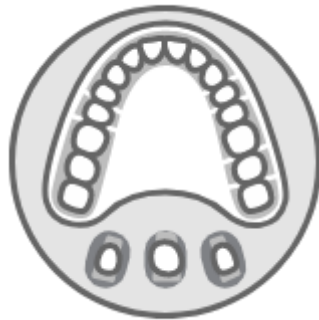


Function Manual

Medit Scan for Labs - T500/T300

# Medit Scan for Labs



Revision 3 (September 2020)

# Contents

<b>General Information</b> .....	<b>5</b>
1.1 Intended Use .....	6
1.2 Workflow .....	7
1.3 Scanner & Software .....	7
1.4 For the User.....	8
1.5 Product Installation .....	8
1.6 Components .....	9
1.7 Hardware Installation .....	10
1.8 Specifications .....	12
<b>Introduction and Overview</b> .....	<b>14</b>
2.1 Medit Scan for Labs Introduction .....	14
2.2 Minimum Requirements.....	14
2.3 Medit Link Installation .....	15
<b>Medit Scan for Labs: Instruction</b> .....	<b>18</b>
3.1 Calibration: Table Top and Intraoral Scanners.....	19
3.1.1 Table Top Scanner Calibration.....	19
3.1.2 Intraoral Scanner Calibration .....	23
3.2 3D Data Management with mouse .....	26
3.3 User Interface Overview.....	28
3.3.1 Title Bar .....	28
3.3.2 Menu .....	29
3.3.3 Settings .....	29
3.3.4 Shortcut Keys .....	32

3.4 Scan Steps .....	33
3.4.1 Basic Scan Steps.....	33
3.5 Scan Strategy .....	34
3.6 Scan Steps .....	44
3.6.1 Scan Sub-Stages.....	45
3.6.2 Data Control and Display Options .....	48
3.6.3 Scanning.....	49
3.7 Data Alignment Steps .....	58
3.7 Confirm .....	61
<b>Cases and Workflow Examples .....</b>	<b>62</b>
4.1 Scanning the bottom side of the wax-up.....	63
4.2 Scanning and Aligning Scanbody .....	68
4.3 Post and Core .....	70
4.4 Flexible Multi-die Process .....	75

# Greetings

Thank you for purchasing Medit 3D scanner.

Medit offers high quality table scanners for dental CAD/CAM, including dental plaster models, impressions and prosthesis.

With Medit T-Series Scanners, you can efficiently acquire high-quality 3D data in STL and OBJ formats. You can use our scanners with minimal training. Simply place the object in the scanner and follow the on-screen procedure to start scanning.

This manual is a complete guide for installation and usage of 3D SCANNER.

※ Note: Please read this manual thoroughly and carefully before installation and operation of the equipment and software.

# General Information

Intended Use

Workflow

Scanner and Software

## 1.1 Intended Use

The table top dental 3D scanner is intended to be used to digitally record topographical characteristics of teeth model. The system produces 3D scans for use in 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
- Replica denture
- Provisional crown and bridge
- Attachments
- Splints

## 1.2 Workflow

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

### 1) Model or impression scan

Together with the scanner itself, 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 as compared to the conventional methods of prosthesis manufacturing.

### 2) CAD processing

The prosthesis is designed using CAD program.

### 3) CAM processing

The prosthesis designed using the CAM program is converted into NC data.

### 4) Manufacturing

Prosthesis is manufactured using a machine according to the NC data.

### 5) Finishing

The finishing process for manufactured prosthesis.

## 1.3 Scanner & Software

The scanner comes equipped with the accompanying software.

### 1) **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 12 seconds.

## 2) Software: Medit Scan for Las

- Medit Scan for Labs: The accompanying software is designed to be user friendly, making it easy to acquire scanned data.

### 1.4 For the 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.

### 1.5 Product Installation

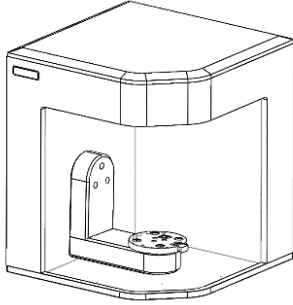
All the components required to connect the scanner with your computer are included in the package. This product is packaged carefully in order to avoid any damage and breakage during transportation.

- ※ Note: Please check all the components when you unbox the product.

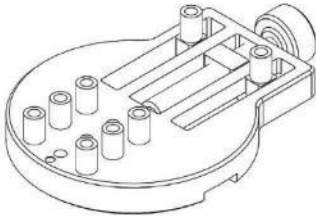


## 1.6 Components

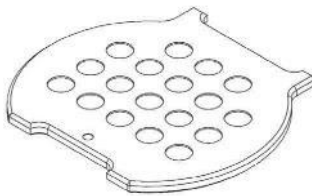
### 1. Medit T500 Scanner



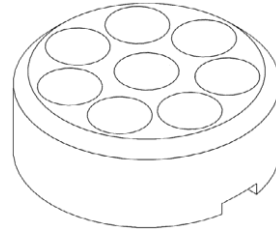
### 2. Screw Jig (2EA)



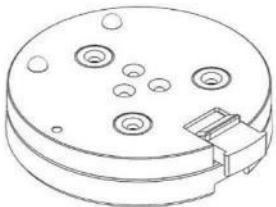
### 3. Gum Jig



### 4. Multi-die



### 5. Half Block Jig (2EA)



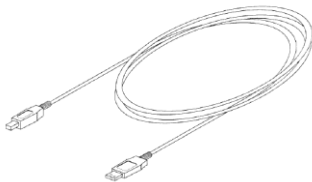
### 6. Calibration Panel



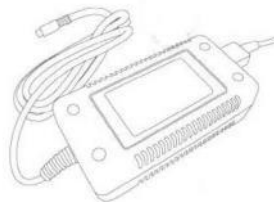
### 7. USB for Installation (Installation Guide included in the manual)



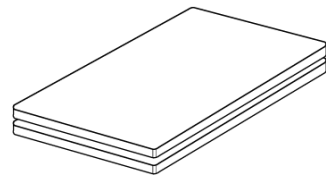
### 8. USB Cable



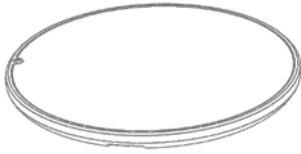
### 9. Power Cable & External Adaptor



### 10. Flexible Grip



## 11. Flexible Multi-die

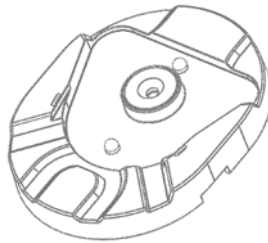


### \* Optional Components (purchased separately)

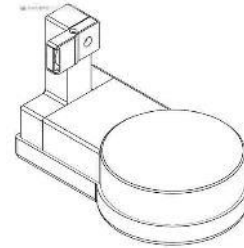
## 12. Articulator Plate



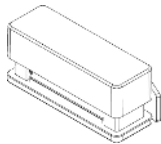
## 13. KAS Jig



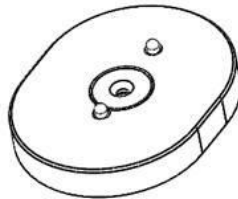
## 14. 3-Axis Arm (Impression)



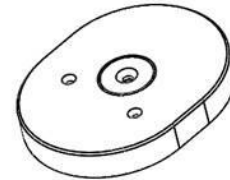
## 15. Impression Jig



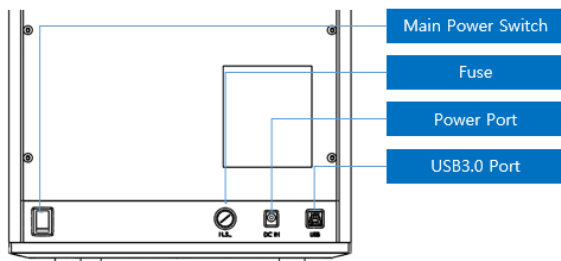
## 16. A7+ Jig



## 17. Mark330 Jig



## 1.7 Hardware Installation



- After the completion of software installation and restarting your PC, you can begin installing the hardware.

※ Caution: All the Medit T500 cables should be properly connected to the PC.

(Medit T500 includes a power cable and a USB cable.)

\* Please use USB 3.0 port only while connecting Medit T500 USB with your PC.

### 1. Connect the power cable.



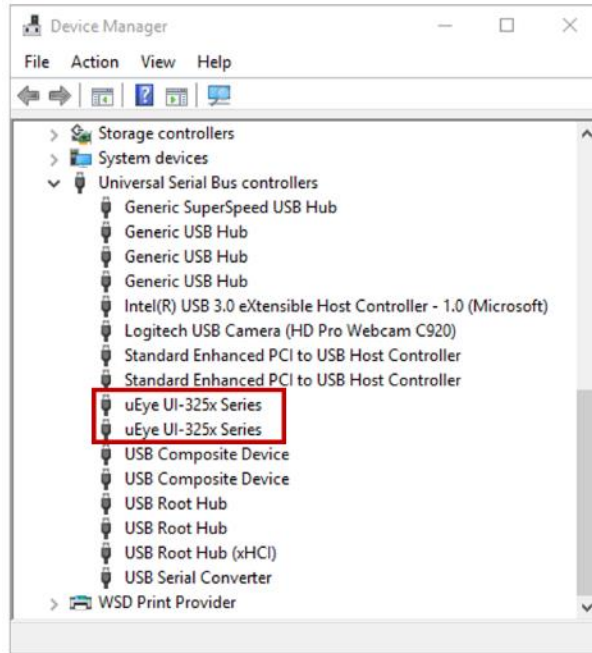
### 2. Connect USB cable via USB 3.0 (indicated with Blue color) port. (\*Important)



### 3. Turn on the switch located on the back of Medit T500 device.



- Verification of correct installation of hardware
  - ✔ Turn on the scanner and check if it is detected by the device manager on the PC.
- Verification of Camera Installation
  - ✔ Both cameras should appear in the device manager on the PC.



## 1.8 Specifications

Specification	Details
Resolution of Camera	Mono 2.0 (MP)
Point spacing	0.056 mm
Scan Area	90mm x 72mm x 60mm
Scan Principle	Phase-shifting optical triangulation
Size	290mm x 290mm x 340 mm
Weight	12 kg
Light Source	LED, 150 ANSI-lumens
<a href="#">Light color</a>	Blue LED
Color Texture	Color textures
Connection	USB 3.0 B Type
Power	AC 100-240V, 50-60 Hz
Power Consumption	STAND BY: 20W (IDLE: 35W, SCAN: 48W)
Power Requirements	POWER SUPPLY: 100-24VAC, 50/60Hz

# Introduction and Overview

Medit Scan for Labs is installed with Medit Link.

Please make sure you reboot the PC after Medit Link installation and before connecting the scanner to the PC.

## Introduction and Overview

### 2.1 Medit Scan for Labs Introduction

Medit Scan for Labs is a software program that allows to perform model and impression scans using the table top scanner series by Medit. Users can edit data, complement it with data from the intraoral scanner and prepare it for the CAD/CAM processes. Explicit explanations and guide messages are accompanying each stage on the left side of the window.

Medit Scan for Labs is to be run only on the computers that meet the specifications outlined below. Otherwise, the device may not function properly. In case Windows is not updated before the installation, USB 3.0 will not work properly.

#### ※ Cautions

- This device is designed to be connected via USB 3.0 port only. Please make sure you are using USB 3.0 for the connection.
- This device is compatible only with Windows 10 and above. It cannot be used on Mac Operating Systems.
- Before installing the scanning S/W, please make sure that the Windows version in use, mainboard, VGA card and USB drivers are up-to-date.

### 2.2 Minimum Requirements

#### [Minimum Requirements]

	Notebook	Desktop
CPU	Intel Core i7-8750H and above	Intel Core i7-8700K and above
RAM	16 GB and above	16 GB and above
Graphic	Nvidia Geforce GTX 1060 and above	Nvidia Geforce GTX 1060 and above
OS	Window 10 64-bit	

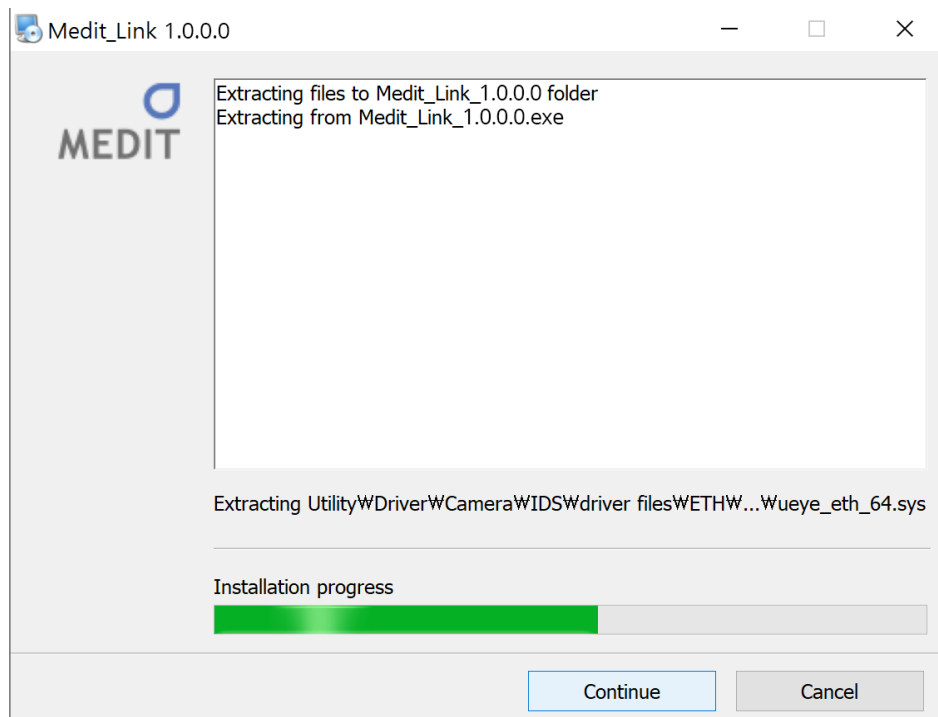
### [Recommended Specifications]

	Notebook	Desktop
CPU	Intel Core i7-8750H and above	Intel Core i7-8700K and above
RAM	32 GB and above	32 GB and above
Graphic	Nvidia Geforce GTX 1060 6G and above	Nvidia Geforce GTX 1060 6G and above
OS	Window 10 64-bit	

## 2.3 Medit Link Installation

Medit Scan for Labs is installed together with Medit Link. Follow the Medit Link instruction for more details.

- Run Medit\_Link\_X.X.X.X.exe file.



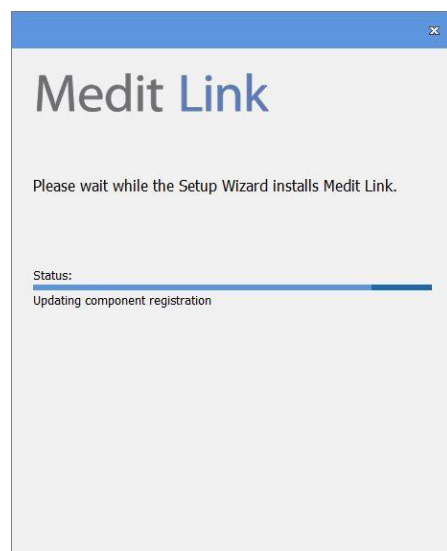
- Select the program installation folder. Please agree to the 'Terms and Conditions' after reading them carefully and then click 'Install'.



- The installation might not proceed normally if the scanner is connected to the PC. Please make sure you disconnect the USB 3.0 cable from your PC before installation.



- The program will be installed automatically, and it may take a few minutes. Do not turn off or unplug your PC until the installation is complete.





- Please restart your PC after the installation is complete. If you do not have the scanner, you can proceed without restarting the PC.



- ⚠ Caution: If you do not restart your PC after the installation is complete, the scanner may not function properly.

# Medit Scan for Labs: Instruction

Installation Overview

3D Data Management

User Interface Overview

Scan Steps

Scan Strategy

Scan Steps: Scan, Align, Confirm

## Medit Scan for Labs: Instruction

### 3.1 Calibration: Table Top and Intraoral Scanners

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

Please calibrate the device if:

- The quality of scan data has decreased as compared to the previous scans.
- The external conditions such as the temperature of device has changed during use.
- If it is already past the configured calibration period.
  - To set the calibration period, go to Menu > Settings > Calibration Period (Days) option.



*The calibration panel is a very sensitive component*

Do not touch the calibration panel directly. Please check the calibration panel if the calibration process does not proceed normally. In case the calibration panel gets contaminated, contact the manufacturer or your local service provider.

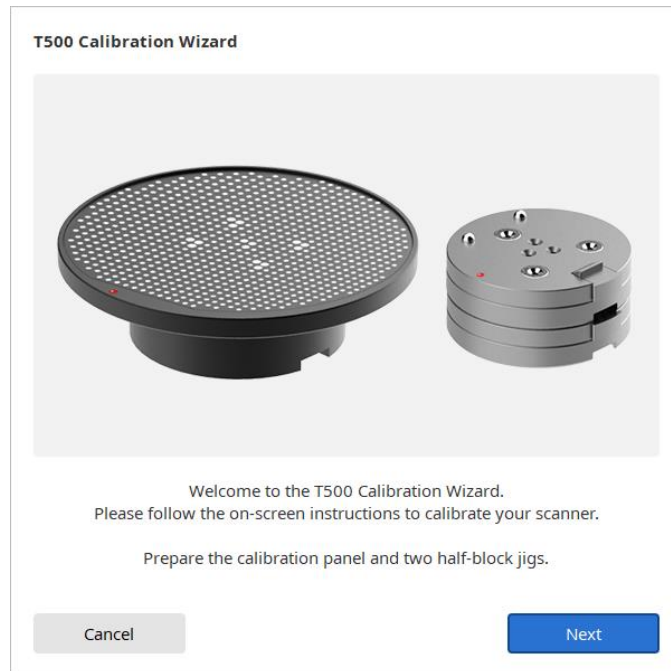


*It is recommended to calibrate the device periodically*

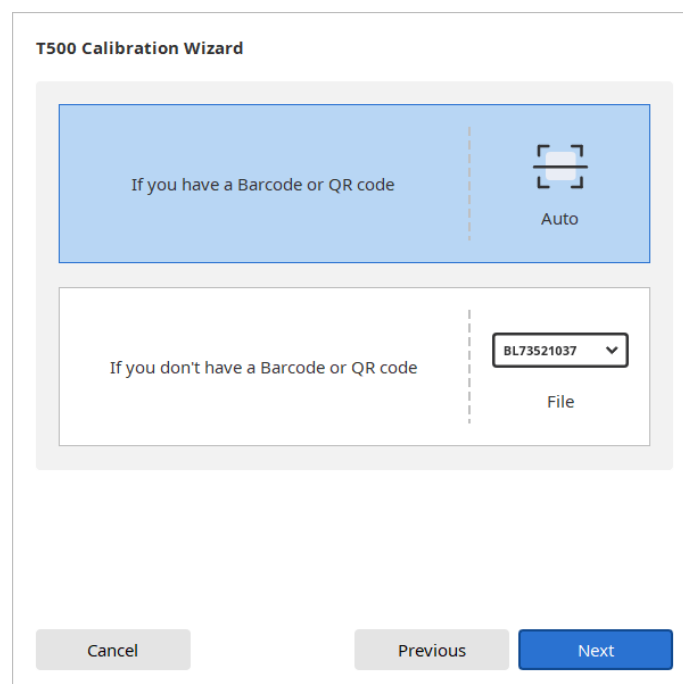
Go to Menu > Settings and configure the calibration period in Calibration Period (Days) option. The default calibration period is 30 days.

#### 3.1.1 Table Top Scanner Calibration

- Turn the device on and make sure that it is discoverable by the program.
- Click on the scanner icon in the bottom left corner to run the Calibration Wizard.
- Prepare and place the calibration panel as shown on the picture.

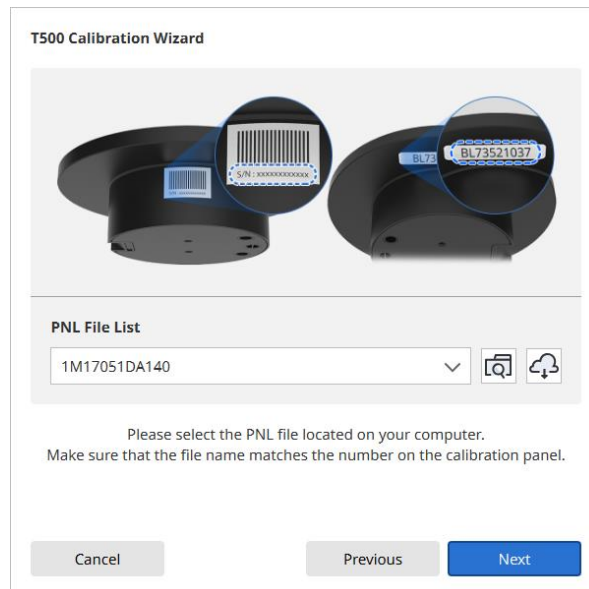




- Select one of the two calibration options: 1) Automatic calibration using the code located on the back side of the calibration panel; or 2) Manual calibration (you have to have the corresponding PNL file to be able to run Manual Calibration), and click 'Next'.



- For Automatic Calibration, the process will be done automatically.

- For Manual Calibration, select the corresponding PNL file from the file list after checking the serial number of calibration panel. Please check if you have a 'PNL' file on the PC or installation USB, in case it cannot be found on the list.



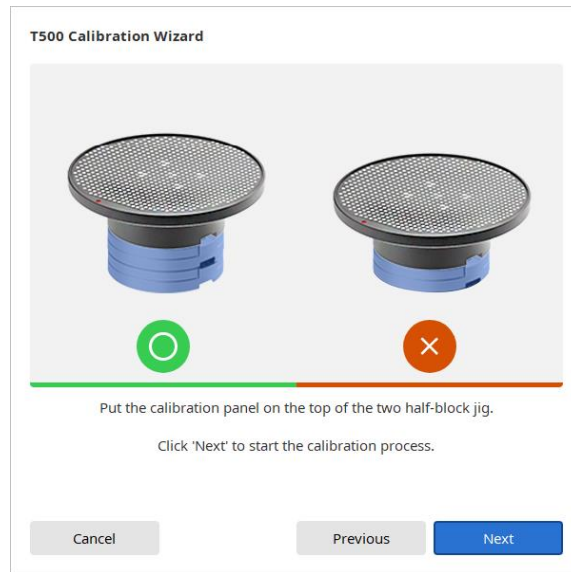
- If you have the file, click  to search for it.
- If you do not have the file, click  and enter the serial number of the scanner.

**Input Number**

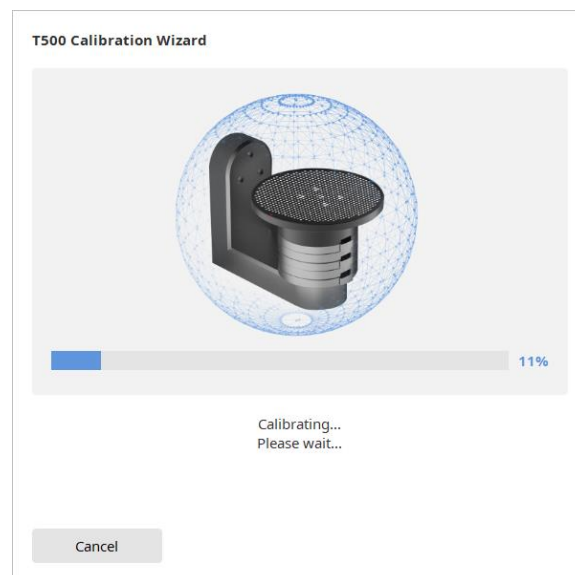
Input scanner serial number.

Cancel OK

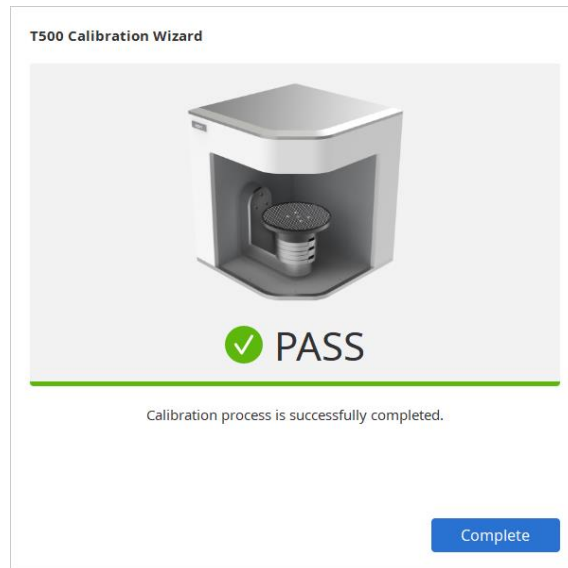
- Put the calibration panel on top of the two half-block jigs.



- Calibration process might take a few minutes. Please do not touch the scanner.





- Wait until the calibration is completed successfully.

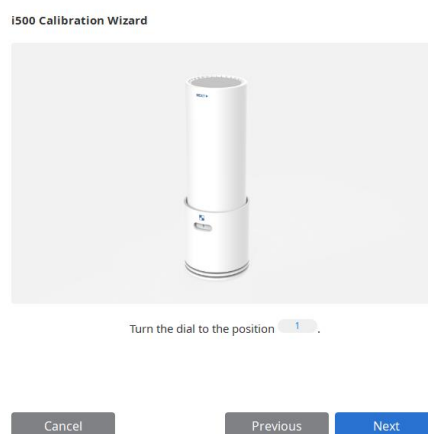


### 3.1.2 Intraoral Scanner Calibration

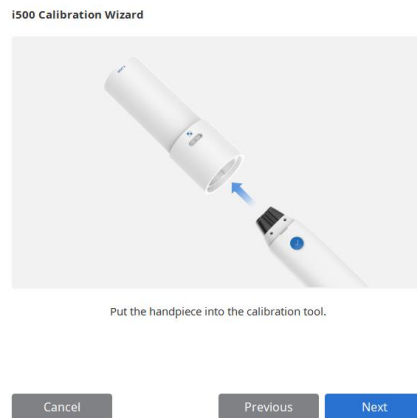
- Turn the device on and make sure that it is discoverable by the program.



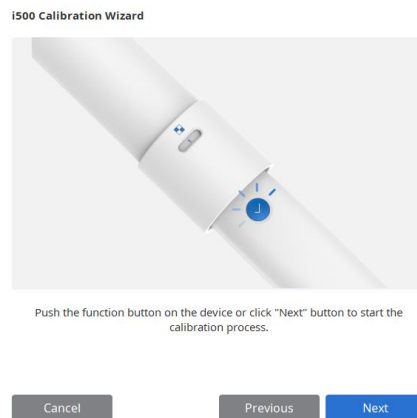
- Click intraoral scanner icon  on the bottom left to run the Calibration Wizard.
- Prepare the calibration tool.
- Set the dial of calibration tool to position .



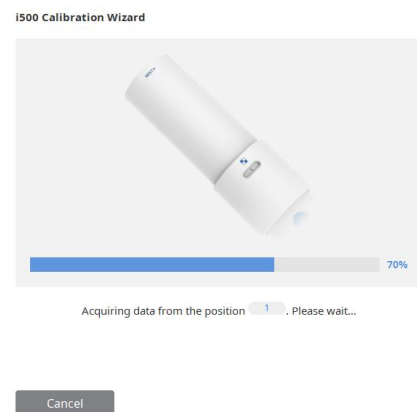
- Insert the handpiece into the calibration tool.



- Click 'Next' to start the calibration.



- If you properly inserted the handpiece, data will be automatically obtained from position **1**.



- After the completion of data acquisition at position **1**, move the dial to the next position according to on-screen instructions.



i500 Calibration Wizard

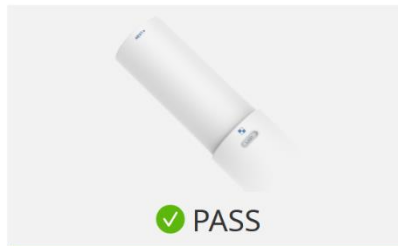


Turn the dial to the position 2.

Cancel

- Repeat the above process for positions 2 ~ 8 and LAST.
- After the completion of data acquisition at the LAST position, calibration result will be displayed.

i500 Calibration Wizard










Calibration process is successfully completed.


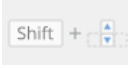

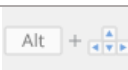

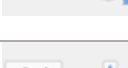
Complete


## 3.2 3D Data Management with mouse

With mouse:

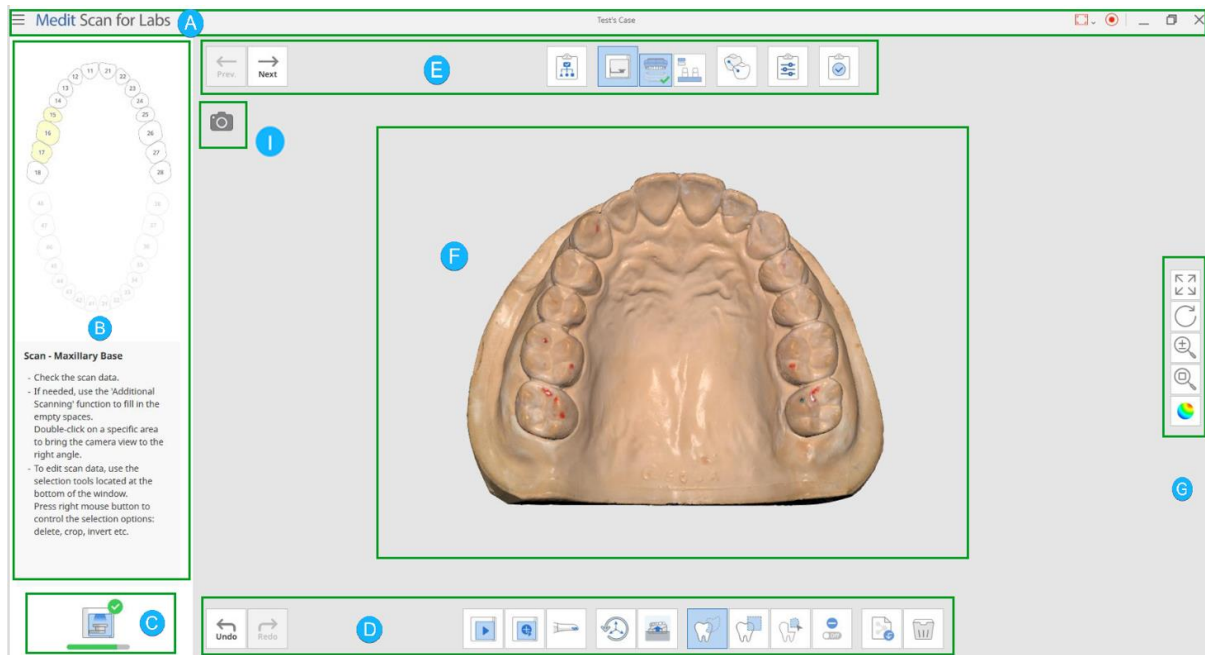
Button	Action	Use	Image
Left	Click	Selects or deletes the entities in view screen when using the polyline selection or polyline trimming tool.	
	Drag	Selects or deletes entities in view screen when using Brush selection or Brush trimming tool.	
	Double Click	Zooms in a specific part by double clicking on the specific spot. Places data in the center by double clicking on the background.	
Wheel	Drag	Moves the data in view screen.	
	Scroll	Zooms in/out the data in view screen.	
Right	Click	For data tree, allows to access data view options.	
	Drag	Rotates data in view screen.	

With mouse and keyboard:

Button	Action	Use	Image
Shift	Left Click and Drag	Zooms in / zooms out the model.	
	Up and Down Keys	Zooms in / zooms out the model.	
Alt	Left Click and Drag	Rotates the model.	
	Up, Down, Left and Right Keys	Rotates the model.	
Ctrl	Left Click and Drag	Moves the model.	
	Up, Down, Left and Right Keys	Moves the model.	

 For keyboard shortcuts, go to **Settings** → **Shortcuts**.

### 3.3 User Interface Overview



- A. Title Bar
- B. Guide Image and Message
- C. Scanner Status
- D. Toolbox
- E. Stages Control
- F. Model View
- G. Side Toolbar
- H. Scanner Camera View

#### 3.3.1 Title Bar

The title bar includes menu and options such as minimize/maximize/restore, exit; shows case information.

#### Menu

The menu includes basic program functions like settings, information, help contents.

#### Minimize

Minimizes the program window.


#### Maximize/Restore

Maximizes/Restores the program window.




#### Exit

Exits the program.

### 3.3.2 Menu

If you click , you can see all the functions included in the menu.

---

	<b>Settings</b>	Allows to set scan and calibration options for both table top and intraoral scanners.
	<b>Help Contents</b>	Opens the manual.
	<b>About</b>	Information about the software program and version details.

---

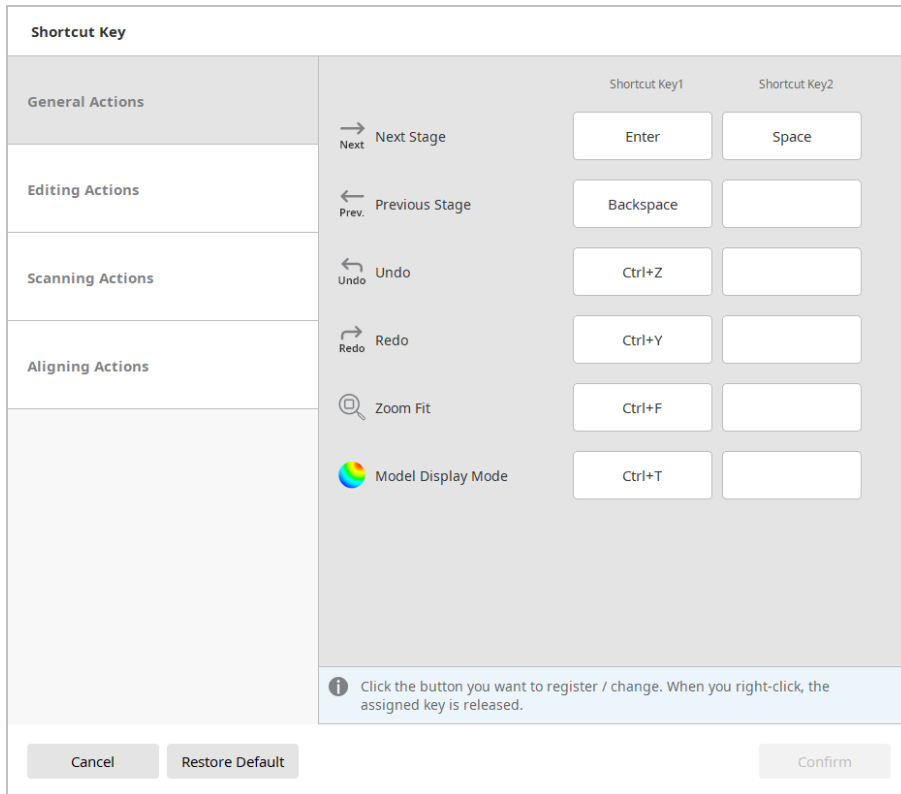
### 3.3.3 Settings

#### General Settings

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	You can adjust model brightness.
<b>Adjust Color Texture</b>	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.
<b>Anonymous Usage Statistics</b>	Select whether you want to send usage statistics anonymously.
<b>Shortcut Keys</b>	Check out the default shortcut keys and configure your own.

---



### ※ About Usage Statistics Collection

We strive to provide the best user experience and improve our products by collecting the following information:

- Hardware and software settings, information like operating system and graphics card information;
- Software usage patterns;
- Different diagnostic information for software and hardware.

Usage statistics are collected to analyze software usage patterns and frequently used features for the improvement of the product and user experience.

Medit does not collect users' personal information (username, company name, MAC address).

## Table Top Scanner

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Calibration Period (Days)	Configure the calibration period of the tabletop scanner.
Scan Path	Configure the scan route for the scanning process. Choosing the detailed scan path will take more time, however will more likely minimize the need for additional scanning.
Sleep Mode	Select the time after which the scanner will go in to Sleep Mode.

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## i500

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Calibration Period (Days)	Configure the calibration period for the i500 – choose any given period (1 day; 3 days; 7 days; 14 days or 30 days).
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## Scan Data

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Post-Processing Type	Configure the post-processing type based on the case (orthodontic or prosthetic): speed-based type will allow to reduce the waiting time, while quality-based type might take a while longer. None of the types affect the accuracy of the scan.
Data Display Quality	This option controls the display quality of the scan data, while not having any effect on the final result or the scan data accuracy.  If the option is set to 'High', it may affect the overall scanning performance.
File Size – Base	Allows to adjust the file size of the data acquired at Base scan stages.
File Size – Prepared Teeth	Allows to adjust the file size of the data acquired at Prepped Teeth scan stages.
Export Occlusion Scan Data	Select whether you want the occlusion data to be saved as a separate file.
Align Occlusion Scan Automatically	Select whether you want the data acquired at the Occlusion stage be aligned automatically or you would like to align it manually.
Align Prep. Scan Data Automatically	Select whether you want the prepared teeth data to be aligned automatically or you would like to align it manually.
Cover Empty Spaces Using the Color of	Turn this option on if you'd like to fill in the empty spaces in scan data with the color of the data located on its sides.

---

## Neighboring Data

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Use GPU	Utilize this option to improve the overall computing performance by using the GPU (graphics processing unit).
Restore To Default	All the configured settings are set to default.

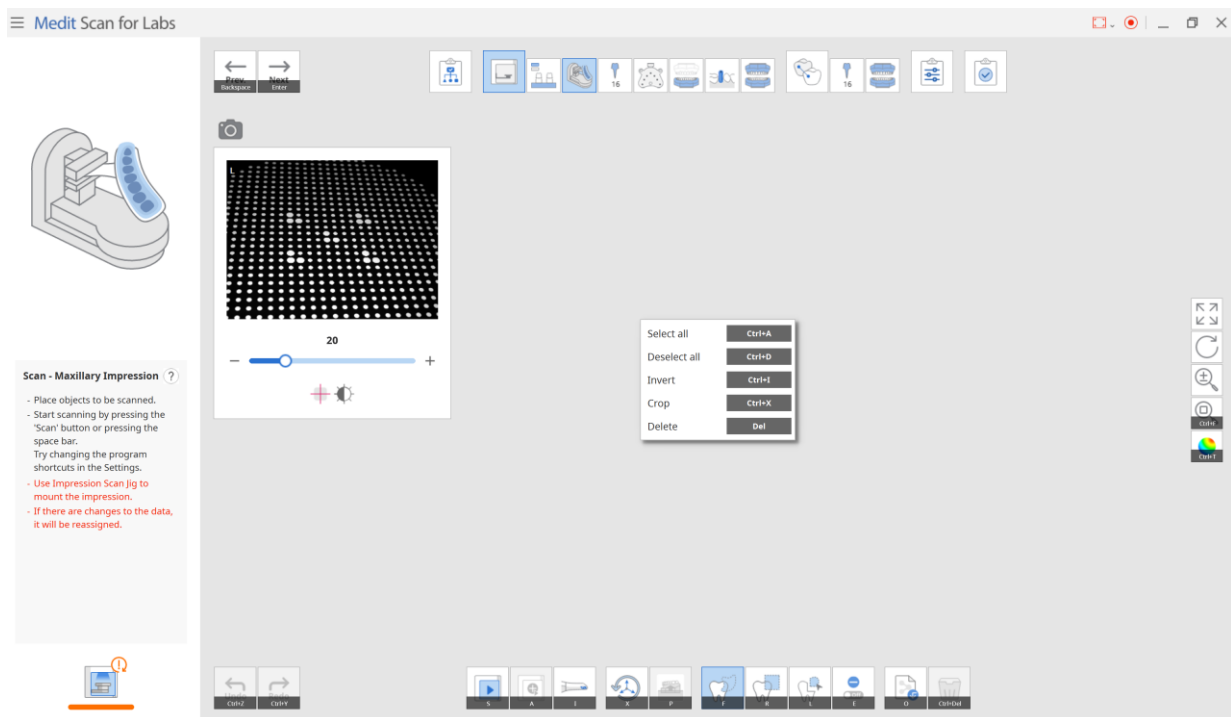
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### 3.3.4 Shortcut Keys

You can use shortcut keys for most of the Medit Scan for Labs functions.

These shortcut keys can be changed in Settings by selecting and then pressing the new key on the keyboard. Two shortcut keys can be used for the same function.

- Press 'F1' key to see the list of configured keys and their functions.










## 3.4 Scan Steps

### 3.4.1 Basic Scan Steps

There are five basic scan steps, presented below, that can be further divided into sub-steps and complemented with additional scan stages based on the scanning strategy set at the first step.



See the sub-steps by clicking on Scan and Align Data steps icon.

	<b>Scan Strategy</b>	Allows to set the strategy for Flexible Multi-die, model, impression scanning. Select the appropriate scan strategy for required prosthesis.
	<b>Scan</b>	Allows to perform the scanning process by stage. The scanning is done based on the set strategy.
	<b>Align Data</b>	Allows to manually align various scanned data. Align various scanned data (post and core, wax-up, occlusion etc..) with the model.
	<b>Confirm</b>	Allows to check the data and edit it if necessary.
	<b>Merge</b>	Completes scanning and starts a post-processing for final results.



You can change the order of the steps as well by dragging the scan stages icons, or a set of them, with your mouse. You will see the available spaces marked in green.

### 3.5 Scan Strategy

Once a scanner is connected properly to the PC, the 'Scan Strategy' page is displayed.

Select the options that will define the scanning process, such as scan type, occlusion scan strategy, scanbody library alignment, wax-up scan etc.



You can change the strategy at any stage, and in case you do so, you will be asked how to utilize already acquired data.



#### ① Scan Type Selection



**Flexible  
Multi-die**

Select this type for scanning the model using flexible multi-die which is able to fit not just a base but dies as well. For this scan type, you do not need to have a set pre-defined strategy. You can identify the data acquired from the flexible multi-die after performing the scan.



**Model**

Select this type for scanning the model.








**Impression**

Select this type for scanning the impression.

## ② Scan Stage Options

Based on the chosen options, scan steps will be added to the basic steps.


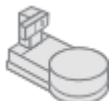

---

	<b>Wax-up (Bottom Side) Scan</b>	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 step.
	<b>Scanbody Library Alignment</b>	Select this option to perform the alignment of the acquired scanbody data with the pre-set scanbody library.  Assign a scanbody for each tooth based on the form information set in Medit Link, and their 3D image will be pulled out from the pre-set scanbody library.
	<b>Post and Core Scan</b>	Select this option for post and core cases where you need to scan and merge the base and impression scans in order to get the complete and reliable scan data.  Alternatively, use the intraoral scanner to get the complete data. Connect it to the PC, make sure it is calibrated, and then press the 'Scan Using i500' button.

---

## ③ Scan Options

---

	<b>Texture</b>	Select this option if you want the scan data to have the surface color.
	<b>Impression 3-Axes Arm</b>	While scanning the Triple Tray Impressions, if you turn this option on and then scan, the Triple Tray automatically turns over once for the scan.
	<b>Movement Marker</b>	This function tracks the movement of Mandible.








---

▷ [Example] Texture



④ Occlusion Strategy



Select a suitable accessory for the occlusion relationship scan.

	<p><b>Plate</b></p>	<p>Select this option to use the solely the plate and any articulator except the five ones below. Select this option to scan the occlusion between Maxilla and Mandible.</p>
	<p><b>etc.</b></p>	<p>Select this option when you want to scan the occlusion using the jig only.</p>
	<p><b>ARTEX</b></p>	<p>Select this option if you use ARTEX articulator.</p>
	<p><b>KAVO</b></p>	<p>Select this option if you use KAVO articulator.</p>
	<p><b>SAM</b></p>	<p>Select this option if you use SAM articulator.</p>
	<p><b>MARK330</b></p>	<p>Select this option if you use MARK330 articulator.</p>
	<p><b>A7+</b></p>	<p>Select this option if you use A7+ articulator.</p>

## Scanning Mandibular Base

Having chosen the articulator type, you will be asked to choose how you would like to scan the mandibular base.

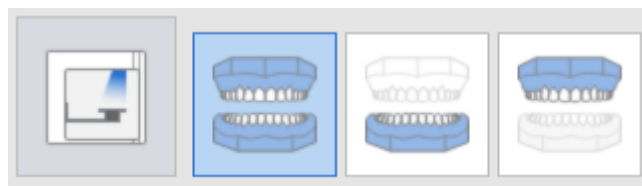
---

	<b>Articulator Jig</b>	Select this option to use the articulator jig to install the mandibular base and move it to the position of the virtual articulator.
	<b>Virtual Mounting Plate</b>	In case there is no articulator jig, a part of mounting plate can be used for data alignment and moving the model to the virtual articulator.

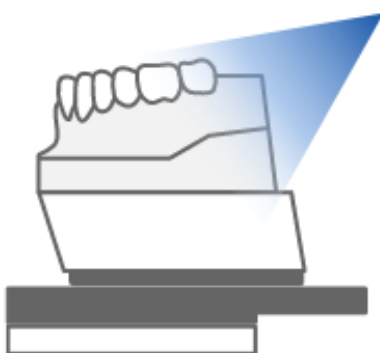
---

### ▷ [Example] Articulator Jig Usage Example

- The scan steps are as following:



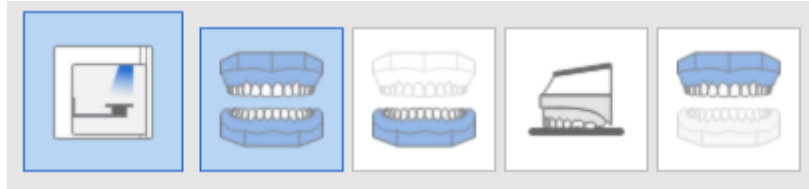
- The scan is performed by using the jig to place mandible model as shown on the picture below.



KAS

▷ [Example] Virtual Mounting Plate

- The scan steps are as following:



- The scan is performed by flipping mandible model in the Mounting Plate step as shown on the picture below.



Maxilla and Mandible



Scanning using Flexible multi-die

**Alignment:** Select how prepared teeth are aligned with the base.

	<b>Solid Base</b>	Select this option to scan prepared teeth inside the base.
	<b>Occlusion</b>	Select this option to scan the prepared teeth outside of the base on the flexible multi-die. Put them back on to the base when scanning occlusion for alignment.
	<b>Base</b>	Select this option to scan the prepared teeth both separately at Prepared Teeth step, and on the base while scanning the arch. Align the data at the Align stage.


**Scanbody:** Select the scanning strategy for the scanbodies.

---

	<b>All</b>	Select this option to scan scanbodies together with the base.  When using flexible multi-die, choose the 'Model' scan type if you want to scan scanbodies by groups.
---	------------	--



---

If you choose to use flexible multi-die, only '**All**' option will be available.

 To get more reliable data for the cases where there are multiple scanbodies in the row, the program will automatically separate them into groups.

**Gingiva:** Select to perform the scan with or without gingiva.

---

	<b>With Gum</b>	Select this option to scan and align gingiva separately.
	<b>Without Gum</b>	In cases where gingiva is absent, there is no separate alignment process for gingiva.

---

# Model

**Scanbody Alignment:** Select the scanning strategy for scanbodies.



**All**

Merges and aligns the data from scanbody and base simultaneously.



**Group**

Select this option to divide the scanning process into three stages: Scanbody without base, Scanbody Group 1, Scanbody Group 2. Scan them separately by category and align them at Align Data step.



This option can be selected when scanbodies are overlapped or when base data is needed for the missing part of scanbody.

## ▷ [Example] Scanning Process

<p><b>All</b></p>	
<p><b>Group</b></p>	



**Prepared Teeth:** Select the data to be aligned with preparation tooth scan data.



**Multi-die**

Select this option to scan the prepared teeth all together using multi-die.



**Base**

Select this option to scan the preparation tooth in the base. Remove all the adjacent teeth from the base and perform the scan by dividing preparation teeth into Group 1 and Group 2.



**Solid**



Select this option when the prepared tooth cannot be detached from the solid model. There is no separate scan stage for prepared tooth, but the scanning can be done using many cuts.

▷ [Example] Scanning Process

Multi-die	
Base	
Solid	

**Interproximal Area Scan:** Select this option to acquire additional data for the interproximal areas.

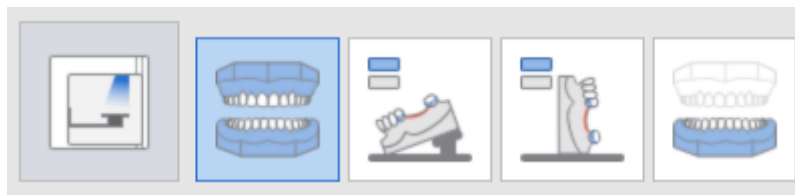
---

Off	Off	Scan the arch using the general method.
		
<hr/>		
On	On	Select this option for the cases that require additional lingual measurements. Put the model on the buccal side to scan it in the upright position.
		
		Align the data after performing the scan.

---

▷ [Example] Interproximal Scanning

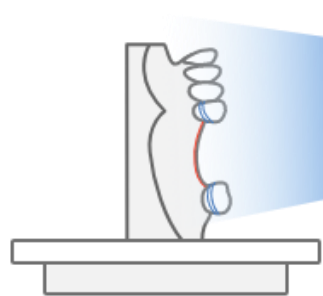
- The scan stages are shown below:



The lingual interproximal scan is performed by tilting the model



For buccal interproximal scan, the model is scanned in the upright position



## Impression

**Impression Type:** Select the type of impression trays.



**Triple Tray**

Select this option to acquire impression data from Triple Tray.



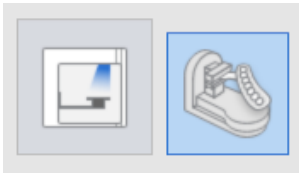

**Metal & Triple Tray**

Select this option to acquire impression using the scan data of two Metal Trays and a Triple Tray.



Please note that in this case alignment accuracy is not guaranteed.

### ▷ [Example] Impression Scanning

Triple Tray	
Metal & Triple Tray	

**Scan Individual Stump-die:** Scanning impression and prepared teeth.



**Off**

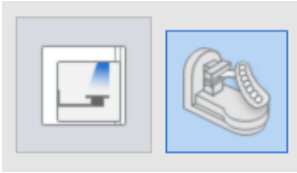
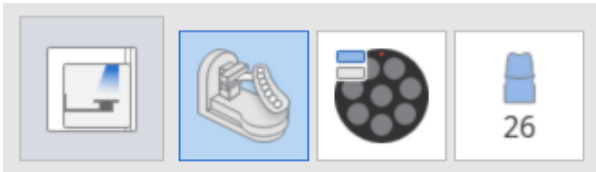
Select this option to scan the impression only.




**On**

Select this option to scan both impression and the prepared teeth on the flexible multi-die.


▷ [Example] Individual Stump-die Scanning

Off	
On	

### 3.6 Scan Steps

 The sequence can be changed for each arch.













 You can save the new sequence of steps and use for next scan.









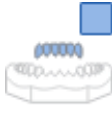

 Medit Scan for Labs provides two options for performing a scan with already existing data: 1) Re-scan ('Scan') and 2) Add to the existing data ('Add Another Scanbody', 'Additional Scan'). The first option is to be chosen when you want to delete all the existing data and re-scan, while the second option allows to keep the existing data and only scan the newly added parts.

### 3.6.1 Scan Sub-Stages








The sub-stages and their number are based on the scan strategy you set for the case.

Interproximal Area Scan		
	<b>Interproximal Area (Mandible; Buccal)</b>	Allows to scan the buccal interproximal areas in Mandible.
	<b>Interproximal Area (Maxilla; Buccal)</b>	Allows to scan the buccal interproximal areas in Maxilla.
	<b>Interproximal Area (Mandible; Lingual)</b>	Allows to scan the lingual interproximal areas in Mandible.
	<b>Interproximal Area (Maxilla; Lingual)</b>	Allows to scan the lingual interproximal areas in Maxilla.
Multi-die Scan		
	<b>Mandibular Multi-die</b>	Allows to scan mandibular prepared teeth in the multi-die.
	<b>Maxillary Multi-die</b>	Allows to scan maxillary prepared teeth in the multi-die.
	<b>Extracted Preparation Tooth</b>	Allows to set the location of extracted prepared tooth in Flexible Multi-die. The number of each tooth appears under the icon.
	<b>Occlusion Bite</b>	Allows to scan bite materials placed on the arch model.
Gingiva Scan		
	<b>Gingiva (Mandible)</b>	Allows to scan mandibular gingiva materials.
	<b>Gingiva (Maxilla)</b>	Allows to scan maxillary gingiva materials.

	<b>Mandibular Base (Articulator Jig)</b>	Allows to scan mandibular base with articulator jig.
	<b>Movement Marker</b>	Allows to place and scan a movement marker in maxillary model.
	<b>Post</b>	Allows to insert and scan an extracted post and core. The number of each preparation tooth appears under the icon.
	<b>Scanbody</b>	Allows to insert and scan an extracted Scanbody. The number of each preparation tooth appears under the icon.
	<b>Mounting Plate</b>	Allows to scan the bottom side of the mounting plate.
<b>Impression Scan</b>		
	<b>Impression (Mandible)</b>	Allows to scan mandibular impression.
	<b>Impression (Maxillary)</b>	Allows to scan maxillary impression.
	<b>Denture (Mandible; Inner Surface)</b>	Allows to scan the inner surface of mandibular denture.
	<b>Denture (Mandible; Outer Surface)</b>	Allows to scan the outer surface of mandibular denture.
	<b>Denture (Maxilla; Inner Surface)</b>	Allows to scan the inner surface of maxillary denture.
	<b>Denture (Maxilla; Outer Surface)</b>	Allows to scan the outer surface of maxillary denture.
	<b>Occlusion</b>	Allows to scan the occlusion.

	<b>Prepared Teeth (Mandible; Base)</b>	Allows to scan prepared teeth in Mandible by placing them on the base.
	<b>Prepared Teeth (Maxilla; Base)</b>	Allows to scan prepared teeth in Maxilla by placing them on the base.
	<b>Mandibular Scanbody</b>	Allows to scan a scanbody placed in the Mandible model.
	<b>Maxillary Scanbody</b>	Allows to scan a scanbody placed in the Maxilla model.
	<b>Pre-operation Model (Mandible)</b>	Allows to scan the pre-operation model for Mandible.
	<b>Pre-operation Model (Maxilla)</b>	Allows to scan the pre-operation model for Maxilla.
<b>Wax-up Scan</b>		
	<b>Wax-up (Mandible; Bottom Side)</b>	Allows to scan the bottom side of a wax-up in Mandible. Edit the scan data to remove the unnecessary parts.
	<b>Wax-up (Maxilla; Bottom Side)</b>	Allows to scan the bottom side of a wax-up in Maxilla. Edit the scan data to remove the unnecessary parts.
	<b>Wax-up (Mandible)</b>	Allows to scan a mandibular wax-up after placing it on the model.
	<b>Wax-up (Maxilla)</b>	Allows to scan a maxillary wax-up after placing it on the model.

### 3.6.2 Data Control and Display Options

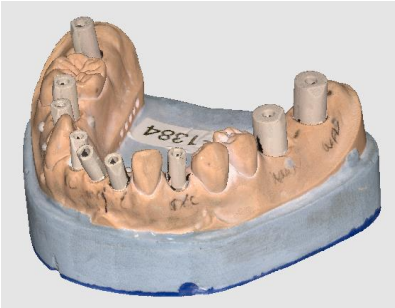
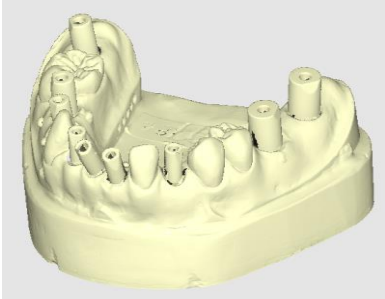
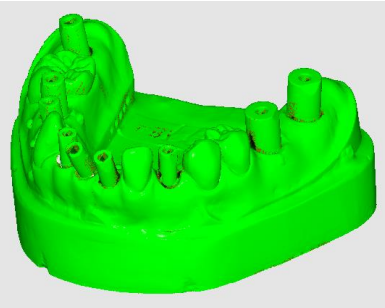
	<b>Move</b>	Moves scan data.
	<b>Rotate</b>	Rotates scan data.
	<b>Zoom In/Out</b>	Zooms data in and out.
	<b>Texture On</b>	Applies various texture colors to the model.
	<b>Texture Off</b>	Applies single texture color to the model.
	<b>Reliability Map</b>	Applies red and green colors to the model to indicate the reliability of scan data. The part with higher reliability is shown as green color.  Perform additional scanning to remove the less reliable areas.



These data control tools are especially useful while working with touch screen.



▷ [Example] Texture

Texture On	 A 3D model of a dental arch with a realistic, textured appearance. The teeth and base are rendered in naturalistic colors like orange, brown, and blue.
Texture Off	 A 3D model of a dental arch rendered in a uniform, flat yellow color, showing the underlying geometry without texture.
Reliability Map	 A 3D model of a dental arch rendered in a uniform, bright green color, representing a reliability map.

### 3.6.3 Scanning




Scan

Starts the scanning process.

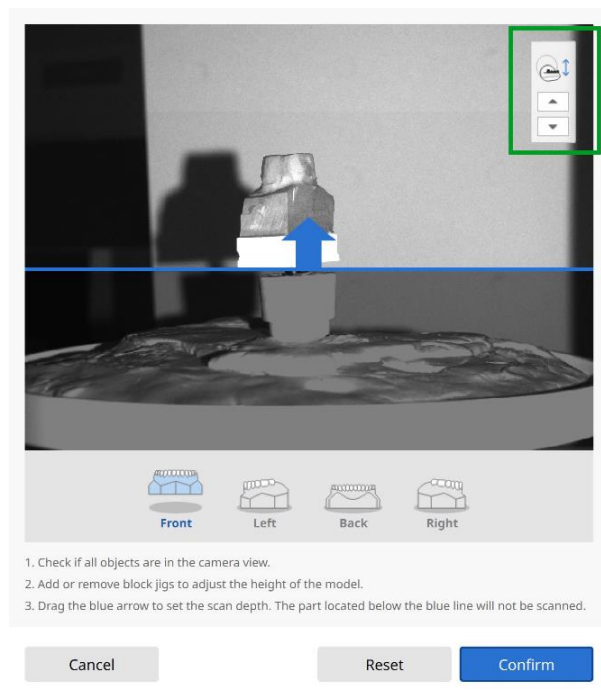
- Place the model in the scanner and press 'Scan'.



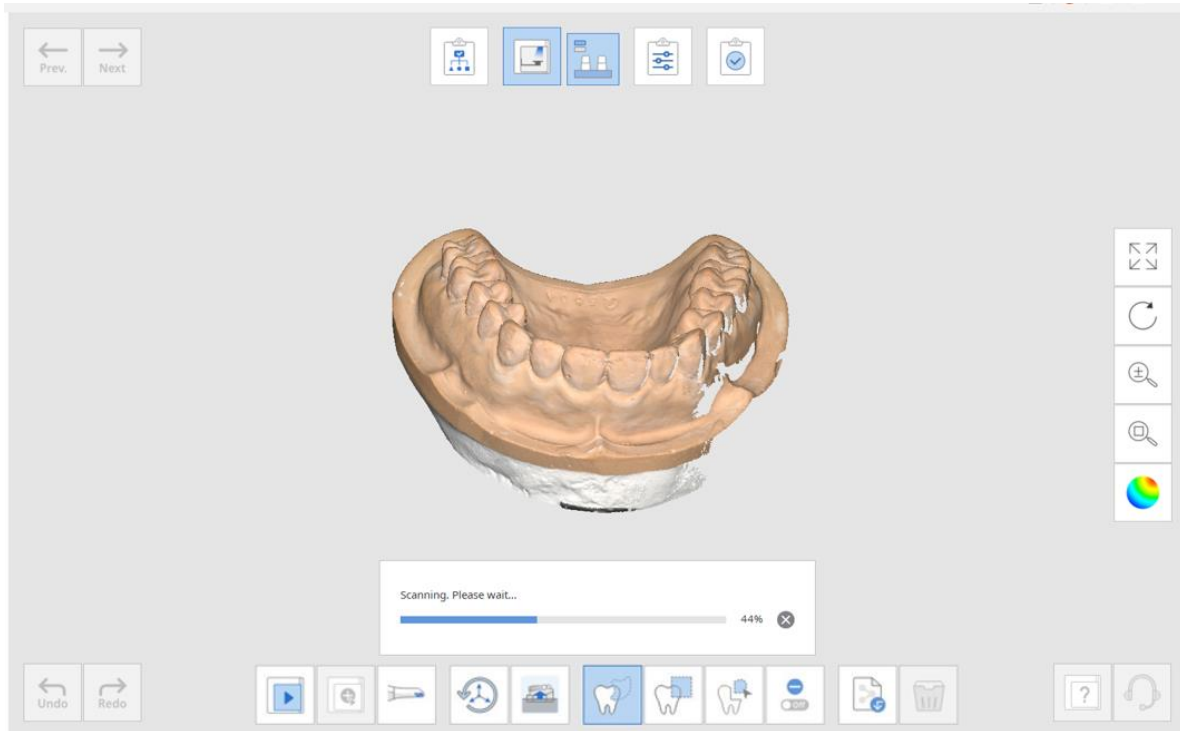
Before scanning, make sure that 1) the model is facing the cameras; 2) the articulator type settings are same across all linked programs (Medit Link, design program etc.).

 Try adjusting the Medit Scan for Labs shortcuts for all major functions in the Settings. By default, 'Space' key is set for 'Scan'.

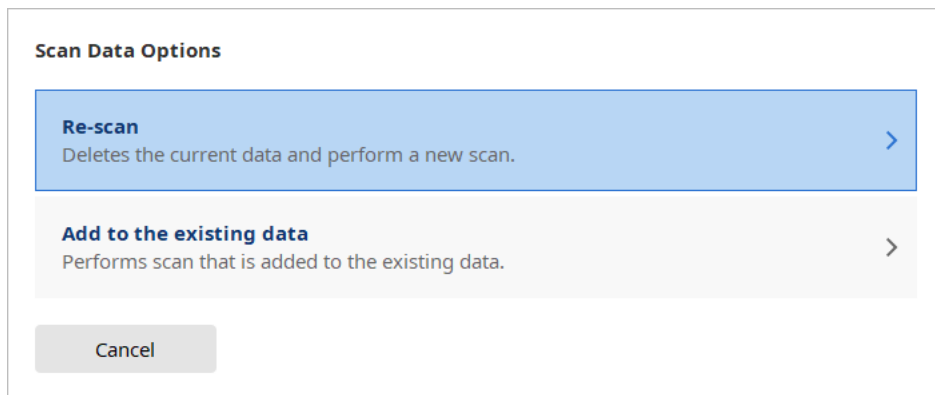
- Before the scan starts, you will be asked to adjust the scan area.
- Please make sure that the area and side of model you want to scan fits in the camera view. Use the blue line to set the appropriate height and press the 'Confirm' button.
- You can adjust the height of the axes manually by using the buttons located at the right top corner of the window.



- The scan starts according to the specified scan path as shown by the image below. Do not touch the scanner while the scan is in progress. It will take a few seconds to complete.



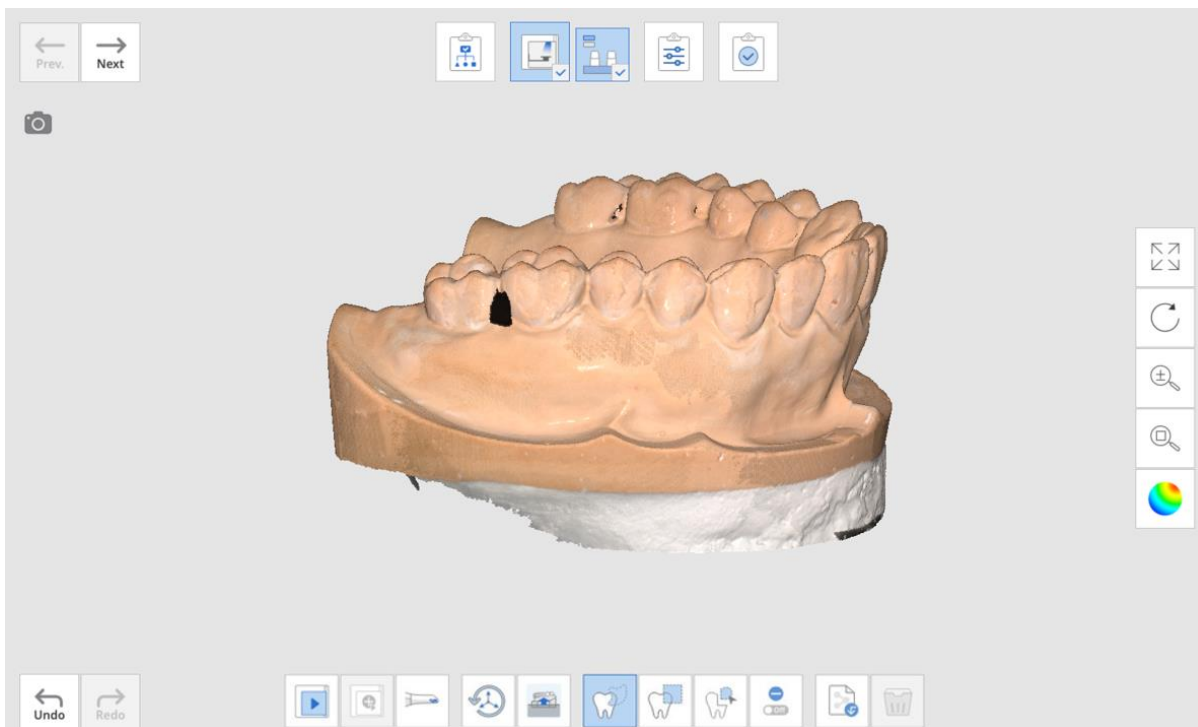
- The following message appears if you click 'Scan' once the scanning is complete. You can choose to delete the scan data or acquire additional data.



### Additional Scanning

Allows to get additional data on the specific area on the model without replacing the existing one.

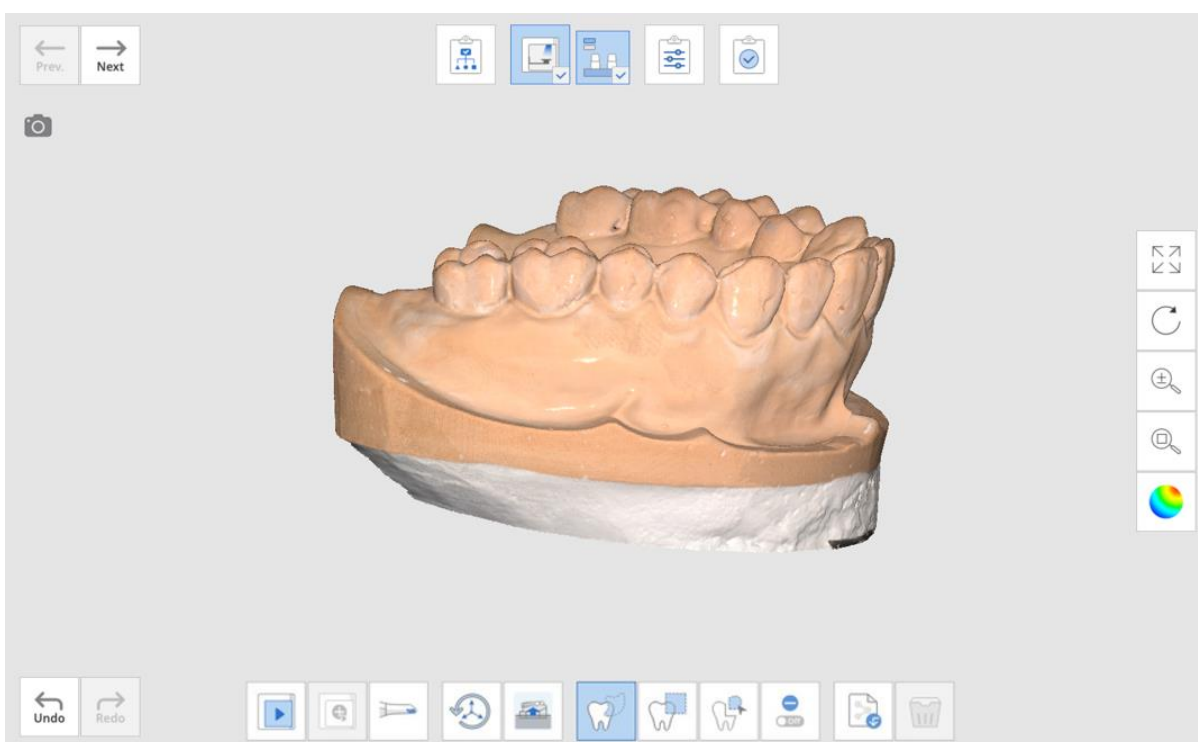
- In case you need an additional scan, rotate the model to bring the missing spot to the front, and click 'Additional Scanning'.

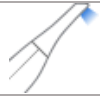


💡 Double-click on the missing spot to turn cameras to the empty spot and press 'Scan'.

💡 The program will indicate which angles are not available for additional scanning.

- The empty space has been filled after performing the additional scan.

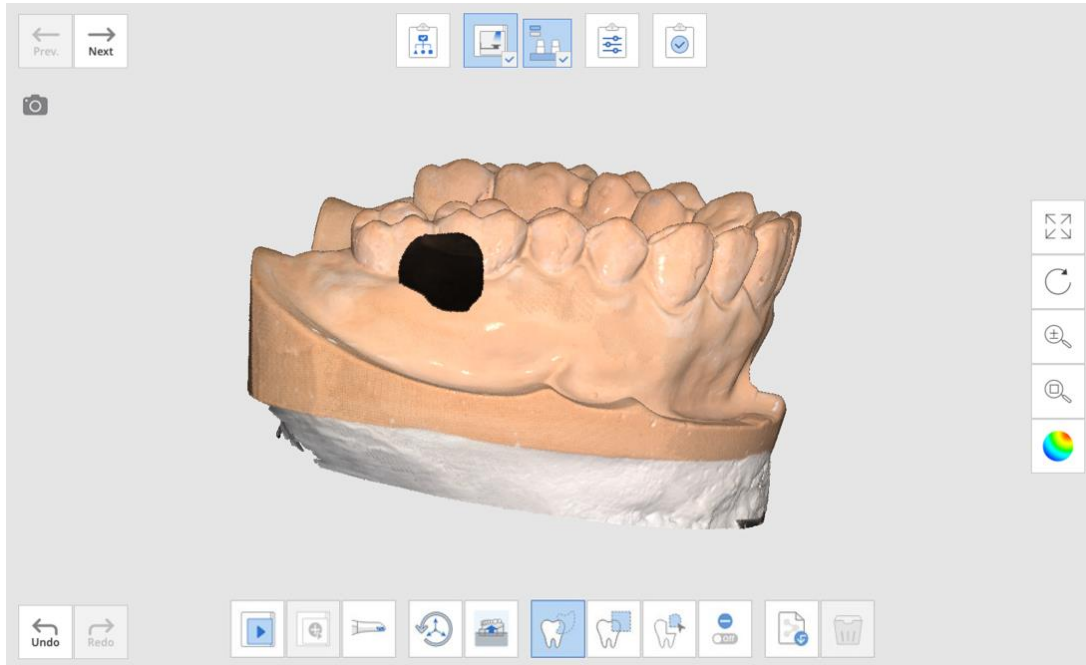




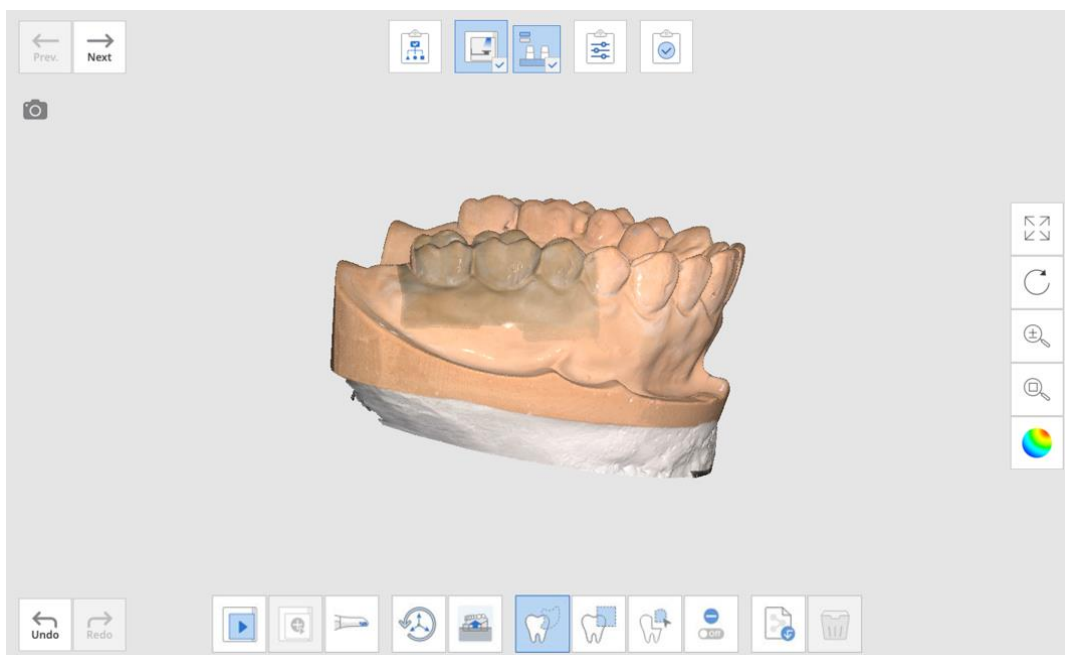
## Scan Using i500

If you have an i500 scanner, the scan will proceed using it in Medit Scan for Labs.

- In case you need an additional scan, you can also proceed using the i500.



- Connect the i500 to the computer and make sure it is calibrated. Turn it on and click 'Scan Using i500'.



## Scanning Toolbox



### Initialize Axes

If the axes of scanner were moved, use this option to reset them.

---



### Adjust Scan Area

Adjust the scan depth.

---



### Free Selection

Allows to freely select data.

---



### Rectangular Selection

Selects data using rectangular shape.

---



### Island Selection

Selects all connected data by clicking on it.

---



### Deselection Mode

When on, deselects the area using various tools.

---



### Import Mesh Data

Imports 3D files.

---



### Clear Data

Deletes all the data on the screen.

---



Undo

### Undo

Undoes the previous action like scan, editing etc.

---



Redo

### Redo

Redoes the action.

---

▷ [Example] Trimming Tools

Freeform	
Rectangle	
Flood	

 To control the selected data, press RMB to see the following options:

---

**Select All**      Selects all the data on the screen.

---

**Deselect All**      Cancels the selection of data.

---

---

**Invert** Swaps the data selection.

---

**Crop** Crops everything out except for the selected area.

---

**Delete** Deletes the selected data.

---



Note that the '**Delete**' button located at the bottom of the screen deletes all scanned data.



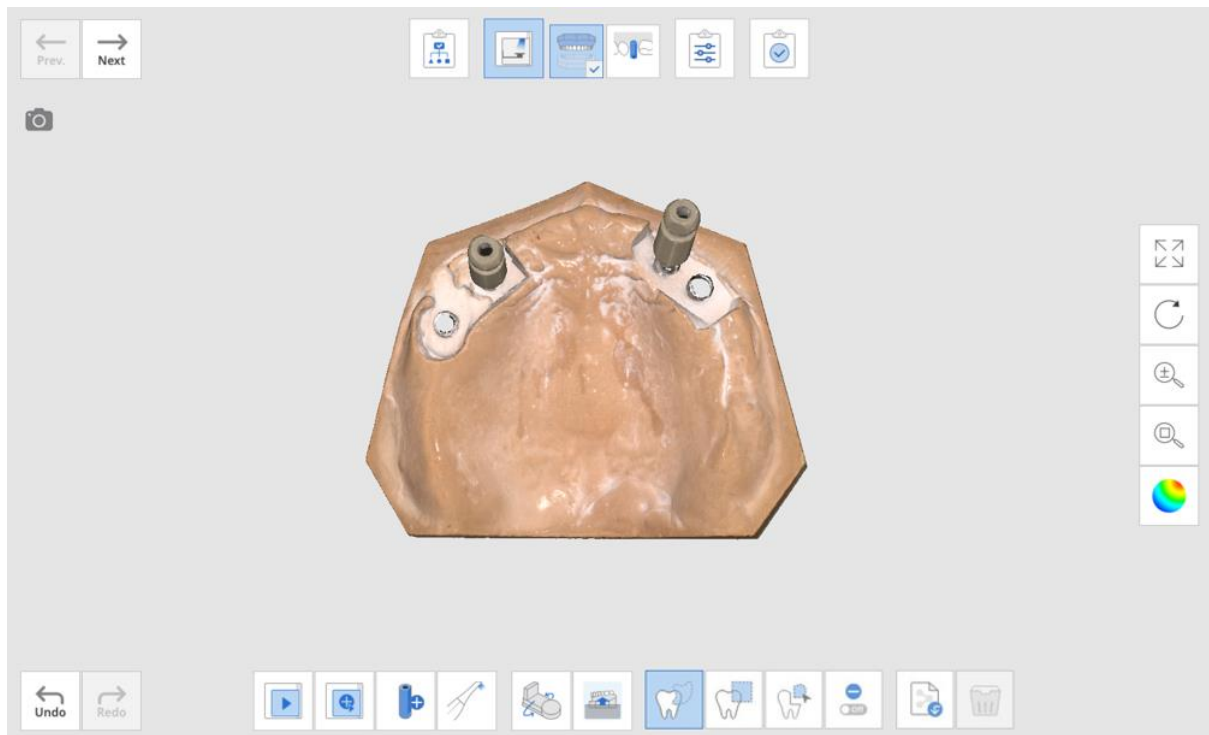
### Add Another Scanbody

Allows to perform an additional scanbody scan after switching the position of the scanbody in the base.

This function is useful in case you do not have the sufficient number of the scanbodies on your hands: use the inserted scanbody as an additional scanbody.

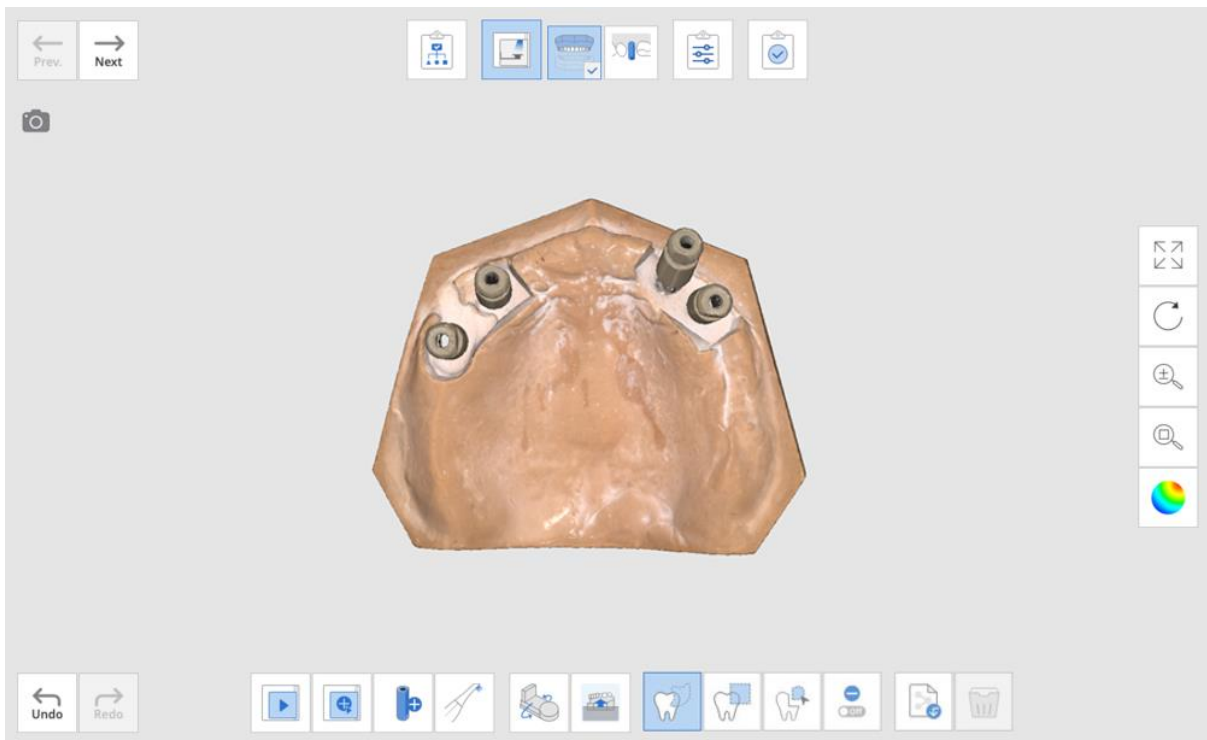
---

- Below is an example of a case which requires four scanbodies. In the situation where only two are available, start the '**Scan**' button using these two scan bodies.





- Switch the position of the scanbodies and click the **'Add Another Scanbody'** button. The program will perform the additional scan to complement the existing data.



### 3.7 Data Alignment Steps

The data alignment steps, too, are based on the selected scan strategy.



The order of each sub-stage can be changed for the arch. The changed sequence is saved and can be applied to the next scan.



In some cases the occlusion alignment might take a while. In that case, go to **Settings -> Align Occlusion Scan Automatically** and turn it off. That way you can proceed to manual alignment straight away.

#### Alignment Toolbox

---



**Align  
Automatically**

Automatically aligns all the data displayed on the screen.

---



**Detach**

Detaches all the aligned data.

---



**Remove  
Alignment  
Points**

Deletes the alignment points.

---

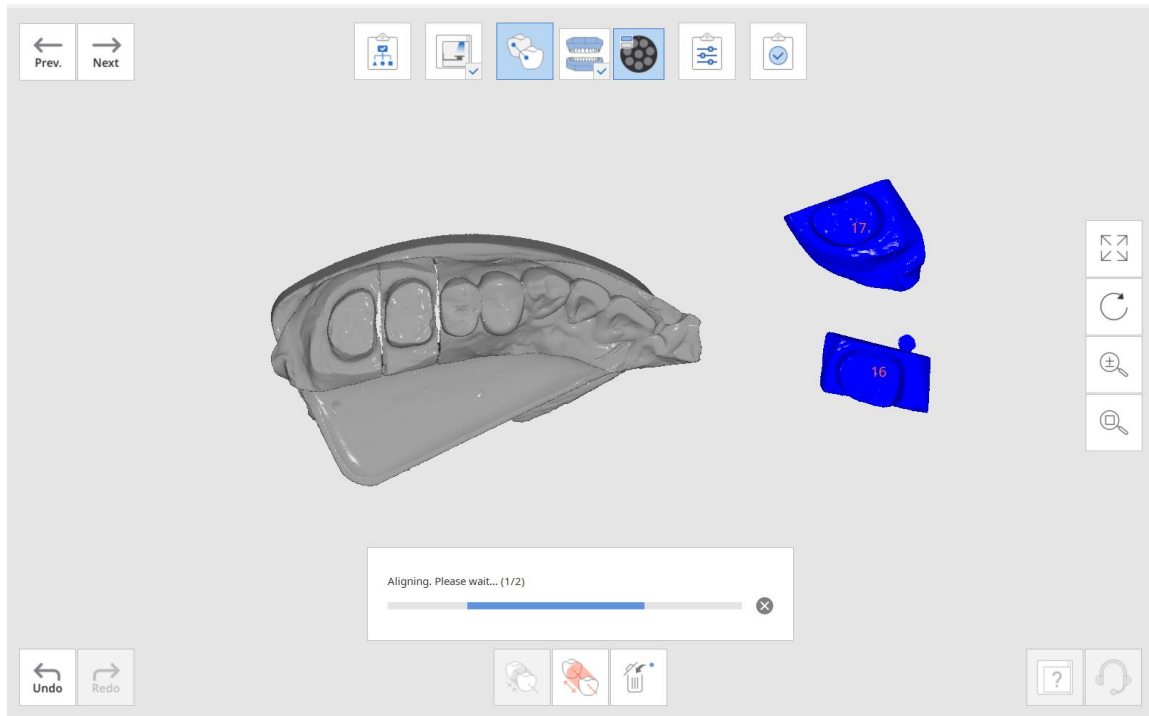


**Flip Occlusion**

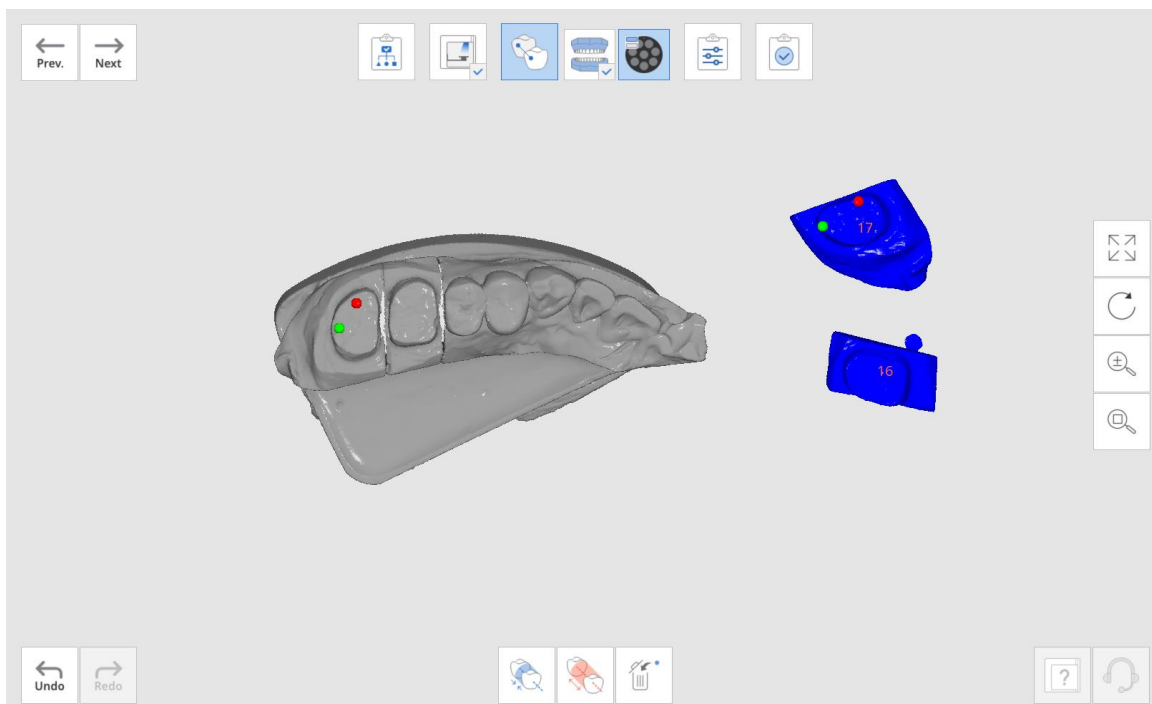
This option is only available in occlusion alignment.


---

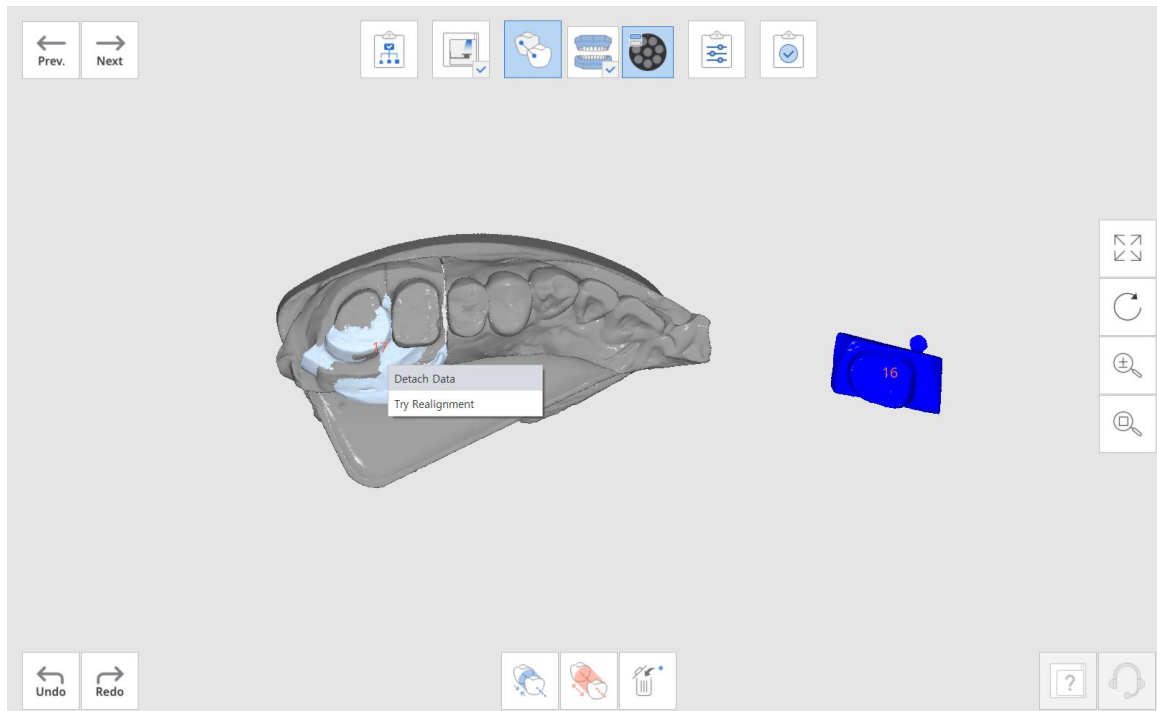
- Once you move to this stage, alignment process will start automatically.



- If you want to perform alignment manually, first click '**Detach**' to separate the aligned data and go back to the original position.
  - On each data, set up to three corresponding points.



 The aligned data can be separated individually too. Right-click on the data you want to detach and then click 'Detach'.



 For individual data alignment, click RMB to access the following control options:

---

**Detach Data** Detaches the specific part of the data.

---

**Automatic Alignment** Automatically aligns only the selected area.

---





**Try Realignment** Realigns the data precisely in case there is a mistake in alignment.

---

### 3.7 Confirm

This stage allows to check the overall aligned data and edit it if necessary. Utilize the tools to edit data that is located at the bottom of the window.

---

	<b>Free Selection</b>	Allows to freely select data.
	<b>Rectangular Selection</b>	Selects data using rectangular shape.
	<b>Island Selection</b>	Selects all connected data by clicking on it.
	<b>Deselection Mode</b>	When on, deselects the area using various tools

---

# Cases and Workflow Examples

Wax-up Bottom Scanning

Scanning and Aligning Scanbodies

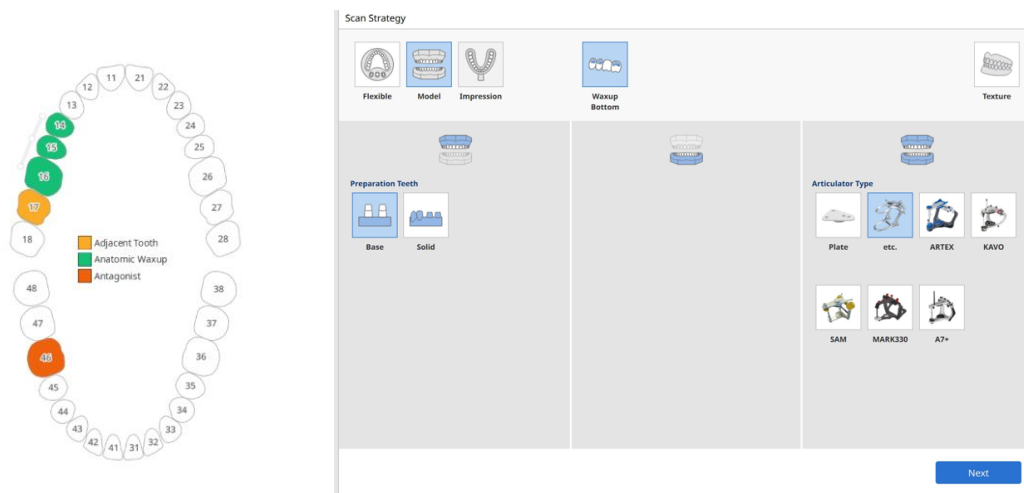
Post and Core

Flexible Multi-die Process

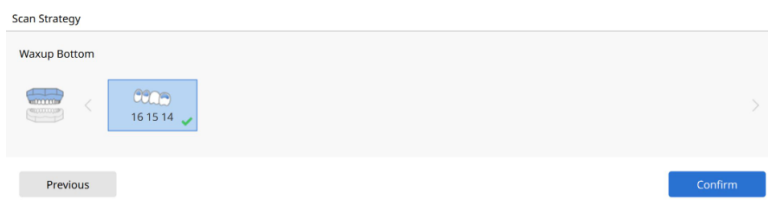
## Cases and Workflow Examples

### 4.1 Scanning the bottom side of the wax-up

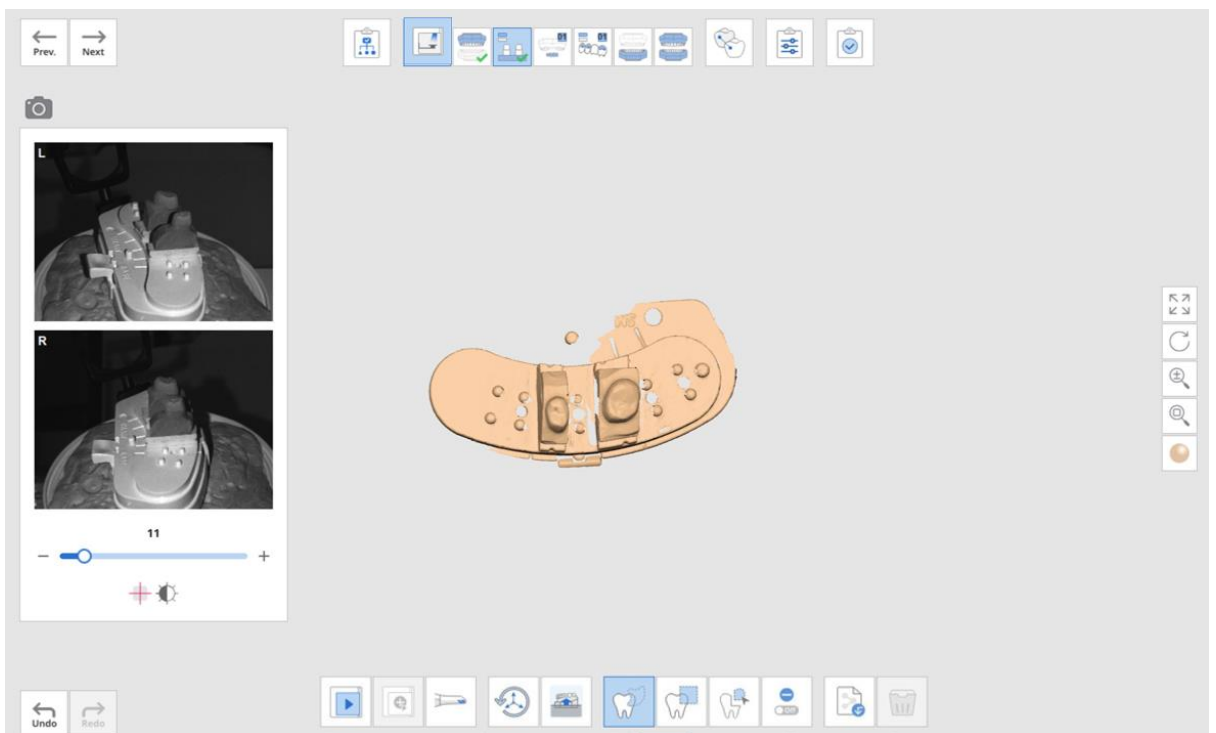
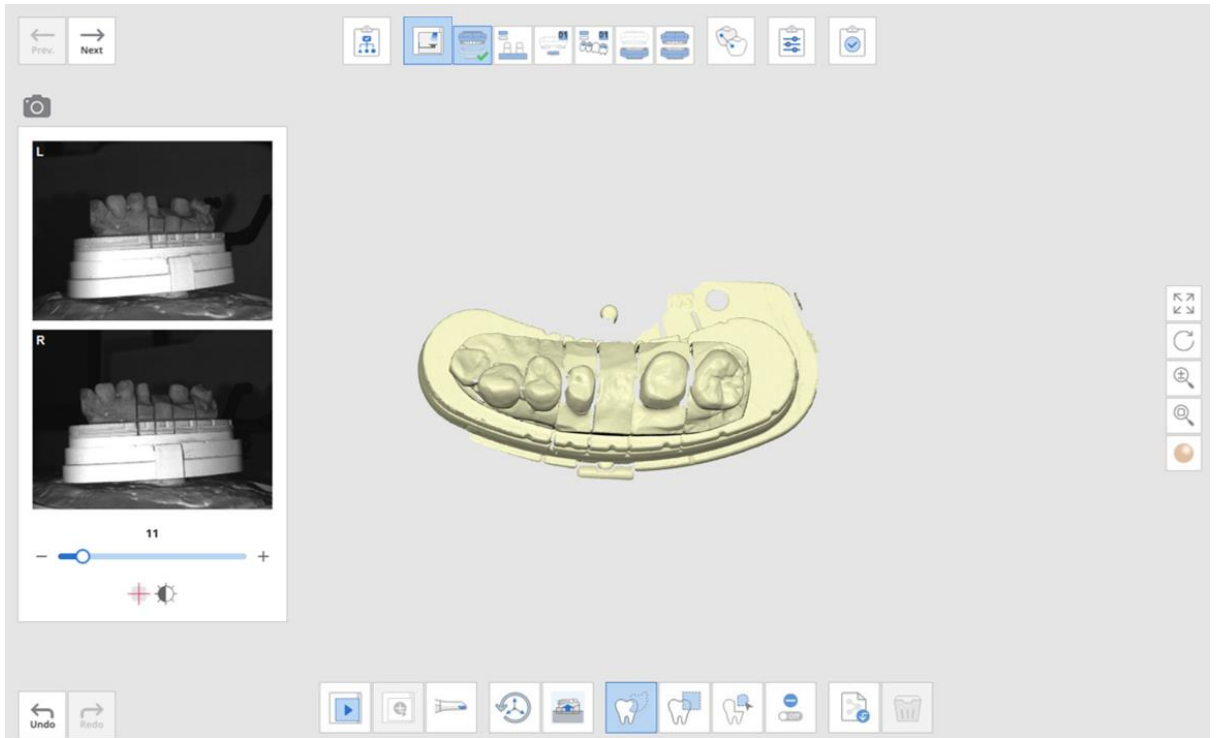
- Here is an example of a maxillary wax-up case. Select **Wax-up Bottom** from the scan strategy and click 'Next'.



- Select only the wax-ups for which you need the inner surface to be aligned, and click 'Confirm'.

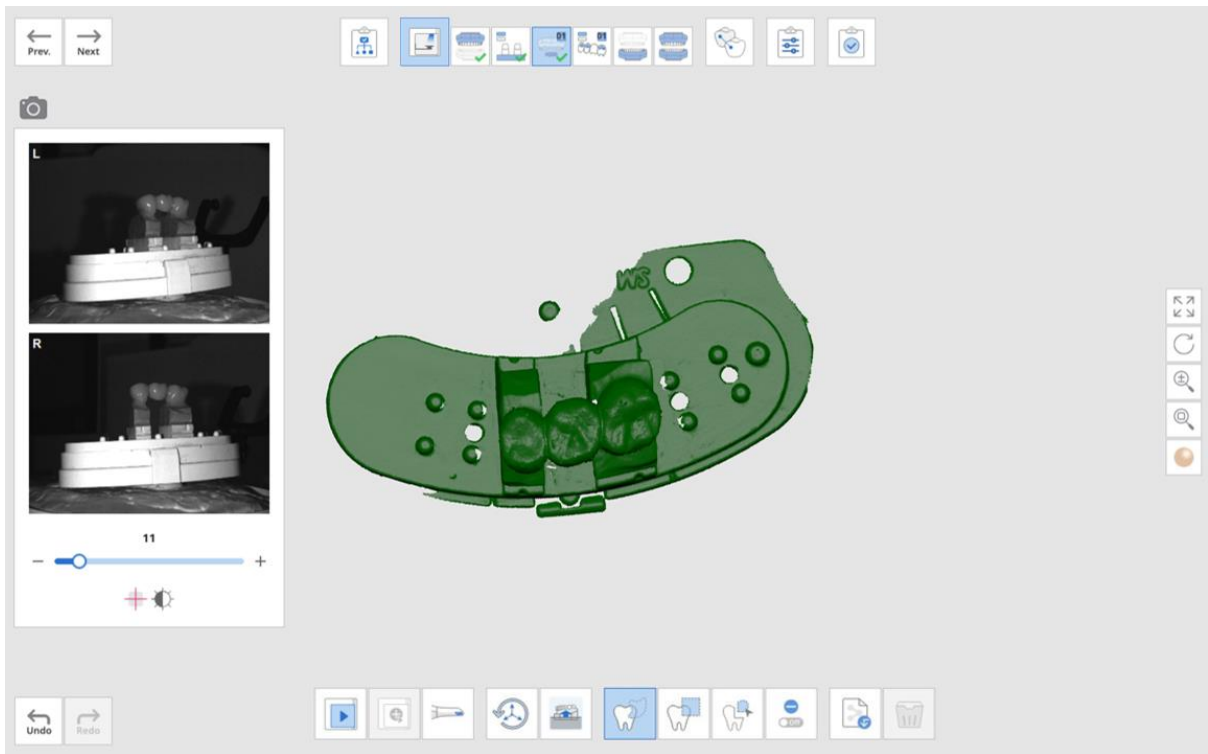


- Proceed with scanning the maxillary base, and then move on to scanning only the prepared teeth.

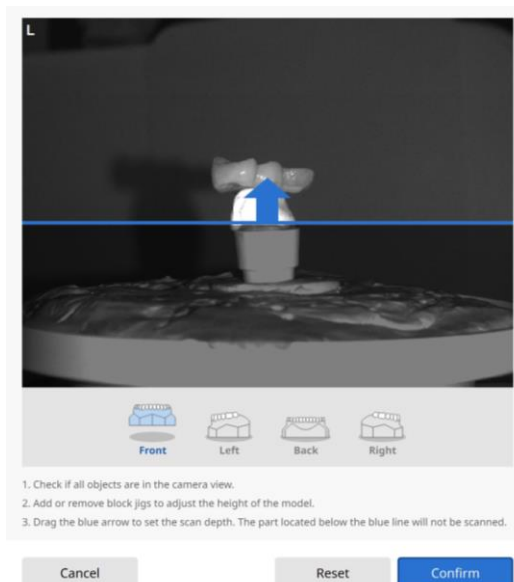




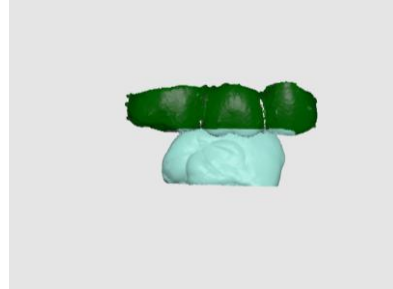
- Move on to Maxillary Wax-up step, and perform the scanning.



- After finishing scanning the outer surface of the wax-up, move to the next stage. Flip the wax-up and place it on a single die before scanning.

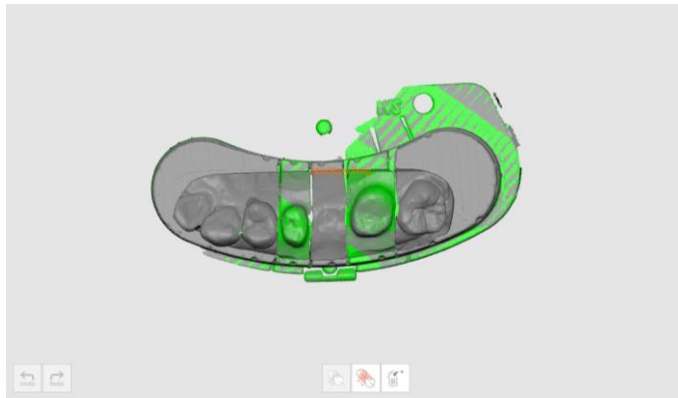


- Delete the unnecessary data.



- Proceed with scanning the base and occlusion, and move to Align Data stage.

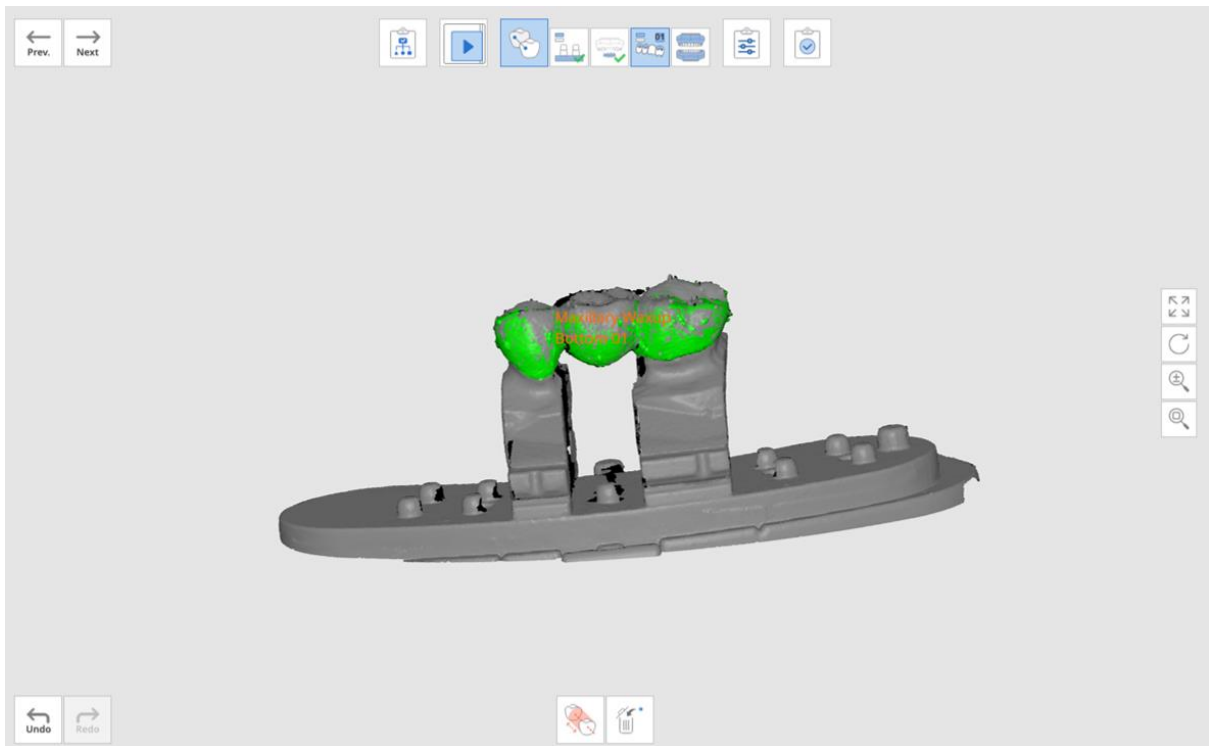
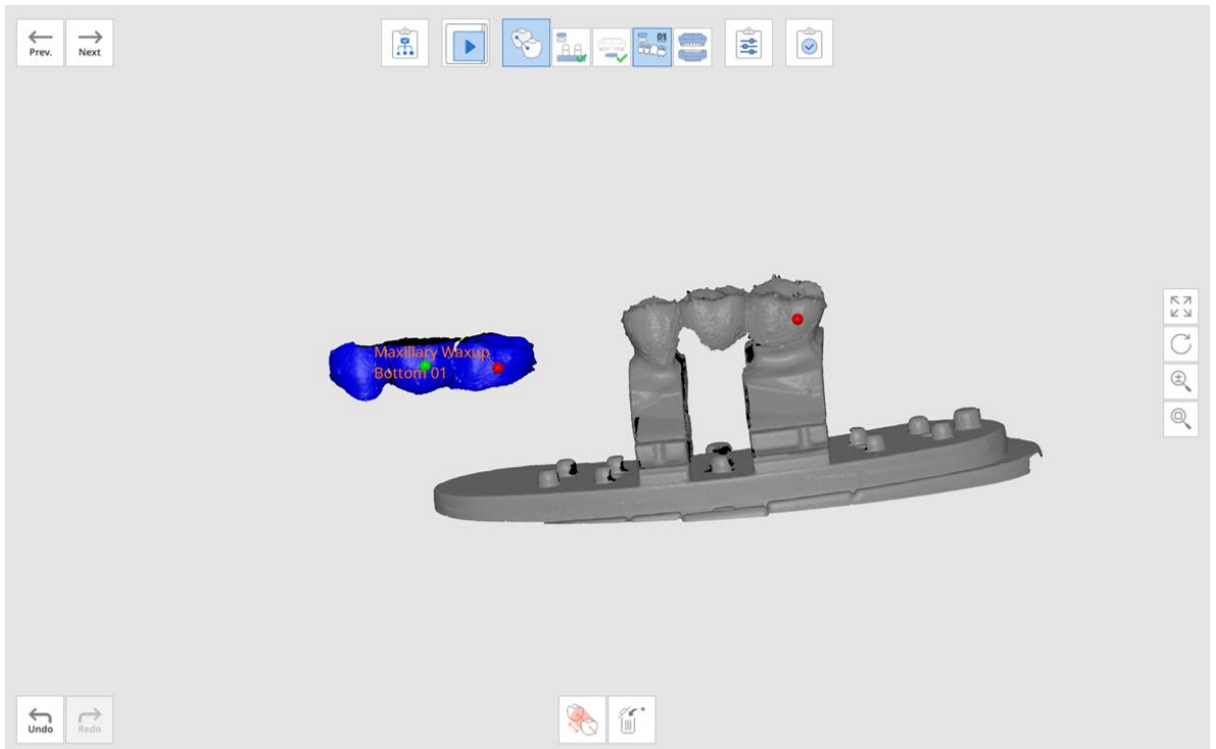
Prepared teeth and base will be aligned automatically.



The outer surface of the wax-up and the base will also be aligned automatically.



- The inner and outer surfaces of the wax-up should be aligned manually. Set up to three corresponding alignment points as shown on the picture below to align the data.

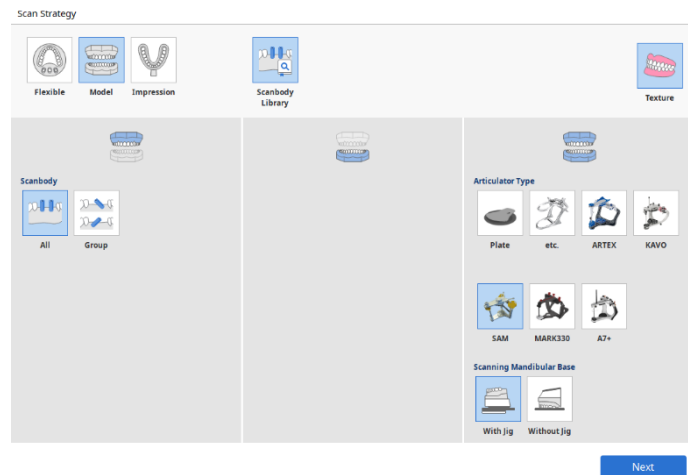


- Occlusion data will also be aligned automatically.
- Proceed to the 'Confirm' step to edit the data if necessary.

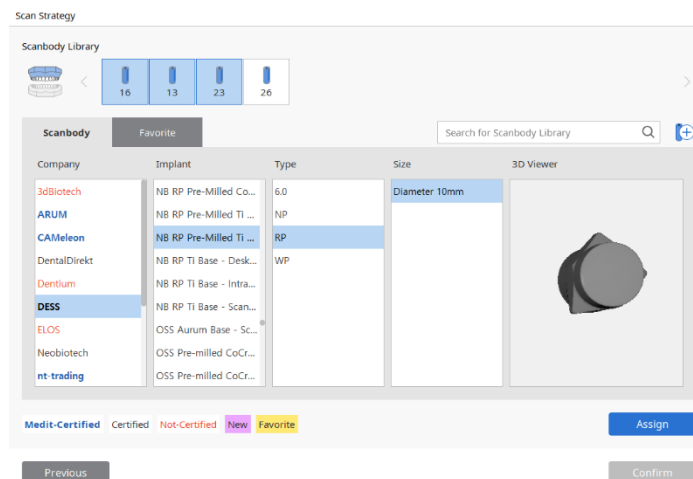
## 4.2 Scanning and Aligning Scanbody

Medit Scan for Labs has an integrated Scanbody Library which makes it easier and faster to work with the scanbody cases. You can specify which scanbody is corresponding to each tooth, and the program will automatically insert the library data in to the model scan.

- Select the 'Scanbody Library' option from the **Set Scan Strategy** window and click 'Next'.



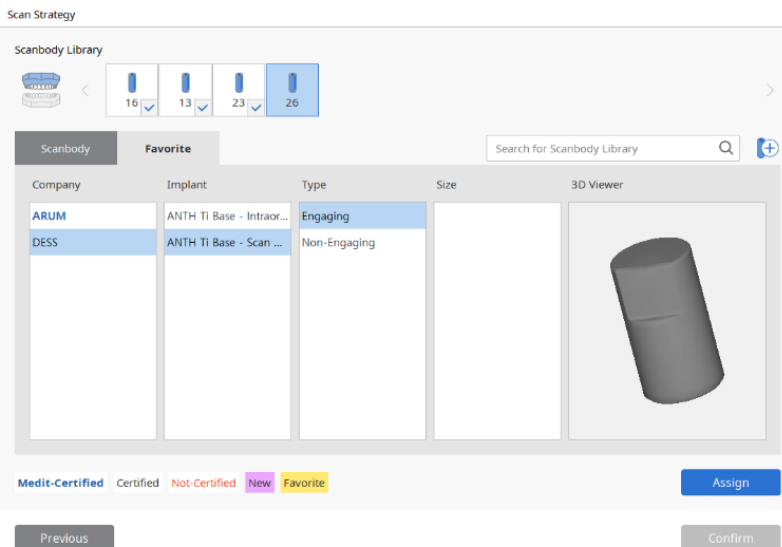
- In the Scanbody Library dialogue window select the tooth number and the corresponding scanbody data from the library (multiple teeth can be selected at once).



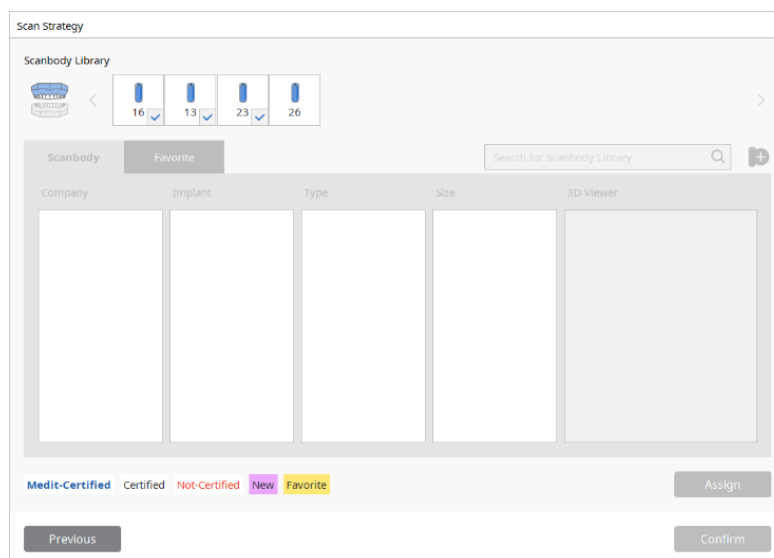
💡 There are several types of scanbodies in the Library:

- Medit-Certified: Advanced Alignment feature certified by Medit
- Certified: CAD S/W Certified Library
- Not-Certified

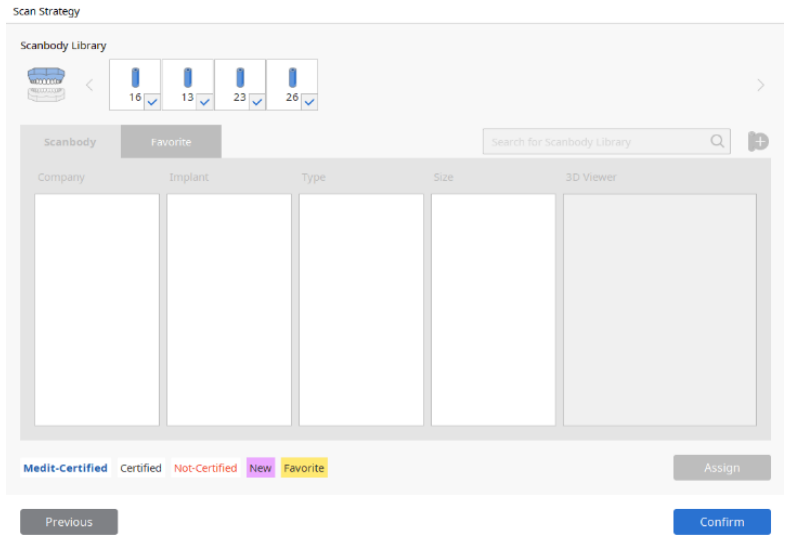
- Add a new library by pressing the 'New' button.
- Add a library to the favorites and manage it in the Favorites List..



- After selecting the Scanbody library, click 'Assign' to assign the tooth with the selected scanbody.



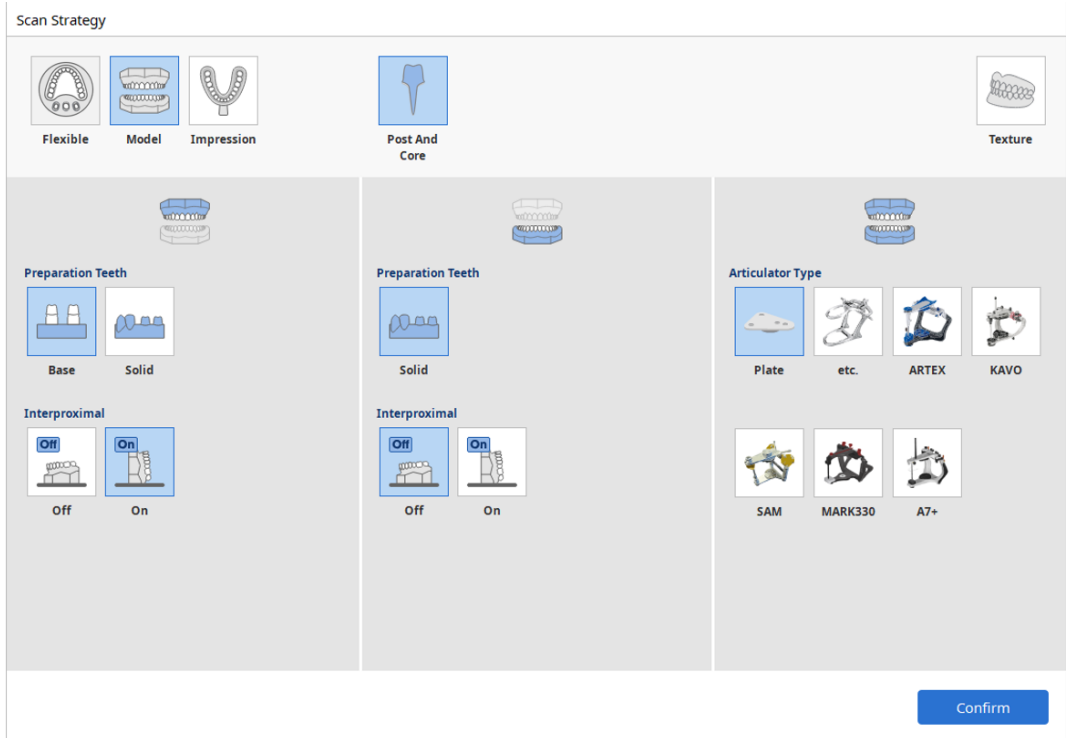
- Once the assignment for all teeth is complete, click 'Confirm' to finish the process.



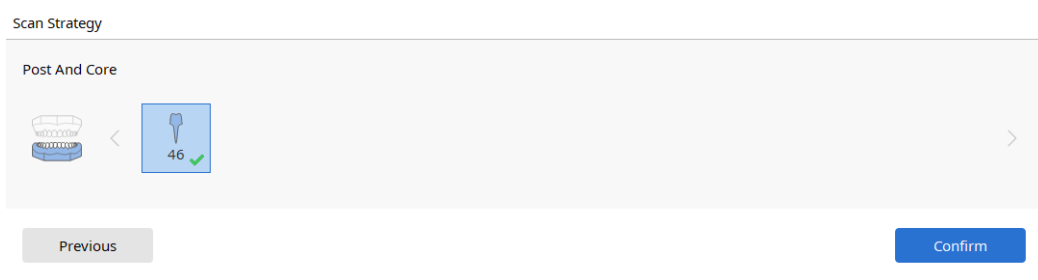
### 4.3 Post and Core

- Selecting 'Post and Core' in the Set Scan Strategy dialogue window.

💡 'Post and Core' option is possible for the cases where the form information contains Inlay/Onlay, 'Veneer', 'Telescopic crown'.

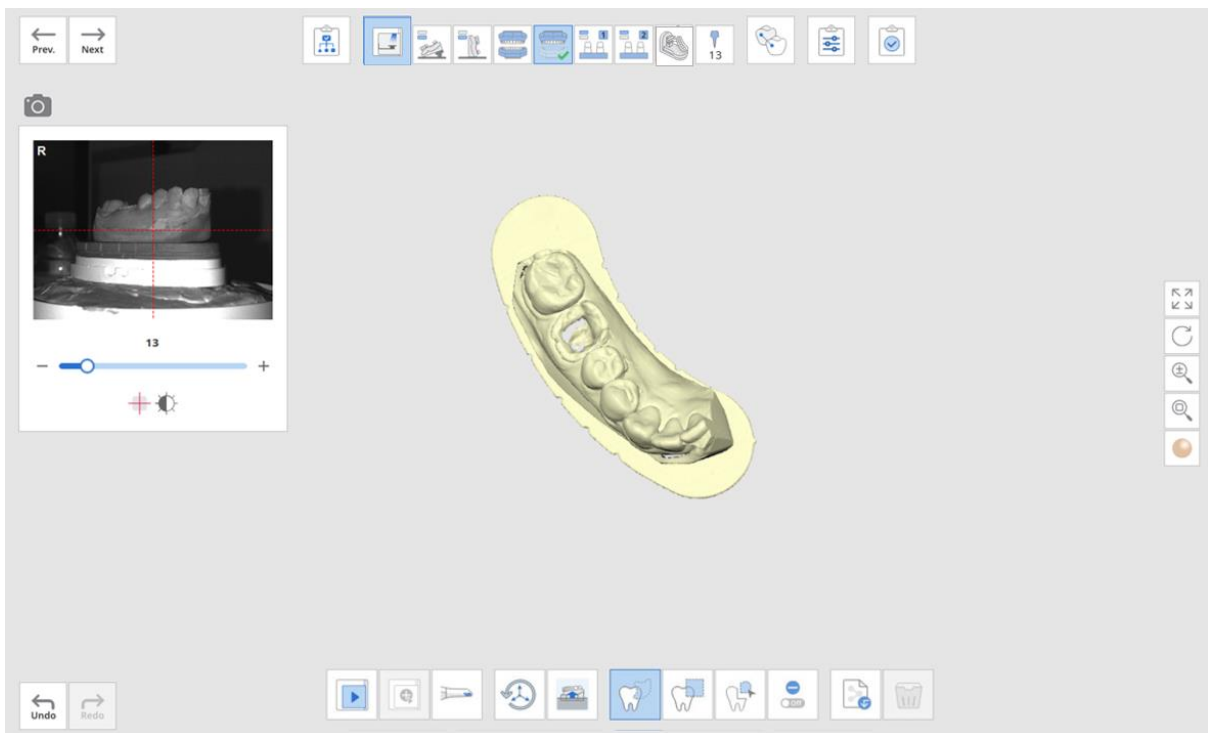


- Click '**Confirm**' after selecting the teeth for the Post and Core scan.

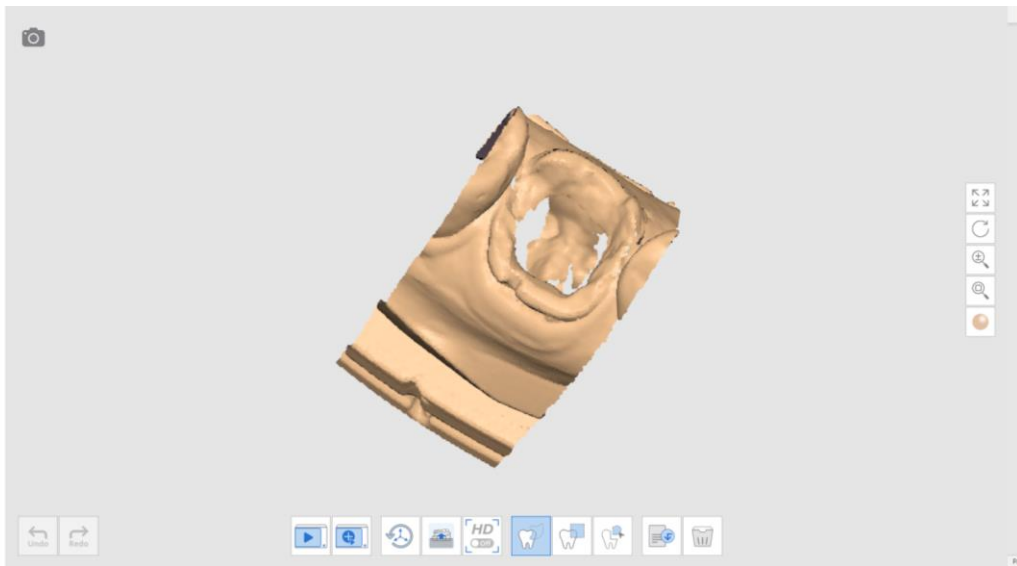


💡 Note that the teeth that you selected must have corresponding impressions.

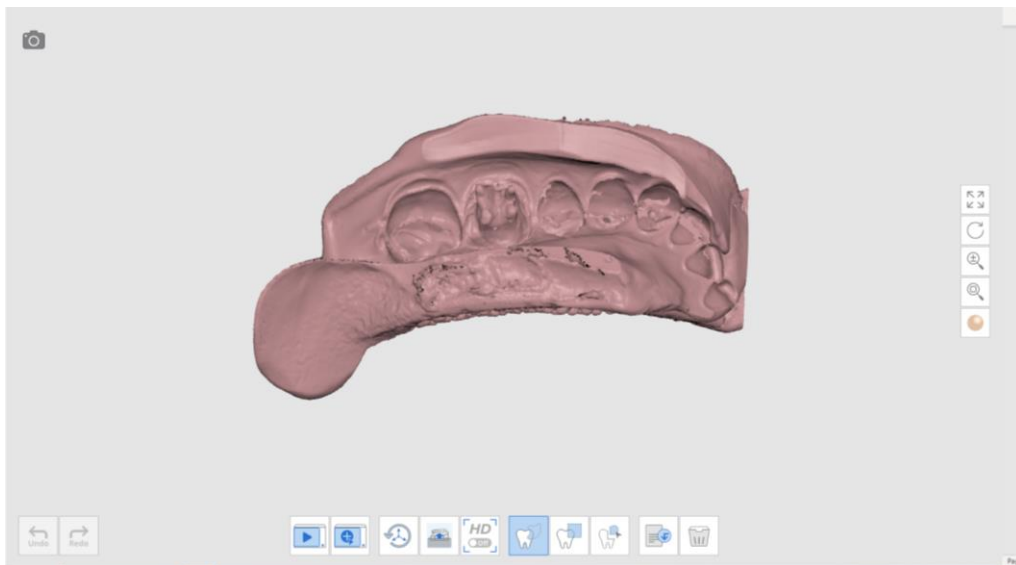
- Perform the scan.



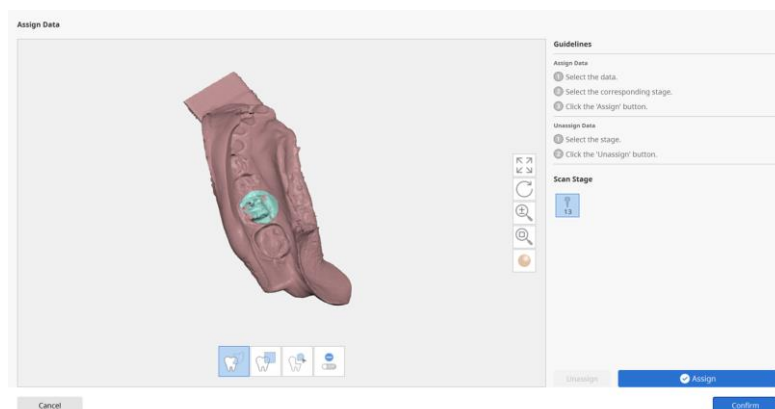
- Move to the **Prep. Teeth** stage and scan the trimmed die.
  - If there is no trimmed die, scan the model again at this stage. Edit it to cut the unnecessary parts.



- Scan the corresponding impression.

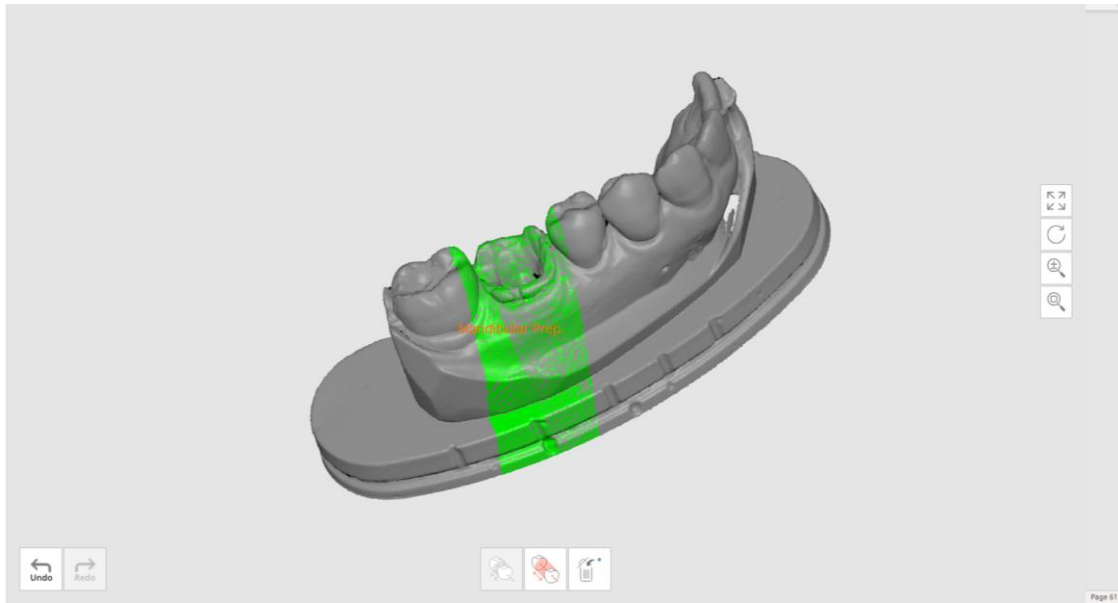


- Once you move to the **Post** stage, you will be asked to assign the data for the corresponding tooth.

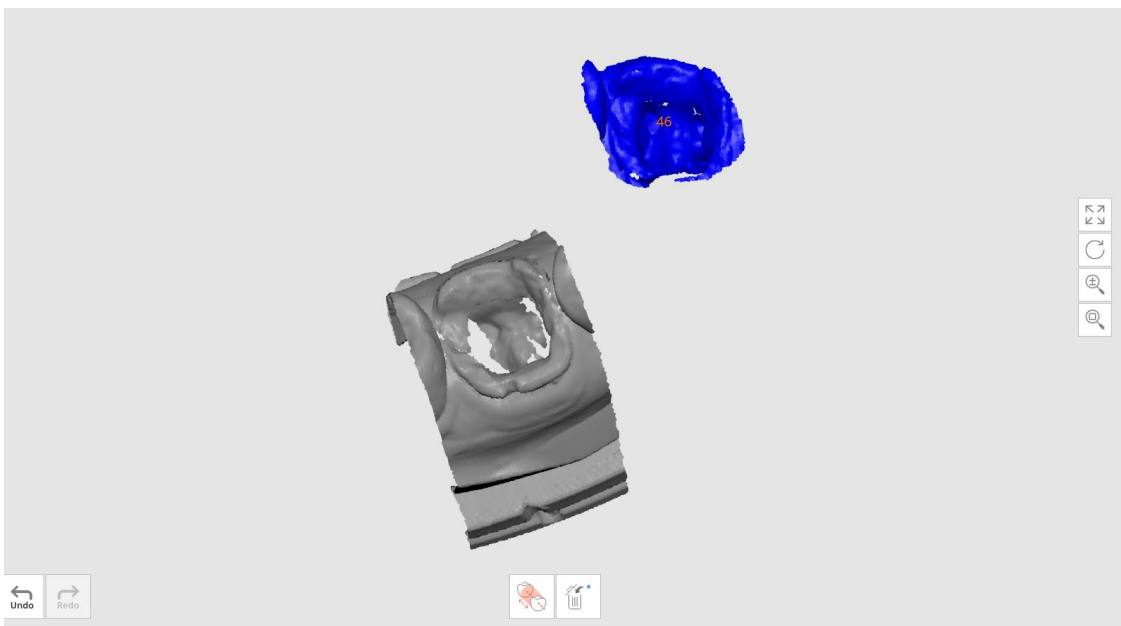




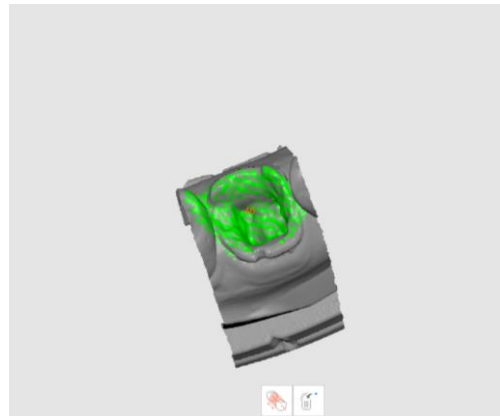
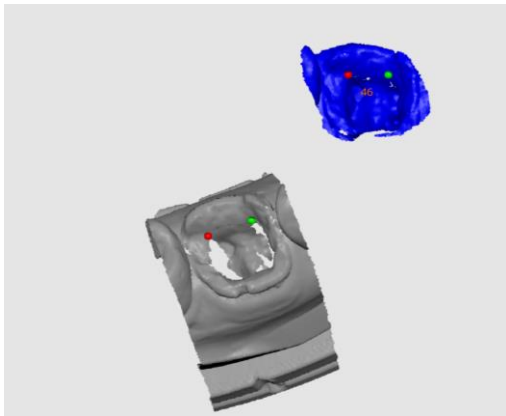
- Once you press 'Confirm', you will be able to align the die scan with the model.



- Next, align the model with the impression by setting up to three corresponding points on each data.

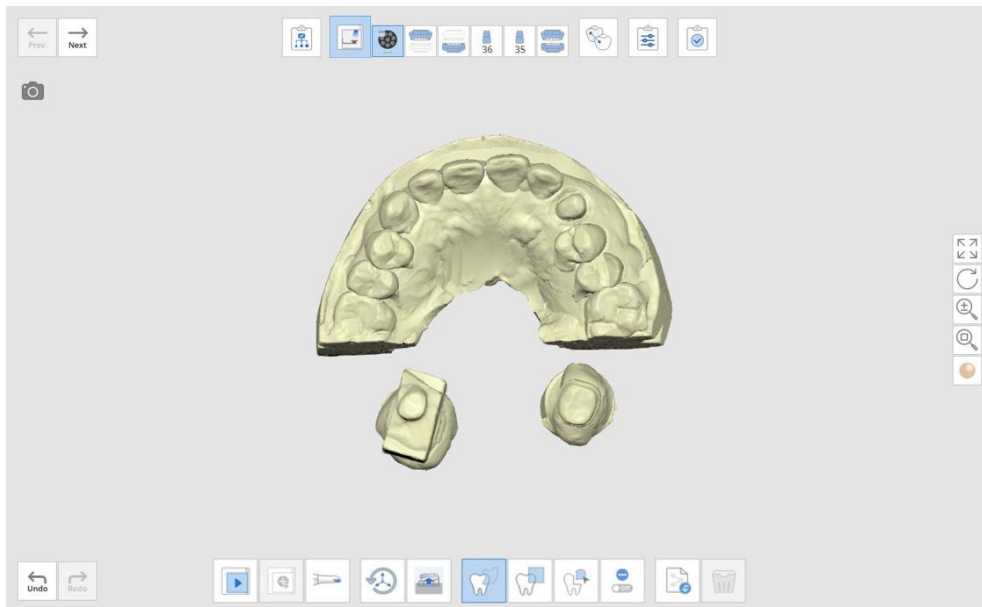


- The alignment will be performed as following:

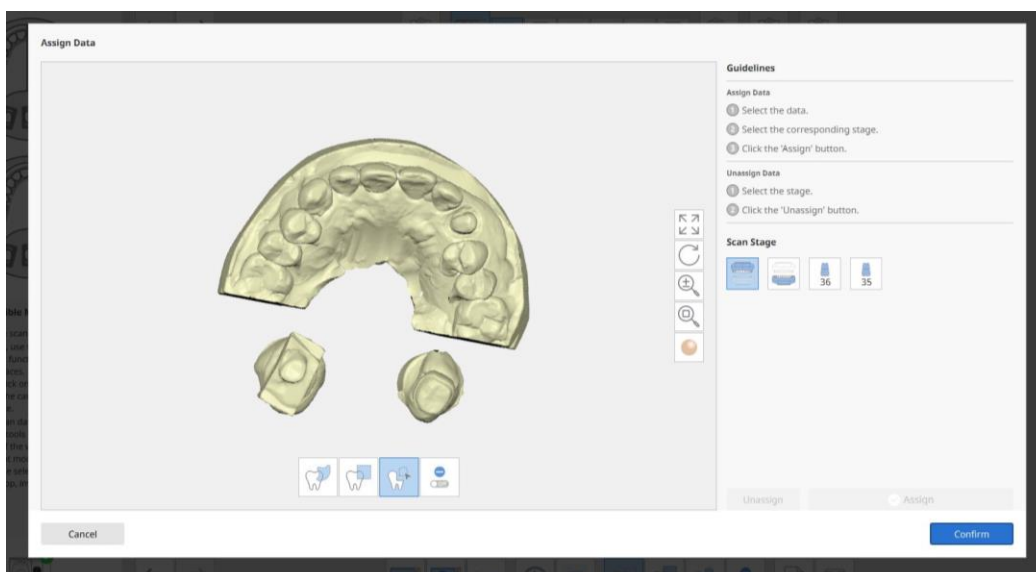


## 4.4 Flexible Multi-die Process

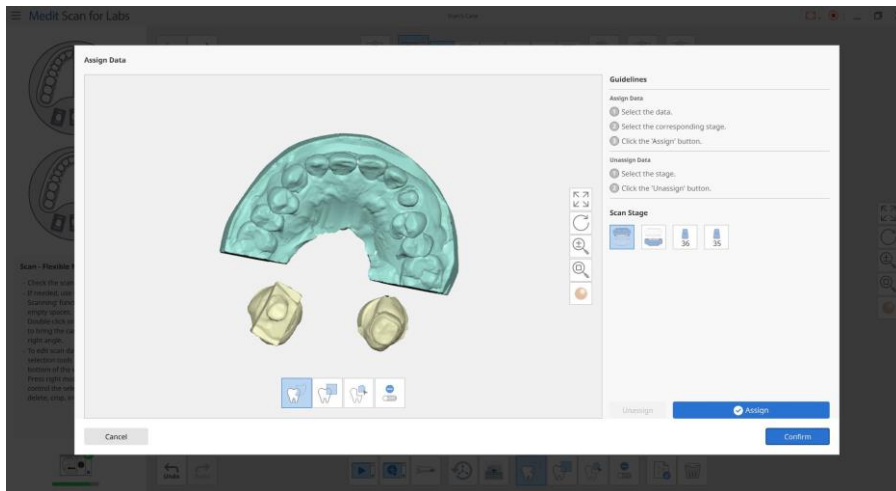
- Flexible multi-die allows to acquire data from a set of a model and prepared teeth at the same time. Its main advantage is that you can perform the scanning in one stage, and then assign the data to the corresponding elements.
- Scan all the necessary parts at the 'Flexible Multi-die' stage.



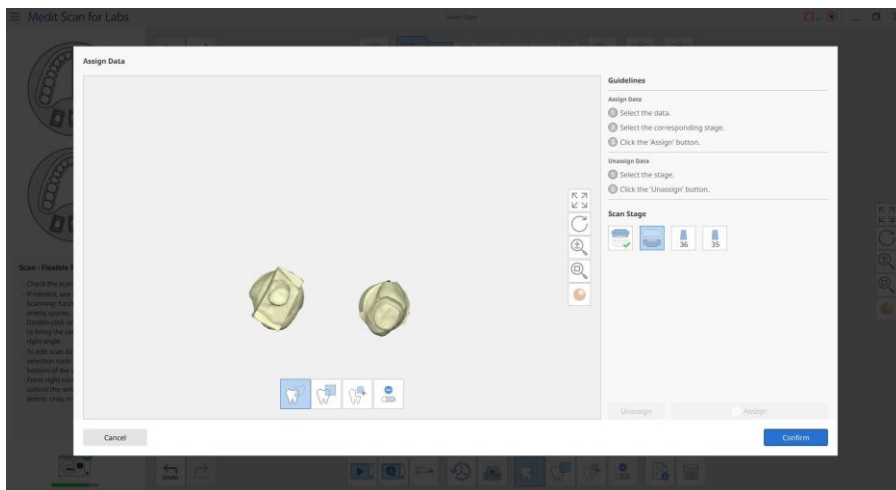
- Click on any of the following stages to select the corresponding data. A dialogue window will open.
- You can edit the data using the tools located at the bottom of the window before proceeding.



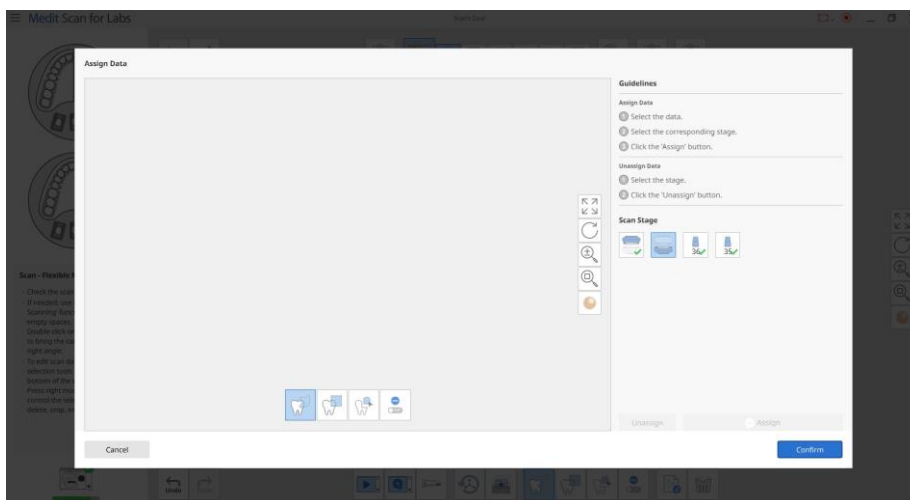
- Select the scan data and scan stage for assignment.



- Click 'Assign' to assign the data.



- The remaining data is also assigned in the same way.



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