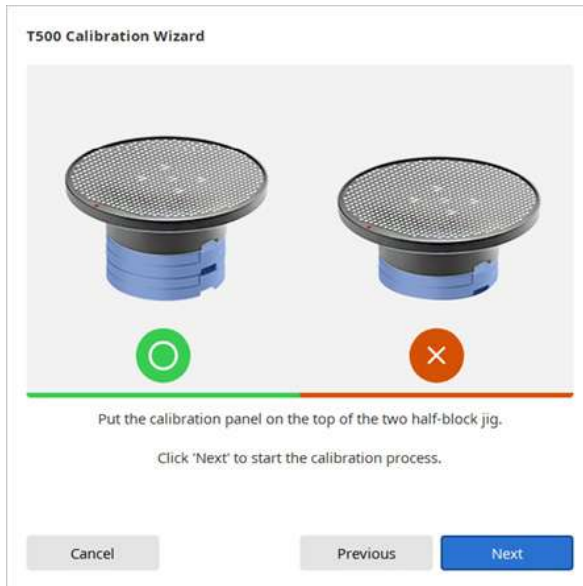   ○ Auto calibration:
      ■ The scanner will scan the QR code on the back side of the calibration panel, and the calibration process starts automatically.

   ○ Manual Calibration:
      ■ Check the serial number on the calibration panel and select the corresponding PNL file from the file list.
      ■ If you cannot find the serial number on the list, please check if you have a PNL file on the PC or installation USB.
         ■ If you have a PNL file, click to search for it.
         ■ If you do not have a PNL file, click and enter the serial number.


6. The calibration process might take a few minutes. Please do not touch the scanner.
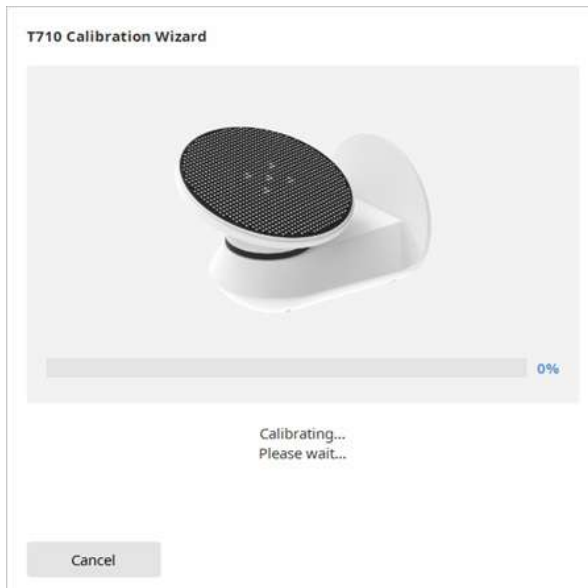
7. Wait until the calibration is completed successfully.
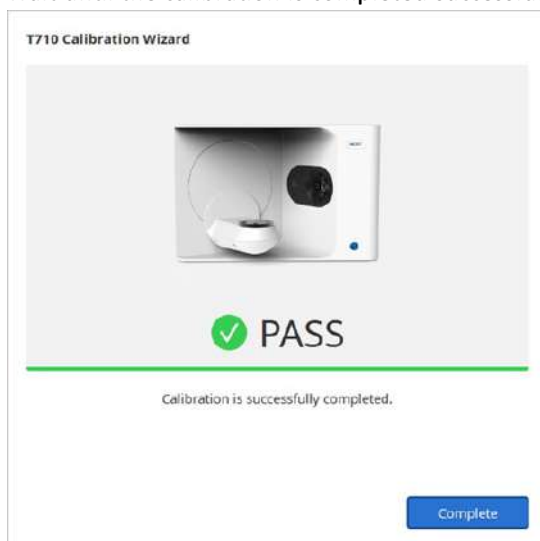
Calibration of T500/T300

1. Turn on the scanner and connect the scanner to the software.
2. Click on the scanner icon at the bottom left to run the Calibration Wizard.
3. Prepare and place the calibration panel as shown on the picture.

4. Select one of the two calibration options and click Next.
   ○ Auto calibration: Automatic calibration is conducted with the QR code on the back side of the calibration panel.
   ○ Manual calibration: The corresponding PNL file is required to conduct manual calibration.

5. Please enter the serial number of the calibration panel according to the option you chose above.
   ○ Auto calibration:
     ▪ The scanner will scan the QR code on the back side of the calibration panel, and the calibration process starts automatically.
   ○ Manual Calibration:
     ▪ Check the serial number on the calibration panel and select the corresponding PNL file from the file list.
     ▪ If you cannot find the serial number on the list, please check if you have a PNL file on the PC or installation USB.
     ▪ If you have a PNL file, click [icon] to search for it.
     ▪ If you do not have a PNL file, click [icon] and enter the serial number.

6. Put the calibration panel on top of the two half-block jigs.

7. The calibration process might take a few minutes. Please do not touch the scanner.

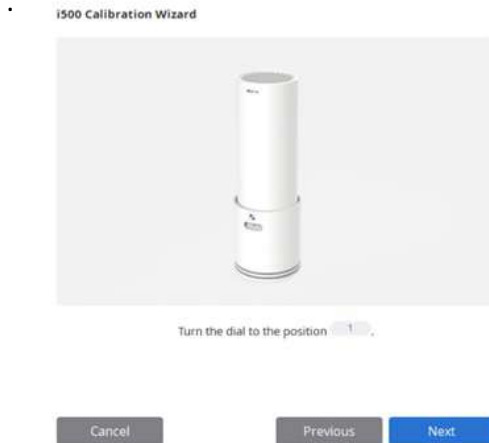8. Wait until the calibration is completed successfully.
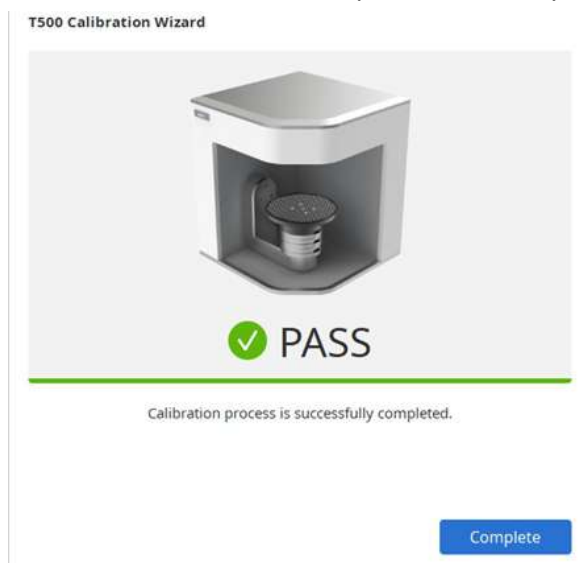
Intra Oral Scanner Calibration

1. Turn on the scanner and connect the scanner to the software.
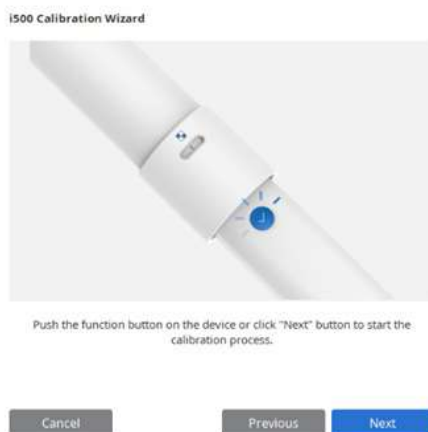2. Click the intraoral scanner icon at the bottom left to run the Calibration Wizard.
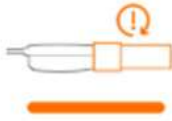
3. Prepare the calibration tool.
4. Set the dial of the calibration tool to position 1

.

5. Insert the handpiece into the calibration tool.

6. Click "Next" to startthe calibration.

7. If you properly insert the handpiece, data will be automatically obtained from position 1.

i500 Calibration Wizard

70%

Acquiring data from the position 1 . Please wait...

Cancel

8. After completing data acquisition at position 1, turn the dial to the next position according to on-screen instructions.

i500 Calibration Wizard

Turn the dial to the position 2 .

Cancel

9. Repeat the above process for positions 2 to 8 and the LAST.
10. After data acquisition at the LAST position completes, the calibration result will be displayed.

i500 Calibration Wizard

✓ PASS

Calibration process is successfully completed.

Complete

User Interface

Overview
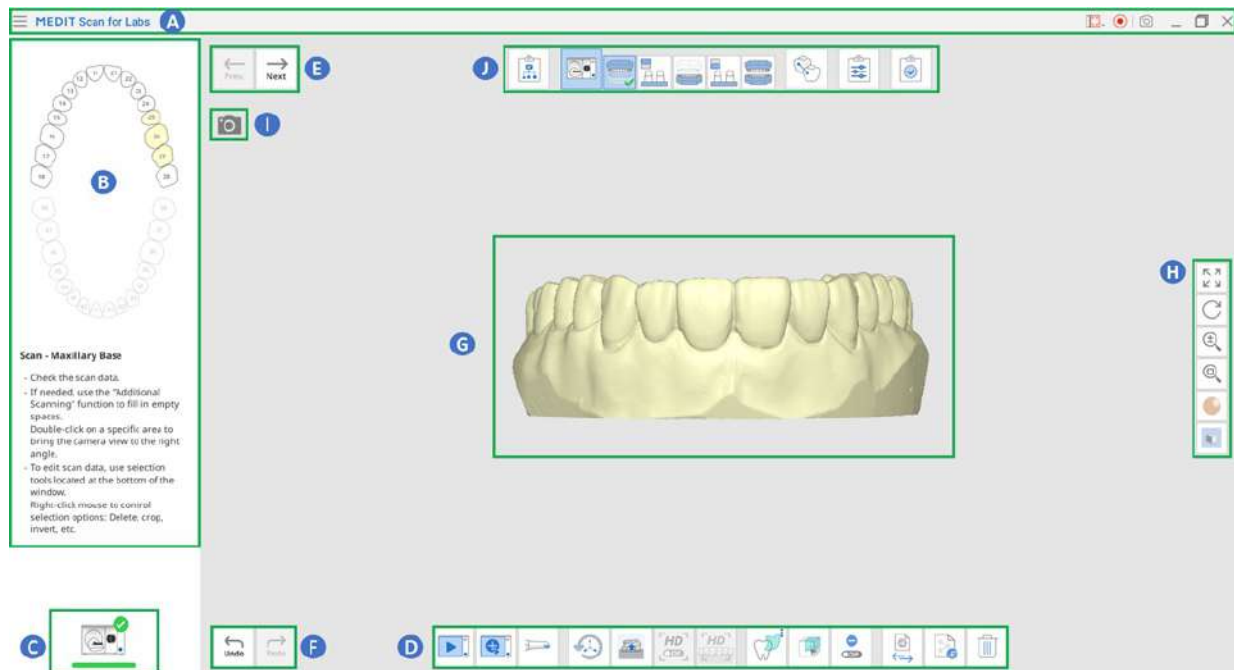
A	Title Bar
B	Guide Image and Message
C	Scanner Status
D	Main Toolbar
E	Previous / Next Stage
F	Redo / Undo
G	Data Display Area
H	Side Toolbar
I	Live View
J	Stages (Workflow)

Title Bar

The title bar includes the menu, capture options, and tools to resize the program window.

	Menu	Provide basic program functions such as Settings, User Guide, and About.
	Submit Support Request	Land on a Medit Help Center page to submit a support request.
	Select Video Record Area	Select which area of the screen to record the video. The user can record the entire window of the program or only the area where 3D data is displayed.
	Start/Stop Video Recording	Start or stop video capturing. The captured video file can assist in communication between the patient, clinic, and laboratory.
	Screenshot	Capture the entire screen or only the 3D data display area of the scanning software. The captured image file can assist in communication between the patient, clinic, and laboratory.

Clicking the Menu icon will show the following three options.

⚙	Settings	Set scan and calibration options for both table top and intraoral scanners.
？	User Guide	Open the user guide.
ⓘ	About	Provide detailed information about the software program and version.

Guide Message

You can expand or collapse the Guide Message panel on the left side of the screen.

- Expanded
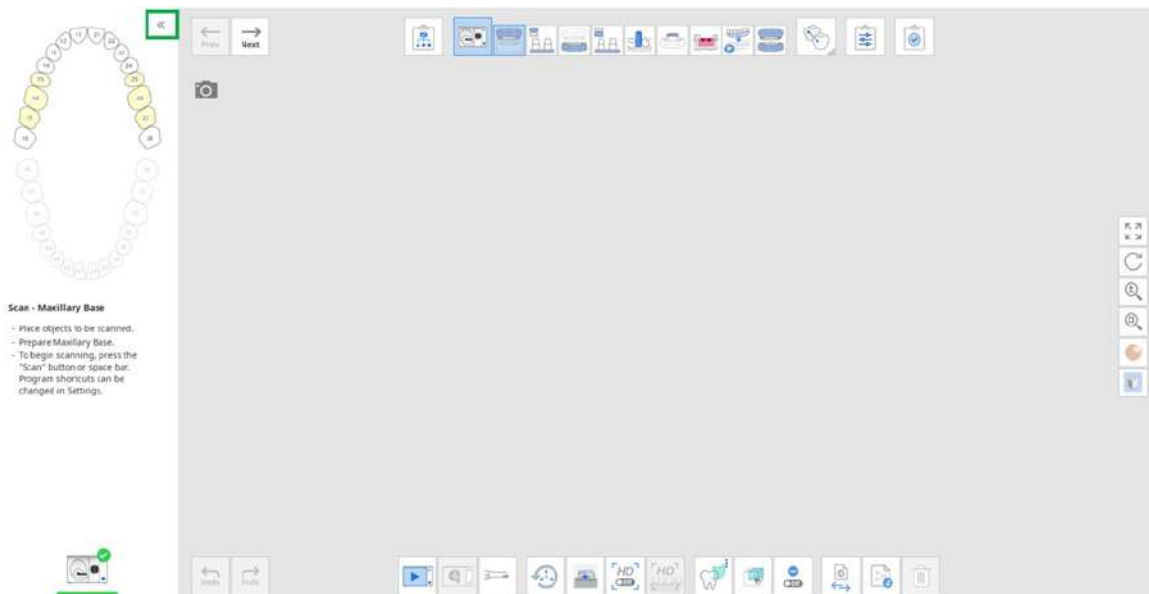
- Collapsed
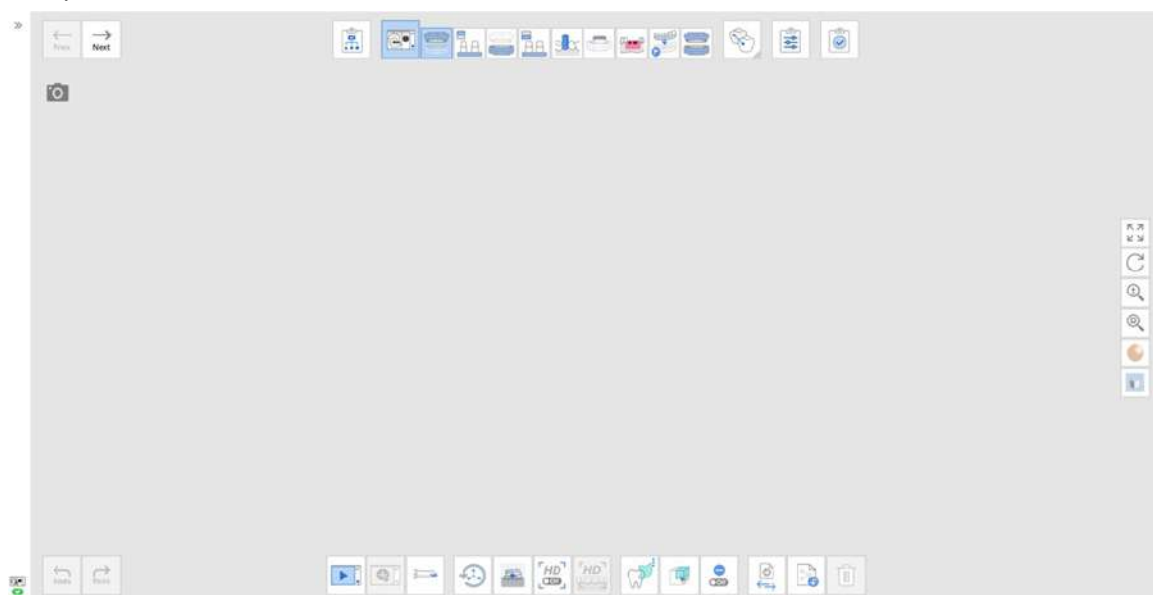
Scanner Status
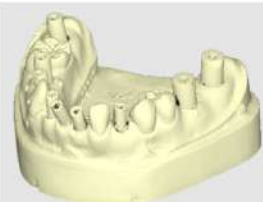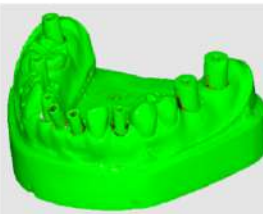
Following are the indications of scanner status:
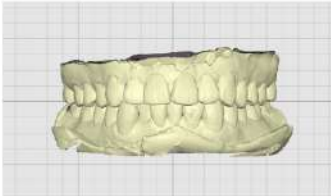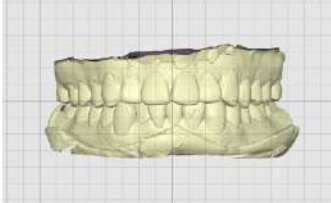
	Not Connected	A scanner is not connected.
	Ready	A scanner is ready for use.

Side Toolbar

> **iN**ote
> The data control tools listed below are especially helpful when you work on a touch screen.

	Pan		Move the model.
	Rotate		Rotate the model.
	Zoom In/Out		Zoom in and out on the model.
	Zoom Fit		Position the model in the center of the screen.
	Model Display Mode	Texture On	Apply various texture colors to the model.
		Texture Off	Apply a single texture to the model.
		Reliability Map	Apply red, yellow, and green colors to the model to indicate the reliability of scan data. * Green data indicates high reliability, while red indicates poor reliability. You can perform additional scanning to reduce unreliable areas.

		Grid On	Shows the grid in the background.
	Grid Settings (mm)	Grid Off	Hide the grid in the background.
		Overlay On	Overlay the grid over the model.

Settings

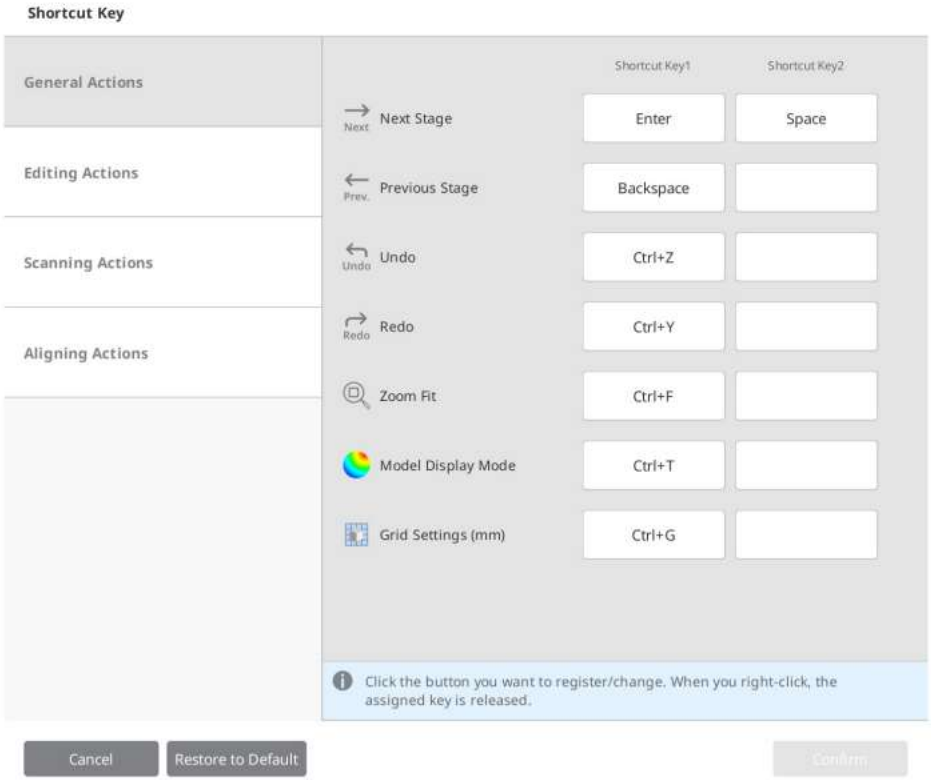Go to Menu > Settings to open the Settings dialog for Medit Scan for Labs.
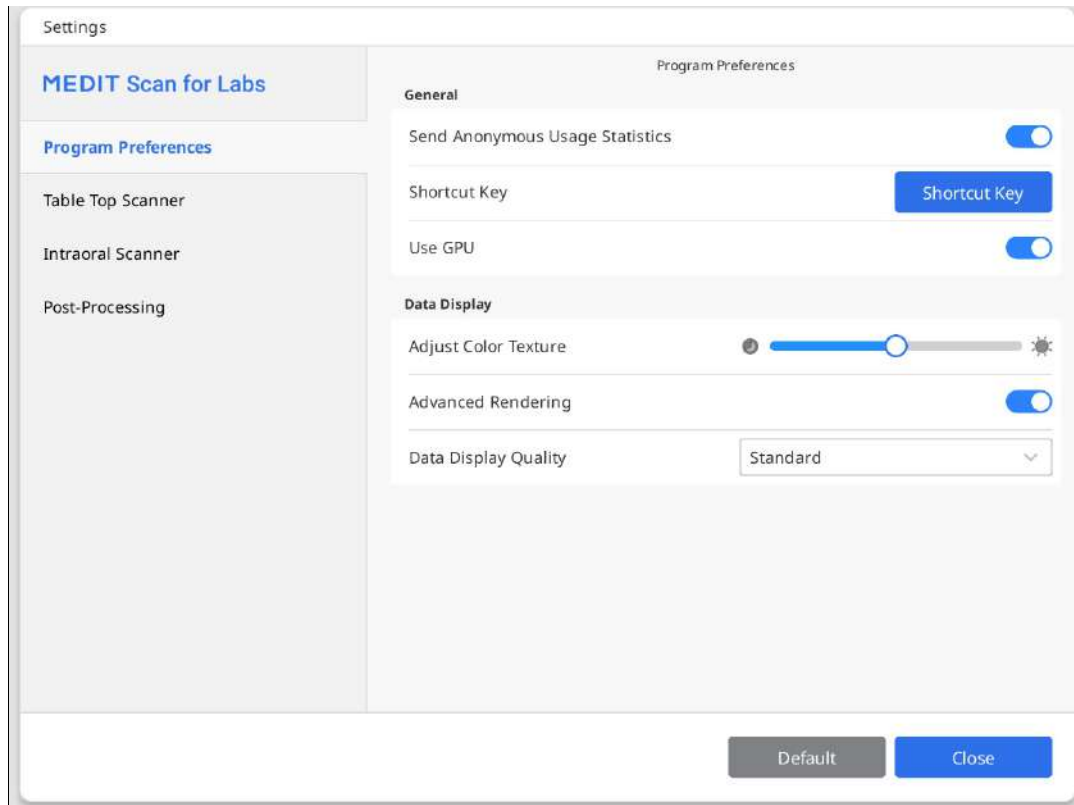
Note

When you click the "Default" button, all configured parameters will be reset to their default values.

Program Preferences

General

Send Anonymous Usage Statistics	Set whether to start and stop sending anonymous usage statistics to Medit. **Collection Anonymous Statistics** Medit is striving to constantly improve the product and user experience by collecting certain information such as: • Hardware and software configurations, such as OS, graphics card, etc. • Patterns and trends in how our software is used, such as frequency and performance. • Diagnostic information. The usage statistics will help the development team better understand user requirements and make improvements in future releases. We will never collect personal information, such as your name, company name, MAC address, or any other information related to personal identification. We cannot and will not reverse-engineer any collected data to find specific details concerning your projects.
Shortcut Key	Check out the default shortcut keys and configure your own. **Shortcut Key** | General Actions		Shortcut Key1	Shortcut Key2
Editing Actions	Next Stage	Enter	Space
	Previous Stage	Backspace	
Scanning Actions	Undo	Ctrl+Z	
	Redo	Ctrl+Y	
Aligning Actions	Zoom Fit	Ctrl+F	
	Model Display Mode	Ctrl+T	
	Grid Settings (mm)	Ctrl+G		 ⓘ Click the button you want to register/change. When you right-click, the assigned key is released. Cancel Restore to Default Confirm
Use GPU	This option is used to improve the overall computing performance using the GPU (graphics processing unit).

Data Display

Adjust Color Texture	Adjust the brightness of the 3D model. The color of the model shown on the screen is optimized for the scanner, so the acquired results may be displayed in a different color in other programs.
Advanced Rendering	Displays vivid 3D data with advanced technology applied.
Data Display Quality	This option only affects the quality of the scan data display, not the scan results or data accuracy. Setting this option to "High" can affect overall scan performance.

Table Top Scanner

General

Calibration Period (Days)	Configure the calibration period of the table top scanner.
Scan Path	Select whether to use a simple or detailed scan path. Choosing the detailed one will take longer but can minimize the need for additional scanning.
Sleep Mode	Select the time duration after which the scanner will enter sleep mode.
Set Minimum ScanHeight Automatically	When on, the minimum scan height is automatically set.
Set Scan Area Automatically	When on, scanning is automatically performed without selecting a scan area.

Color Filter

Filter Colors After Scanning	When on, data in the registered colors is filtered out while scanning.
View All Filters	When on, the list of color filters for all data types is displayed.

Additional Scanning

Perform Additional Scanning Automatically	When on, the program automatically calculates insufficient areas on the scan data and proceeds with further scanning.	
Start Additional Scanning	Select when to start additional scanning after completing the initial scanning when the "Perform Additional Scanning Automatically" option is on.	
	without asking	The program performs additional scanning when the initial scanning is complete without asking users to confirm.
	in 3 sec	The program performs additional scanning in 3 seconds if there is no confirmation from the user. If the user confirms, it starts immediately.
	in 5 sec	The program performs additional scanning in 5 seconds if there is no confirmation from the user. If the user confirms, it starts immediately.
	in 10 sec	The program performs additional scanning in 10 seconds if there is no confirmation from the user. If the user confirms, it starts immediately.
	upon user confirmation	The program performs additional scanning only when the user confirms.

Intra Oral Scanner

Calibration Period (Days)	Set the calibration period for the intraoral scanner – choose any given period (1 day, 3 days, 7 days, 14 days, or 30 days).

Post-Processing

General

Post-Processing Type	Configure the post-processing type based on the case (orthodontic or prosthetic): The speed-based type will help reduce the waiting time, while the quality-based type might take longer. None of the types affect the accuracy of the scan.
Export Occlusion Scan Data	Select whether to save the occlusion data as a separate file.
Use Neighboring Colors for Filled Holes	Turn on this option to fill empty spaces in the scan data with adjacent colors.
Fill Holes for Abutments	Automatically fill in holes for abutments during data processing. * Note that only abutments scanned in Flexible Multi-Die will be filled.
Remove Base from Gingiva Scan	Select whether you want to remove duplicated base data from the gingiva scan data.

File Size

Base	Adjust the file size of the data acquired at the Base scan stages.
Prep	Adjust the file size of the data acquired at the Prepped Teeth scan stages.

Align

Align Occlusion Scan Automatically	Select whether to align data acquired at the Occlusion stage automatically or manually.
Align Prep Data Automatically	Select whether to align prepared teeth data automatically or manually.

Basic Operations

Shortcut Keys

You can use shortcut keys for most Medit Scan for Labs functions. Press F1 to see the list of configured keys with their operations.
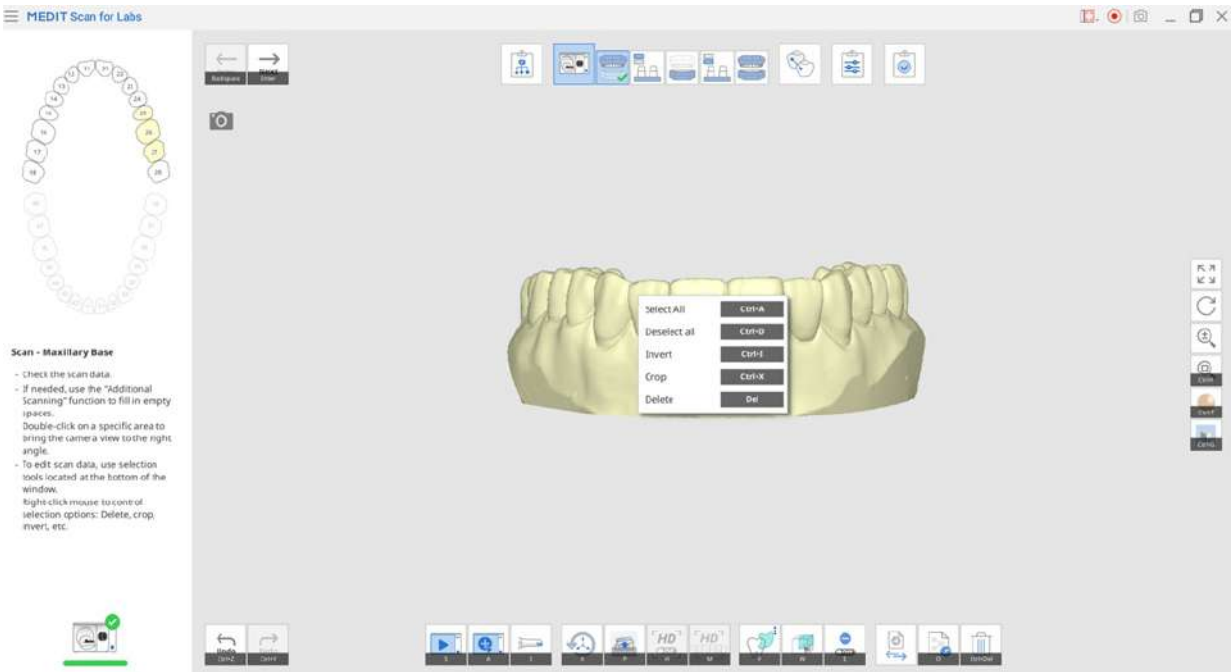
You can see and customize the shortcut keys in Settings > Program Preferences > Shortcut Key.
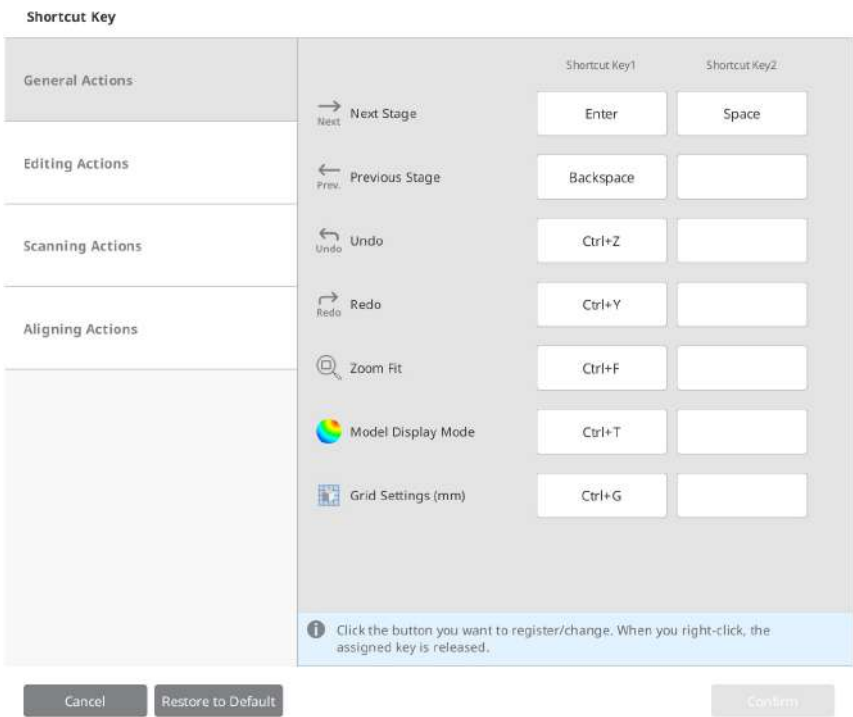
To assign a shortcut key, select one of the empty or assigned slots and press the key you want to set for the operation. Two shortcut keys can be set for the same function.

3D Data Control

3D Data Control Using a Mouse

	Image	Description
Zoom		Scroll the mouse wheel.
Zoom Focus		Double-click on the data.
Zoom Fit		Double-click on the background.
Rotate		Drag the right button.
Pan		Drag the mouse wheel.

3D Data Control Using Mouse and Keyboard

	Windows	
Zoom	Shift +	Shift +
Rotate	Alt +	Alt +
Pan	Ctrl +	Ctrl +

Go to Settings > Program Preferences > Shortcut Key to configure the keyboard shortcuts.

Scan Strategy

Workflow

If you are ready to start your scanning with Medit Scan for Labs, you first need to establish the workflow for the case.

At the top of the screen, you can see the five scan stages consisting of the workflow, as shown in the following image.

Based on the form information entered in the Medit Link app and the options you select in the Scan Strategy dialog, sub-stages are added to each basic stage. Click the Scan and Align Data icon to show or hide the sub-stages.
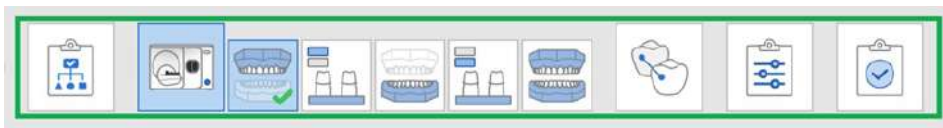
🔎 **Note**

You can change the order of stages by dragging the scan stages icons with your mouse. You will see the available spaces marked in green.

Basic Scan Stages

	Scan Strategy	Select the scan type between Flexible Multi-Die, Model, and Impression scanning and set the appropriate scan strategy for the selected scan type and required prosthesis.
	Scan	Perform the scanning process by stage. The scanning will be conducted based on the set strategy.
	Align Data	Manually align various data, such as post and core, wax-up, occlusion, etc., with the model.
	Confirm	Check the scan data and edit it if necessary.
	Complete	Complete scanning and start post-processing for the final result.

Scan Strategy Setting

Based on the options you select in the Scan Strategy dialog, sub-stages are determined to form the entire workflow of the case.

Set the scan strategy for your case as follows:

1. The Scan Strategy dialog appears once a scanner is connected properly to the PC
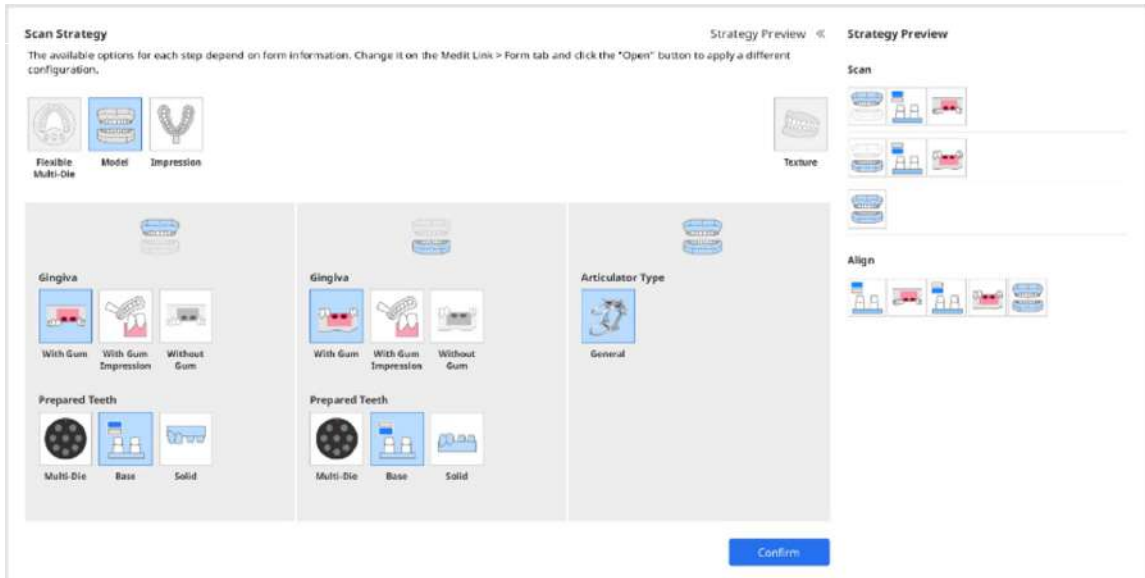
2. Select the scan type between Flexible Multi-Die, Model, and Impression.
3. The options in the maxilla, mandible, and occlusion sections change according to your scan type choice.
4. Select the scan strategy for the mandible, maxilla, and occlusion.
   - Flexible Mullti-Die: Scan Body, Gingiva, Align Prep Teeth To
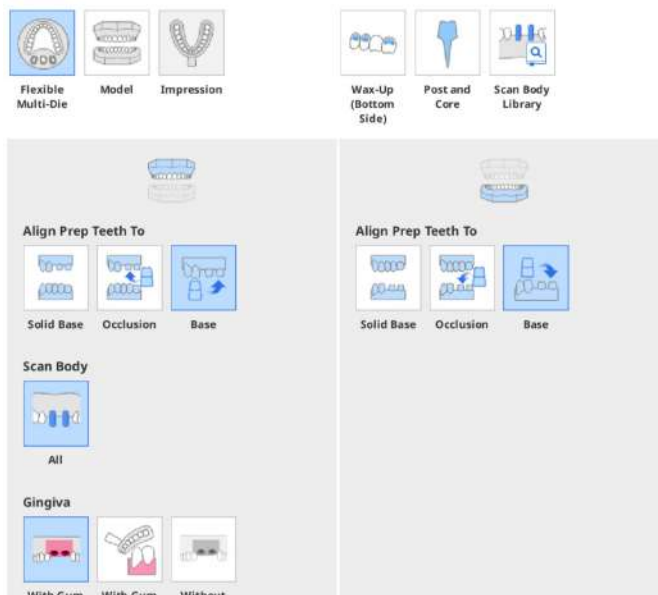
   - Model: Scan Body, Gingiva, Prepared Teeth, Interproximal Scan
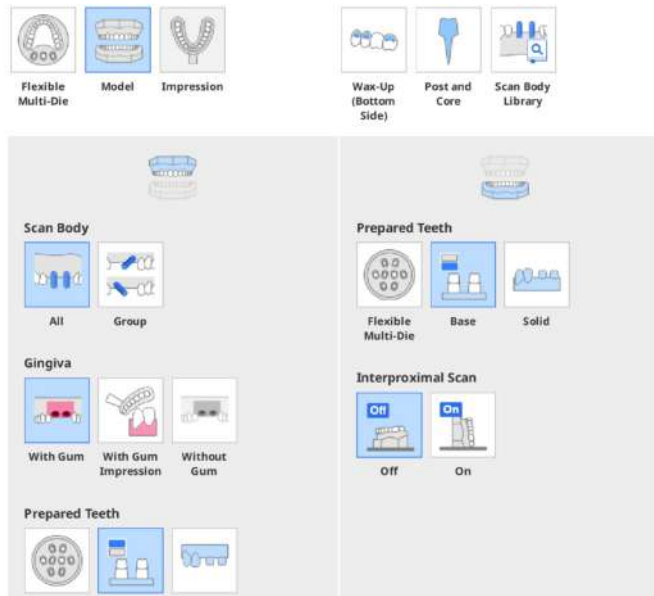
      ○ Impression: Impression Type, Individual Stump-Die Scan
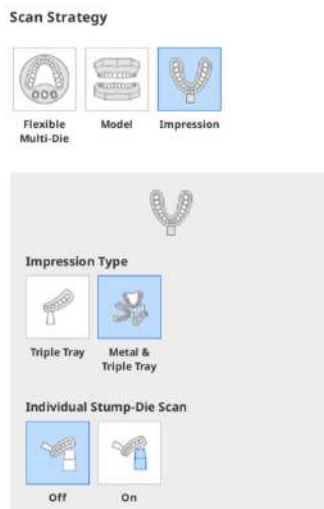
5. Select all required scan stage options for your case, such as Wax-Up (Bottom Side), Post and Core, and Scan Body Library.
6. Select all required scanning options, such as Movement Marker and Texture.
7. Click the "Strategy Preview" to check the scan strategy set for the "Scan" and "Align" stages.
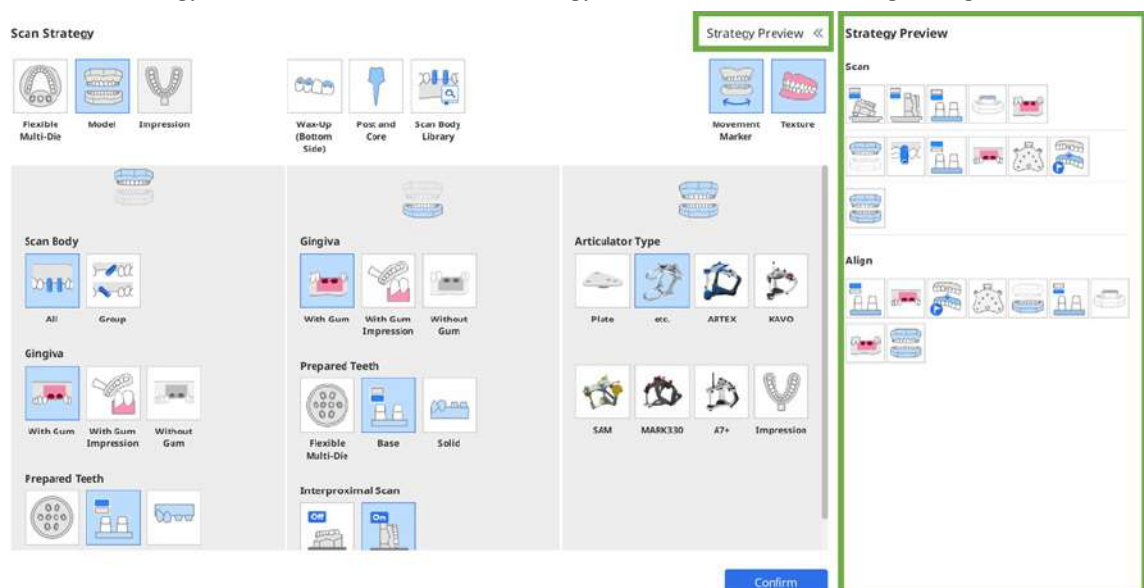
8. Click the "Confirm" button to complete the scan strategy setting.

Scan Type

Select a scan type for your case.

	Flexible Multi-Die	Select this type for scanning multiple models, not just a base but dies, simultaneously on a flexible multi-die. You do not need to have a pre-defined strategy like the Model type. You can assign the data acquired by the flexible multi-die after scanning is complete.
	Model	This is the most common scanning method, where you place and scan the model for each scan stage.
	Impression	Select this type for scanning an impression instead of a model.

Scan Stage Options

Select all options to add to the scanning workflow. Based on the scan stage option you choose, sub-stages will be added to the "Scan" and "Align" stages.

	Wax-Up (Bottom Side)	Select this option to scan the inside surface of the wax-up. The wax-up and the inner surface data can be aligned at the Align Data stage.
	Scan Body Library	Select this option for scan body library cases where you need to align the registered scan body library data to the scan data. If you select this option, you don't need to scan the scan body data on the Scan stage. Instead, you are required to align the scan body libraries in the Align Data stage.
	Post and Core Scan	Select this option for post and core cases where you need to scan and merge the base and impression scans to get complete and reliable scan data. Alternatively, use the intraoral scanner to get the complete data. Connect the intraoral scanner to the PC, ensure it is calibrated, and press the "Scan Using Intraoral Scanner" button.

Scan Options

Select all options you want to apply to your data.

	Texture	Select this option if you want the scan data to have the surface color.	• Texture On • Texture Off
	Movement Marker	This function tracks the movement of the mandible.	

Maxilla/Mandible Strategy

Align Prep Teeth To

When you select "Flexible Multi-Die" for scan type, you will be asked to select how to align the prepared data with the base.

	Solid Base	Select this option to scan prepared teeth inside the base.
	Occlusion	Select this option to scan the separated prepared teeth and the base on the flexible multi-die and put them back onto the base at the Occlusion stage.
	Base	Select this option to scan the prepared teeth only at the Prepared Teeth stage and the prepared teeth with the base in the Maxillary or Mandibular Base stage. You can align the data at the Align Data stage.

Prepared Teeth

When you select "Model" for scan type, you will be asked to select how to scan the prepared teeth data.

	Flexible Multi-Die	Select this option to scan the prepared teeth on a flexible multi-die.	
	Base	Select this option to scan the prepared teeth in a base. After removing the adjacent teeth from the base, divide the prepared teeth into two groups and perform scanning in two sub-stages.	
	Solid	Select this option to scan a solid model with non-removable prepared teeth. No separate sub-stage is added for prepared teeth scanning, but it takes more scan shots.	

Scan Body Alignment

Select how to acquire scan body data.

	All	Select this option to scan the scan bodies together with the base. The scanned data in the Base stage will be copied to the Scan Body stage and trimmed to get scan body data without conducting additional scanning for scan bodies.	
	Group	Select this option to scan the base and the scan body in two separate stages.	

> 🔎 **Note**
> - The "Group" option is unavailable for the "Flexible Muti-Die" scan type. Please select "Model" to use the option.
> - The "Group" option is useful for cases where scan bodies are overlapped, or base data for the missing scan bodies is required.
> - When you have multiple scan bodies for the model, the program will automatically separate them into groups to get more reliable data for the case.
> - The scan body data acquired in different groups can be aligned in the Align Data stage.
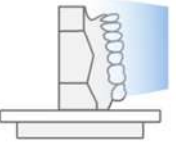
Gingiva

Select whether to perform the scan with or without gingiva.

	With Gum	Select this option to scan the gingiva and align the gingiva data in a separate sub-stage for both Scan and Align Data stages.	
	With Gum Impression	Select this option to scan the gingiva with the impression.	🔍 **Note** • Impression scanning is only available with T710. • A license is required to scan impressions with T500/T300.
	Without Gum	Select this option for cases where gingiva is absent. No separate sub-stages will be added to the Scan and Align Data stage.	

Interproximal Scan

This option only appears for cases that require clear scan data between teeth. Select whether to scan the interproximal areas.

	Off	Select this option to scan the base as usual without adding sub-stages for interproximal scans to the workflow.	
	On	Select this option to scan the buccal and lingual interproximal areas for the mandible and maxilla. The lingual interproximal scan is performed by tilting the model. The model is scanned with it on its side for the buccal interproximal scan. 	

Impression Type

This option only appears when you select the "Impression" scan type. Select the type of impression tray
.

	Triple Tray	Select this option to acquire impression data with a triple tray.	
	Metal & Triple Tray	Select this option to acquire impression data with two metal trays and a triple tray. Please note that alignment precision is not guaranteed with this option.	

Individual Stump-Die Scan

When you select the "Impression" scan type, you will be asked to select whether to scan individual stump dies.

	Off	Select this option to scan the impression only.	
	On	Select this option to scan impressions and individual stump dies on the flexible multi-die.	

Occlusion Strategy

Articulator Type

Select a suitable accessory for the occlusion relationship scan.

	Plate	Select this option to use the plate and any articulator except the five semi-adjustable articulators below.
	General	Select this option if you use a regular articulator other than the five articulators below instead of using the plate.
	ARTEX	Select this option if you use the ARTEX articulator.
	KAVO	Select this option if you use the KAVO articulator.
	SAM	Select this option if you use the SAM articulator.
	MARK330	Select this option if you use the MARK330 articulator.
	A7+	Select this option if you use the A7+ articulator.
	Impression	Select this option to scan occlusion data with an impression.

Mandibular Base Scan

If you select the ARTEX, KAVO, SAM, or MARK330 options for the articulator type, you will be asked to choose how to scan the mandibular base.

	With Jig	Select this option to use the articulator jig to install the mandibular base and move it to the eposition of the virtual articulator.	
	Without Jig	If there is no articulator jig, a mounting plate can be used for data alignment and moving the model to the position of the virtual articulator.	

Sub-Stages

The number and configuration of sub-stages can vary according to the form information entered in Medit Link and the options you select in the Scan Strategy stage in Medit Scan for Labs.

The following sub-stages will be automatically added to the workflow after you select options in the Scan Strategy Management dialog.

General		Prepared Tooth	Scan the individual prepared tooth separated from the flexible multi-die. The tooth number appears at the bottom of the icon.
		Occlusion Bite	Scan bite materials placed on the arch model.
		Mandibular Base (Articulator Jig)	Scan mandibular base with articulator jig.
		Movement Marker	Scan a movement marker placed on the maxillary model.
		Post and Core	Scan an individual post and core. The tooth number appears at the bottom of the icon.
		Scan Body	Scan an individual scan body. The tooth number appears at the bottom of the icon.
		Mounting Plate	Scan the bottom side of the mounting plate.
		Occlusion	Scan the occlusion.
		Prepared Teeth (Maxilla; Base)	Scan only prepared teeth in the maxilla by placing them on the base without other teeth.
		Prepared Teeth (Mandible; Base)	Scan only prepared teeth in the mandible by placing them on the base without other teeth.

|			
		Maxillary Scan Body	Scan a scan body placed in the maxilla model.
		Mandibular Scan Body	Scan a scan body placed in the mandible model.
		Pre-Operation Model (Maxilla)	Scan the pre-operation model for the maxilla.
		Pre-Operation Model (Mandible)	Scan the pre-operation model for the mandible.
		Wax Rim	Scan the wax rim by placing it on the maxillary or mandibular base.
Interproximal Area Scan		Interproximal Area (Maxilla; Buccal)	Scan the buccal interproximal areas in the maxilla.
		Interproximal Area (Mandible; Buccal)	Scan the buccal interproximal areas in the mandible.
		Interproximal Area (Maxilla; Lingual)	Scan the lingual interproximal areas in the maxilla.
		Interproximal Area (Mandible; Lingual)	Scan the lingual interproximal areas in the mandible.
Gingiva Scan		Gingiva (Maxilla)	Scan maxillary gingiva materials.
		Gingiva (Mandible)	Scan mandibular gingiva materials.
Impression Scan		Impression (Maxillary)	Scan maxillary impression.
		Impression (Mandible)	Scan mandibular impression.
Denture Scan		Denture (Maxilla; Inner Surface)	Scan the inner surface of the maxillary denture.
		Denture (Maxilla; Outer Surface)	Scan the outer surface of the maxillary denture.
		Denture (Mandible; Inner Surface)	Scan the inner surface of the mandibular denture.
		Denture (Mandible; Outer Surface)	Scan the outer surface of the mandibular denture.
Wax-Up Scan		Wax-Up (Maxilla; Bottom Side)	Scan the bottom side of a wax-up in the maxilla. Edit the scan data to remove the unnecessary parts.
		Wax-Up (Mandible; Bottom Side)	Scan the bottom side of a wax-up in the mandible. Edit the scan data to remove the unnecessary parts.
		Wax-Up (Maxilla)	Scan a maxillary wax-up by placing it on the model.
		Wax-Up (Mandible)	Scan a mandibular wax-up by placing it on the model.

Scan Stage

Scanning

Once you establish the scanning strategy for the case, you will automatically move on to the Scan stage.

The Scan stage consists of sub-stages such as Maxillary Base, Mandibular Base, Flexible Multi-Die, Prepared Tooth (Maxilla), Prepared Tooth (Mandible), etc.

- The order of each sub-stage can be changed. The changed order is saved and can be applied when you scan next time.

New Scan
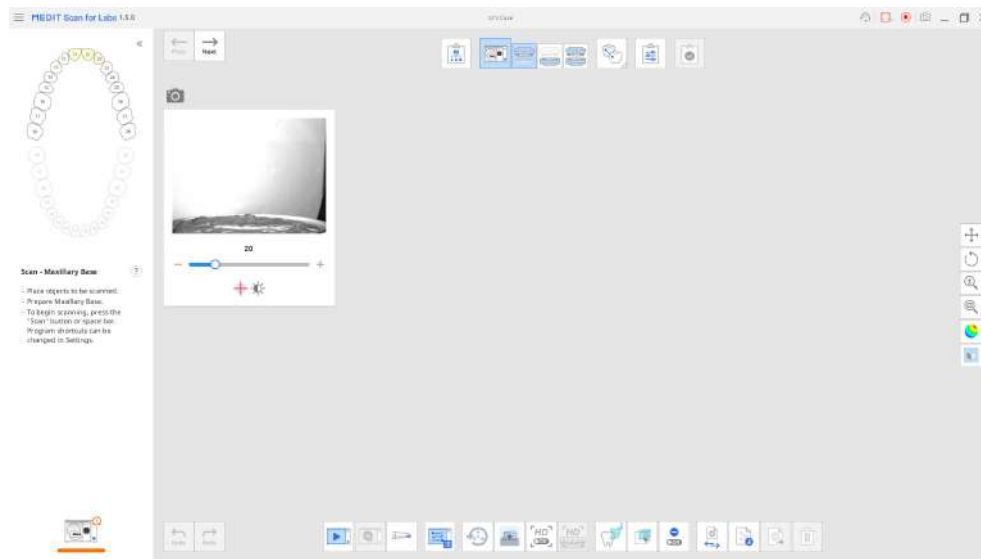
Scan the items corresponding to each sub-stage of the Scan stage in the order of the stage icons.

1. Before scanning, ensure that the model faces the cameras and that the same articulator type is set for all linked programs such as Medit Link, design programs, etc.
2. Place the model in the scanner.
3. Select a scan path for the scanning process. You can skip this step if you want to use the default scan path.

4. Click the "Scan" icon at the bottom.

   > The Space key is set to Scan by default. You can configure the shortcut keys for Medit Scan for Labs in Settings.

5. Before the scan starts, you will be asked to adjust the scan area.
6. Drag to move the blue line to set the appropriate height and click the "Confirm" button.

Front   Left   Back   Right

1. Check if all objects are in the camera view.
2. Add or remove block jigs to adjust the height of the model.
3. Drag the blue arrow to set the scan depth. The part located below the blue line will not be scanned.

Cancel   Reset   Confirm
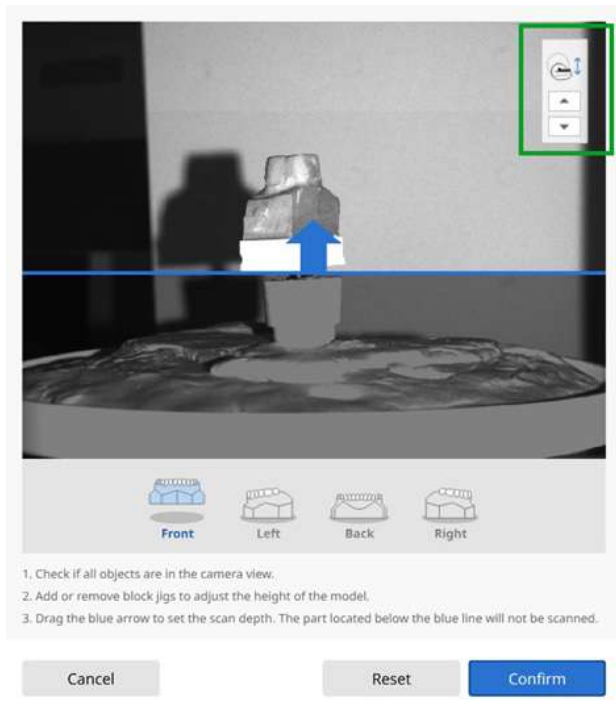
Please make sure that the model fits the camera view in all directions.

You can adjust the axes of the scanner by clicking the up/down buttons at the window's top right corner.

7. The scan starts according to the specified scan path. Do not touch the scanner while the scan is in progress. It will take a few seconds to complete.
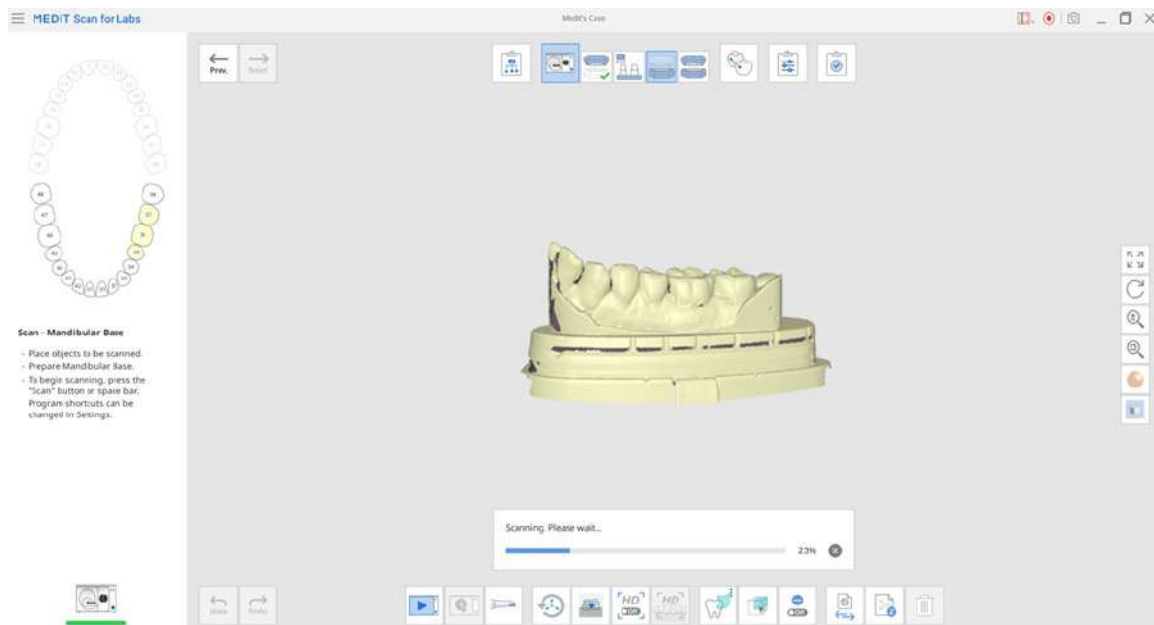
8. Click the "Next" button at the top left corner of the data display area to move to the next scan stage.

Re-Scan

1. Click the "Scan" icon at the bottom after your scan is complete.

2. The following dialog appears.

Scan Data Options

> **Re-scan**
> Deletes the current data and perform a new scan.   ›

> **Add to the existing data**
> Performs scan that is added to the existing data.   ›

[Cancel]
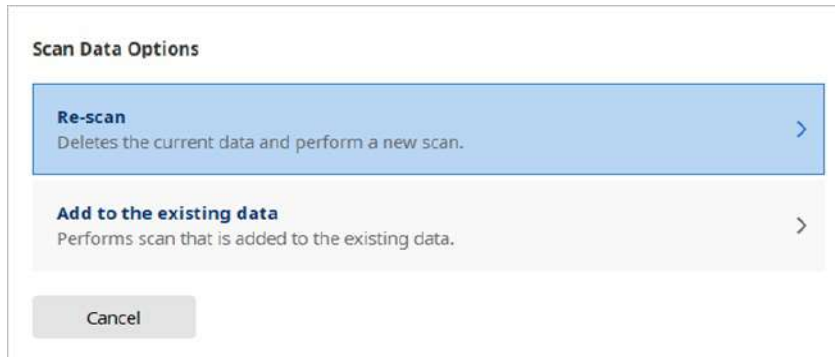
3. Click "Re-Scan" to delete the existing scan data and perform a new scan or "Add to the existing data" to acquire additional data without deleting the previous scan data.

Additional Scanning

Automatic Additional Scan

The program can automatically identify areas needing additional scans based on the acquired data.

> 🔍 **Note**
>
> You can turn on or off the "Perform Additional Scanning Automatically" option on Settings > Table Top Scanner > Additional Scanning and set when to start automatic additional scanning.

1. Once the initial scanning is completed, the program will ask the user to confirm to start additional scanning.
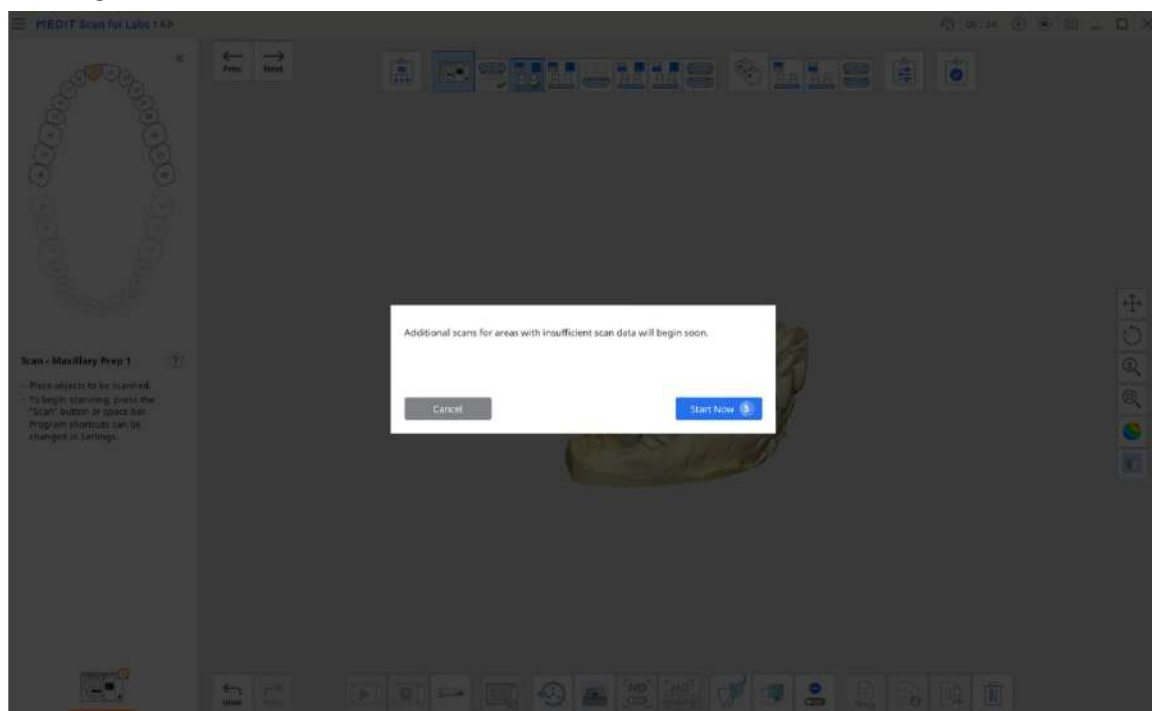
2. Click "Start Now" to start automatic additional scanning. Even if you do not click the button, additional scanning will start after the set time elapses.
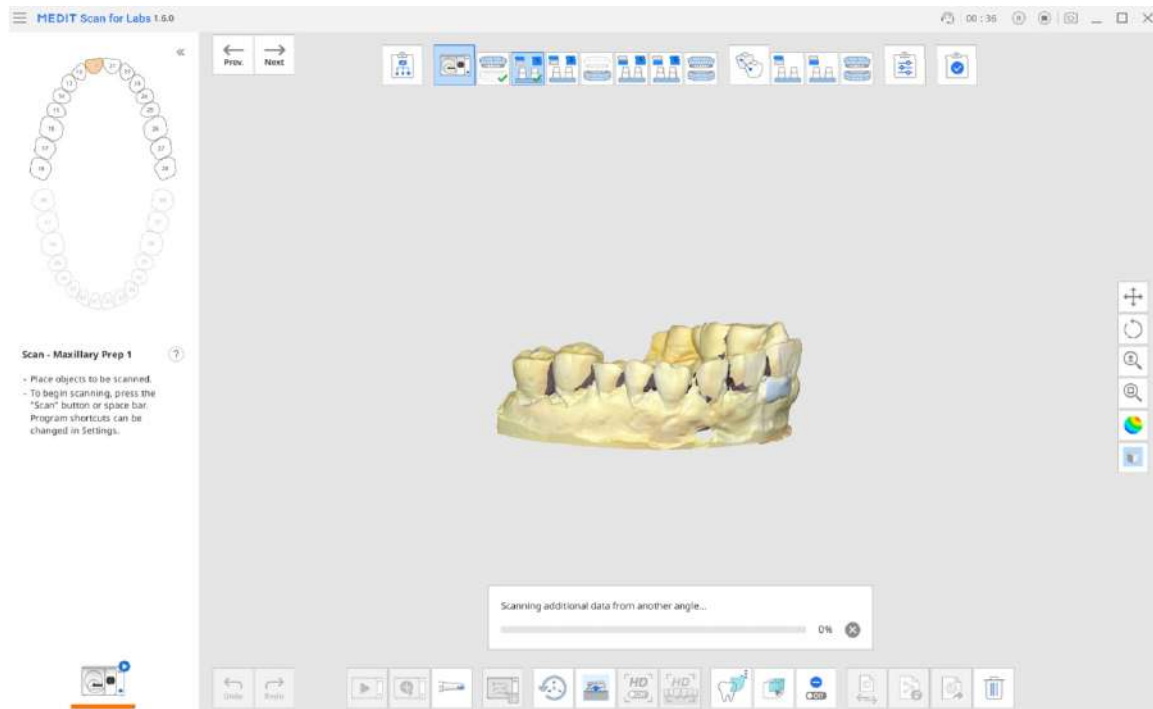
3. In some stages, the process of 1-3 above is repeated several times.
4. After the automatic additional scan is completed, the user can check the scan data and perform "Add Scan" if the scan data is still insufficient.
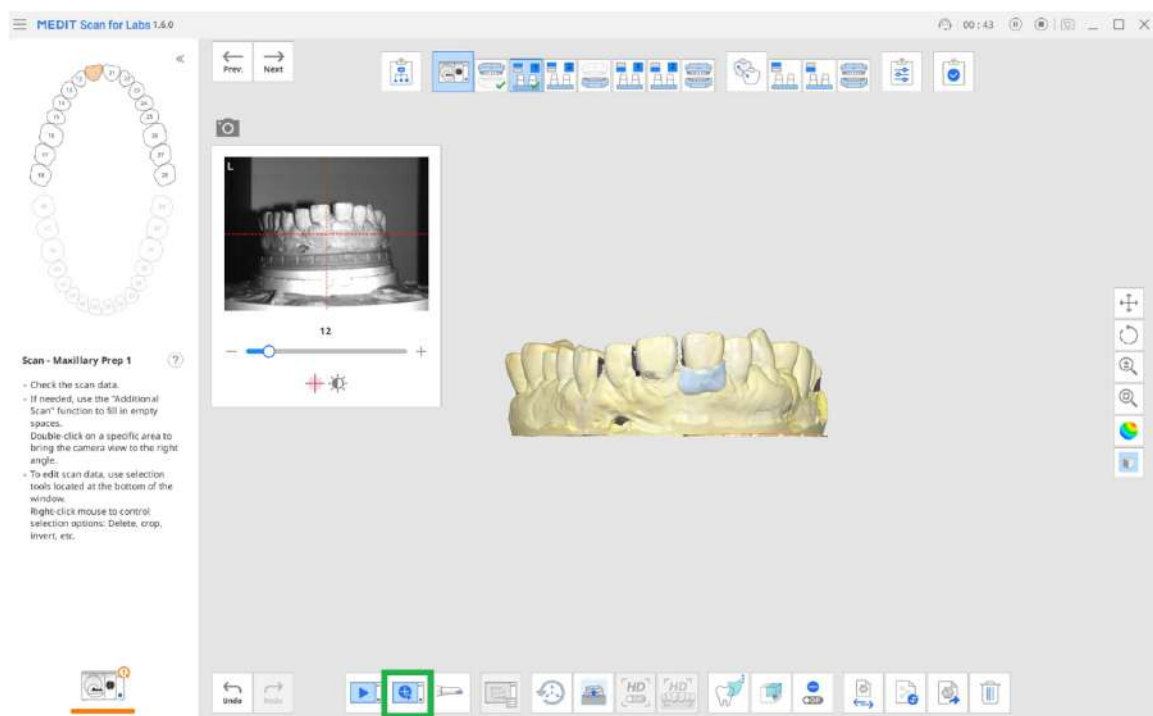
Manual Additional Scan

With the "Additional Scan" icon at the bottom of the screen, you can get additional data on the specific area of the model without replacing the existing scan data.

1. Rotate the model to bring the missing spot to the front. You can double-click on the missing spot to turn the cameras to face the empty spot.
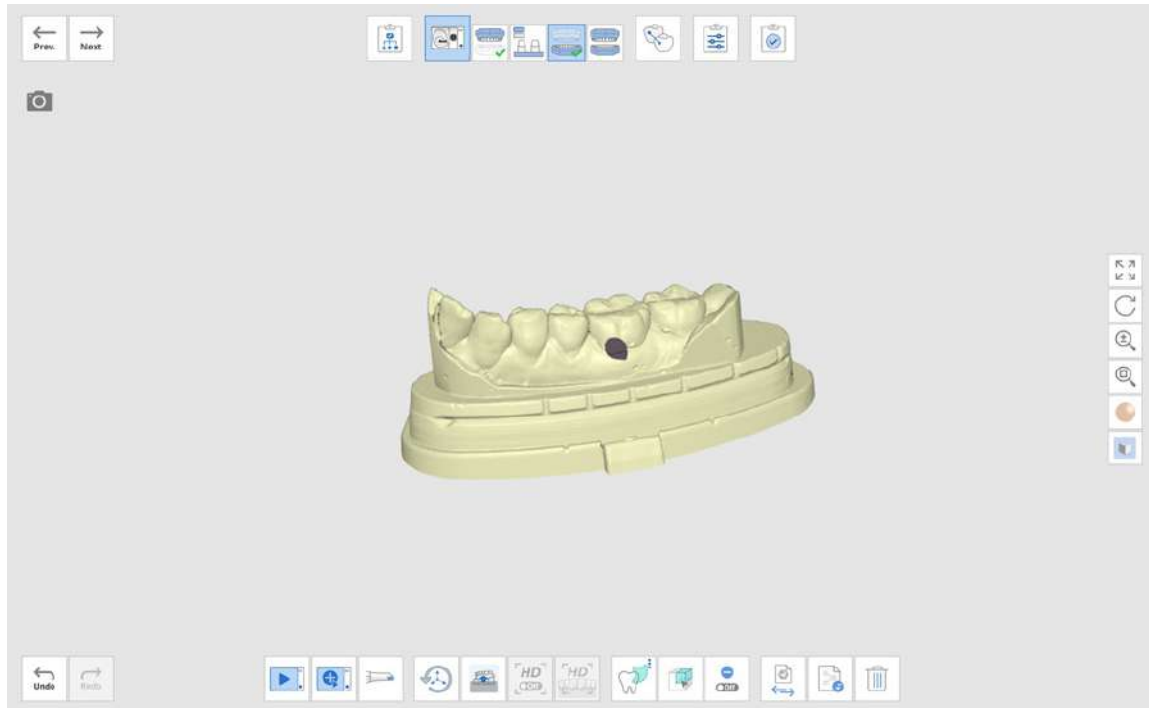
2. Click the "Additional Scan" icon at the bottom.

3. The empty spot will be filled after the table top scanner acquires additional scans.
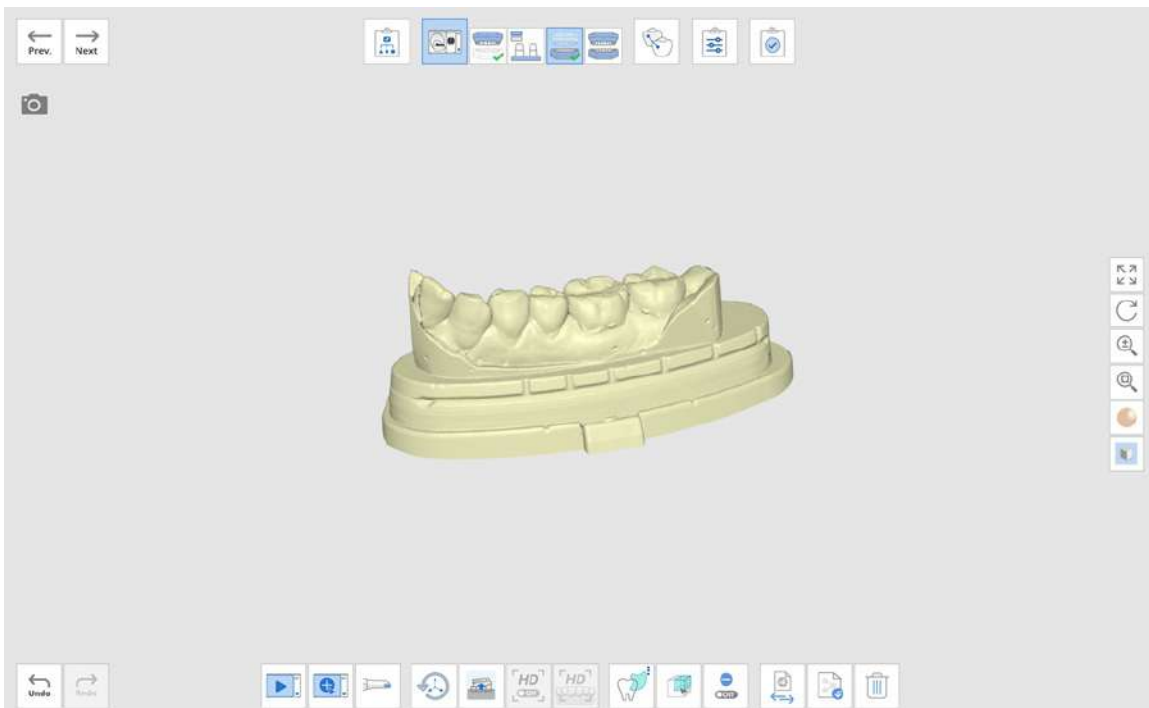
4. If you rotate the model and click "Additional Scan" during an additional scan, it will be scheduled for the next additional scan so you can scan continuously.

Scan Using Intraoral Scanner

You can also use an intraoral scanner to get additional scan data.

1. Connect the intraoral scanner to the computer.
2. Check the scanner status to see if the scanner is calibrated.
3. Click the "Scan Using the Intraoral Scanner" option at the bottom.

4. Place the scanner tip on the empty spot and scan the model.
5. The empty spot will be filled after you acquire additional scans with the intraoral scanner.

Add Another Scan Body

You can perform an additional scan body scan after placing scan bodies on the different teeth. This function i suseful when you do not have enough scan bodies.

For example, here we have a case that requires four scan bodies, but you only have only two scan bodies available.

1. Place the two scan bodies on the model, and click the "Scan" icon.

2. You will get the scan data with two scan bodies on.
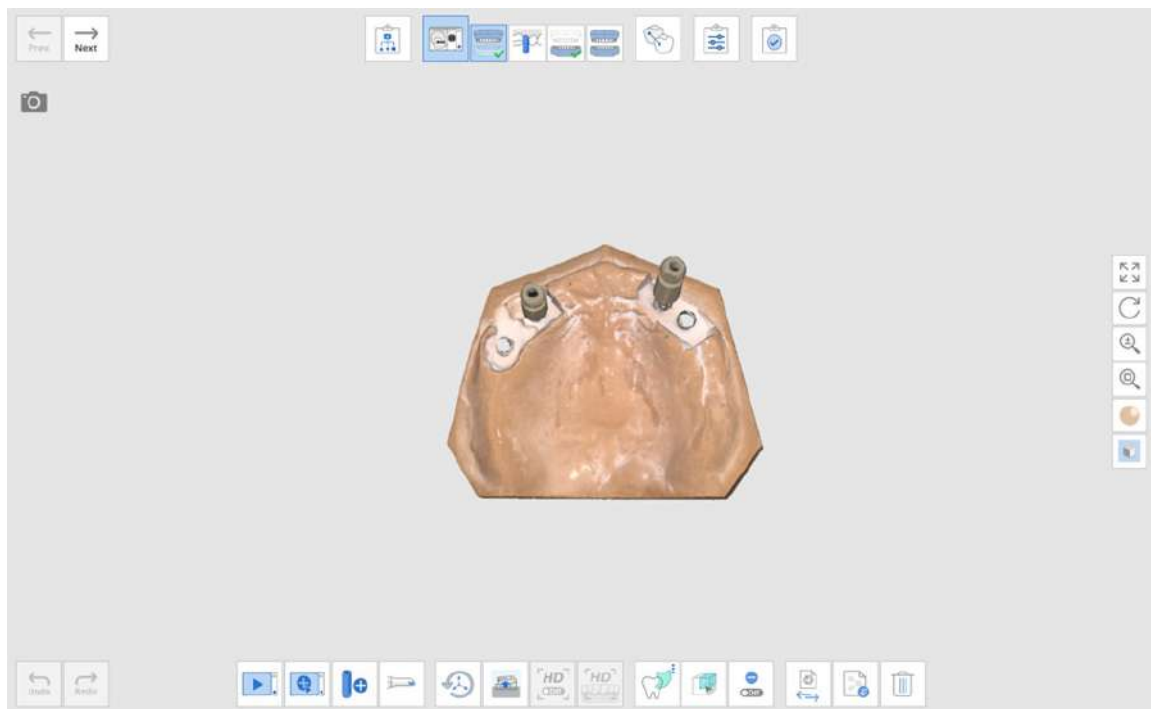
3. Move the two scan bodies to the other two positions on the model, and click the "Add Another Scan Body" button.

4. The program will perform additional scans to complement the existing data.

Scan Stage Tools

	Scan	Start the scanning process.
	Additional Scan	Perform additional scanning on specific areas of the model without replacing the existing one.
	Add Another Scan Body	Perform an additional scan body scan after switching the position of the scan body in the base.
	Scan with Intraoral Scanner	Perform an additional scan using an intraoral scanner.
	Manage Scan Path	Select a scan path for the scanning process. You can register a new scan path by adding shots to an existing one. (Available with T710/T510/T310)
	Initialize Axes	Reset the axes of the scanner to the default position.
	Adjust Scan Area	Adjust the scan depth.
	HD Mode	Switch to HD scan mode. (*Available with T710/T510/T310)
	HD for Shiny Models	Switch to HD scan mode for shiny models made of resin or wax. (*Available with T710/T510/T310)
	Freehand Selection	Select a freely drawn area on the data.
	Box Selection	Select a rectangular region on the data.
	Island Selection	Select data detached from the rest of the data by clicking on it.
	Color Selection	Select all areas of the same or similar color as the mouse click location on the scan data.
	Switch Selection Mode	Switch selection mode between surface selection and volume selection.
	Deselection Mode	When on, deselect the selected area using the area selection tools.

|		
	Swap Data	Swap current stage data with data at another stage.
	Import 3D Data	Import 3D data files from the Medit Link or local PC. You can import several 3D data files at once for flexible multi-dies.
	Export 3D Data	Export 3D data files to the local PC. You can select the file format between .stl, .obj, and .ply.
	Delete	Delete all data on the screen.
	Undo	Undo the previous action.
	Redo	Redo the action.

Scan Path Management

Select Scan Path

1. Click the "Select Scan Path" icon at the bottom.

2. Select a scan path from the list on the Scan Path Management dialog.
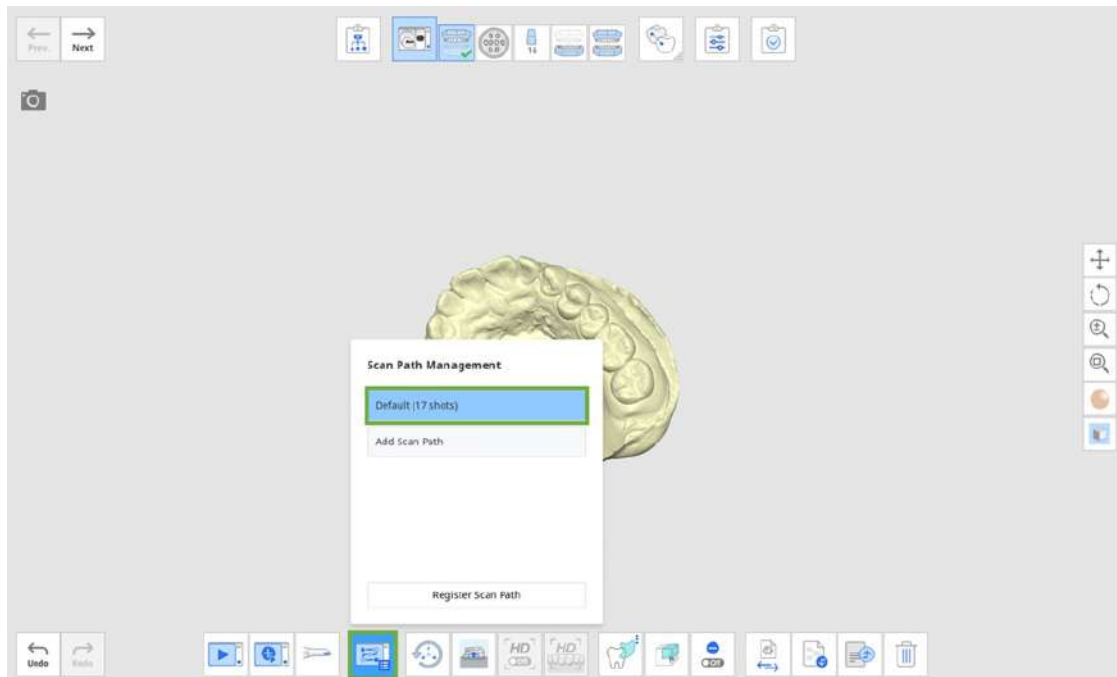
3. The selected scan path is applied to the scan group and will be used to scan the group.

Register Scan Path

If you want to register a new scan path by modifying an existing one, follow the steps below.

1. Click the "Additional Scan" icon to fill out the empty spots on the data after the first scanning.
2. "Click the "Select Scan Path" icon.

3. Click the "Register Scan Path" button on the Scan Path Management dialog.
4. The additional shots from additional scanning are displayed in the left section.
5. Click the desired shots from the "Select Shots" section, then select a scan path from the drop-down list on the top right.

45
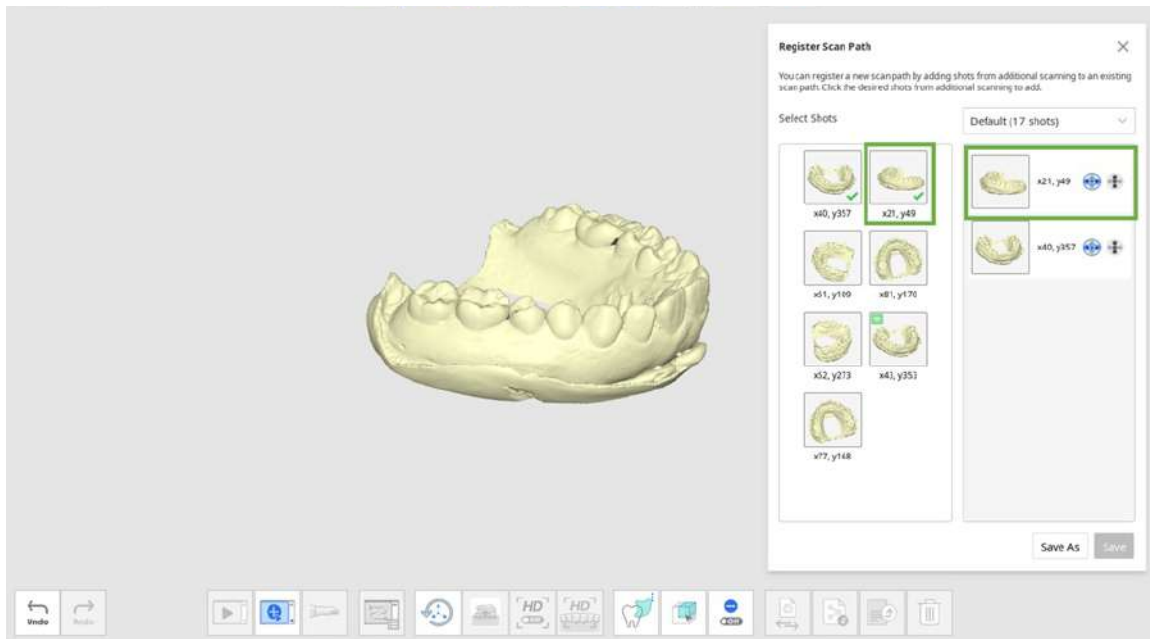
6. The selected shots are added to the scan path on the right.

7. You can select the camera mode if you use a T710 scanner.

   Vertical Camera: Default camera mode for scanning

   Horizontal Camera: Camera mode for clear scan data between teeth (for orthodontics)

8. After selecting shots and adding them to a scan path, click "Save As" to save the new scan path. For example, the case in the picture below shows that three additional shots are added to the "Default(17 shots)" scan path.
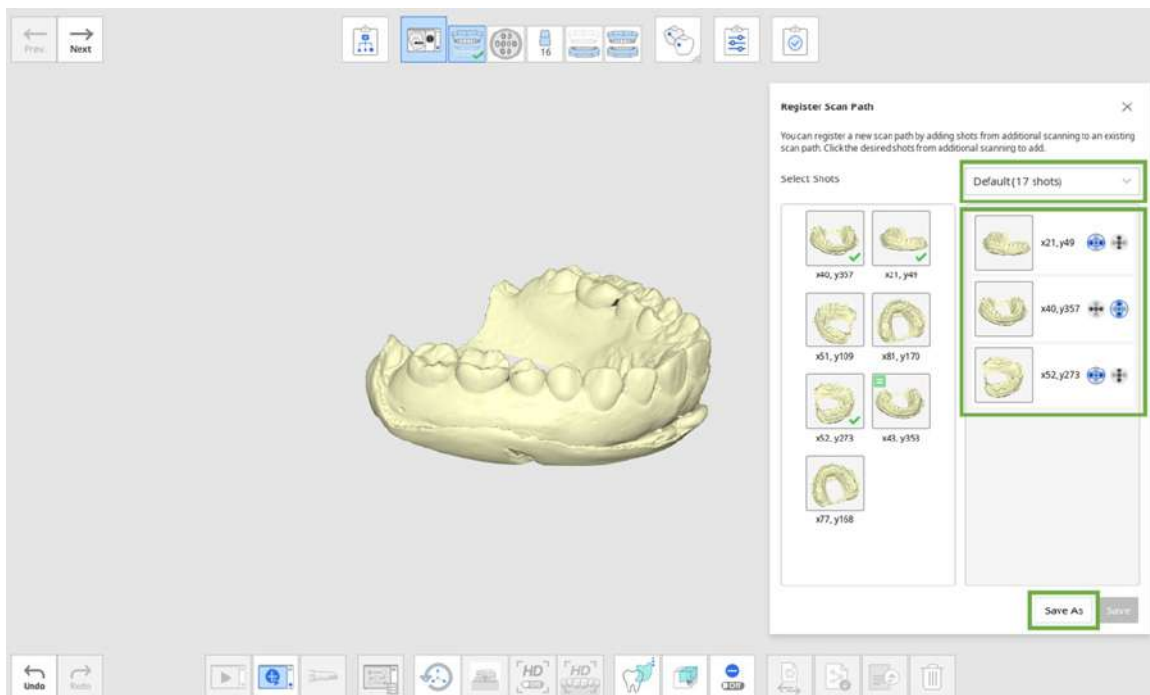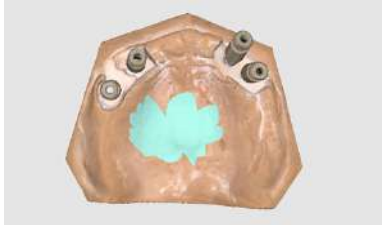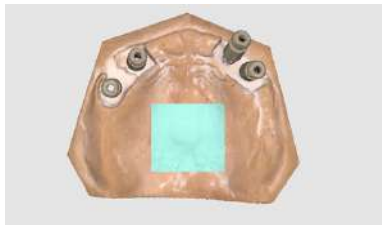
9. Edit the name of the new scan path and click "Save."

10. The new scan path is added to the list on the "Scan Path Management" dialog.
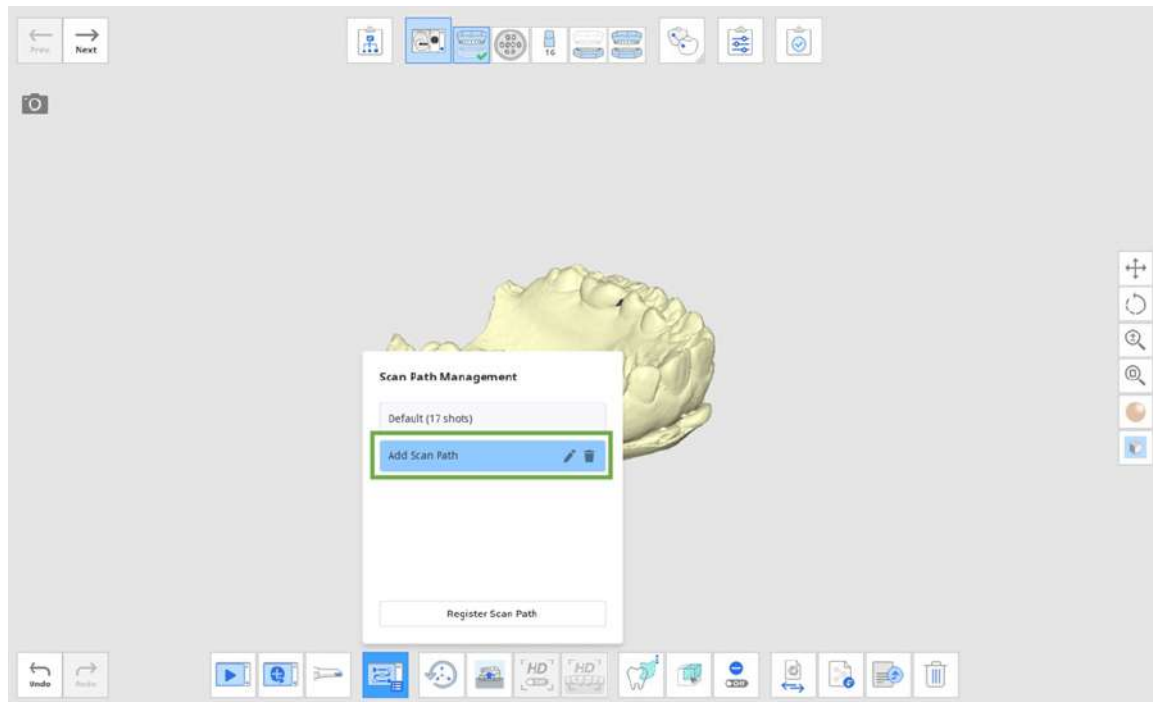
Area Selection Tools

Medit Scan for Labs provides three types of selection tools.

Freehand Selection	Box Selection	Island Selection

1. Select an area with the area selection tools.
2. Right-click on the selected area to see the options to control the data.
3. Select one of the following options.
    - Select All: Select all data on the screen.
    - Deselect All: Cancel selection of data.

    - Invert: Select all areas not currently selected while deselecting the previously selected area.
    - Crop: Crop everything out except for the selected area.
    - Delete: Delete the selected data.

Color Selection Tool

You can select the areas of the same color in the scan data for quick and easy editing.

1. After acquiring data at the Scan Stage, click the "Area Selection" tool at the bottom and select the "Color Selection" tool.
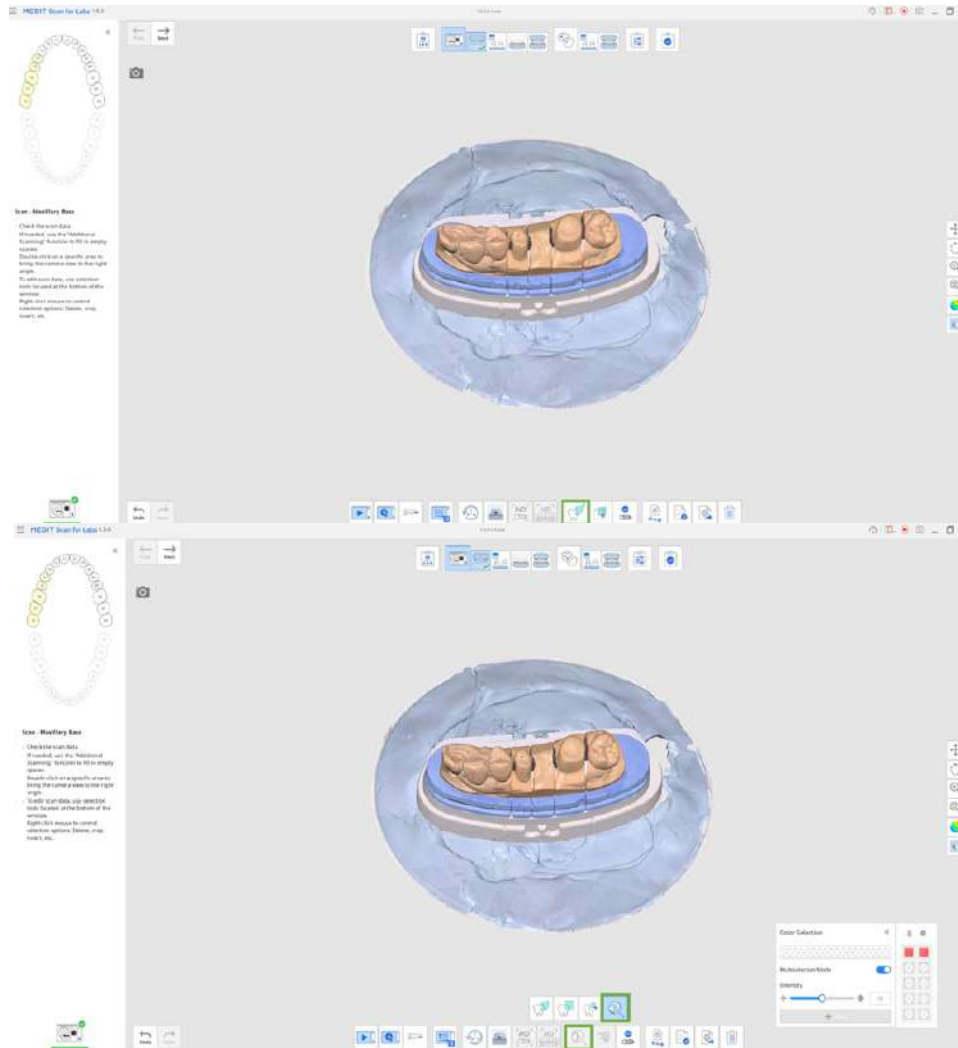
2
Click the spot in the scan data with the color you want to pick.
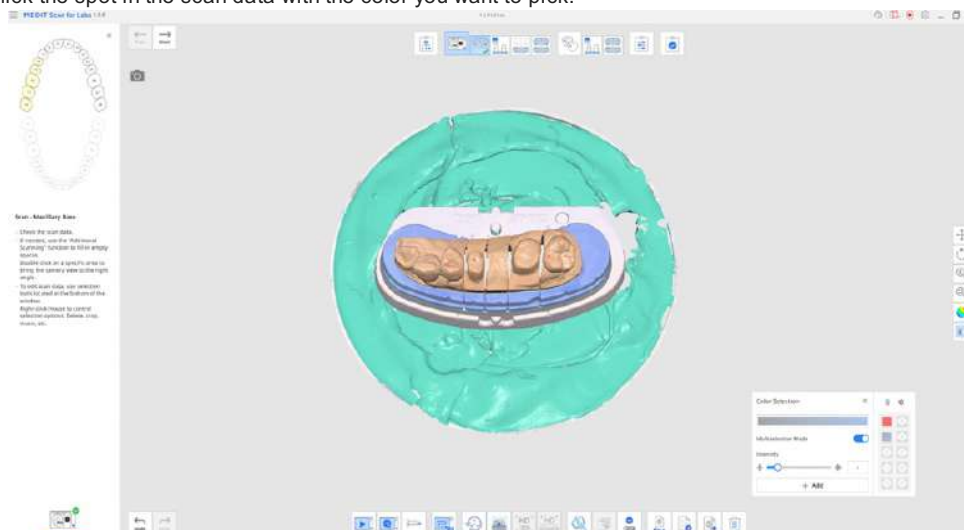
3. All areas with the same color in the data are automatically selected.
4. You can crop or delete the selected areas.
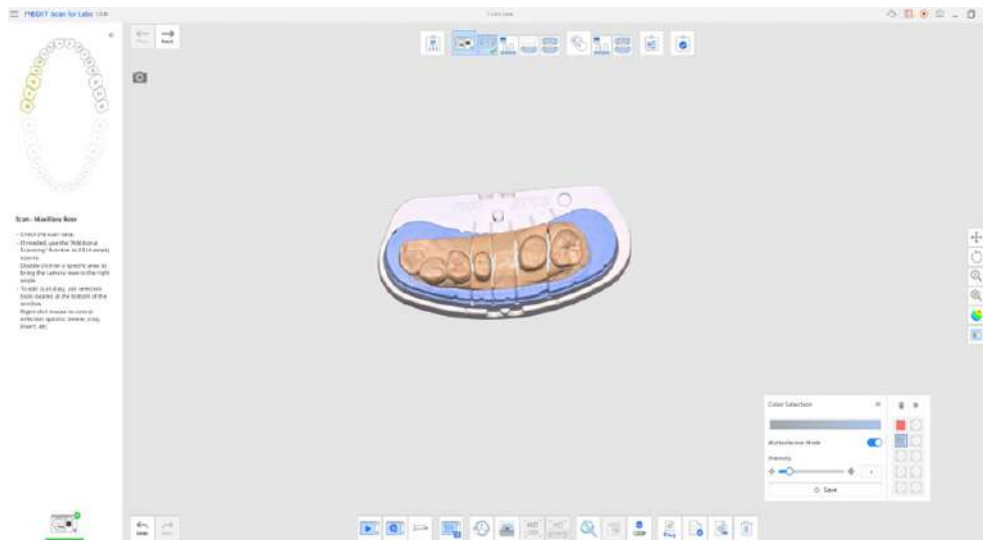
5. You can enable the "Color Filter" option in Settings to remove the registered colors automatically when scanning is done.
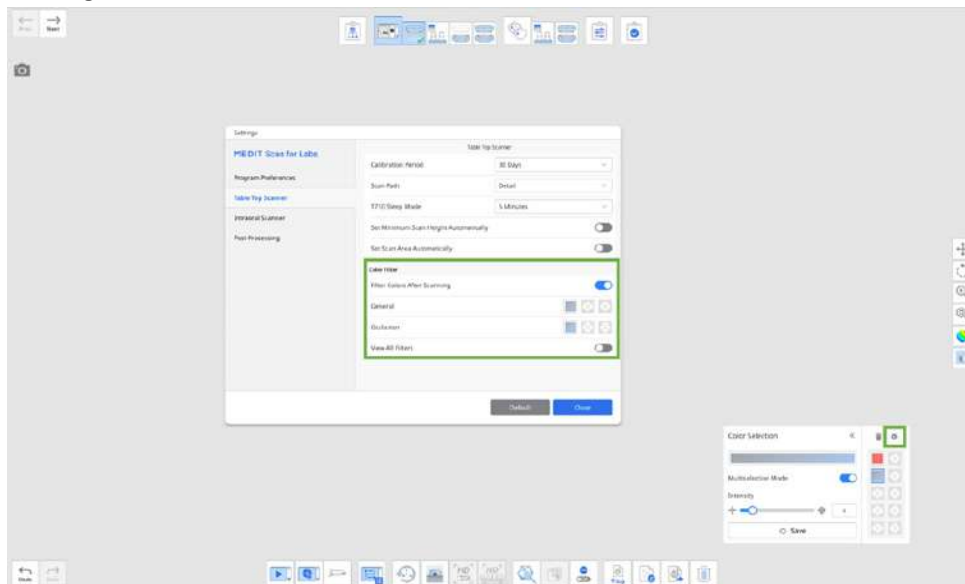
Swap Data

1. The following is an example of the maxillary and mandibular bases being switched and scanned. For an easy fix, click the "Data Swap button in the maxilla base scan stage.
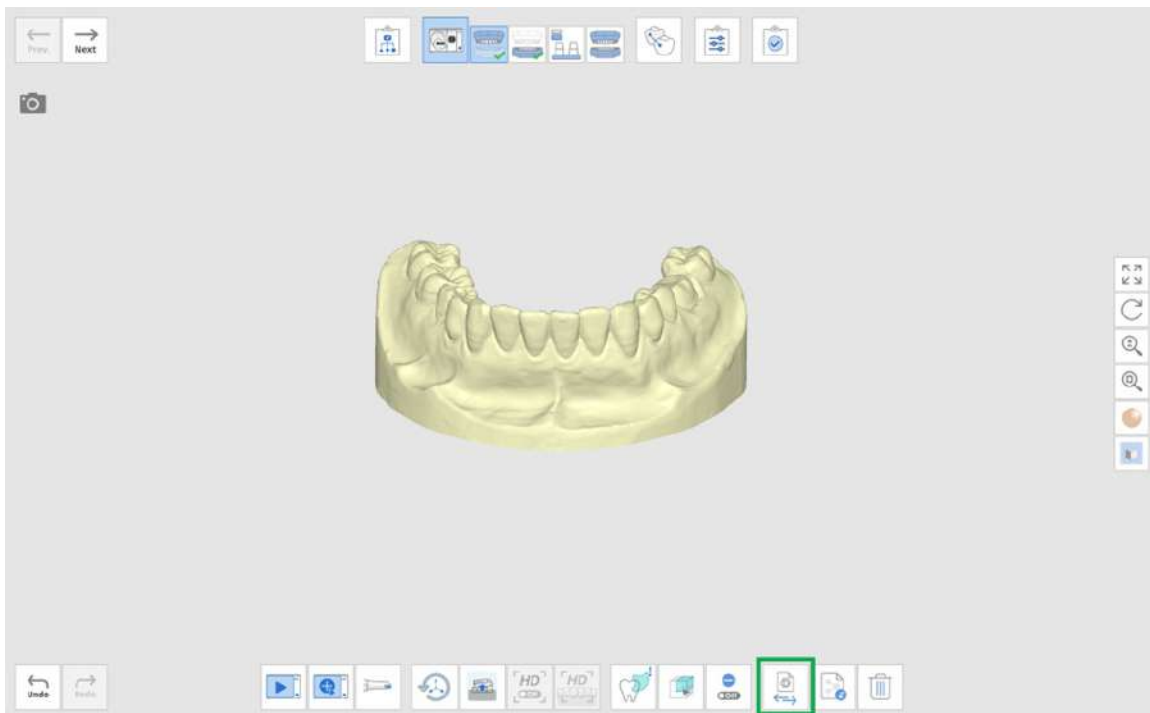
2. Select the scan stage you want to swap data with.
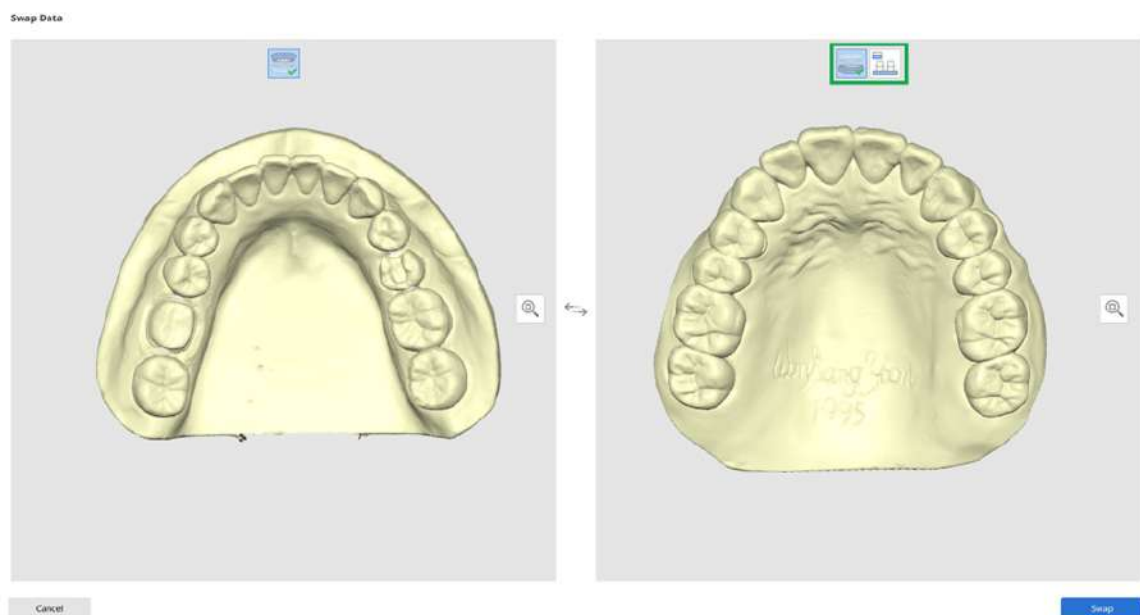
3. Click "Swap" to exchange data.
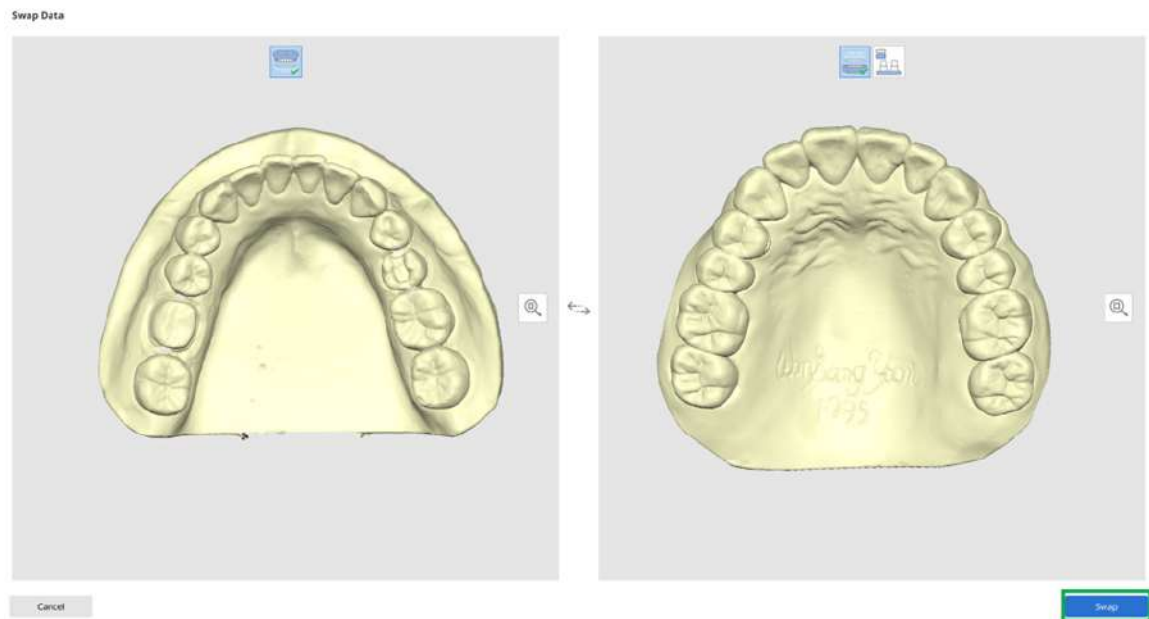
4. You can see that the maxillary and mandibular base data have been successfully swapped.
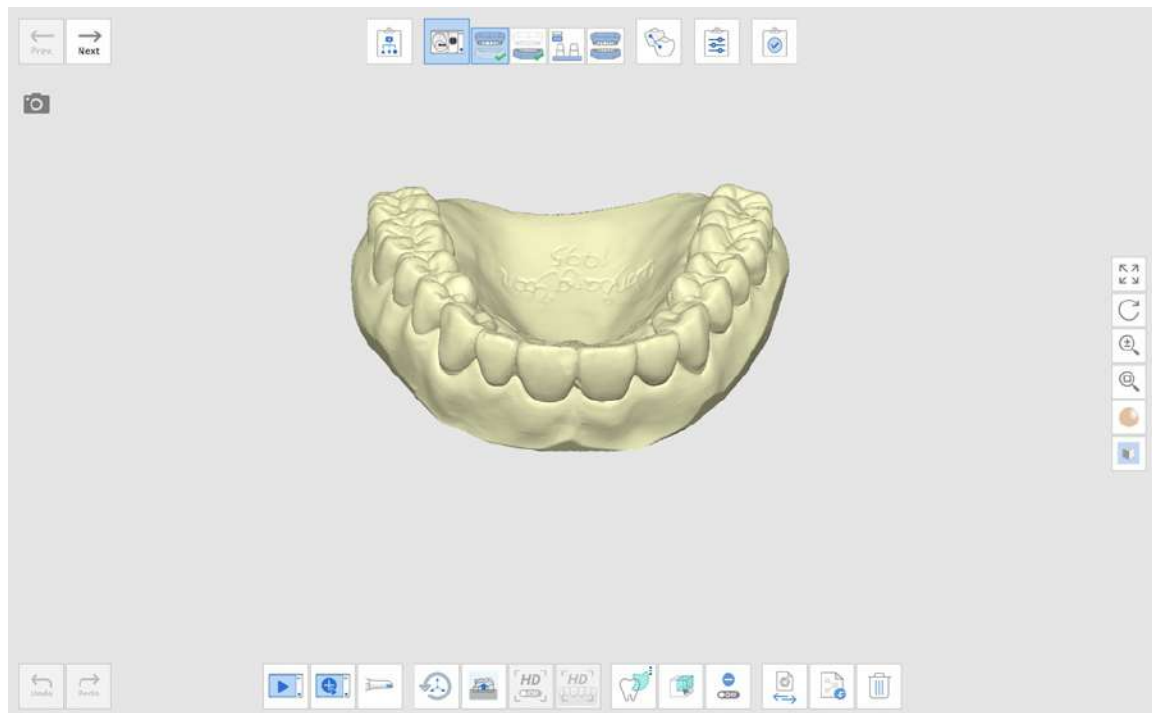
Import 3D Data

1. Click on the "Import 3D Data" icon.
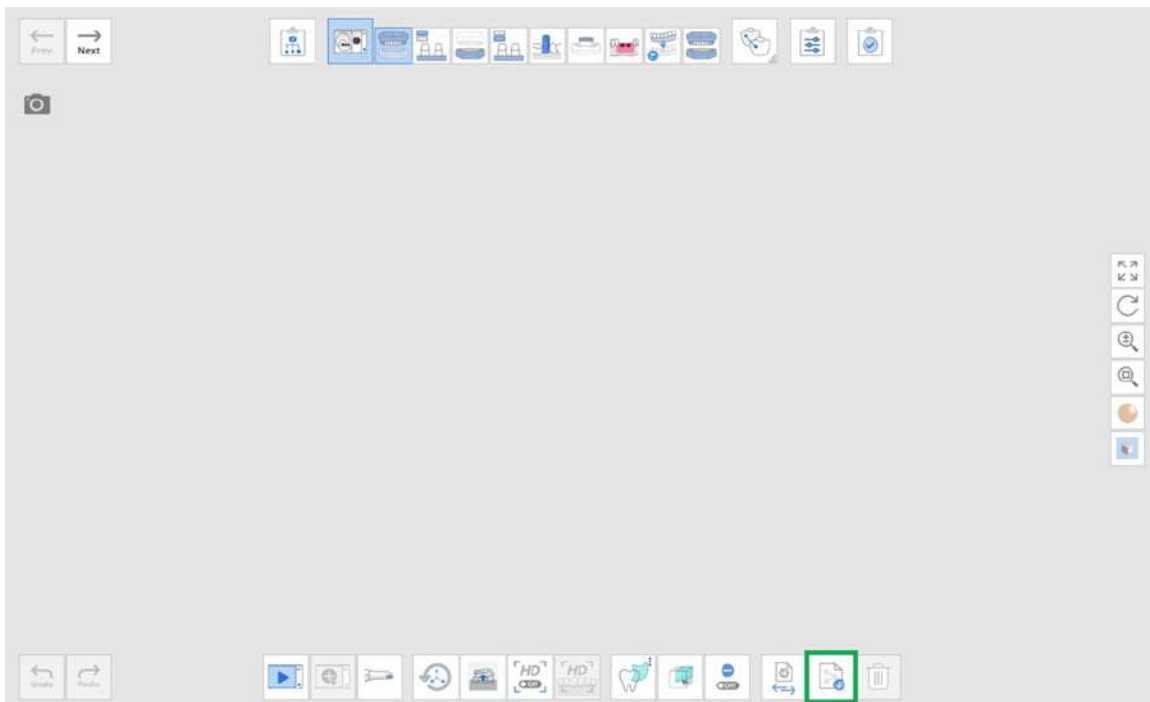
2. Select whether to import files from Medit Link or your local PC.
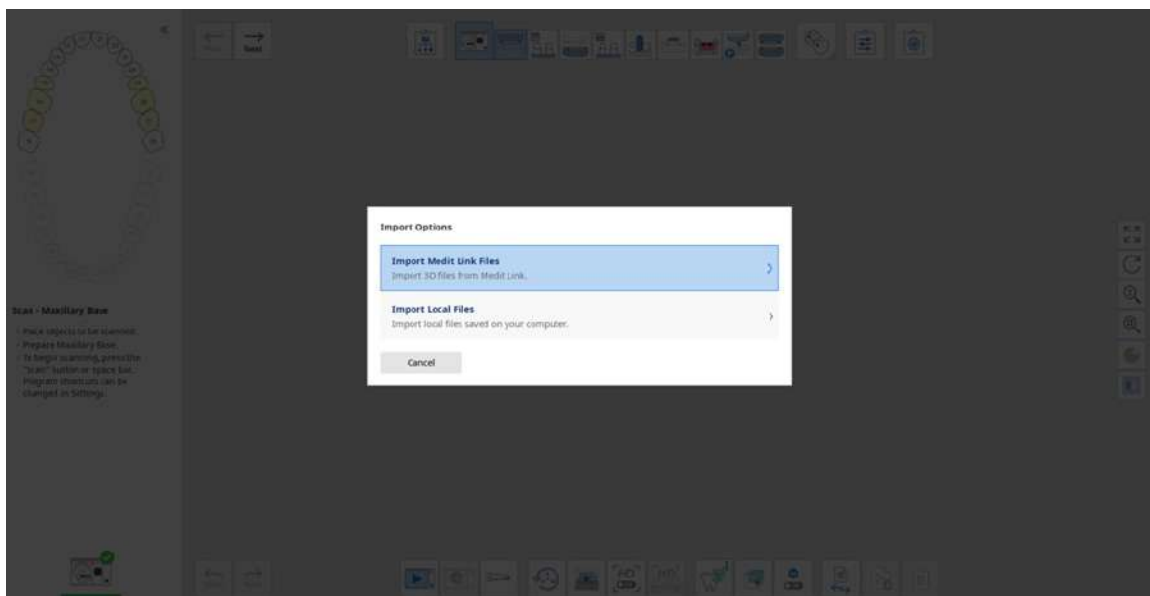
3. Select the file to import. You can import multiple 3D data files at once for flexible multi-dies cases.
4. The 3D data is imported into the scan stage.

Export 3D Data

1. Click the "Export 3D Data" icon.
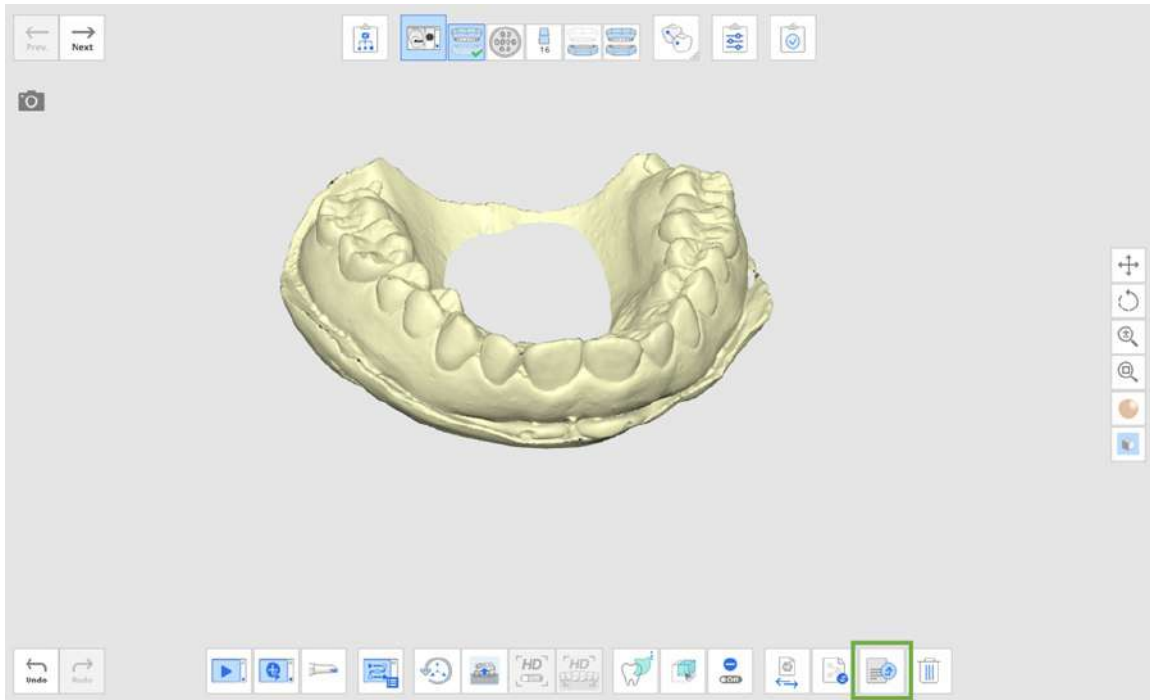
2. Select a folder location to save the file on the local PC.
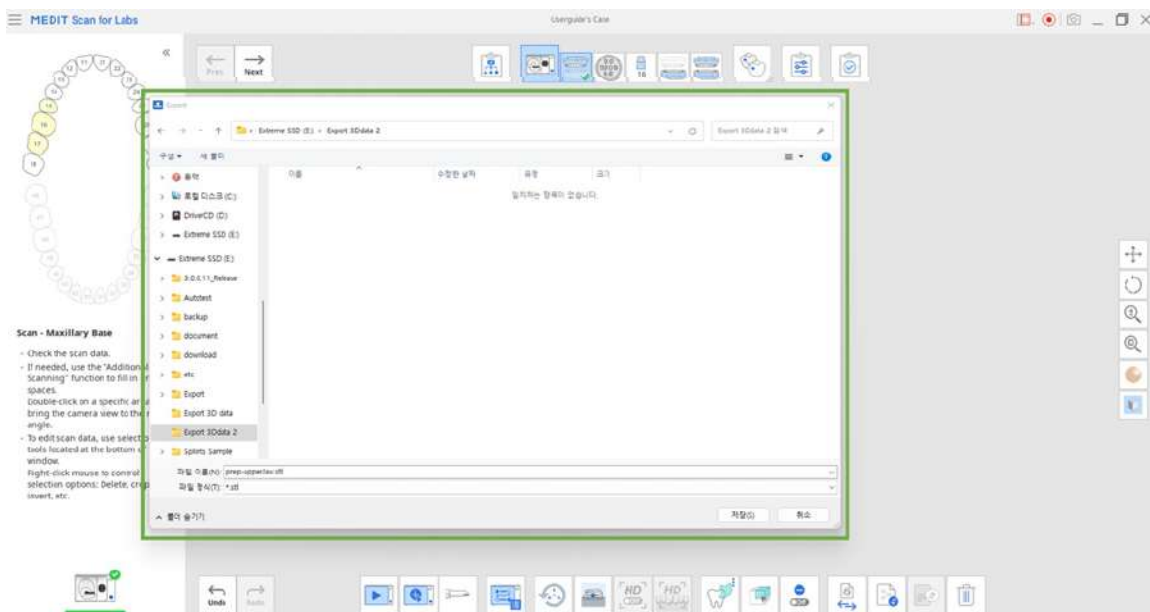
You can export files in the .stl, .obj, and .ply formats.

3. Select an option in the Complete dialog.
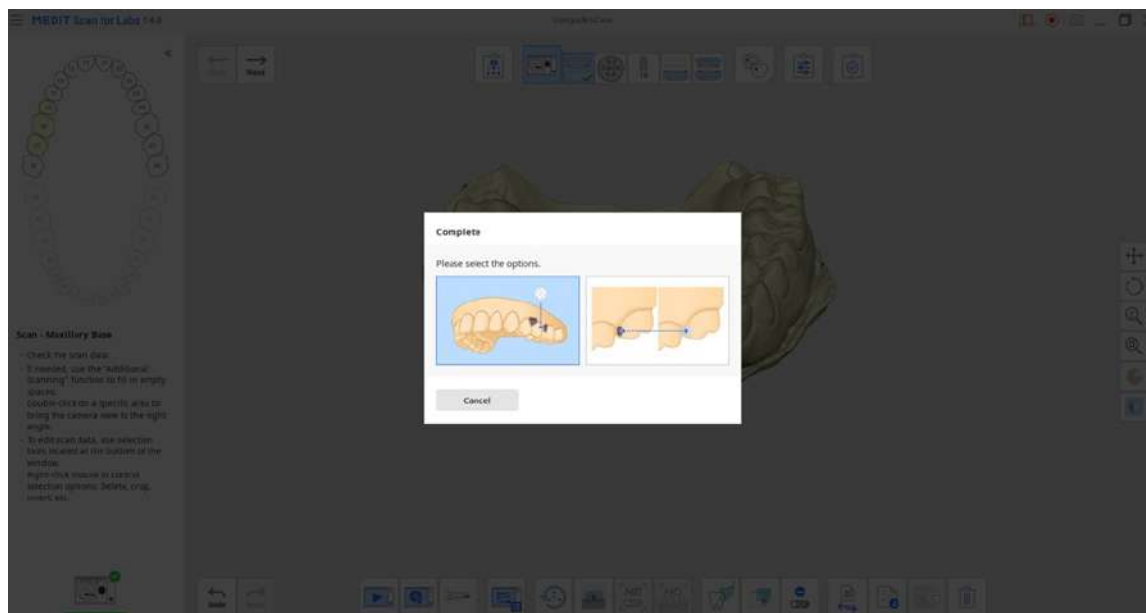
4. The data is exported to the selected location after processing.
5. Select "Open" to go directly to the folder directory.
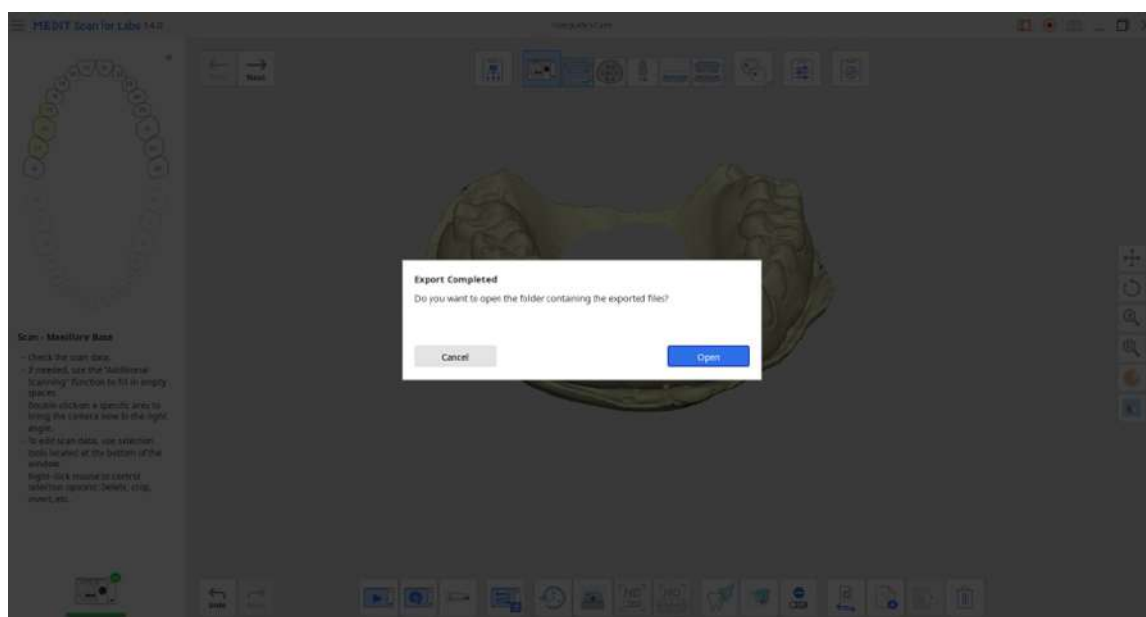
Align Data Stage

Align Data

The Alignment stage consists of sub-stages such as Maxillary Base, Mandibular Base, and Occlusion.

- The order of each sub-stage can be changed. The changed order is saved and can be applied when you scan next time.
- In some cases, the occlusion alignment might take a while. In that case, go to Settings > Post-Processing and disable the Align Occlusion Scan Automatically option. Then you can proceed to manual alignment straight away.

Auto Alignment

The program automatically performs the "Align Automatically" function.

If the alignment fails, click the "Detach" and then the "Align Automatically" icon at the bottom to try again.

Manual Alignment

You need to detach the automatically aligned data before conducting manual alignment.

1. The program automatically aligns data when entering the Align Data stage.
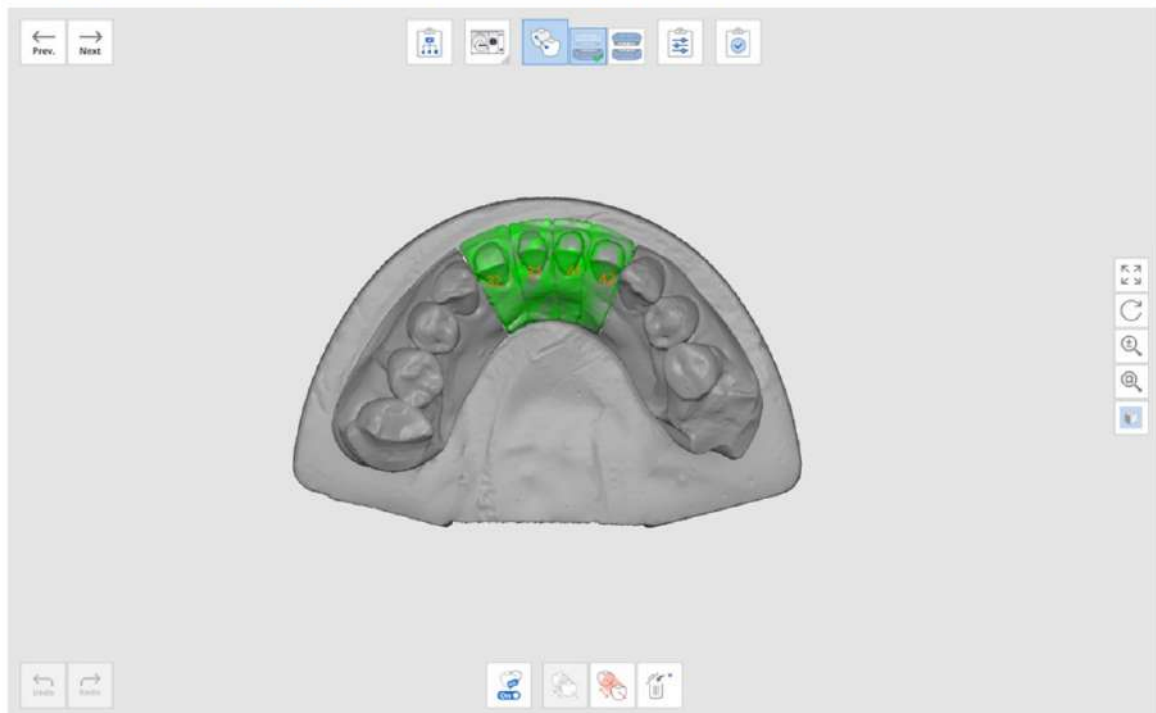
2. If you want to align the data manually, click "Detach" to separate the aligned data to return the data to its original position.
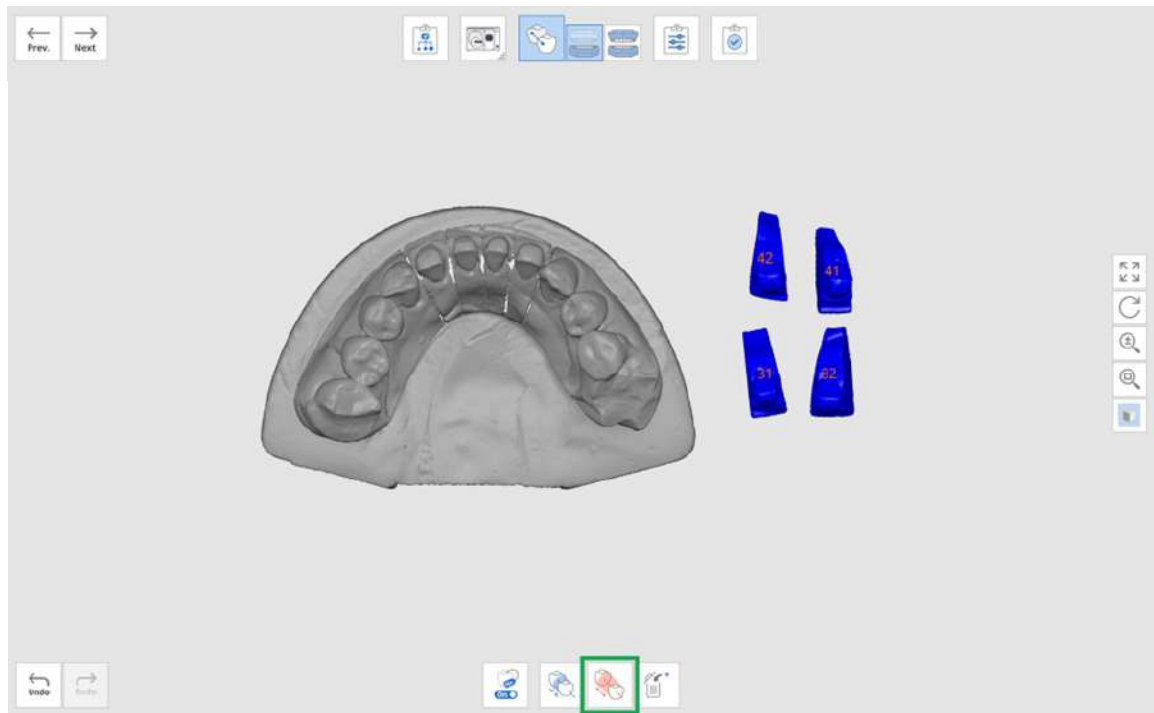
3. Set up to three marker points on the alignment target data and the corresponding position in the base data.

> You can hide the tooth number while placing marker points by clicking the "Show/Hide Tooth Number" icon.

You can also detach individual data by right-clicking on the data.
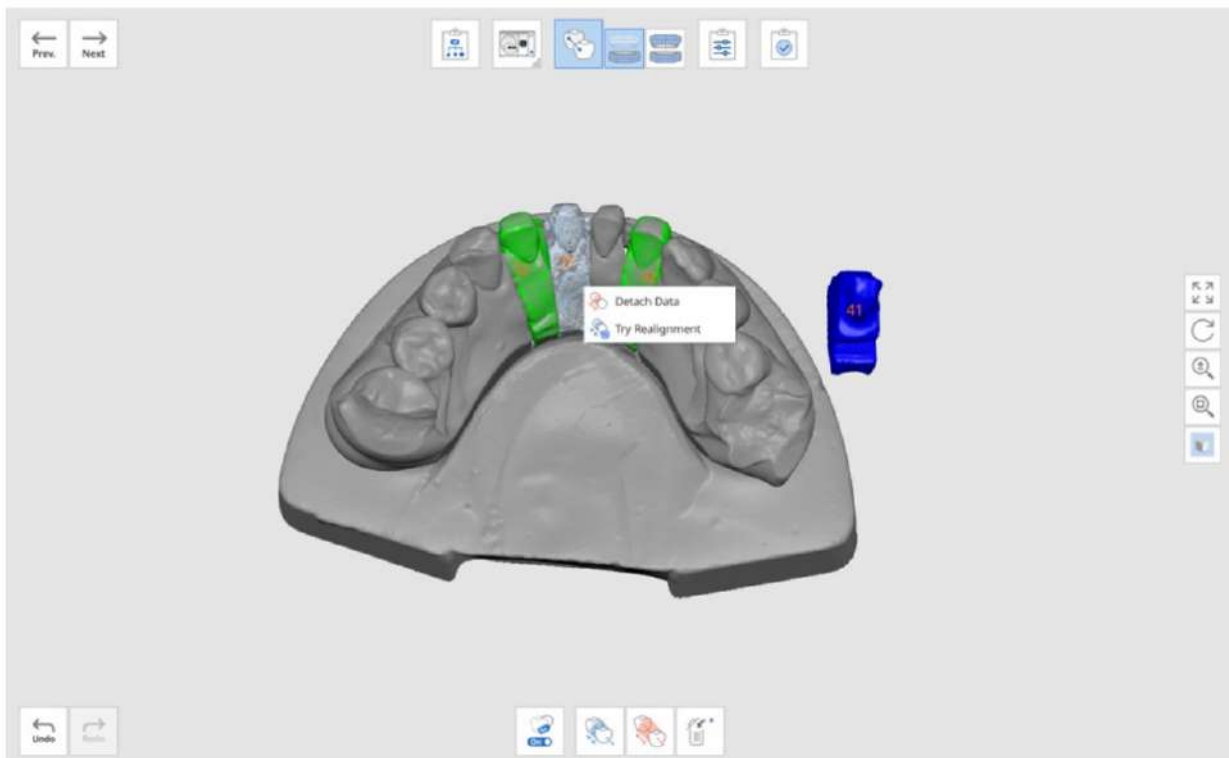
The following options are provided on the menu.

- Detach Data: Separate the specific data.
- Automatic Alignment: Automatically align only the selected data.
- Try Realignment: Realign data precisely when they are slightly out of position.

Align with Occlusal Plane

The user can align the occlusal plane with the 11 articulators provided by exocad so that you can utilize the data for the virtual articulator in exocad.

1. Complete the scanning of the maxilla, mandible, and occlusion, and move to the Align Data stage > Occlusion.
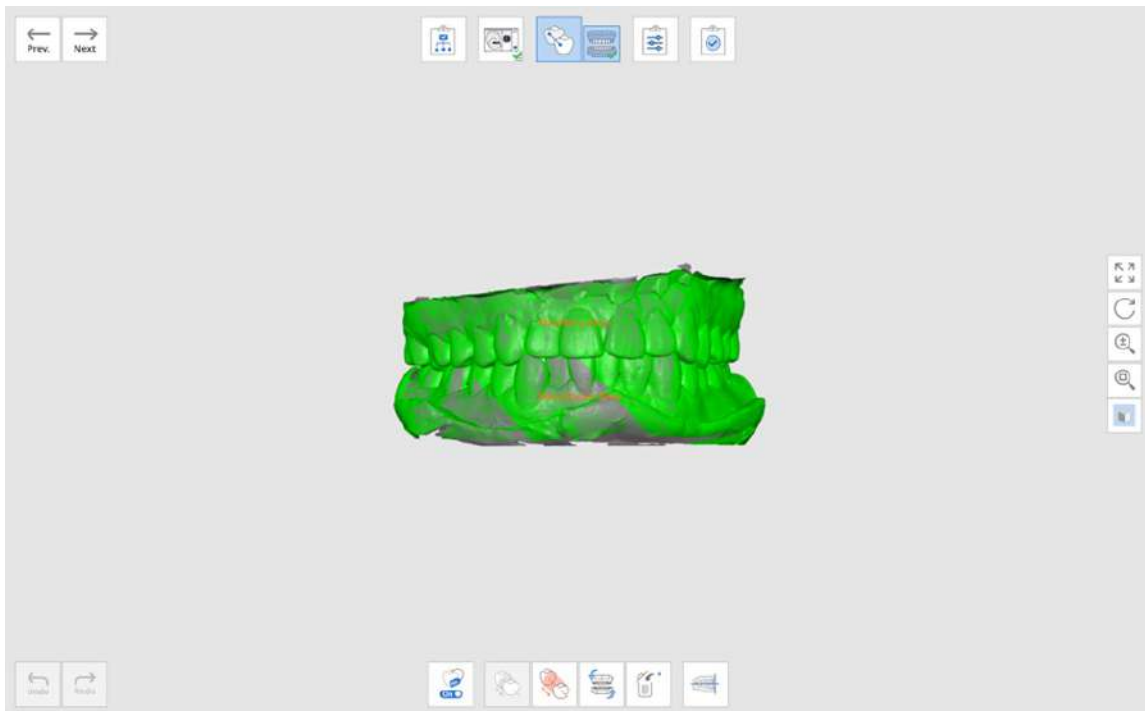
2. Click the "Align with Occlusion Plane" tool at the bottom.

3. Select the articulator and align the maxilla or mandible on the occlusal plane.
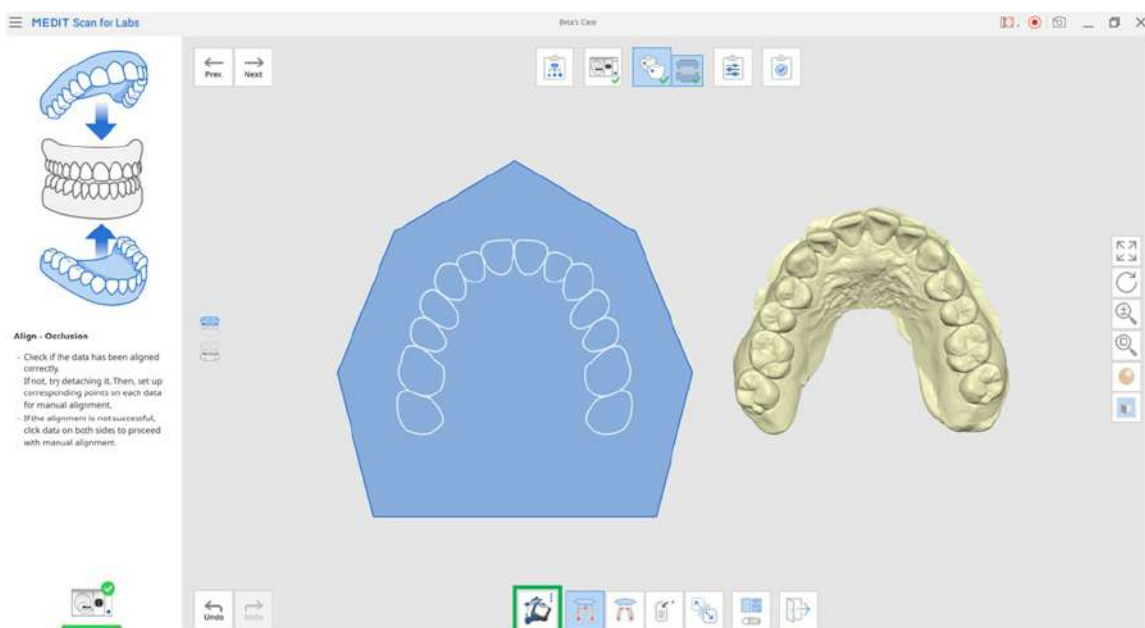
4. To align the maxillar or mandible data to the occlusion plane, you can pick three or four points on both data.

   Pick a point between functional cusps of molars and incisors. If there are no anterior teeth, select four points on the corresponding teeth on both sides.
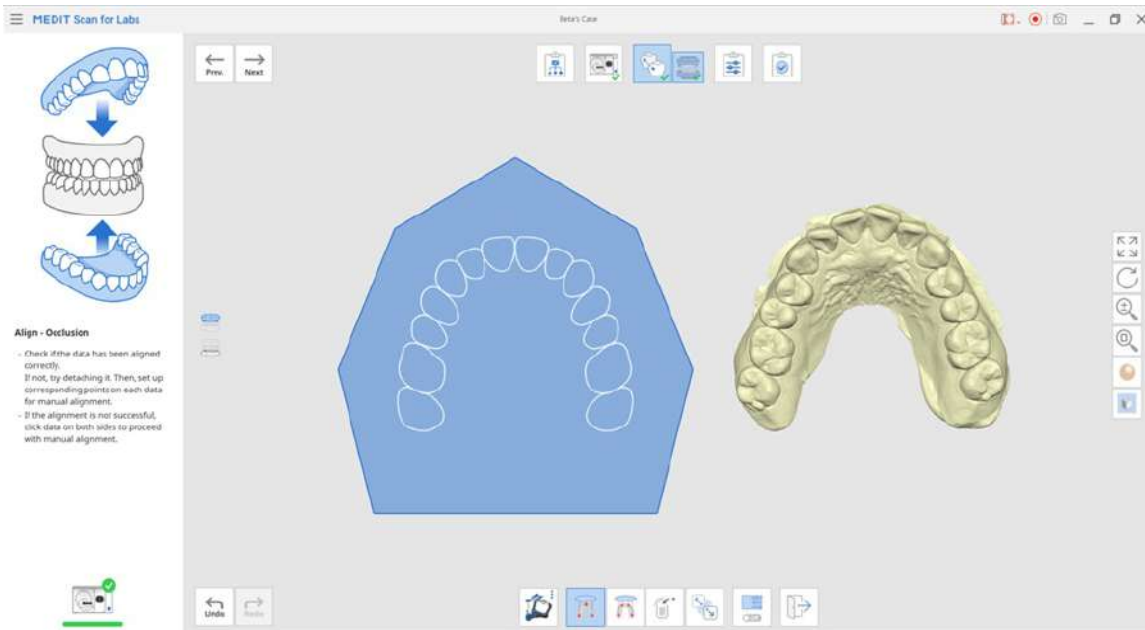
5. Move the arch data on the right to adjust the position on the occlusal plane. The user can adjust it from three different angles.
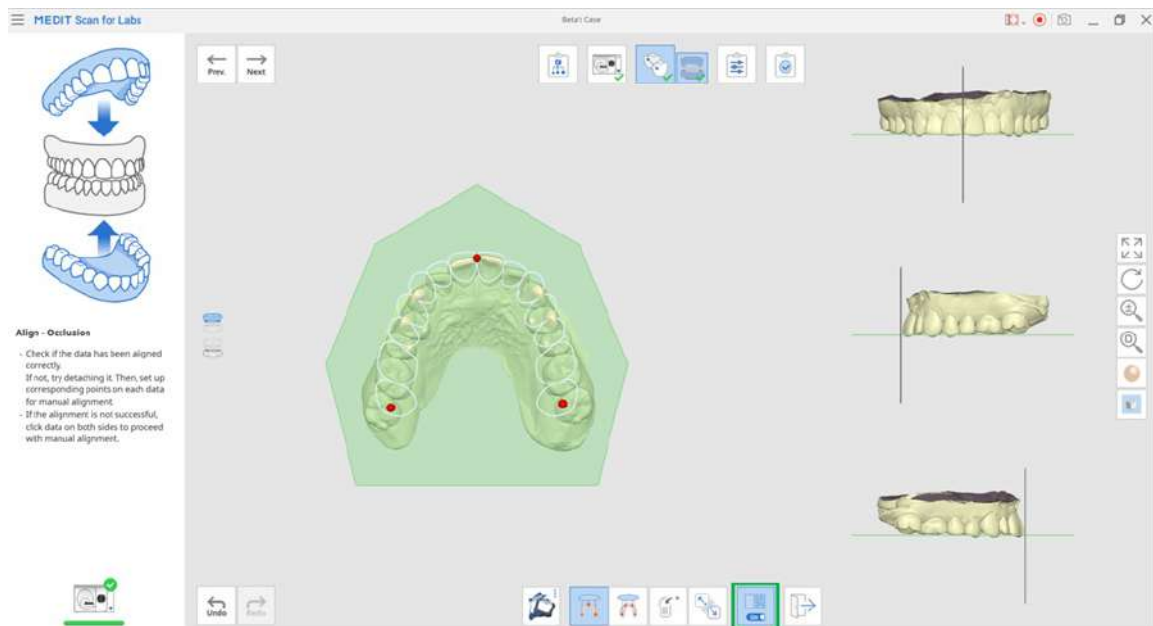
6. Select both the maxilla and mandible icons on the left to check the model's position wth the plane.
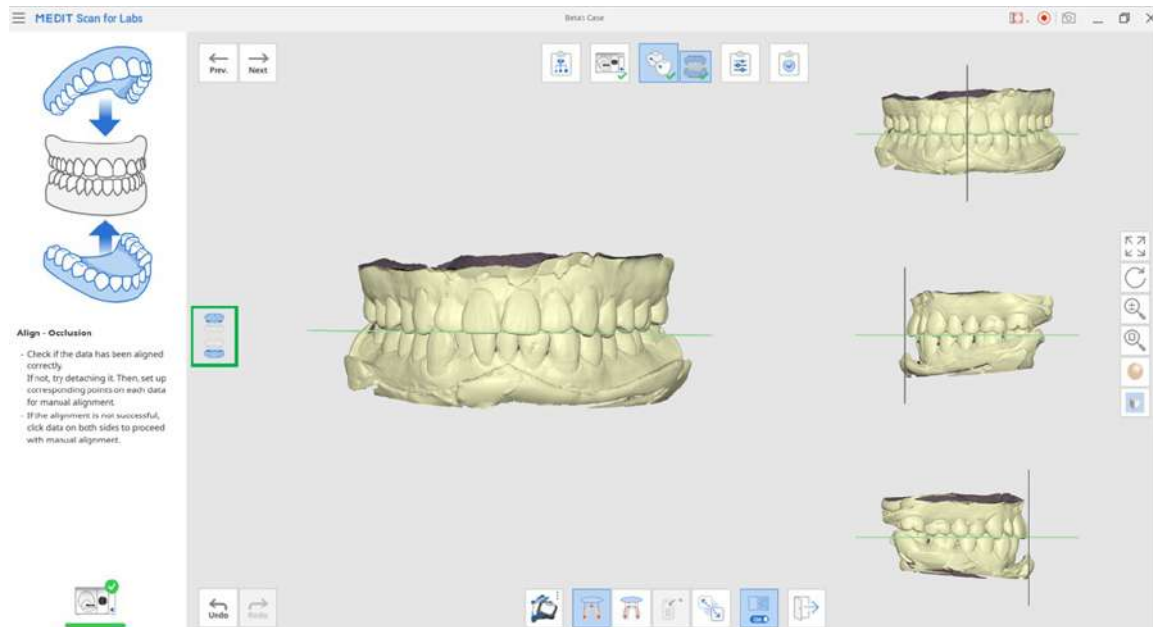
7. When you open the data on exocad, the scan data is located in the proper position, not out of alignment with the virtual articulator.
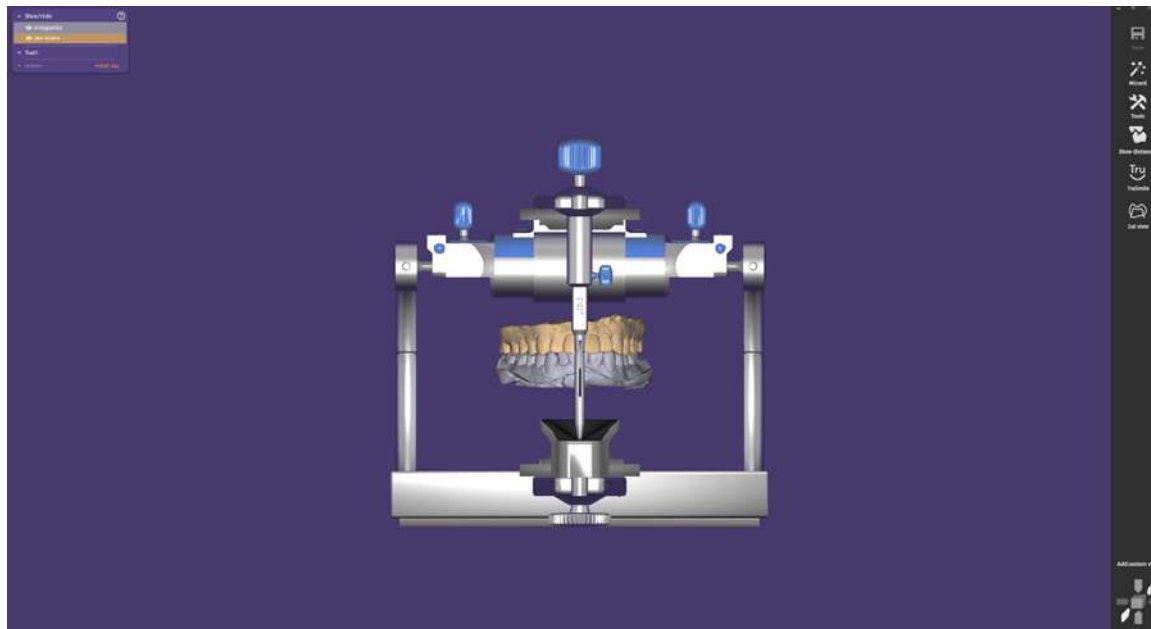
Align Data Stage Tools

The following tools are provided in the Align Data stage.

|		
	Show/Hide Tooth Number	Show or hide the tooth number in the scan data.
	Align Automatically	Automatically align all the data displayed on the screen.
	Detach Data	Detach all the aligned data.
	Remove Alignment Points	Deletes the alignment marker points you placed for manual alignment.
	Flip Occlusion	Flip the occlusion data upside down. This tool is useful for users to correct the direction of the model after scanning the occlusion upside down.
	Align with Occlusal Plane	Move data to the occlusal plane of a virtual articulator.

The following tools are provided when entering the "Align with Occlusal Plane" tool.

	Select Articulator	Select the articulator type where the occlusal plane is placed.
	Align with Occlusal Plane by Three Points	Select three points on the maxilla or mandible to align with the occlusal plane.
	Align with the Occlusal Plane by Four Points	Select four points on the maxilla or mandible to align with the occlusal plane. This tool is helpful when there are no anterior teeth.
	Remove Alignment Points	Deletes the alignment marker points.
	Detach Data	Detach All Aligned Data
	Multi View	View 3D data from 4 different viewpoints simultaneously.
	Exit	Exit the tool.

Confirm Stage

Confirm

This stage allows users to check and edit the aligned data if necessary.
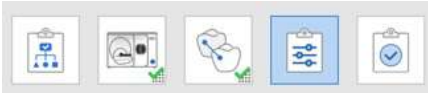

To edit the data, use the area selection/deselection tools and the "Adjust Occlusion Height" tool.

Adjust Occlusion Height

After scanning the occlusion, you can adjust the bite height as needed. This tool is useful when creating a splint or denture, as you can adjust the height without scanning the occlusion a second time.
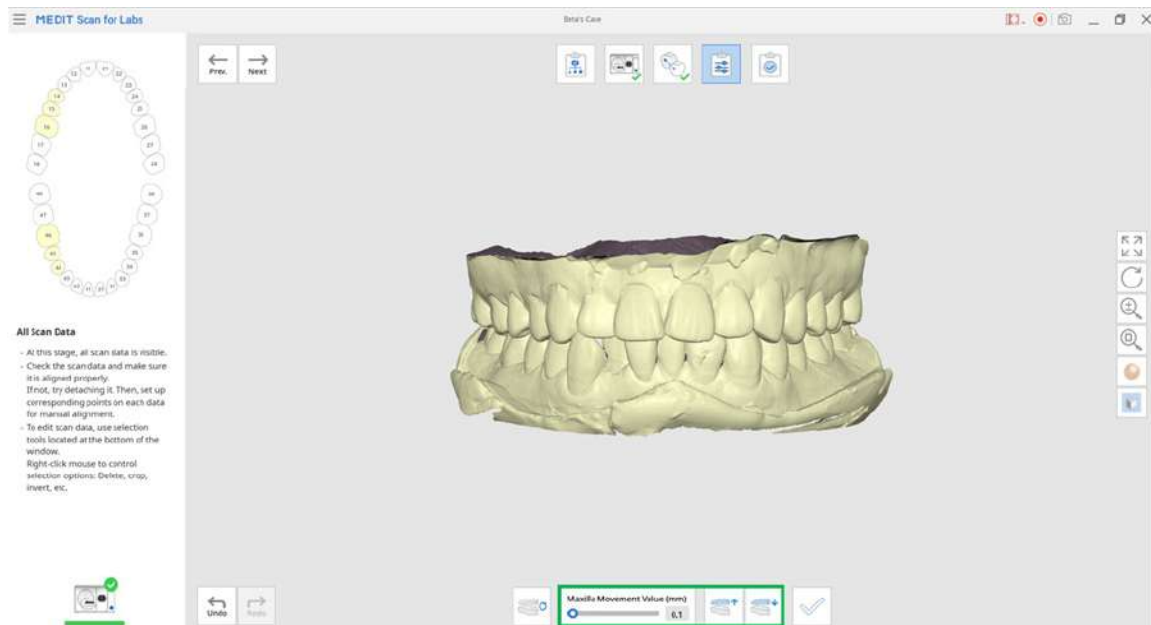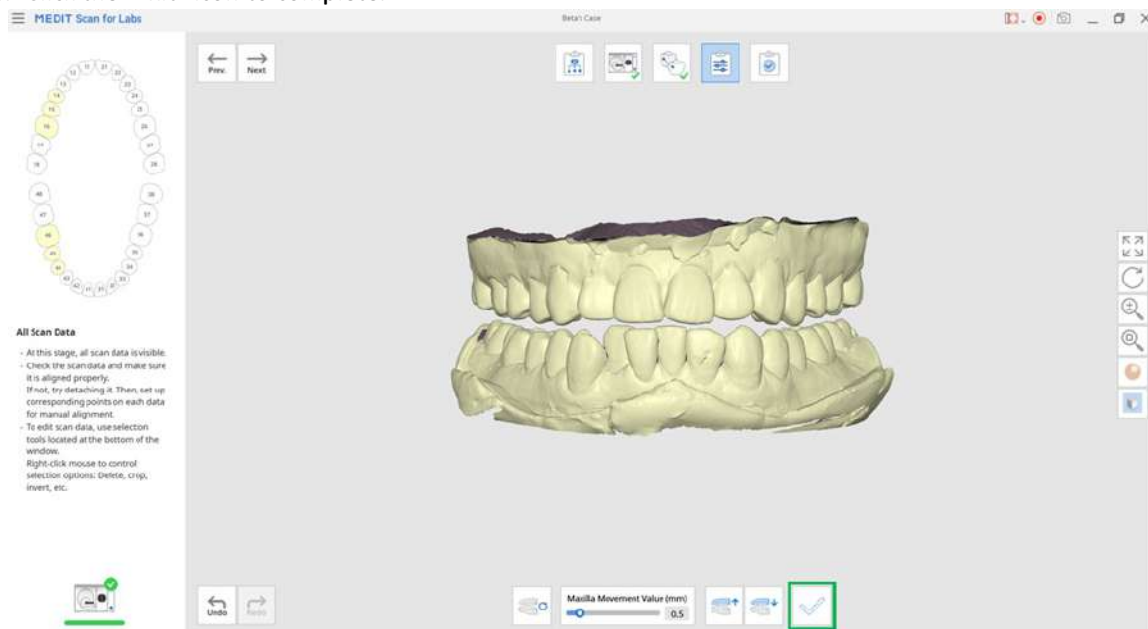

.
1. Complete the scanning of the maxilla, mandible, and occlusion.
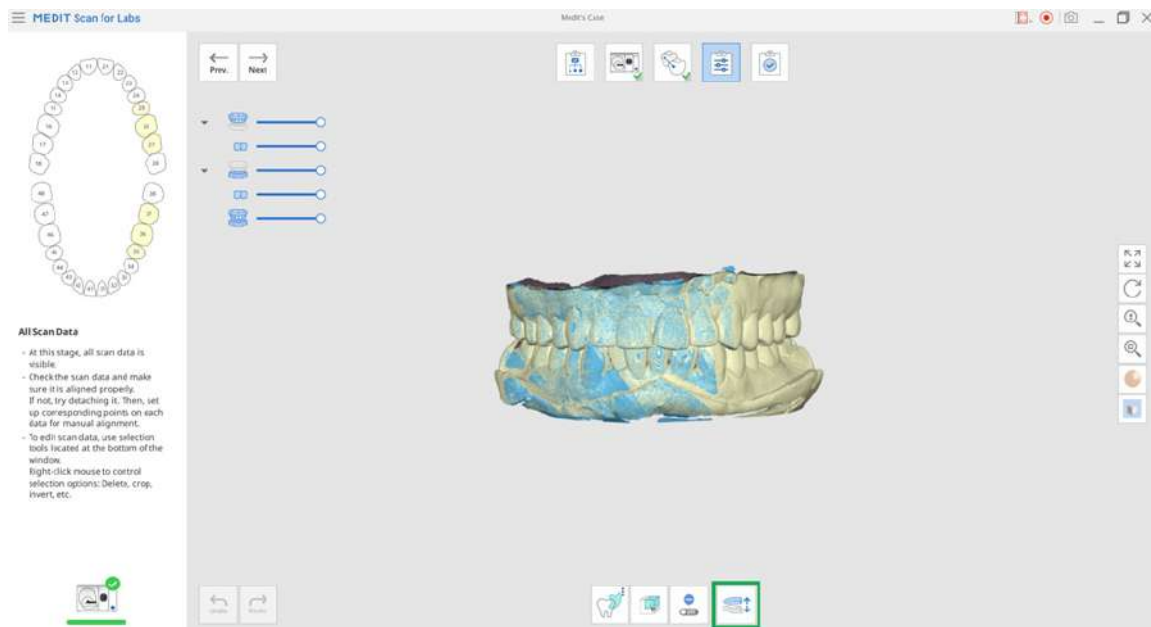
2. Click the "Adjust Occlusion Height" icon at the Confirm stage.

3. Set the "Maxilla Movement Value (mm)" option and move the maxillary data upward or downward.

4. Click the "Exit" icon to complete.

Confirm Stage Tools

|		
	Free Selection	Allow you to select an area freely.
	Rectangular Selection	Allow you to select a rectangular region.
	Island Selection	Allow you to select all connected data by clicking on a point.
	Surface-Only Selection	When on, allow you to select only the surface of data using the area selection tools.
	Deselection Mode	When on, deselect the selected area.
	Adjust Occlusion Height	Adjust the occlusion height using the provided tools below.

The following tools are provided when entering the "Adjust Occlusion Height" tool
.

	Reset Occlusion Height	Reset the occlusion height of the maxilla.
	Move Maxilla Up	Move the maxilla upwards by the set maxillary movement value.
	Move Maxiila Down	Move the maxilla downwards by the set maxillary movement value.

Scan the Bottom Side of Wax-Up

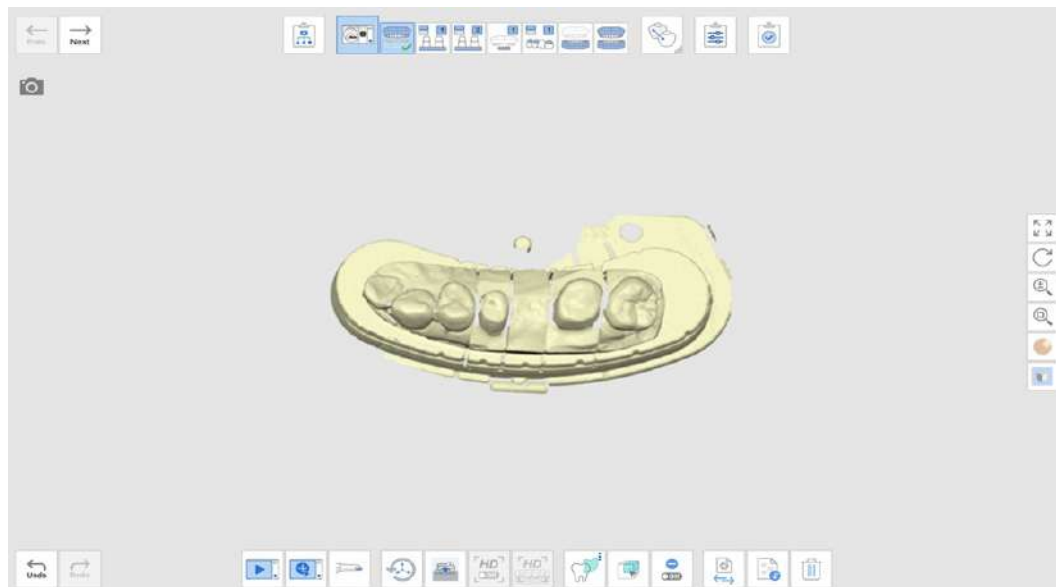Here is an example of a maxillary wax-up case.

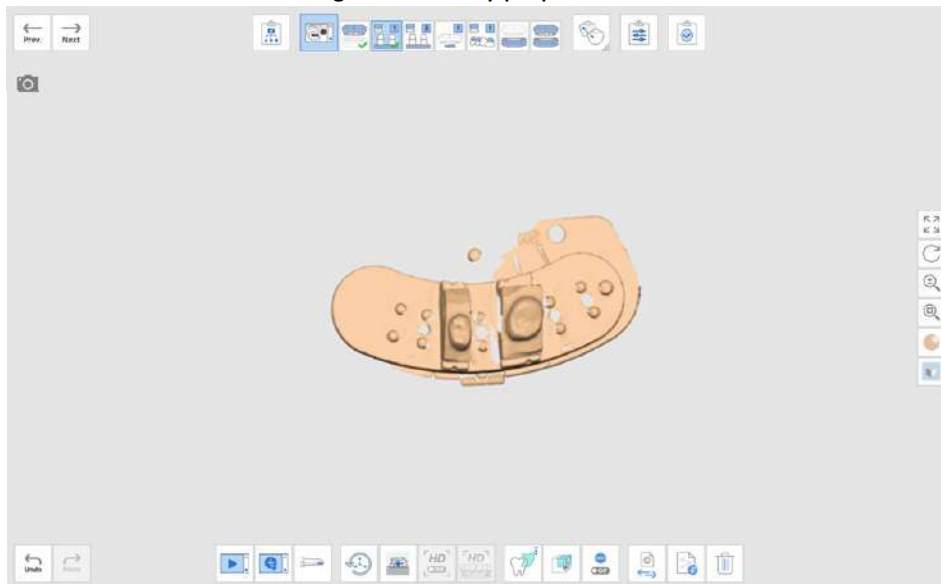1. Select the "Wax-Up (Bottom Side)" option from the Scan Strategy and click "Next."
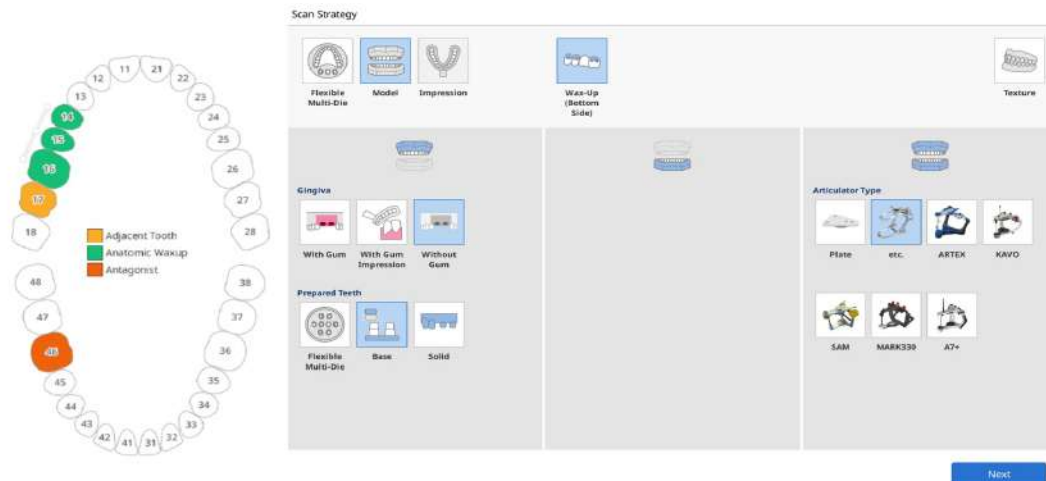
2. Select only the wax-ups for which you need the inner surface aligned and click "Confirm."
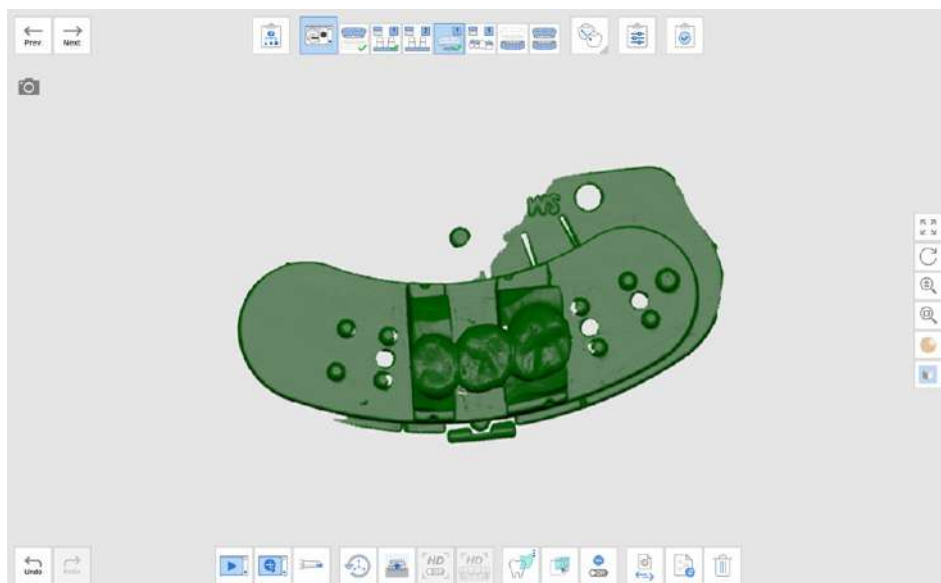

3. Start scanning the maxillary base.

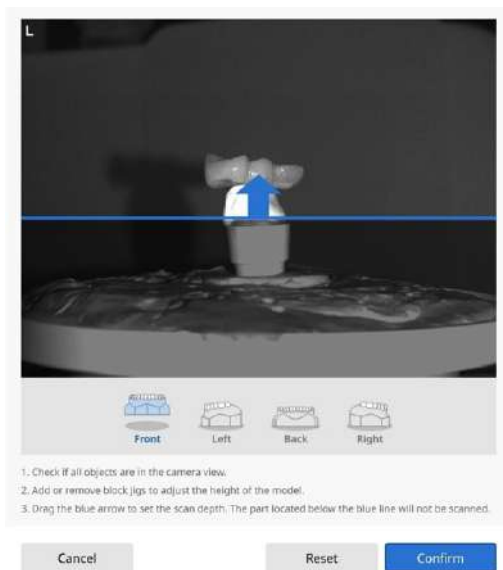4. Then move on to the next stage to scan only prepared teeth.

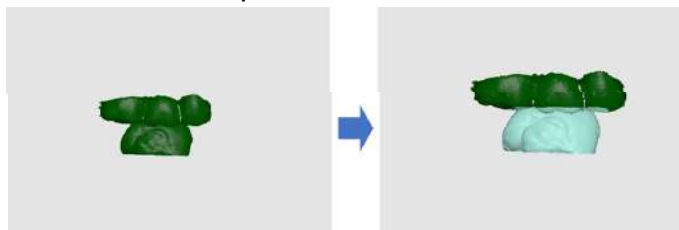5. Move on to the Maxillary WaxUp stage and scan the data.

6. After scanning the outer surface of the wax-up, move to the next stage.

7. Flip the wax-up and place it on a single die before scanning.

8. Delete the unnecessary data.

9. Continue to scan the base and occlusion data before moving to the Align Data stage.
10. The prepared teeth and base will be aligned automatically, and the outer surface of the wax-up and the base will also be aligned automatically.

11. The inner and outer surfaces of the wax-up should be aligned manually.
12. Set up to three corresponding alignment points to align the data.
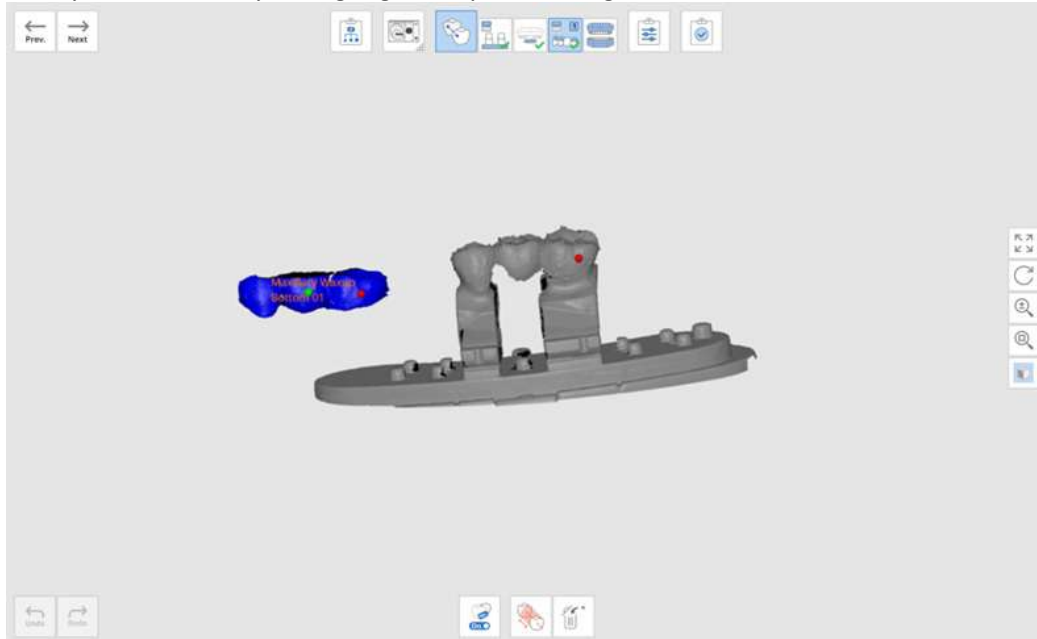
13. The data will be aligned based on the set points.

14. Occlusion data will also be aligned automatically.
15. Click the "Next" button and edit the data if necessary on the Confirm stage.
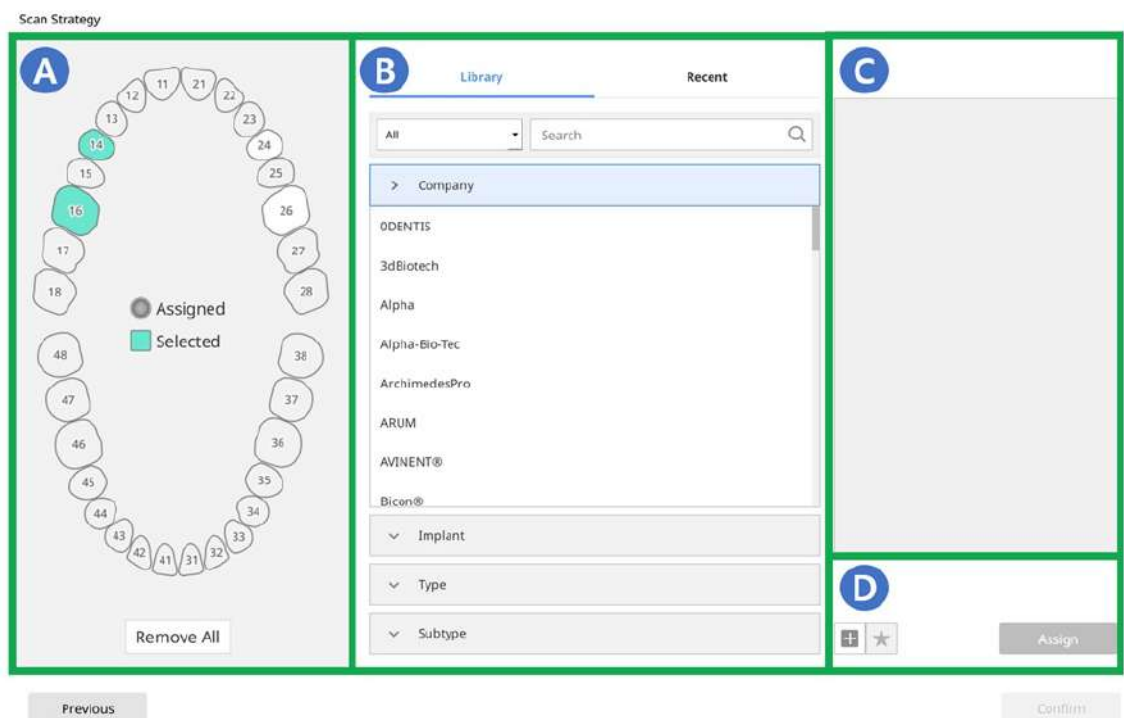
Scan Body Library Alignment

Medit Scan for Labs has an integrated Scan Body Library, which makes it easier and faster to work with the scan body cases.

You can specify which scan body corresponds to each tooth, and the program will automatically insert the library data into the model scan.

1. Select the "Scan Body Library" option from the Scan Strategy dialog and click "Next."
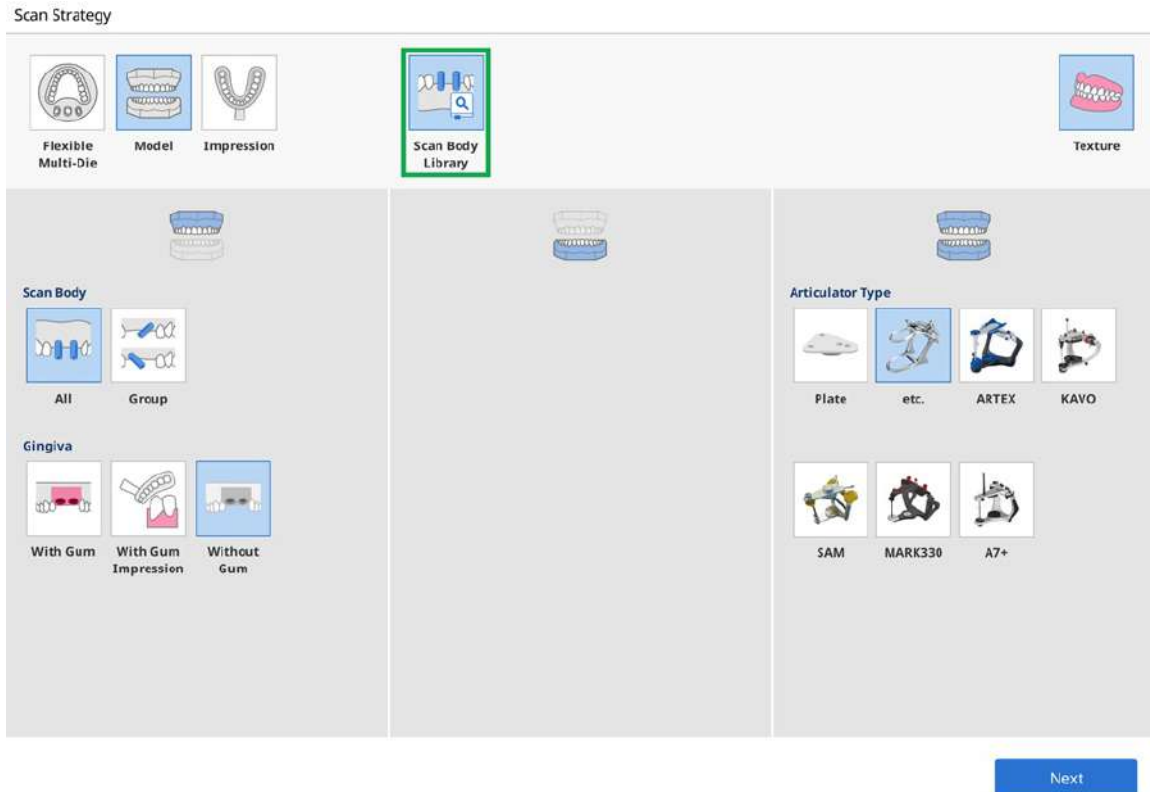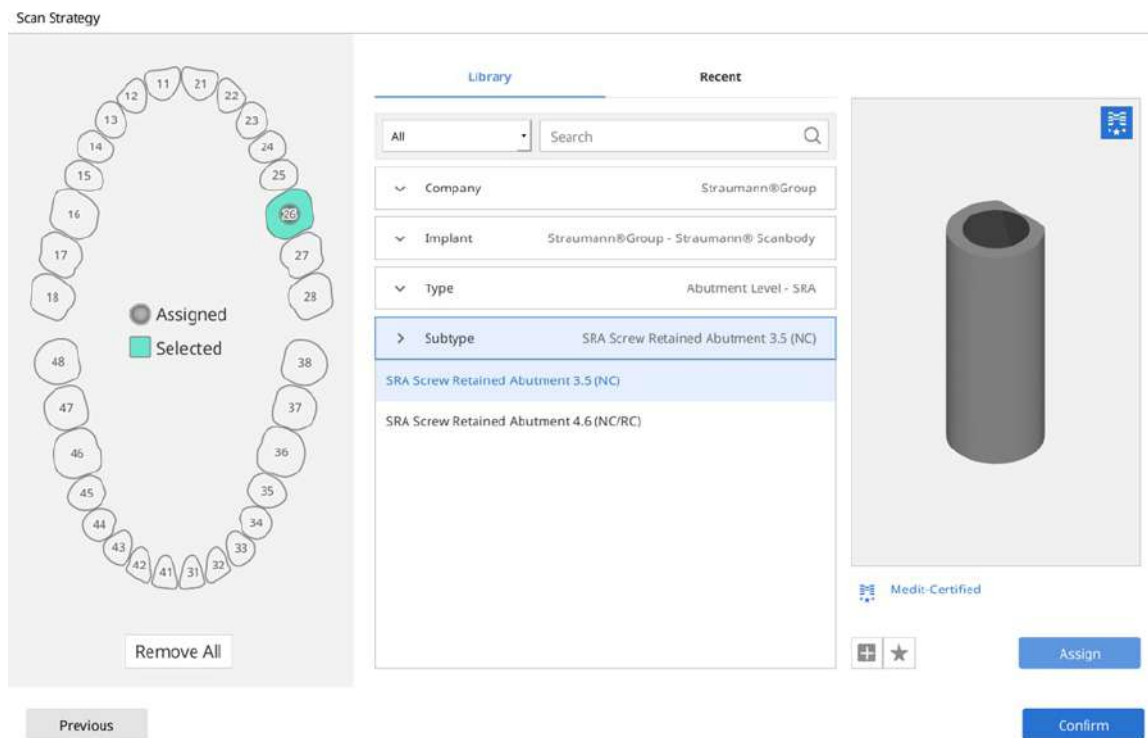

2. When the Scan Body Library dialog appears, select a tooth number in section A. Multiple teeth can be selected.

3. Select a corresponding scan body data from the library in section B.

> You can import a custom scan body library from your PC by clicking the "+" button in section D.

4. The selected library appears in the preview in section C.

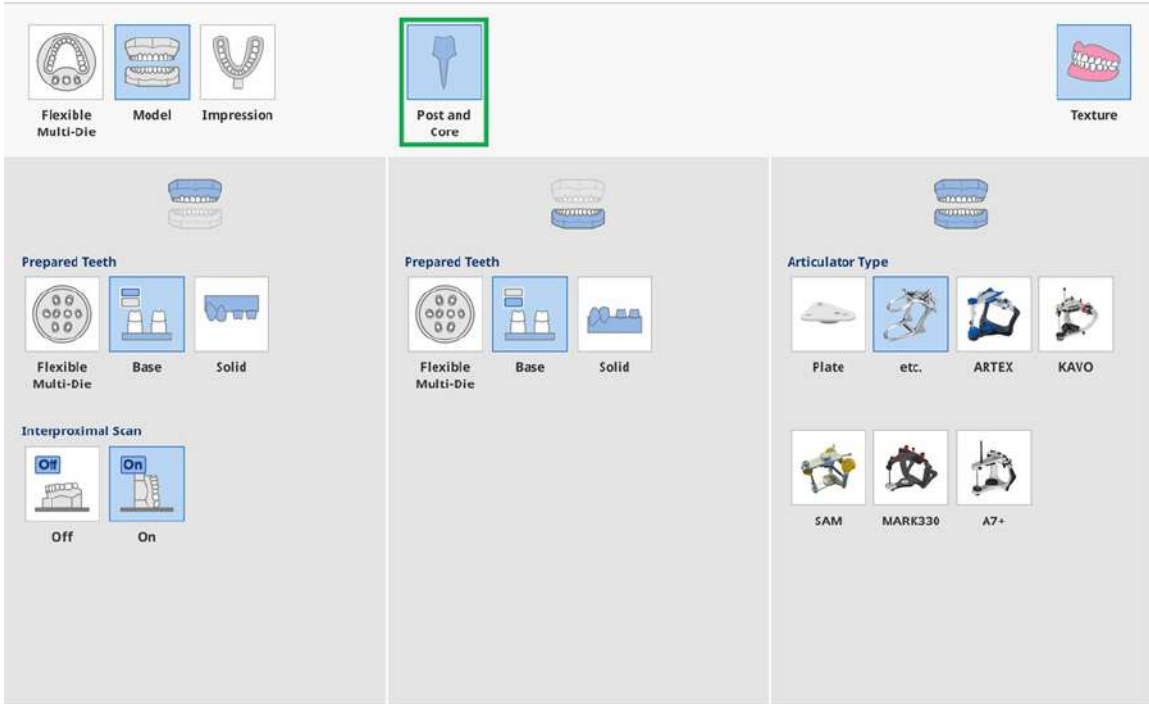5. Click "Assign" to assign the scan body to the selected tooth number.

Post and Core

Here is an example of a post and core case.

> **iNote**
>
> The "Post and Core" option is available for T710, and a license is required for T500/T300.
> The "Post and Core" option is only available when the form information contains the "Inlay/Onlay," "Veneer," and "Telescopic Crown."

1. Select the "Post and Core" option from the Scan Strategy and click "Next."
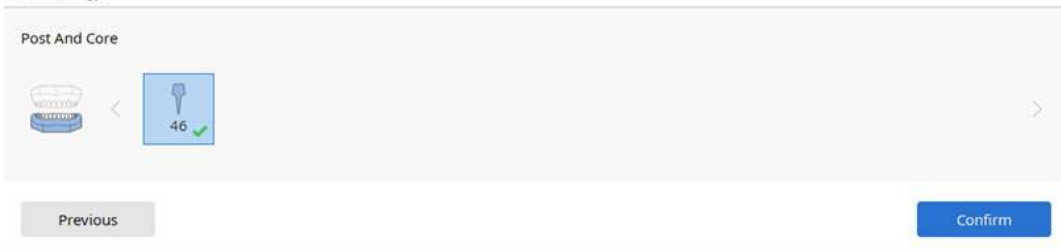
2. Select the teeth for the post and core scan and click "Confirm." Please note that the teeth you select must have corresponding impressions.
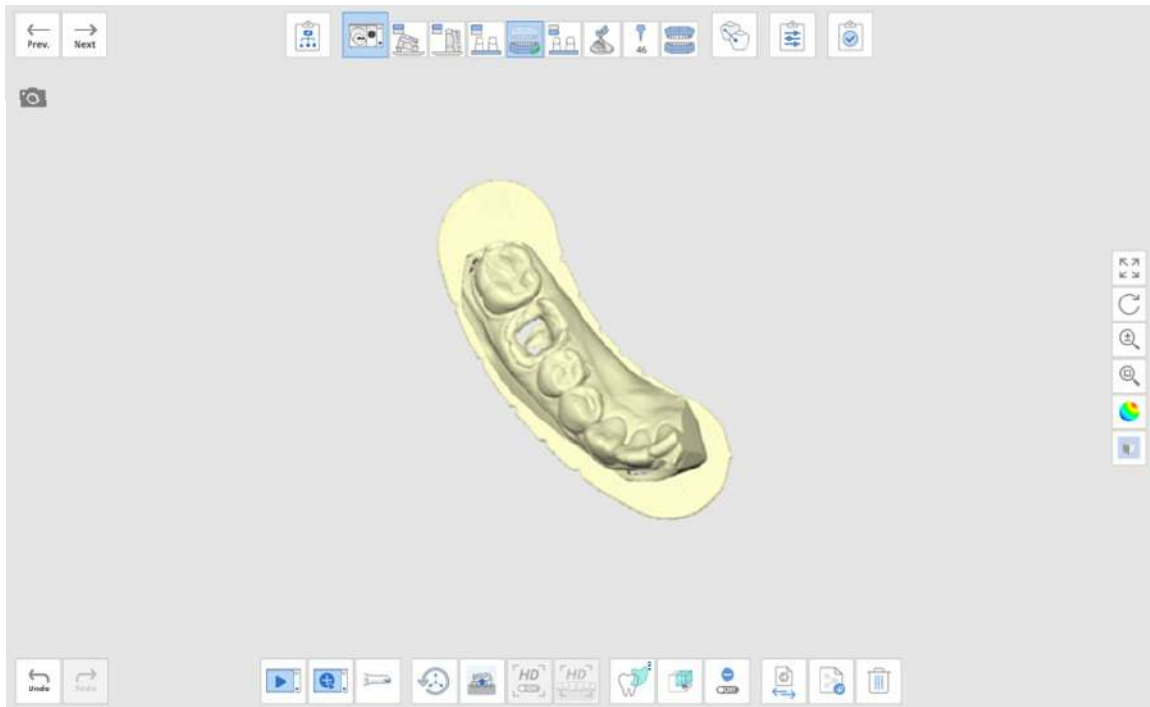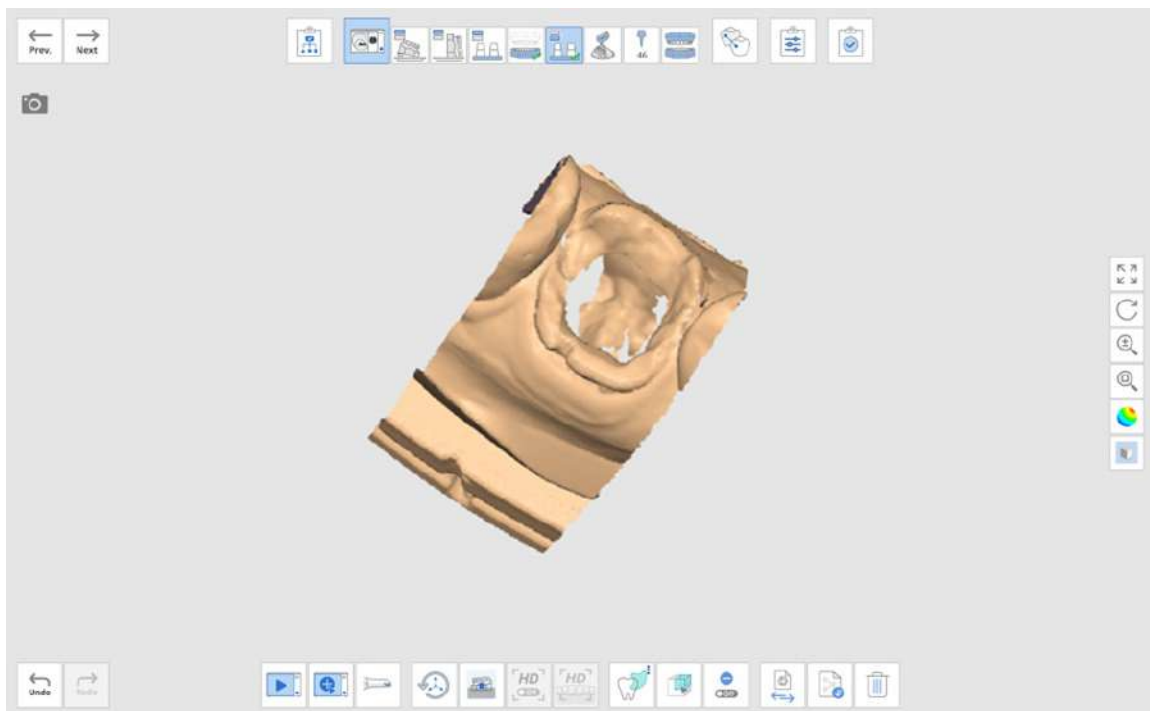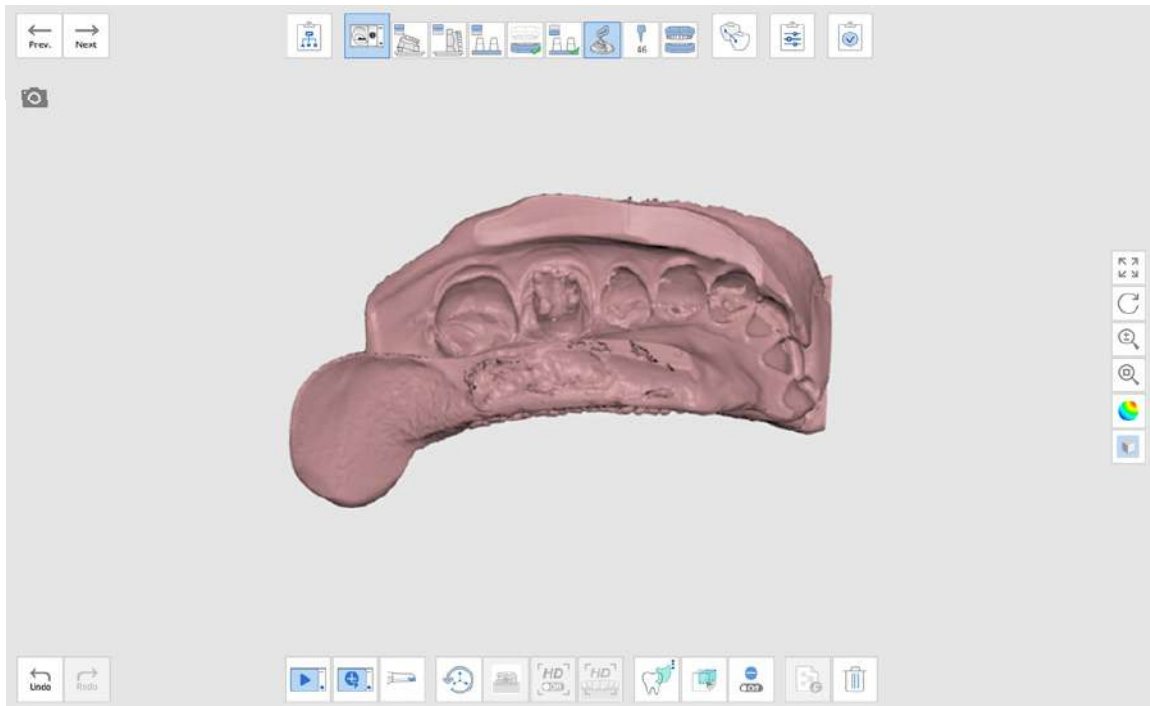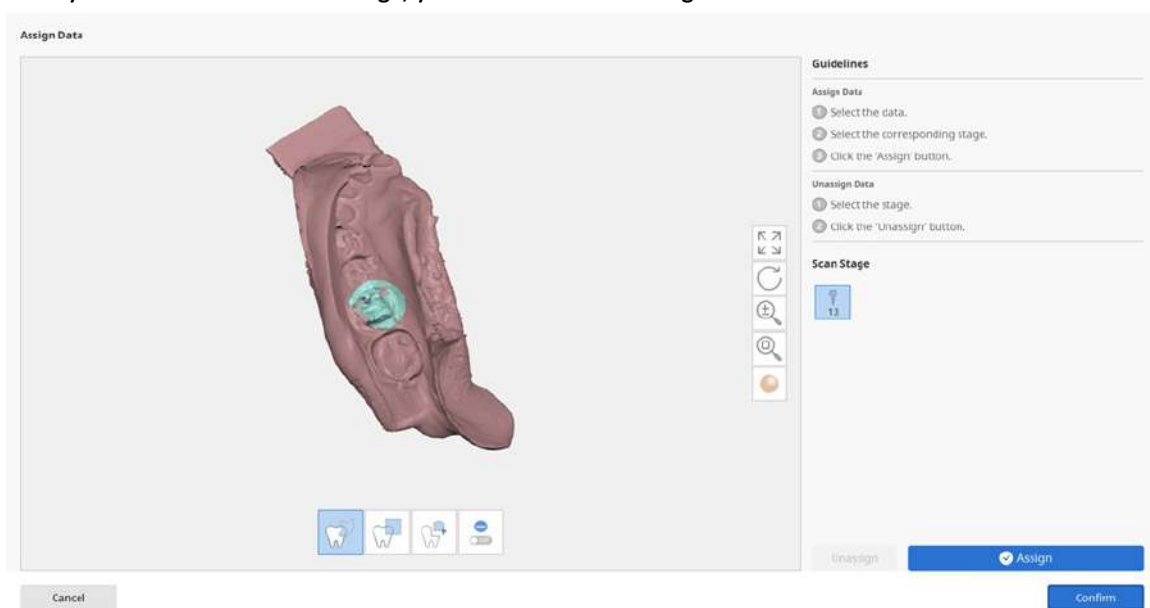
3. Scan the model.

4. Scan the prepared teeth. If you have no trimmed die, scan the model again and trim it to remove the unnecessary parts.
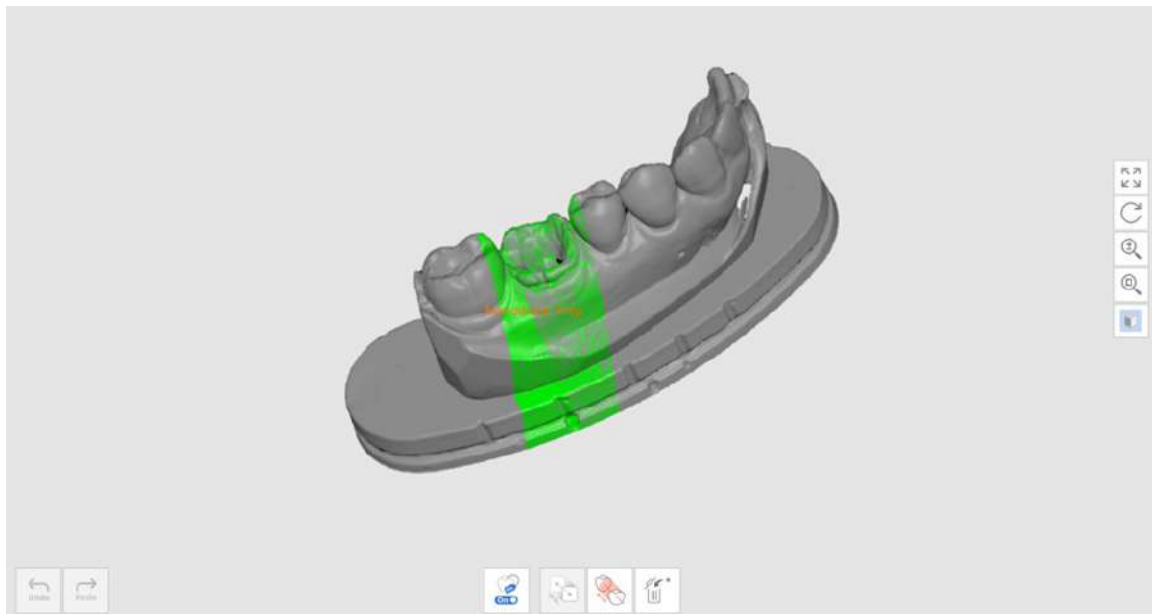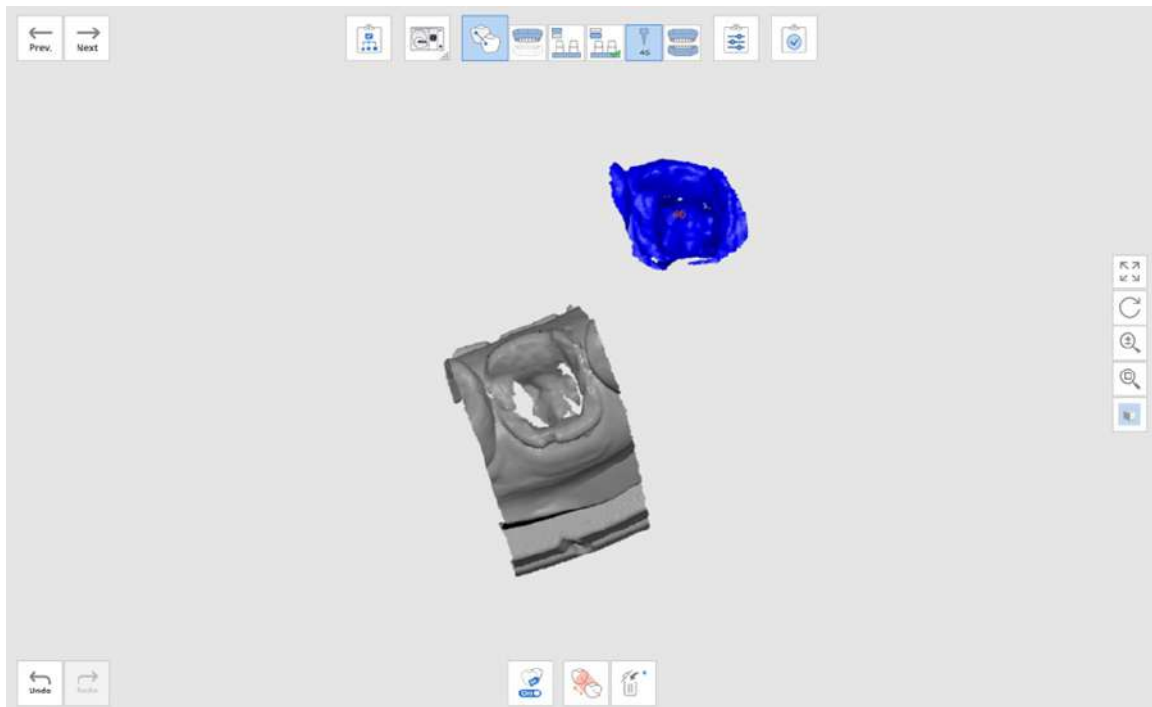
5. Scan the corresponding impression.

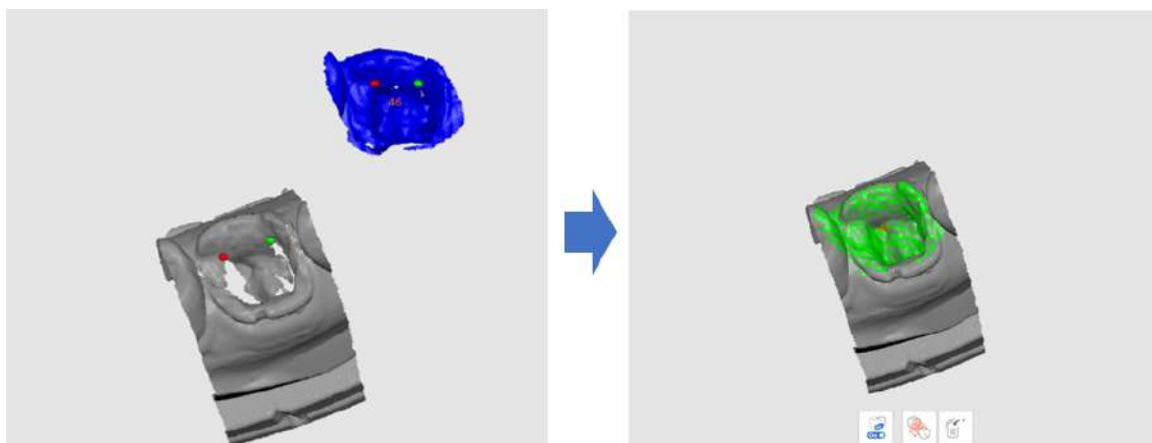6. Once you move on to the Post stage, you will be asked to assign data for the teeth.

7. After assigning the data, click "Confirm" to align the prepared teeth to the model.

8. Align the model with the impression by clicking up to 3 alignment points on each data.

9. The data will be aligned as follows.

Flexible Multi-Die

Flexible multi-die allows you to acquire a set of a model and prepared teeth data simultaneously. You can scan data in one stage and then assign the data to the corresponding stages.

1. Select the "Flexible Multi-Die" from the Scan Strategy and click "Next."
2. Scan all necessary parts at the Flexible Multi-Die stage.
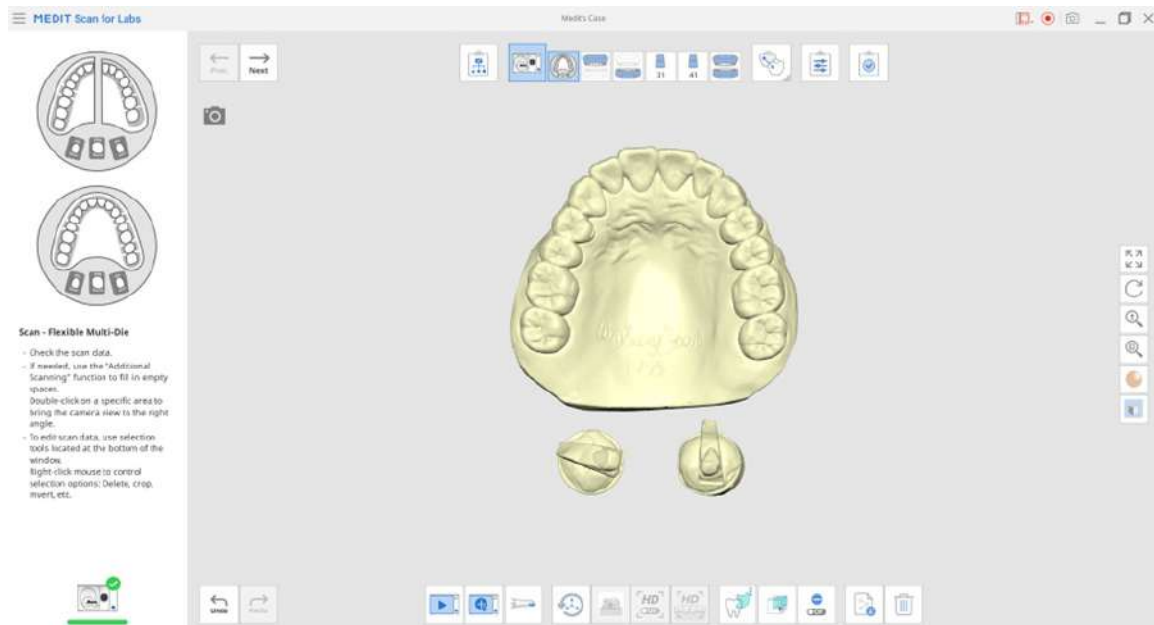
3. Click any of the following stages to select the corresponding data.
4. You can edit the data using the selection tools if needed.
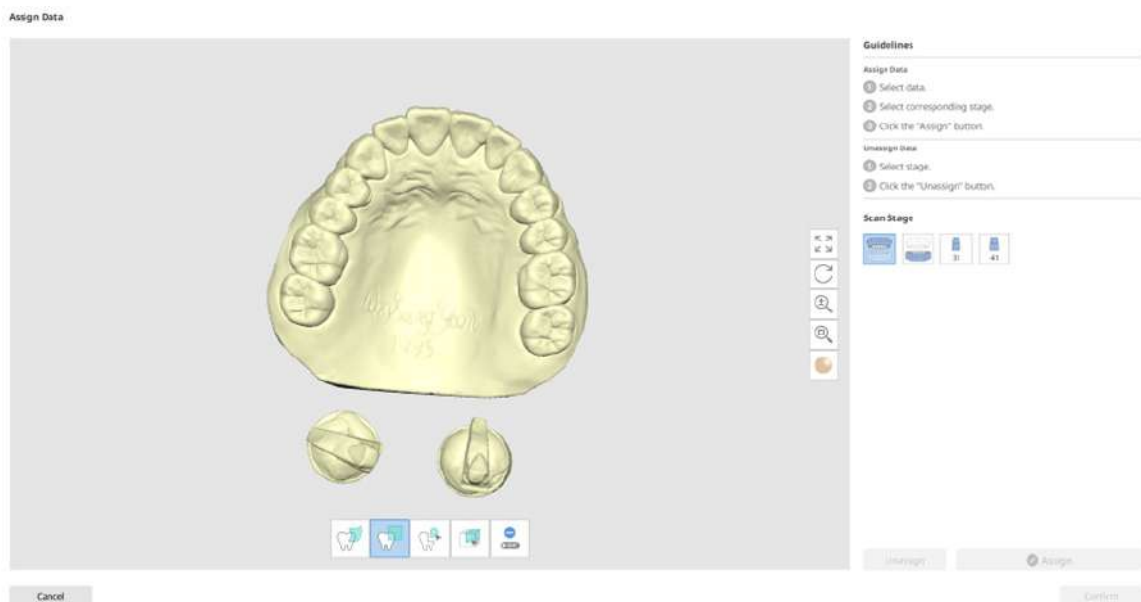
5. Select a scan data and a scan stage to assign the data, and click "Assign."

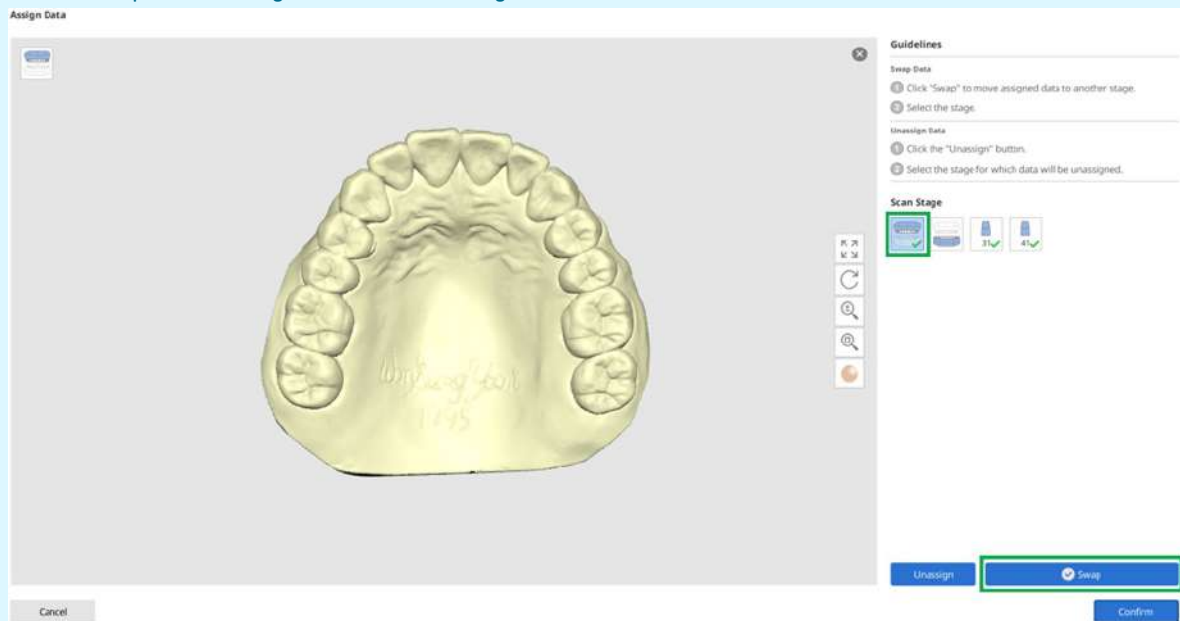5. Select a scan data and a scan stage to assign the data, and click "Assign."

6. Repeat the assignment process for the remaining stages.

ⓘNote

You can preview the assigned data when clicking on a Scan Stage icon with already assigned data as follows
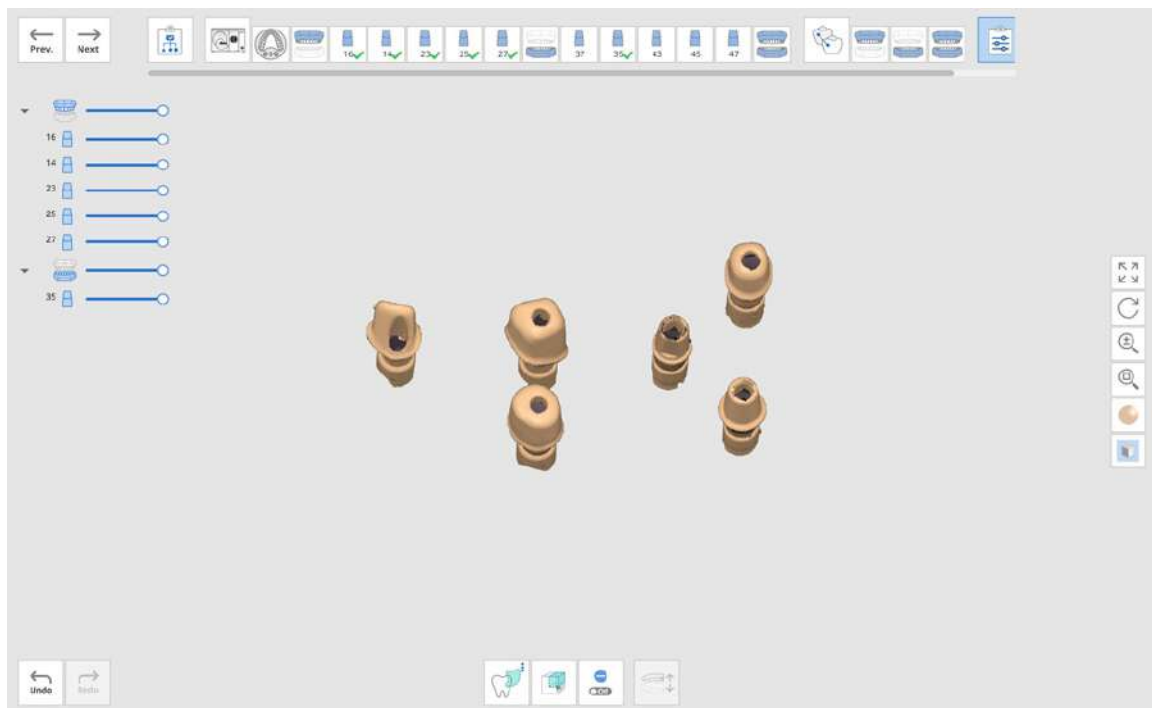Click the "Swap" button to assign another data to the stage.

Fill Holes for Abutments

You can skip filling the abutment hole with wax and get right to scanning with Flexible Multi-Die.
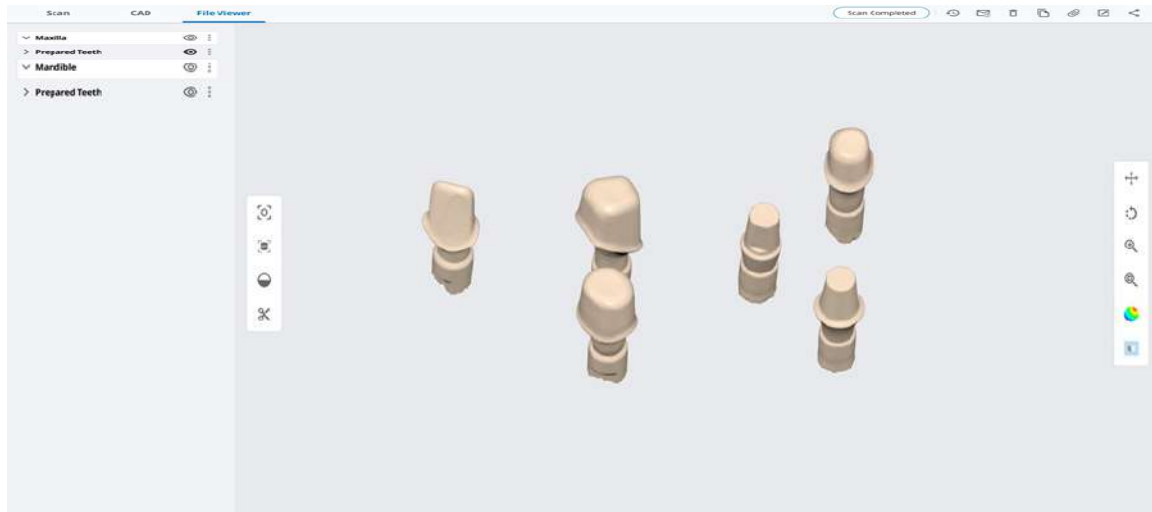
1. Go to Menu > Settings > Post Processing to turn on the "Fill Holes for Abutments" option.
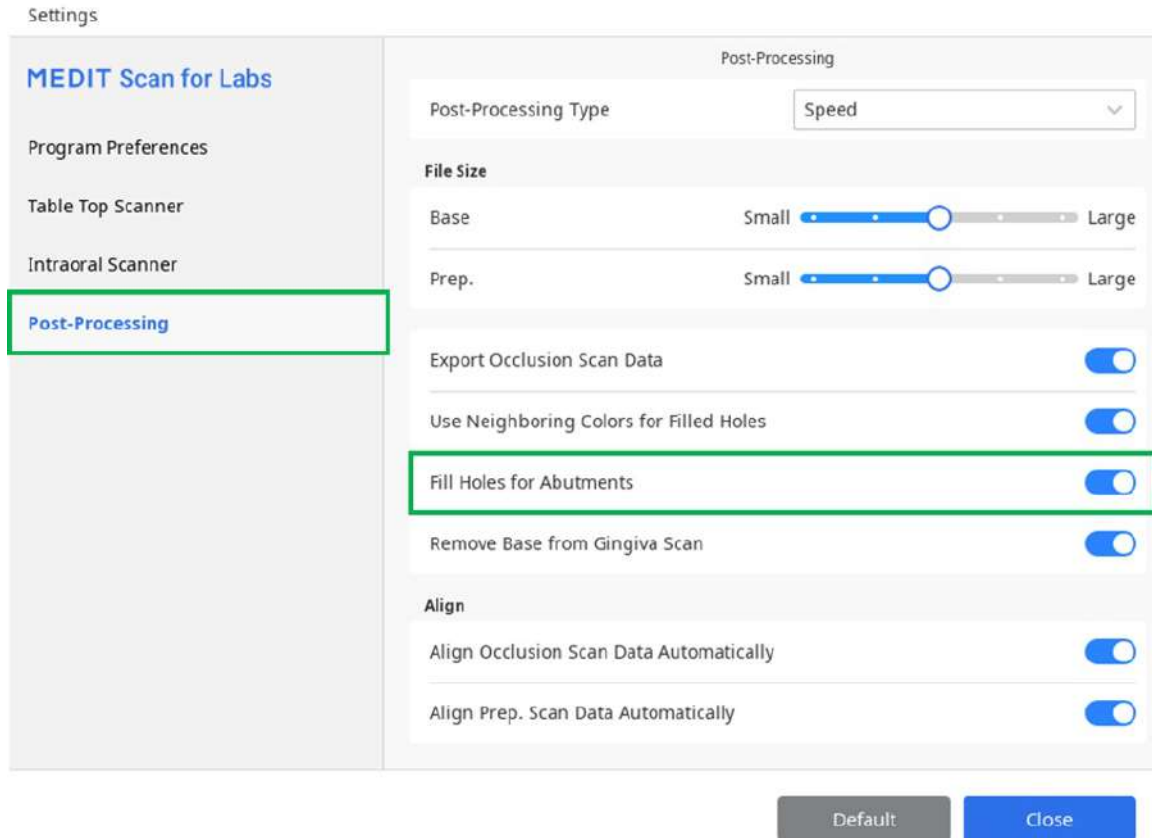
2. Conduct scanning and alignment according to the workflow in the order of sub-stages.

3. After completing the case, the holes in the abutments are automatically filled.

Remove Base from Gingiva

Medit Scan for Labs provides the "Remove Base from Gingiva" option in Settings for users who only need the gingival data without base data.

The option is enabled as default, so please disable this option if you don't want your base data removed from the gingiva scan data.

When Enabled	When Disabled

1. Go to Menu > Settings > Post Processing and turn on the "Remove Base from Gingiva" option.
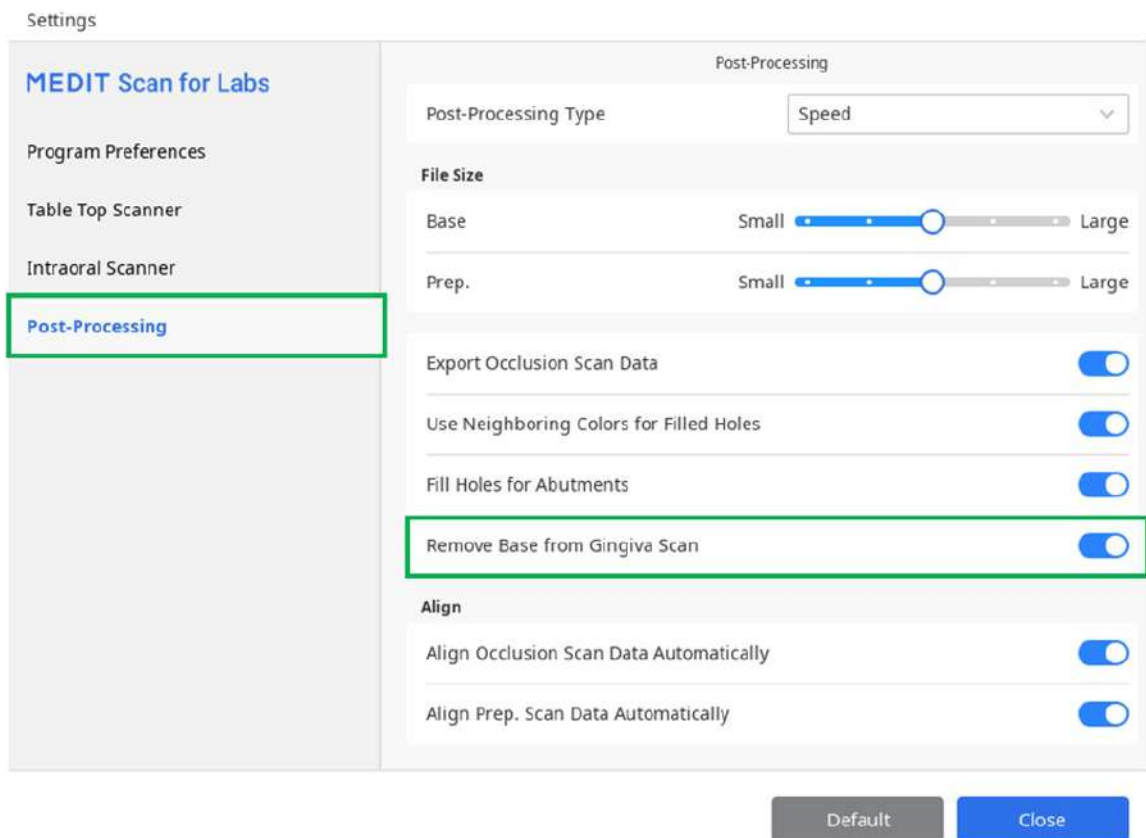
2. Acquire the gingival data.
3. Acquire the base data.
4. When you complete the case, the overlapping base data is automatically removed from the gingival data after processing the data.
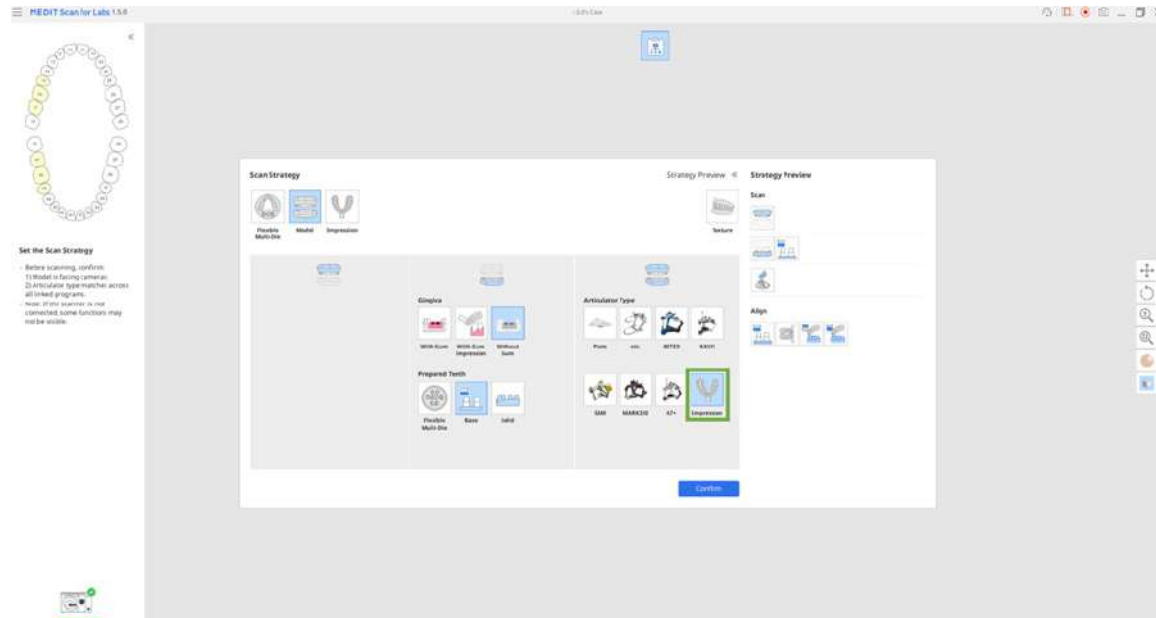
> **Note**
>
> This feature is helpful when you need data alignment from design software other than exocad.
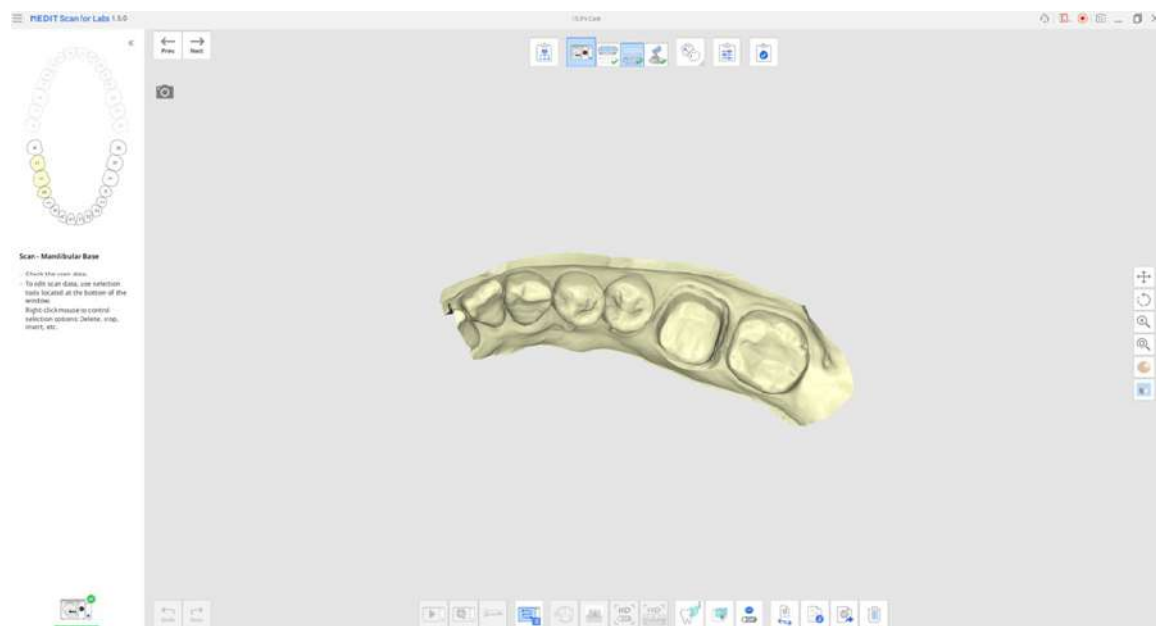
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Impression Scan for Occlusion

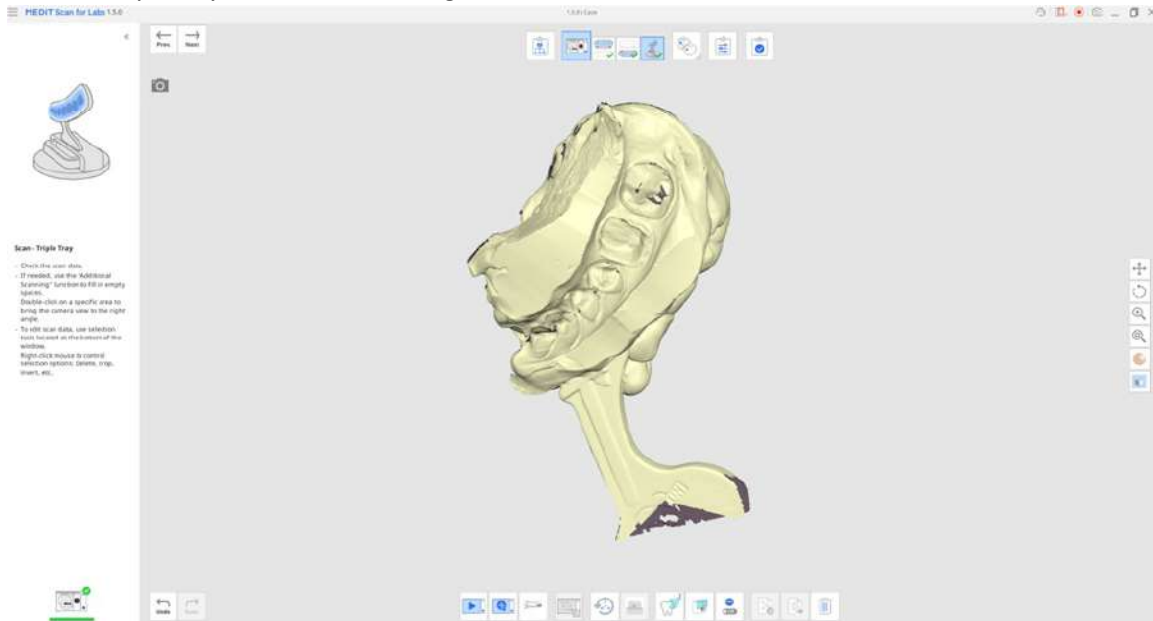Here is an example of using impression for occlusion data.

1. Select the "Impression" for Articulator Type on the Scan Strategy dialog
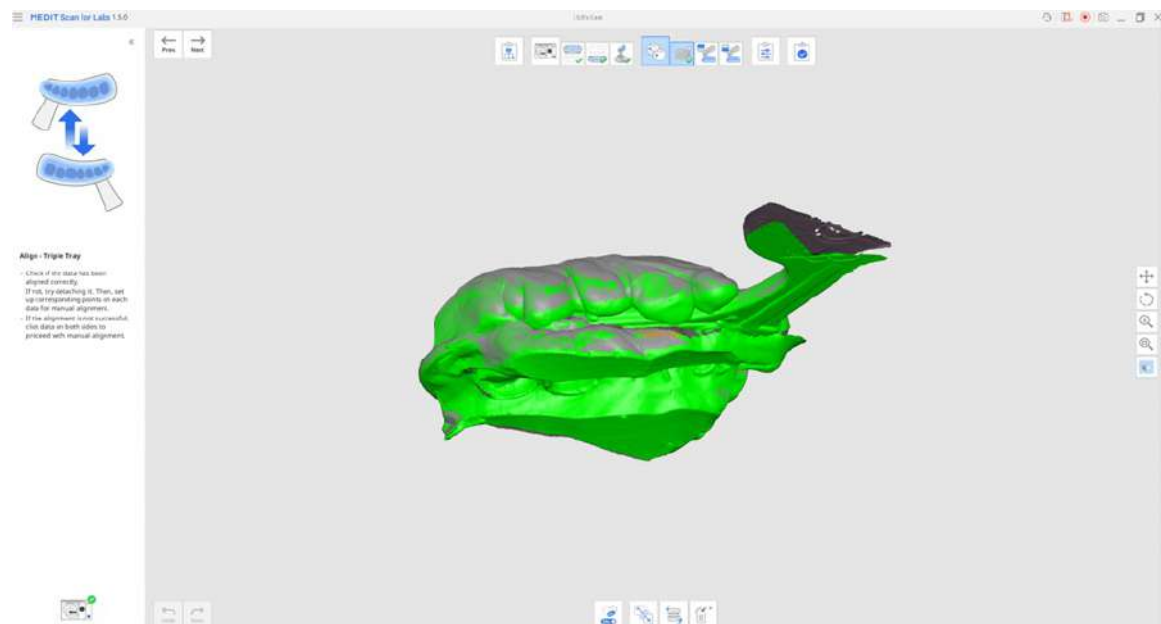
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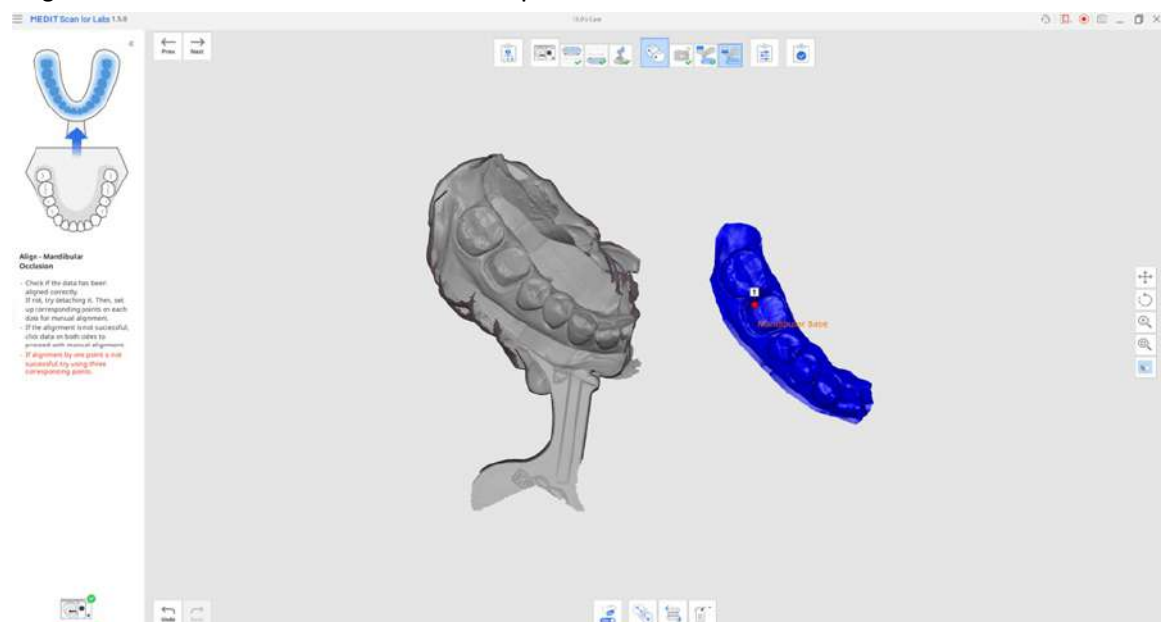2. Scan the maxilla and mandible with a model.

3. Scan the triple tray at the Occlusion stage.

4. Align the triple tray at the Align Data stage.

5. Align the maxilla and mandible data to the impression occlusion data.

6. Check if the maxilla and mandible data align properly with the impression occlusion data.