MEDIT Scan for Clinics

*i*700

Revision 8 (03.2021)

CONTENTS

1 Introduction and Overview

1.1 Intended Use

The system is a 3D dental scanner used to digitally record the topographical characteristics of teeth and surrounding tissues. The system produces 3D scans for computer-aided design and manufacturing of dental restorations.

1.2 Indication for Use

The system is for patients who require 3D scanning for dental treatments such as:

- Single Custom Abutment
- Inlays & Onlays
- Single Crown
- Veneer
- 3 Unit Implant Bridge
- Up to 5 Unit Bridge
- Orthodontics
- Implant Guide
- Diagnostic Model

The scanner can also be used for full mouth scans. However, factors such as intraoral conditions, how skilled the technician is, and the method of using the scanner can all affect the final result.

1.3 Contraindications

This scanner is not designed to create images of the internal structure of teeth or supporting skeletal structure.

1.4 Qualifications of Operating User

This scanner should be used by someone with professional knowledge in dentistry and dental laboratory technologies.

The user of this scanner is solely responsible for determining whether or not this scanner is suitable for a particular patient case, circumstances, accuracy, completeness, and adequacy of all the data entered into this scanner and the provided software.

The user must verify the accuracy of results for appropriate treatment. The system must be used in accordance with the *User Guide* and *Cautions*. Additionally, the user should not modify the system. Improper use or handling of the system will void any warranty. If additional information on proper use of the system is required, please contact the local distributor.

2 Software Overview

2.1 Introduction

This image acquisition software provides a user-friendly working interface to digitally record topographical characteristics of teeth, and the surrounding tissues, using the scanner.

2.1.1 Minimum System Requirements

	Laptop	Desktop
CPU	Intel Core i7-10750H AMD Ryzen 7 4800H/5800H	Intel Core i7-10700K AMD Ryzen 7 5800X
RAM	32 GB	
Graphics	Nvidia GeForce RTX 1660/2060/3060 Above 6 GB (Not Supporting Radeon)	
OS	Windows 10 Pro 64-bit	

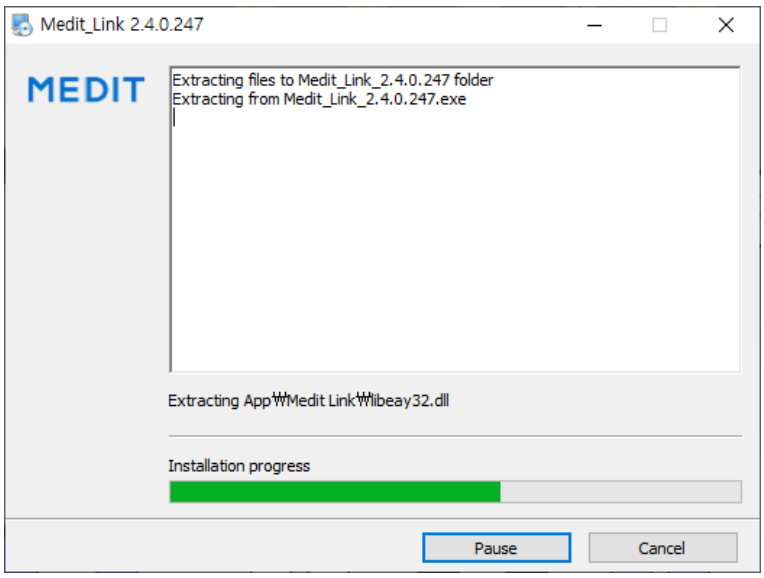
2.1.2 Recommended System Requirements

	Laptop	Desktop
CPU	Intel Core i9-10980HK AMD Ryzen 9 4900H/5900H	Intel Core i9-10900K AMD Ryzen 9 5900X
RAM	32 GB	
Graphics	Nvidia GeForce RTX 2070/2080/3070/3080/3090 Above 8 GB (Not Supporting Radeon)	
OS	Windows 10 Pro 64-bit	

2.2 Installation

When Medit Link is installed, Medit Scan for Clinics and Medit Scan for Labs will be installed as part of the package.

① Run Medit_Link_X.X.X.X.exe.

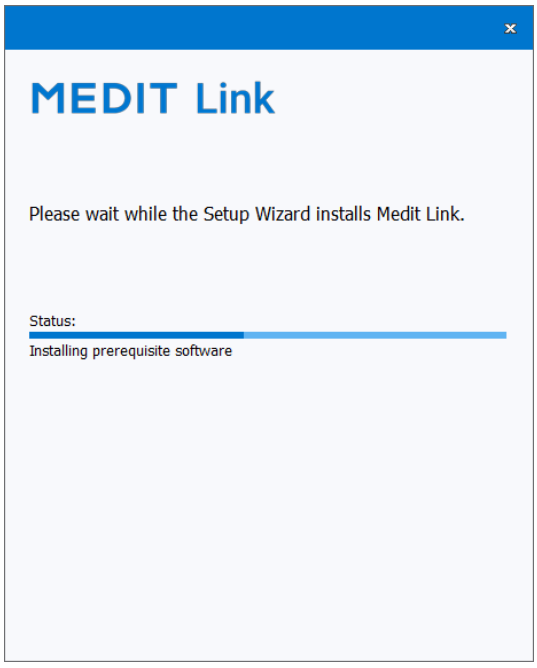


② Select the language for installation.

③ Select the folder for installation of Medit Link. Read License Terms and Conditions carefully, and check the box stating, “I agree to the License Terms & Conditions.” Click “Install” button to proceed to the installation.

④ Since Medit Link is installed with Medit Scan for Clinics, the installation will not proceed if a scanner is connected to the computer.

⑤ The installation will continue automatically from this point, and may take a few minutes.



⑥ Do not turn off the computer until the installation is complete.

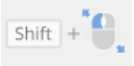
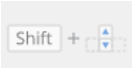
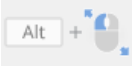
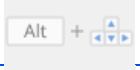
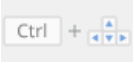
⑦ After the installation is complete, restart the computer to use Medit Scan for Clinics and Medit Scan for Labs with Medit Link. Skip this step if you do not have a scanner.

Note: The scanner may not work without restarting the computer.

2.3 3D Data Control Using a Mouse

Button	Action	Description	Image
Left	Click	Selects or deletes entities in the 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 and out a specific area by double-clicking on the specific area. Places data in the center by double clicking on the background.	
Wheel	Drag	Moves data around in the view screen.	
	Scroll	Zooms in and out on data in the view screen.	
Right	Click	Completes the selection or deletion of entities in the view screen when using the “Polyline Selection” or “Polyline Trimming” tool. Allows access to data view options in the Data Tree.	
	Drag	Rotates data in the view screen.	

2.4 3D Data Control Using Mouse and Keyboard

Button	Action	Description	Image
Shift	Left Click and Drag	Zooms in and out on the model.	
	Up and Down Keys	Zooms in and out on 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.	

2.5 3D Mouse Support

Medit Scan for Clinics supports using a 3Dconnexion 3D mouse.

3 Scanner Calibration

3.1 Calibration Procedure of Scanner

Calibration must be performed periodically to acquire precise 3D models.

Calibration is required when:

- The quality of a 3D model is not good enough, or as accurate as compared to previous results.
- Environmental conditions such as temperature have changed.
- Calibration period has expired.
  Please Note: Set the calibration period at Scanner Settings > Calibration Period (Days).

The calibration panel is a delicate component. Do not touch the panel directly. Check the panel if calibration is not performed properly. If the calibration panel is contaminated, please contact the service provider.

We recommend performing the calibration process periodically. Set the calibration period at Scanner Settings > Calibration Period (Days).
Default calibration period is 14 days.

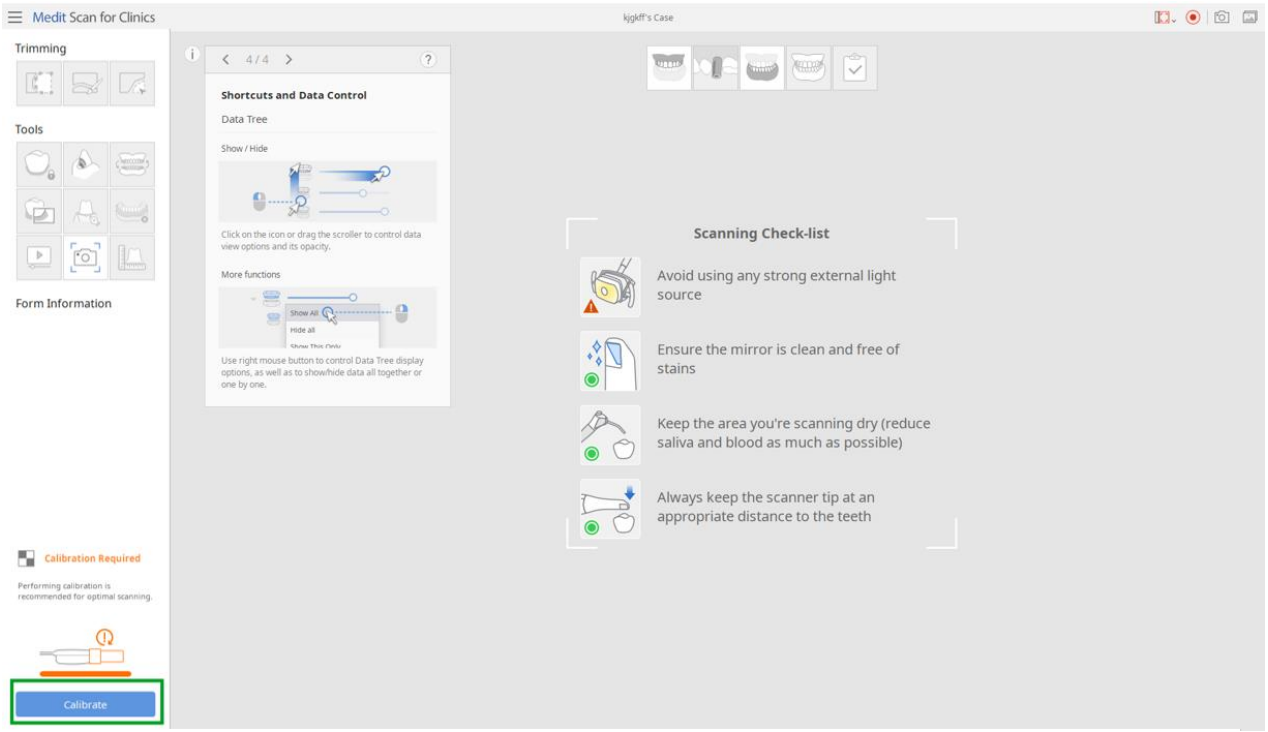
The data accuracy increases if the temperature of the scanner during calibration is similar to the temperature while scanning.

Let your scanner warm up before calibration to reach the same temperature as it is during scanning.

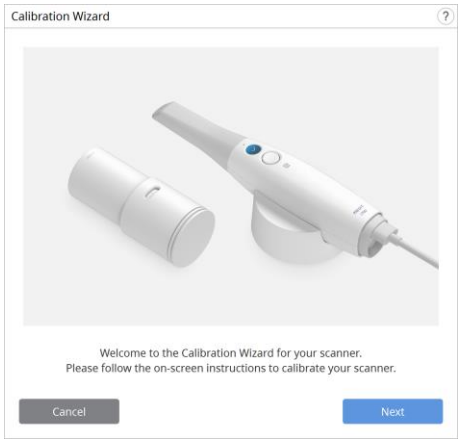
3.2 How to Calibrate the Scanner

① Turn on the scanner and connect the scanner to the software.

② Click “Calibrate” located at the bottom left corner of the window.

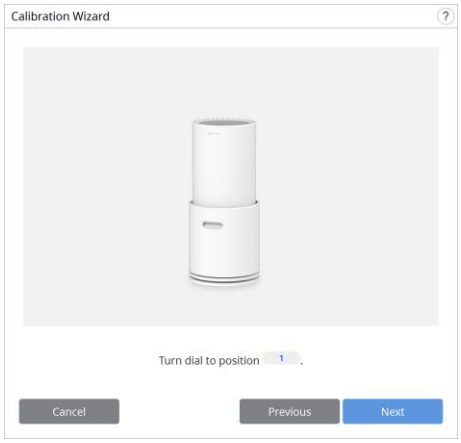


③ Prepare the calibration tool and the scanner.

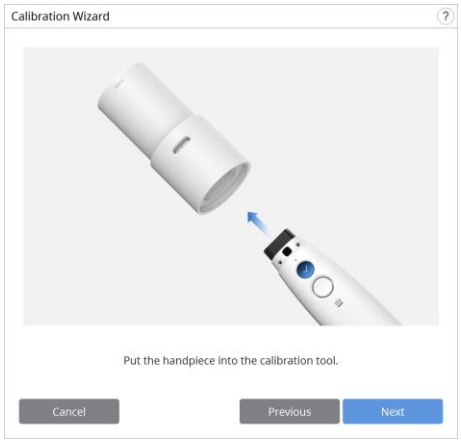


④ Turn the dial of the calibration tool to position 1.

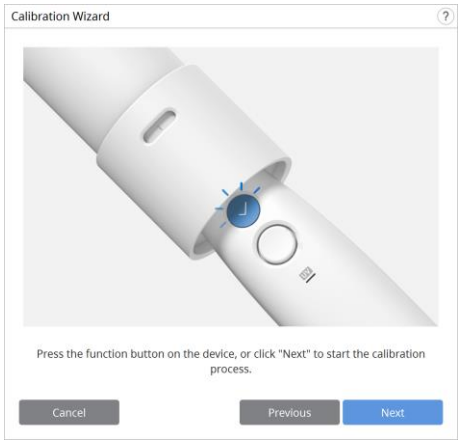
- The user can control the process (“Next”, “Complete”) by pressing the blue button on the scanner.



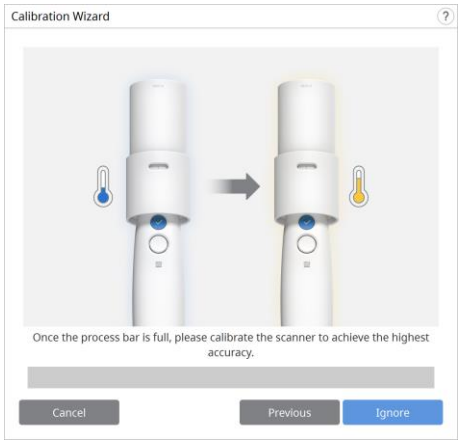
⑤ Put the handpiece into the calibration tool.



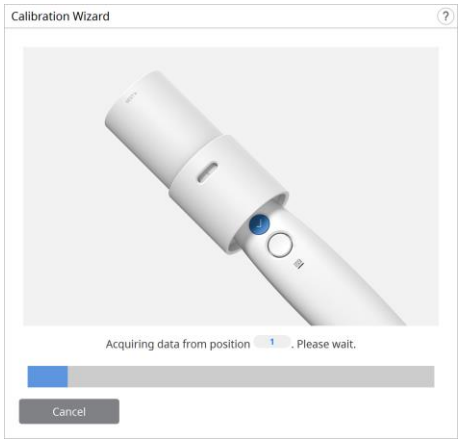
⑥ Click “Next” to start the calibration process.



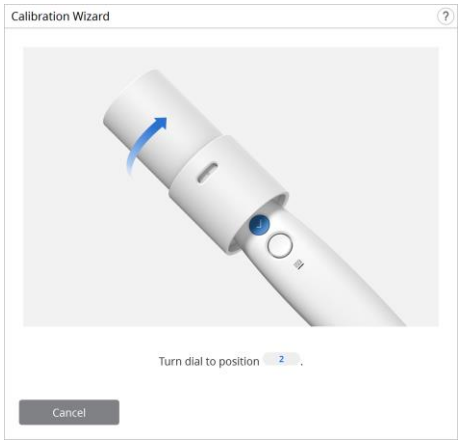
⑦ If the scanner’s temperature is too low, pre-heating will be required in order to provide the best performance.



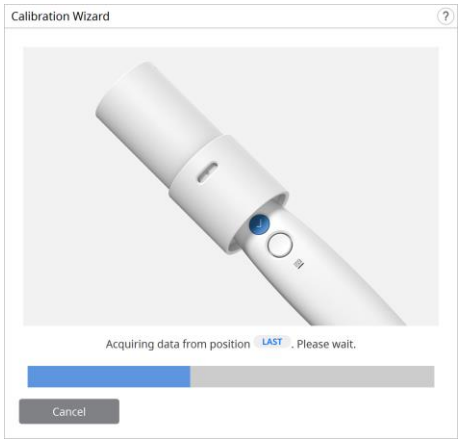
⑧ When the handpiece is mounted correctly, the system will automatically acquire the data at the correct position 1 .



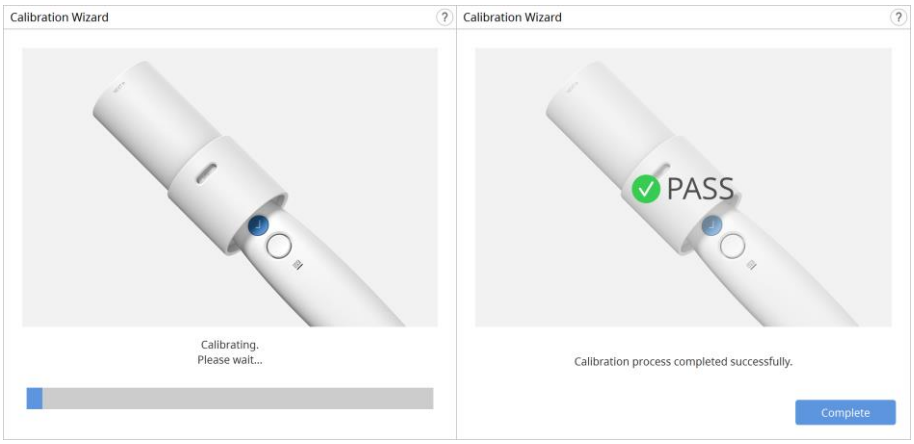
⑨ When data acquisition is complete at position 1 , turn the dial to the next position.



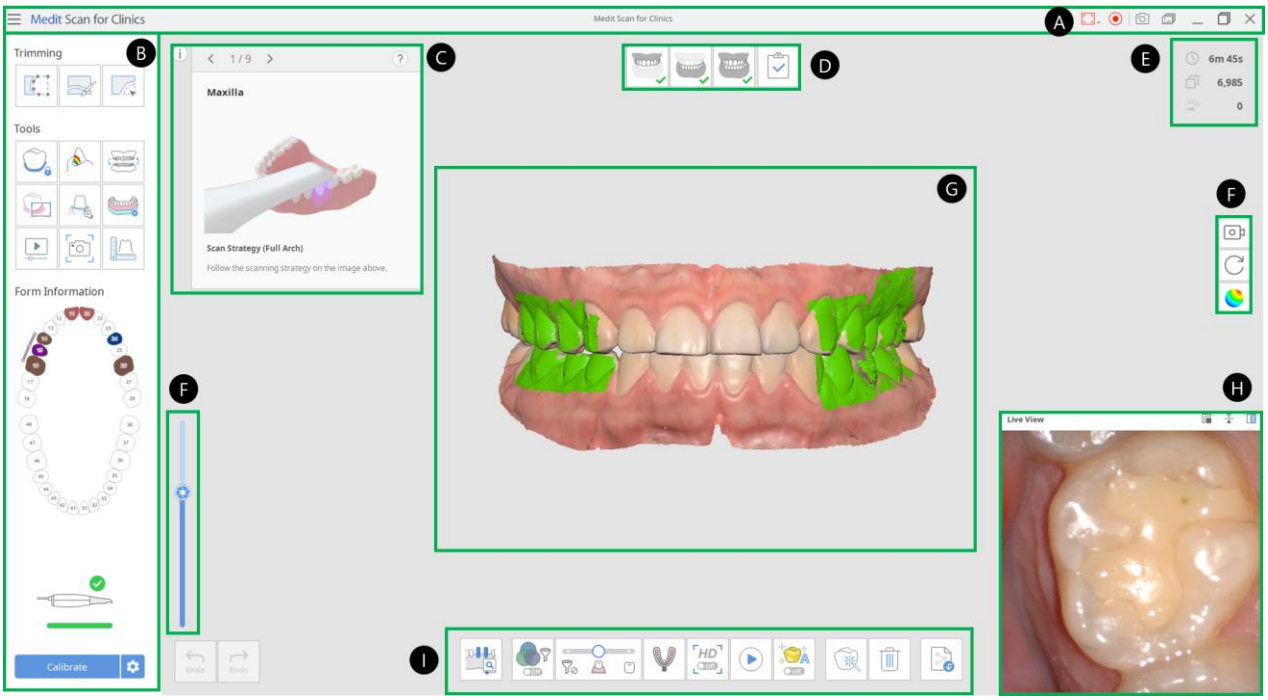
⑩ Repeat the steps for positions 2 - 8 and the LAST position.



⑪ When data acquisition is complete at the LAST position, the system will automatically calculate and show the calibration result.



4 User Interface



A. Title Bar
B. Main Toolbar
C. Information Box
D. Scan Stage
E. Scan Information
F. Side Toolbar
G. Model View
H. Live View Window
I. Command Options

4.1 Title Bar

The Title Bar consists of following options:

Menu	Includes tools to manage the project, and change settings of the application. It also shows details of the application.
Patient Information	Shows information of the current patient file.
Select Video Capture Area	Selects which area of the screen to record video. The user can record the entire window of the program, or an area of 3D view.
Start Video Recording	Records the complete window or 3D model view window of scanning software. This video file can assist in communication between the patient, clinic, and laboratory.
Screenshot	Captures the entire screen or 3D model view window of the scanning software. This video file can assist in communication between the patient, clinic, and laboratory.
Screen Capture Image Manager	Image captures are saved automatically to Medit Link. Also, manages the captured screen images. The user can delete the images or export them to the local drive.

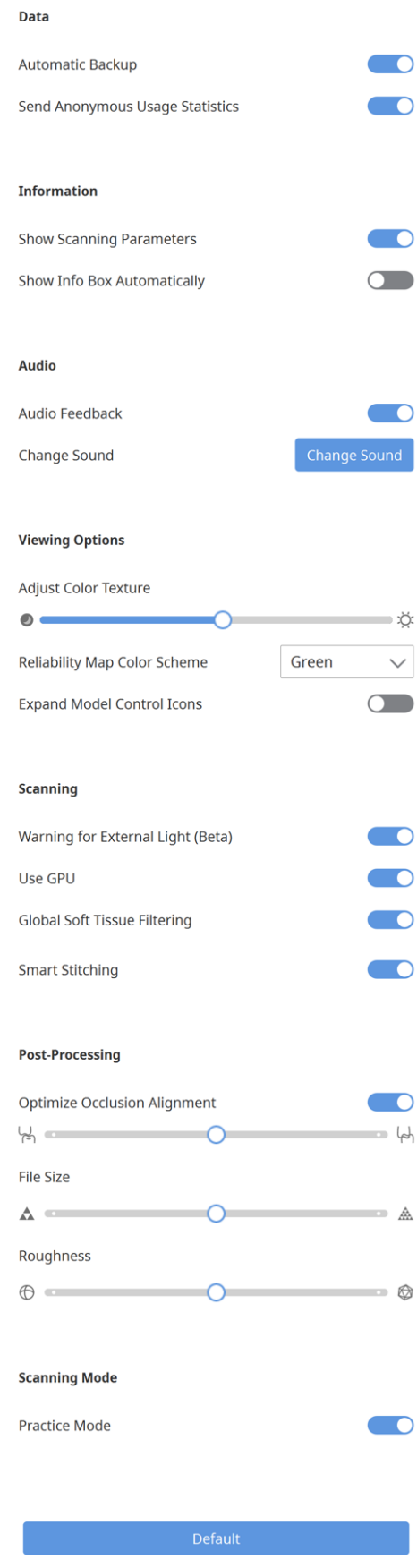
Minimize	Minimizes the application.
Maximize or Restore	Maximizes or restores the application.
Exit	Saves the current model and terminates the application.

4.1.1 Menu

Click on the ☰ button to see all of the functions in the Menu.

	Save	Saves all changes in the current case.
	Exit	Saves the current model and terminates the scan application.
	Settings	Provides options for setting environment, such as scan options.
	Help	Loads the Help contents.
	About	Shows application details, version number, and copyright information.

4.1.2 Settings



Automatic Backup	Saves the current work temporarily. Backup data will be used for recovery if the program stops unexpectedly without saving.	
Send Anonymous Usage Statistics	Sets whether to start and stop sending anonymous usage statistics to Medit.	
Show Scanning Parameters	Scan Time	Displays the scan time for each stage or the total scan time.
	Number of Frames	Displays the number of images taken by the scanner for each stage or the total number.
	Scan Speed	Displays the current scan speed. Shows the scan time, speed, and number of images.
Show Info Box Automatically	When on, automatically shows the Info Box in the top left corner of the window while working with the program.	
Audio Feedback	Indicates the status of the scanner through different sounds.	
Change Sound	Uses various file formats for audio feedback such as .wav, .mp3 and .wma. All audio files are added to the list. For more detailed information, please refer to "*8.8 Change Sound*".	
Adjust Color Texture	Adjusts the brightness of the 3D model. The color of the 3D model will be optimized in the image acquisition software. When viewing data using other software, the resulting colors may be slightly different from the image acquisition software.	
Reliability Map Color Scheme	Allows the user to set the color of reliable data as blue or green.	
Expand Model Control Icons	Allows the user to add icons of panning, zooming, and zoom fit on the right side.	
Warning for External Light (Beta)	Displays a warning when an external light source affects the scan.	
Use GPU	Improves overall computing performance using the GPU of a graphics card.	
Global Soft Tissue Filtering	Deletes the soft tissue globally. Deletion process is performed during scanning and when exiting or changing the scan stage.	
Smart Stitching	Save scan data of a non-continuous area separately. When acquiring data of a non-continuous area during scanning, you no longer have to return to the area where the original scanning stopped. The data is recognized as separate scan data and saved accordingly. During scanning, if separate scan data is acquired as a continuous area, the data will be aligned automatically. You can also align data manually or delete unsorted data.	
Optimize Occlusion Alignment	Optimize the occlusion alignment. Move the slid bar to the left in order to loosen the occlusion alignment. Move the slid bar to the right in order to strengthen it.	
File Size	Allows the user to control the size of results file. When the slider bar moves to left, the result file is generated faster and file size will be smaller. User can select the size of result file according to post-processing. In general, a smaller result file is suitable for orthodontic applications.	

Surface Roughness	Allows the user to control the surface roughness of result file. When the slider bar moves to left, the surface roughness is less and result will be smoother. User can select the surface roughness of the results file for post-processing accordingly.
Practice Mode	Practice scanning by using the practice model provided by Medit. If there is no acquired scan data, a banner will be displayed in the lower right corner of the program window. Click the banner and go to Practice Mode.
Default	Restores all settings to system default.

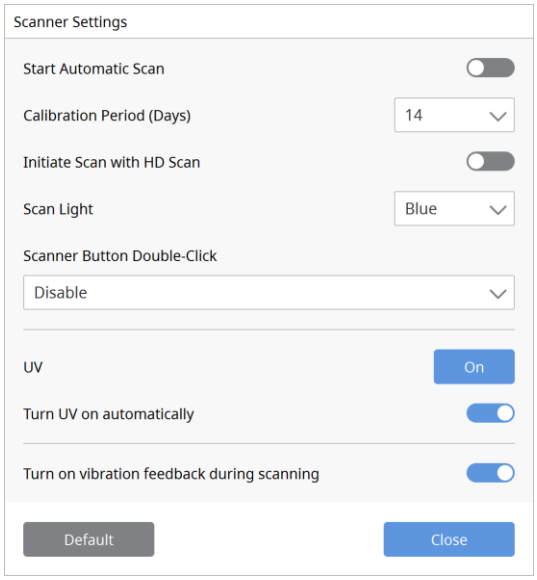
About collection of anonymous statistics

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.

4.1.3 Scanner Settings

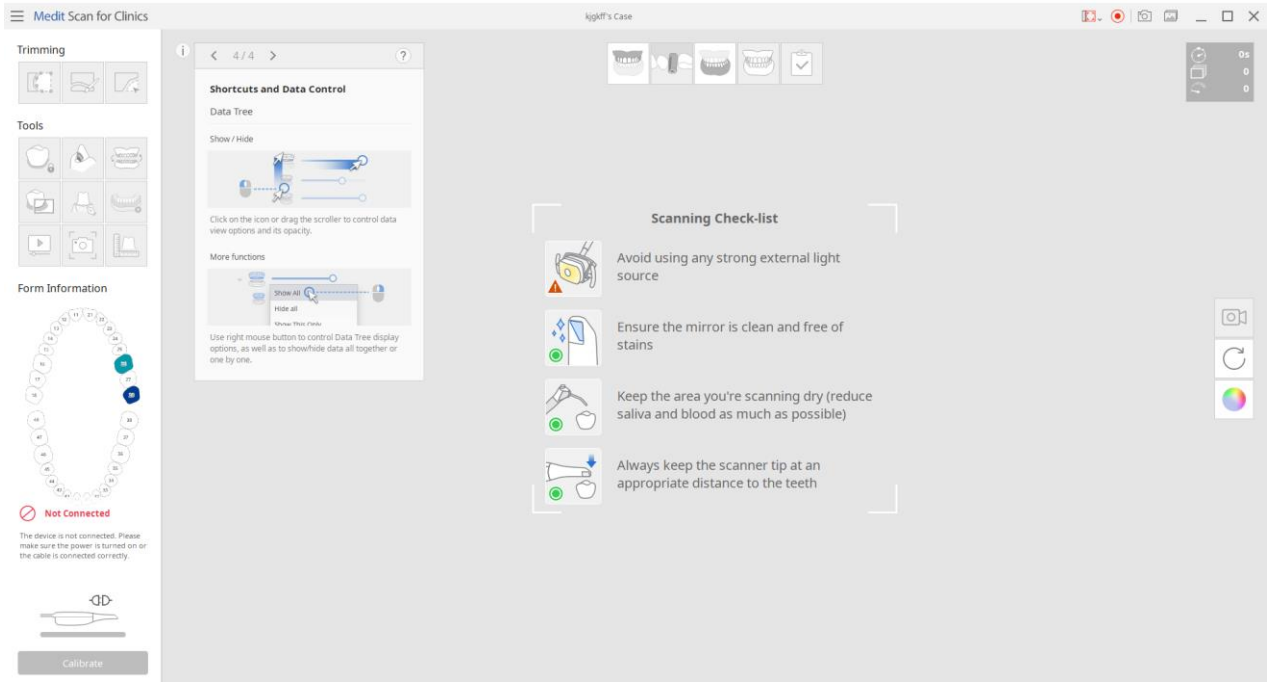


Start Automatic Scan	Starts the scan automatically without pressing the button upon entering any scan stage. If this option is set to off, the scan will be started by the button on the scanner.
Calibration Period (Days)	Sets the calibration period of the scanner.
Initiate Scan with HD Scan	Always starts the scan in HD mode.
Scanner Button Double-Click	Defines the shortcut function by double clicking the scanner function button.
Turn UV On Automatically	Turn on the UV light automatically when the scanner is connected, or when scanning stops. It will be turned off automatically after a period of time.
Turn On Vibration Feedback During Scanning	Turn on the vibration in order to be notified of misalignment, etc.
Default	Restores all settings to system default.

4.2 Scanning Check-List

- Avoid using any strong external light source.
- Ensure the mirror is clean and free of stains.
- Keep the area being scanned dry (reduce saliva and blood as much as possible).
- Always keep the scanner tip at an appropriate distance to the teeth.

The reminder is also provided at the overview stage, before the scanning process has started.

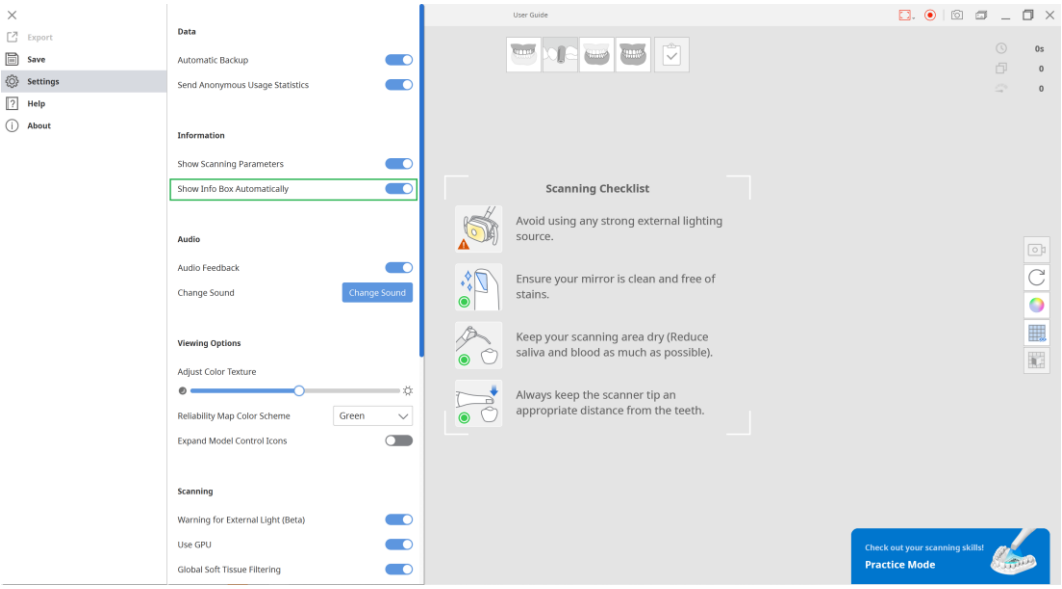


4.3 Information Box

Scanning and editing processes are accompanied by short explanations and visual aids aimed at explaining major functions and introducing the tools that can be useful at this specific stage.

For general scan stages, the information is displayed in a random order to expose users to various functions.

Go to Settings > Show Info Box Automatically to control the information system display options.

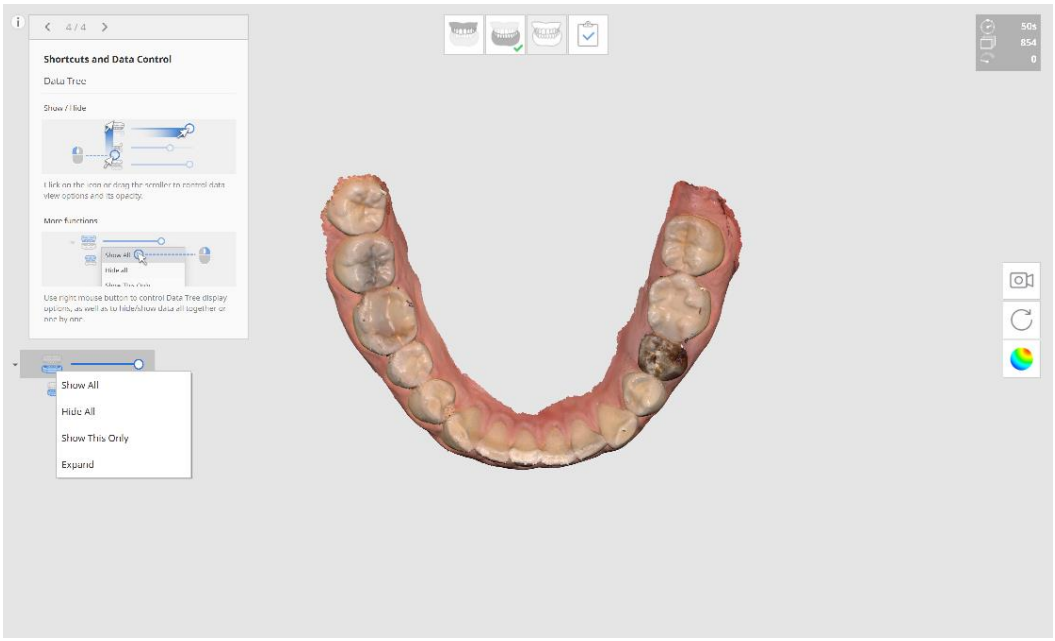


4.4 Data Tree

Data Tree at the overview stage allows to control the data display options.

① Click right mouse button on the Data Tree to control the following options:

- Show/Hide All
- Show This Only
- Expand/Collapse



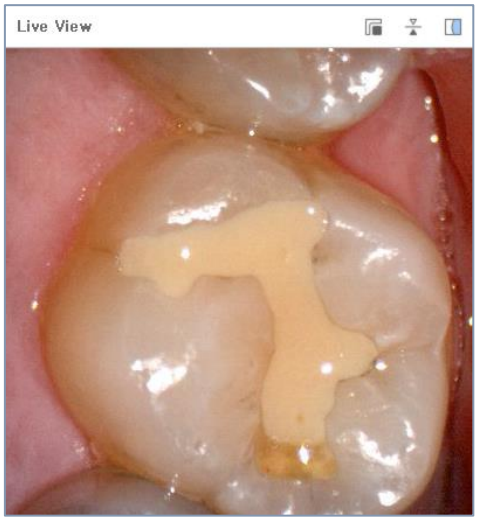
② Use the slider to control the opacity of the data.

Click on the corresponding icon to show or hide the data. Drag the mouse across all of the icons to show or hide them.

4.5 Live View Window

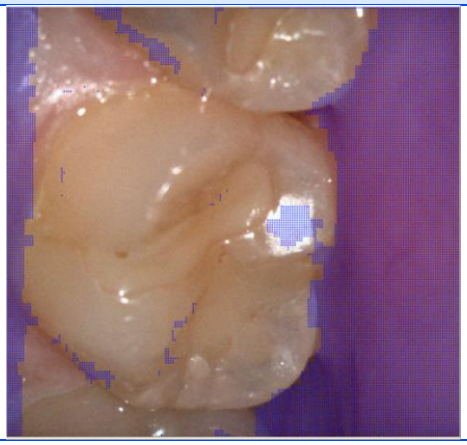
It displays the 2D image from the scanner and provides useful tools.

Live View window can be moved from the fixed position and the user can relocate it. The user can also change the Live View window size when the window is detached.
Additionally, useful tools to control the Live View image, such as Flip Image and Show/Hide Unscannable Area are also offered.



Toolbox

	Detach Live View Window	Detaches the Live View window from the fixed position. The window size can be changed when the window is detached.
	Reset Live View Window	Brings the Live View window to the default position and size.
	Flip Image	Flips the image on the screen. This is useful when performing intraoral scanning from the top of the patient's head.
	Show/Hide Unscannable Area	Turns on or off the visibility of the unscannable area. The unscannable area is shown with blue masking.

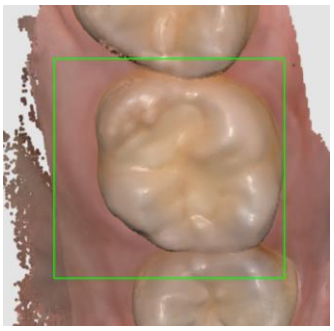
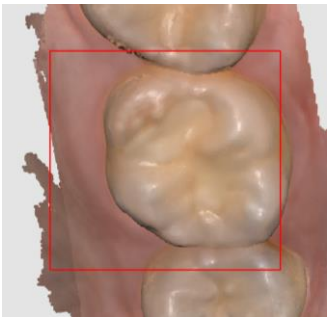
Show Unscannable Area	Hide Unscannable Area
	

4.6 Model View Screen

Displays the captured 3D scan data and various other tools, such as Scan Stage, Live View window, Function Option, Sub Toolbar, and Guide Message.

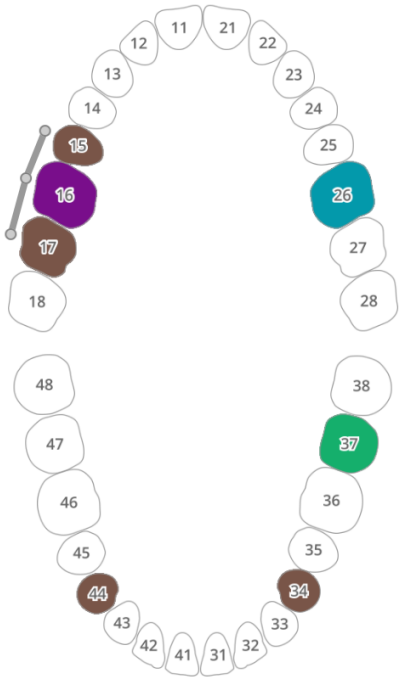
4.7 Indication During Scanning

The color of the rectangular box which appears during scanning indicates the scan status.

Green Rectangle	Red Rectangle
	
Scanning and alignment is optimal.	Alignment is lost. Reposition the scanner tip in the area being scanned in order to continue scanning.

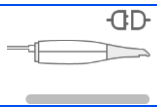
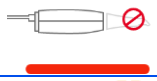
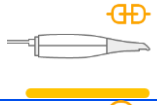
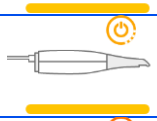
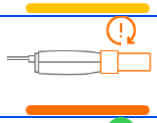
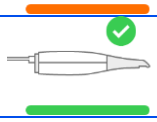
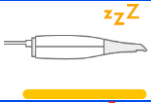
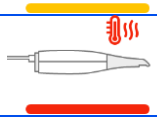
4.8 Form Overview

Shows the information of teeth needing treatment.



4.9 Scanner Status

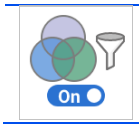
The following are indications of the scanner status:

	Not Connected	The scanner is not connected.
	No Tip	The tip is not mounted.
	Connecting	The scanner is trying to connect.
	Rebooting	The scanner is rebooting.
	Calibration Required	The scanner needs to be calibrated.
	Ready	The scanner is ready for use.
	Scanning	The scanner is currently in the process of scanning.
	Sleep	The scanner is in sleep mode.
	Overheating	The scanner is overheated.

5 Major Tools and Functions

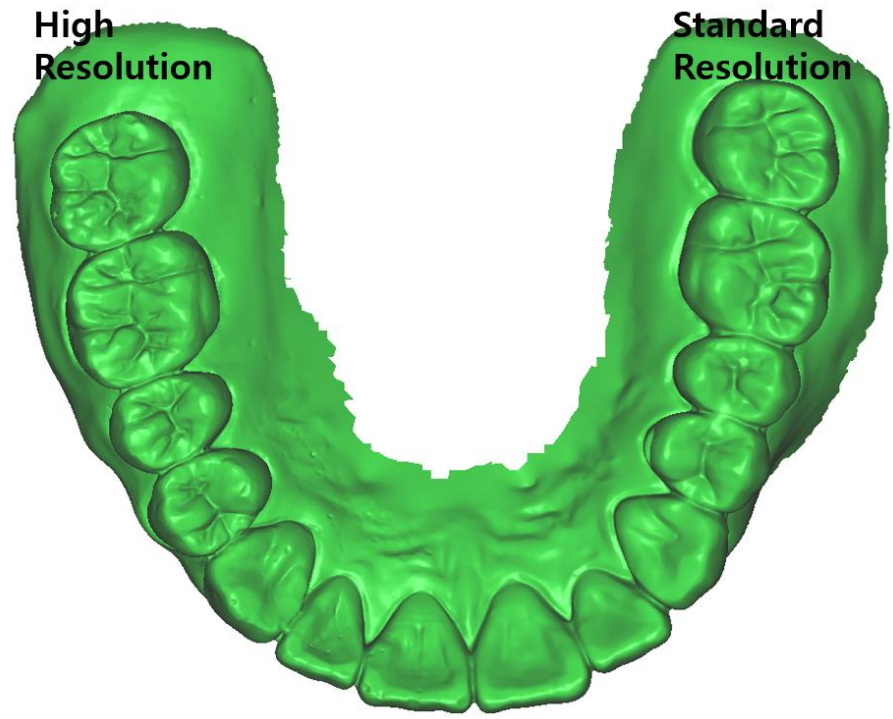
The following functions accompany the scan stages. They are located at the bottom of the window.

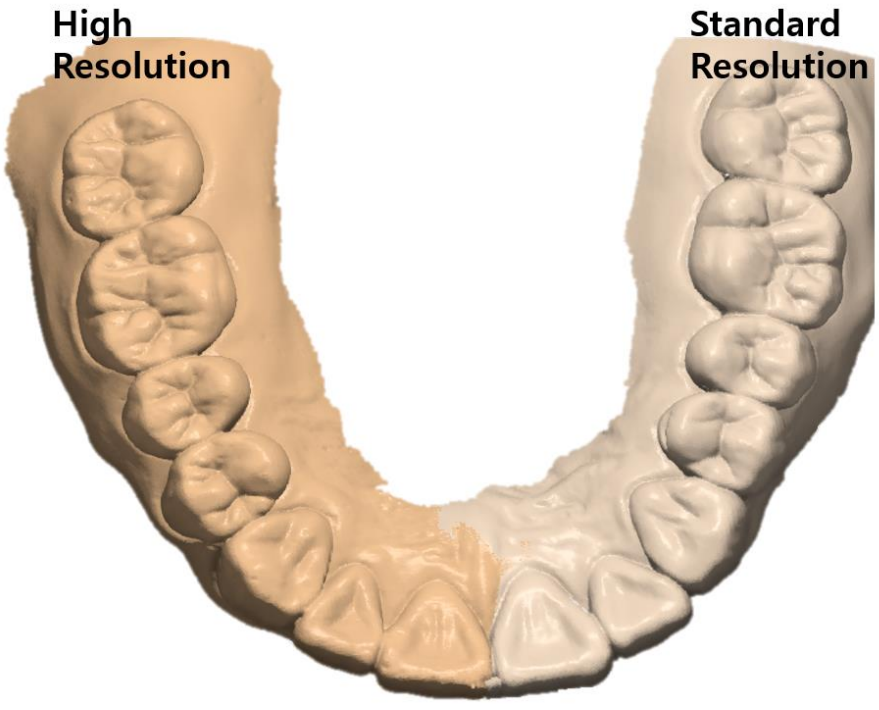
Scan Control		
	Start	Starts the scan. The user can also start the scan by using the blue button on the scanner.
	Stop	Stops the scan. The user can also stop the scan by using the blue button on the scanner.
	Optimize	Aligns 3D images for a more accurate scan. All the noise will be removed after optimization.
	High Resolution Scan	Acquires high resolution data for the entire scan or an single area. The combined result of utilizing both high and standard resolution scanning is merged smoothly during post-processing.
	Metal Scan	When on, allows user to automatically detect and apply parameters for metal surfaces. Turn off the option when scanning a gypsum dentiform model without any metal surface.
	Import Scan Data	Imports 3D data from Medit Link. Make sure to attach the files to a case in Medit Link before proceeding. If importing data from a third-party scanner, the user will still be able to rescan the erased sections, or perform additional scanning.
	Delete	Deletes all 3D images. It also deletes the current stage data.
	Undo	Undoes the previous scan.
	Redo	Redoes the previous scan.

Filtering Options			
	Smart Scan Filtering	This feature removes unnecessary soft tissue data, which can be the biggest challenge while scanning. Three filters are available for your convenience.	
		No Filtering	Does not filter the soft tissue. Useful for edentulous arch or plaster model cases.
		Teeth + Gingiva	Removes soft tissue interfering with the scan. This leaves only the necessary gingiva. You can use this option for most of the general scan cases.
		Teeth	Scans teeth only. Effective when scanning only the teeth as an additional scan, after using the Teeth + Gingiva filter for initial scanning.
	Smart Color Filtering	Helps filter out data by defining its color. Manages scan filtering options for up to three colors.	

5.1 High Resolution Scan

Acquires high resolution data for the entire scan or a single area. The combined result of utilizing both high and standard resolution scanning is merged smoothly during post-processing.

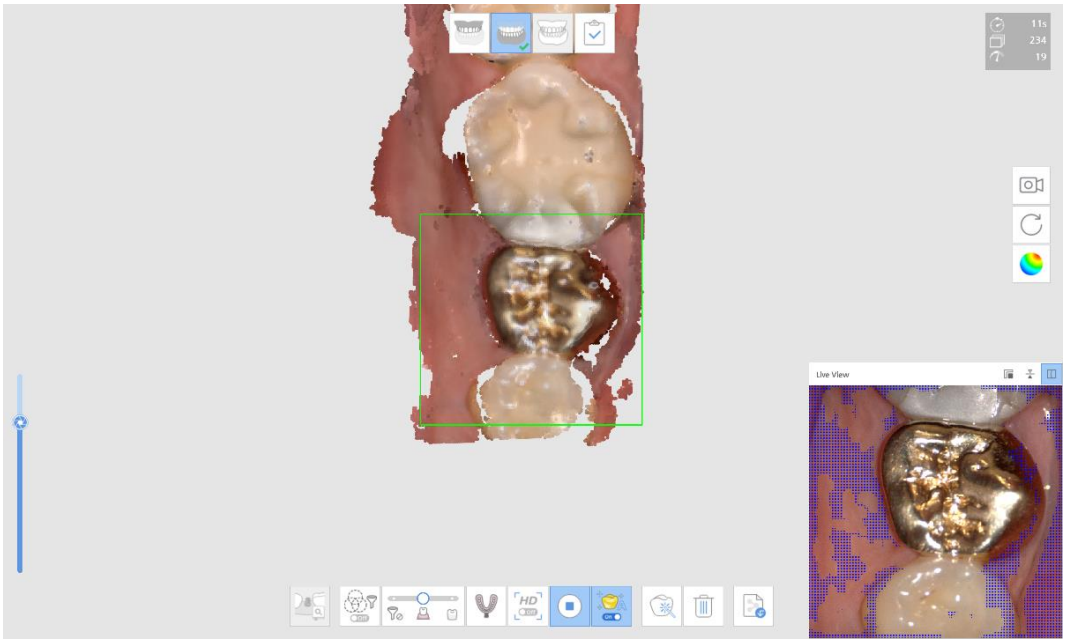




5.2 Metal Scan

	Metal Scan	When on, allows user to automatically detect and scan metal surfaces.

Partially scanning metal surfaces is possible when using the “Metal Scan” tool. The corresponding button appears at the bottom of the screen during all scanning stages.

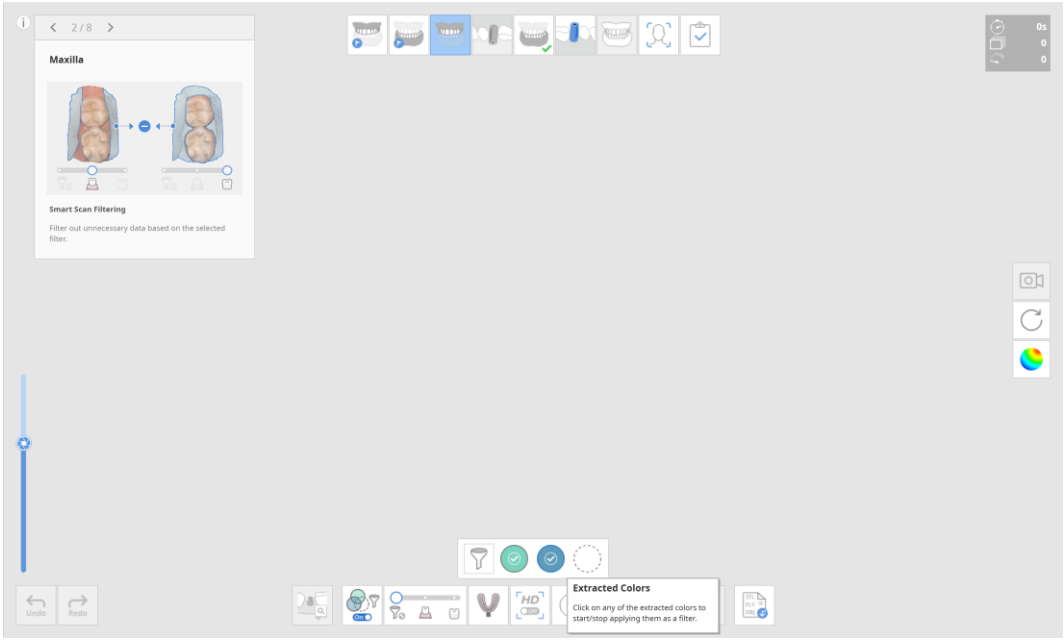


Turn on the “Metal Scan”  tool either before starting the scan, or during the scanning process.

5.3 Smart Color Filtering

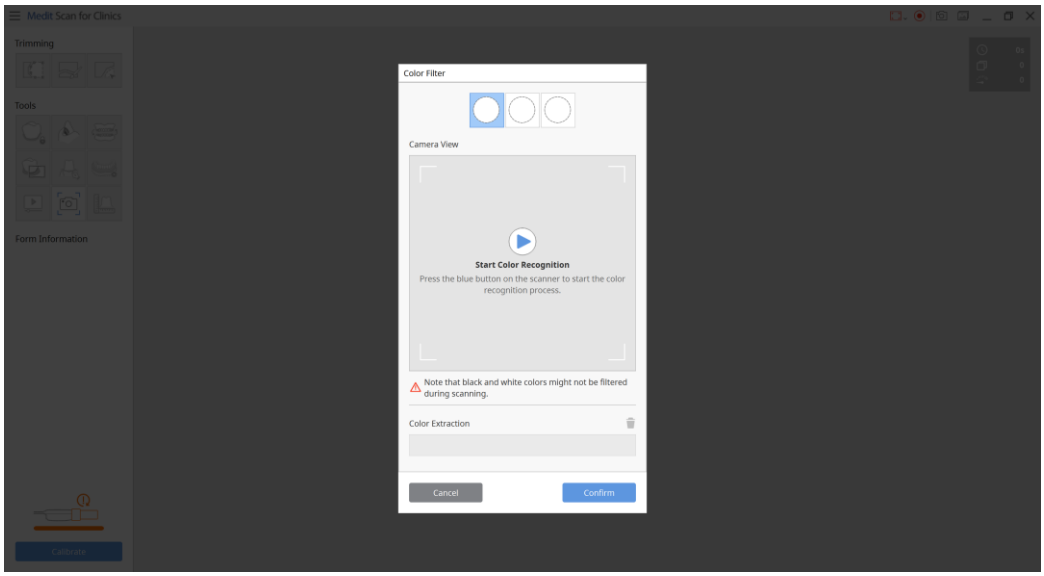
	Smart Color Filtering	Helps filter out data by defining its color. Manages scan filtering options for up to three colors.

The “Smart Color Filtering” option prevents scanning of alien materials (e.g. gloves, etc.) in the intraoral environment by registering their colors. Once the colors are registered and the option is turned on, the colors will automatically be filtered out during the scanning process.

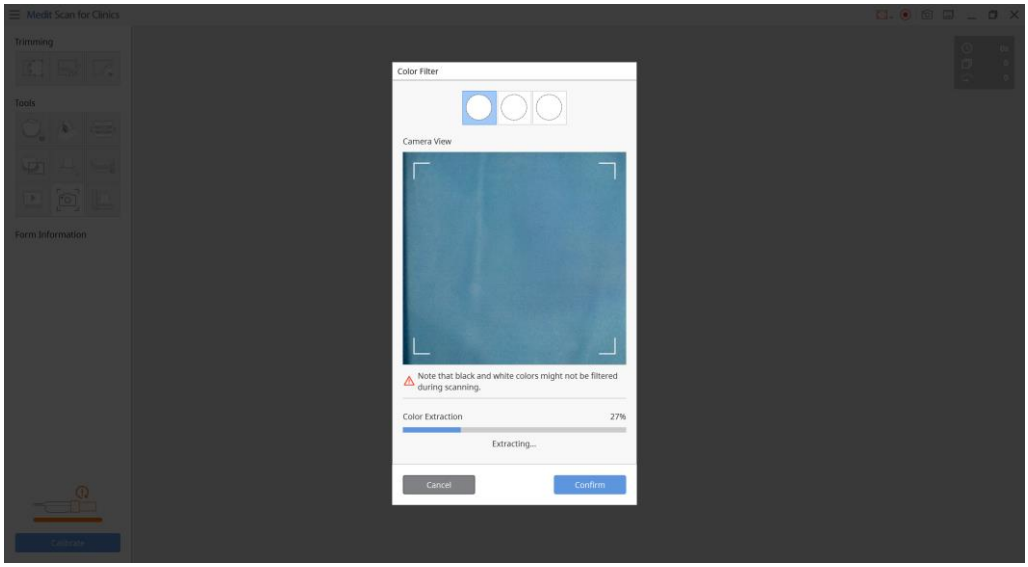


① Turn on filtering by clicking “Smart Color Filtering”  located at the bottom of the window.

② To register a new color, click “Add a Color” .



③ Prepare the material to be filtered out. Then, press the blue button on the scanner to start the color recognition process.



- Either delete the registered color or rescan it.

④ Click “Confirm” to register the color and complete the color registration.

⑤ Turn the function off by pressing the icon again.

The registered colors will be saved for all next sessions unless the user decides to change them.

The registered colors will be displayed on the icon: 

.

5.4 Smart Stitching

For 3D scanning of video recording, it is important to perform a seamless scanning without losing any focus of the camera during acquisition of scan data. This process is highly influenced by proficiency of users and the intraoral condition of patient. However, this is no longer a problem with "Smart Stitching".

"Smart Stitching" can be applied while scanning in the following stages:

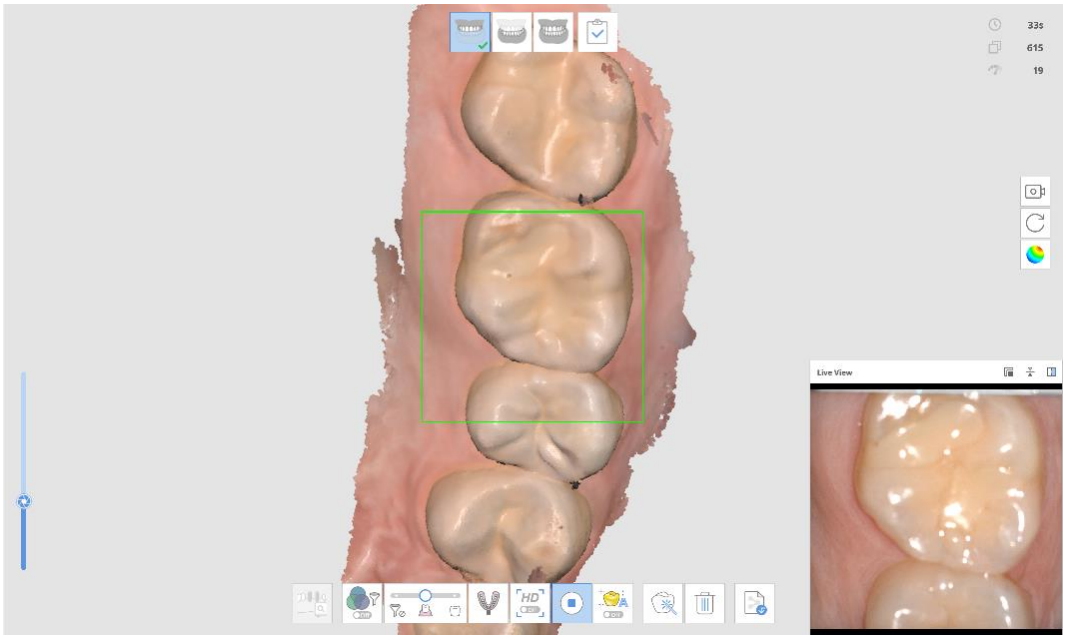
- Pre-Op for Maxilla
- Pre-Op for Mandible
- Maxilla
- Mandible

Note: This function is excluded in some functions such as "A.I. Abutment Matching" ,"Impression Scan", and "Relined Denture Scan".

Smart Stitching - How-To Guide

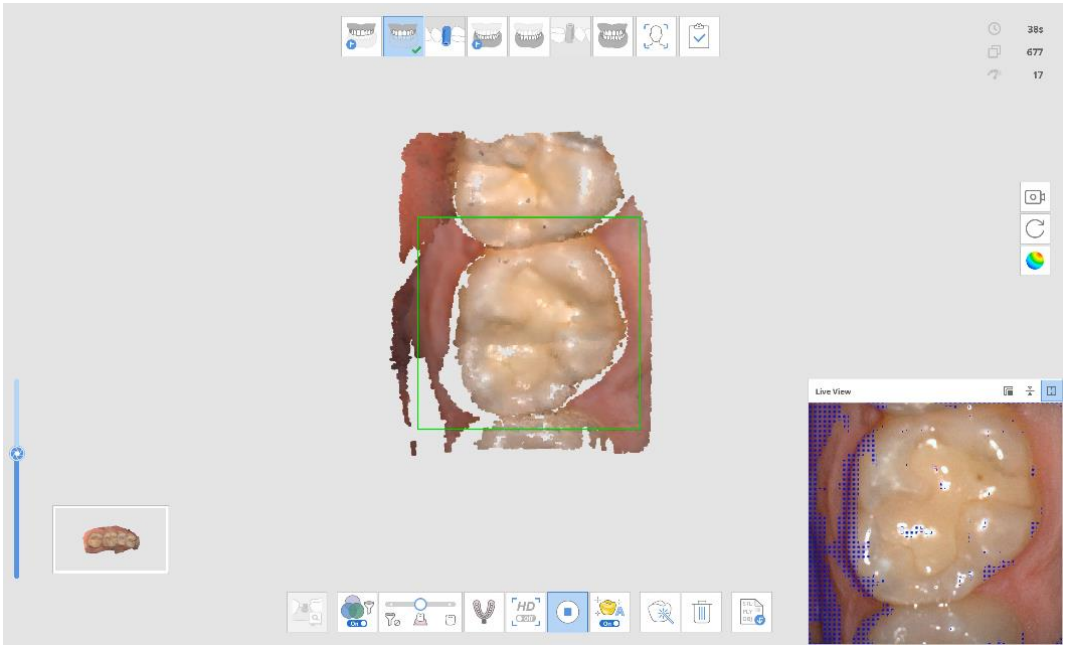
① "Smart Stitching" can be turned on/off by going to "Menu" > "Settings".

② Start scanning process in the stage described above.

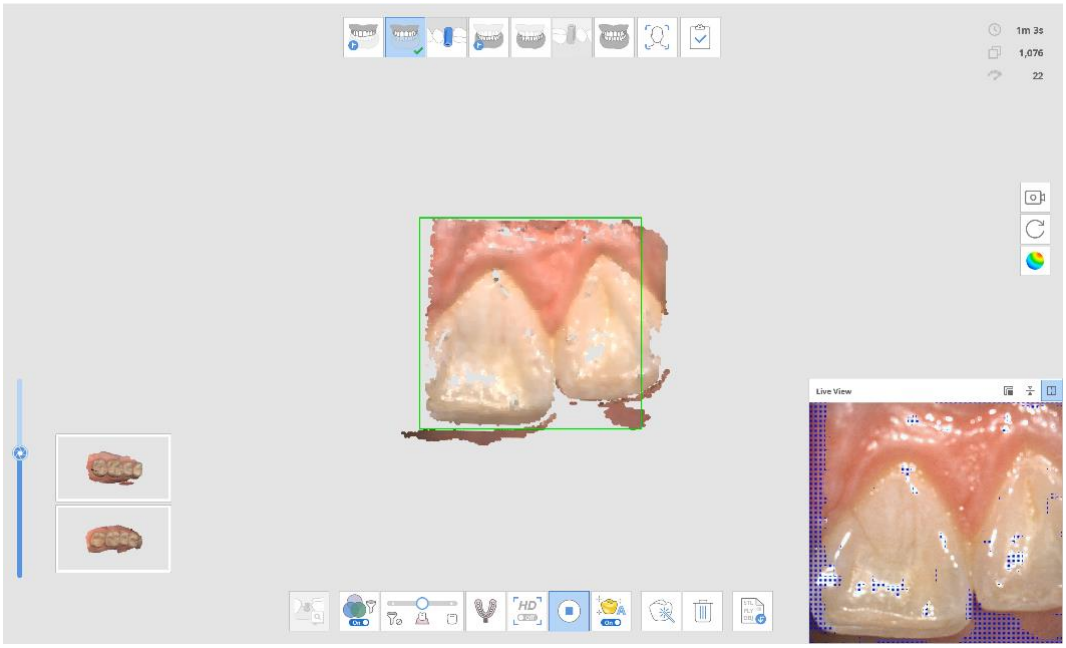


③ If the scanner is placed in a non-contiguous area with the acquiring scan data, new scan data will be acquired.

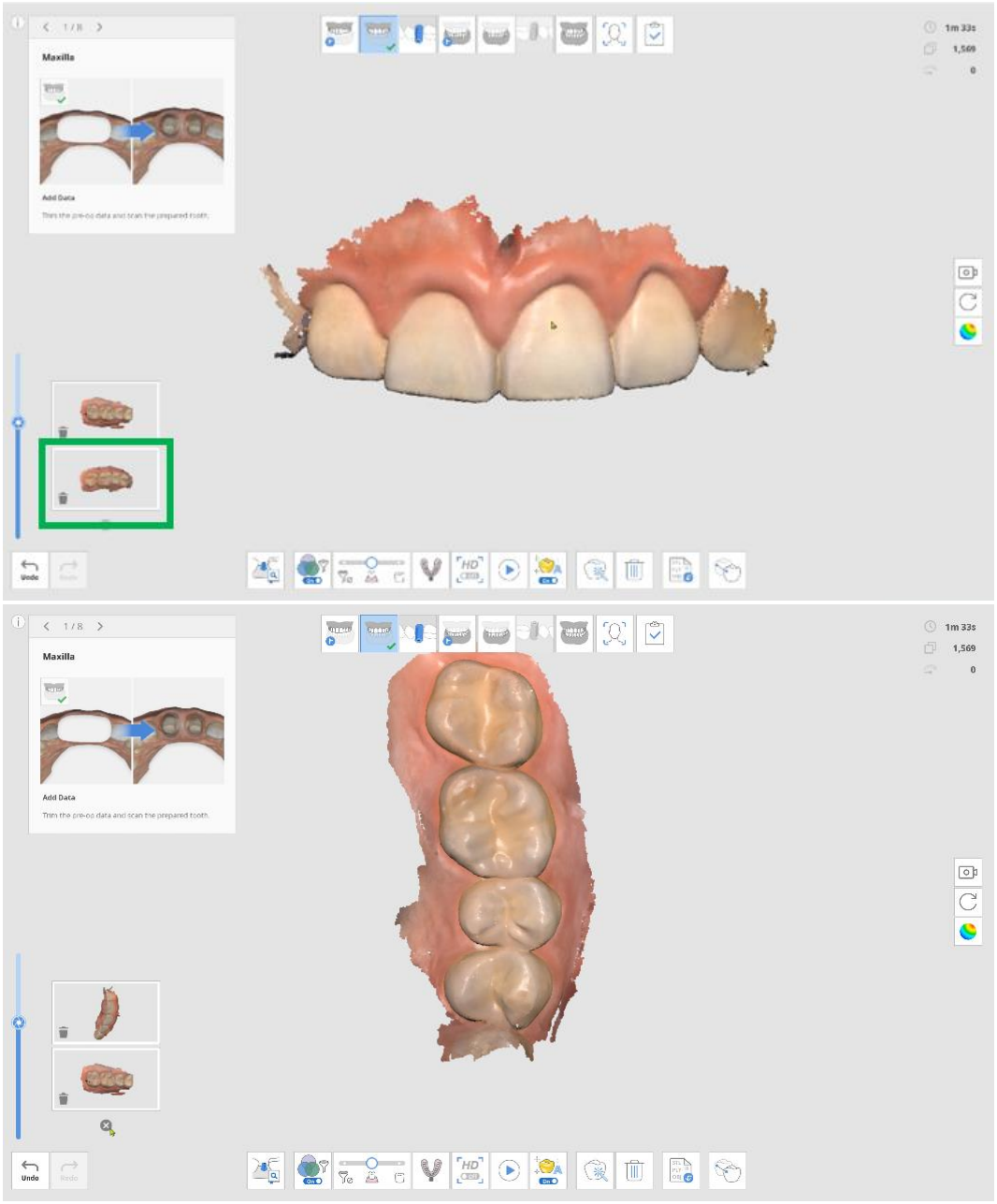
④ Any scan data acquired first is provided in the form of thumbnails. You can have up to five on the left side of the screen.



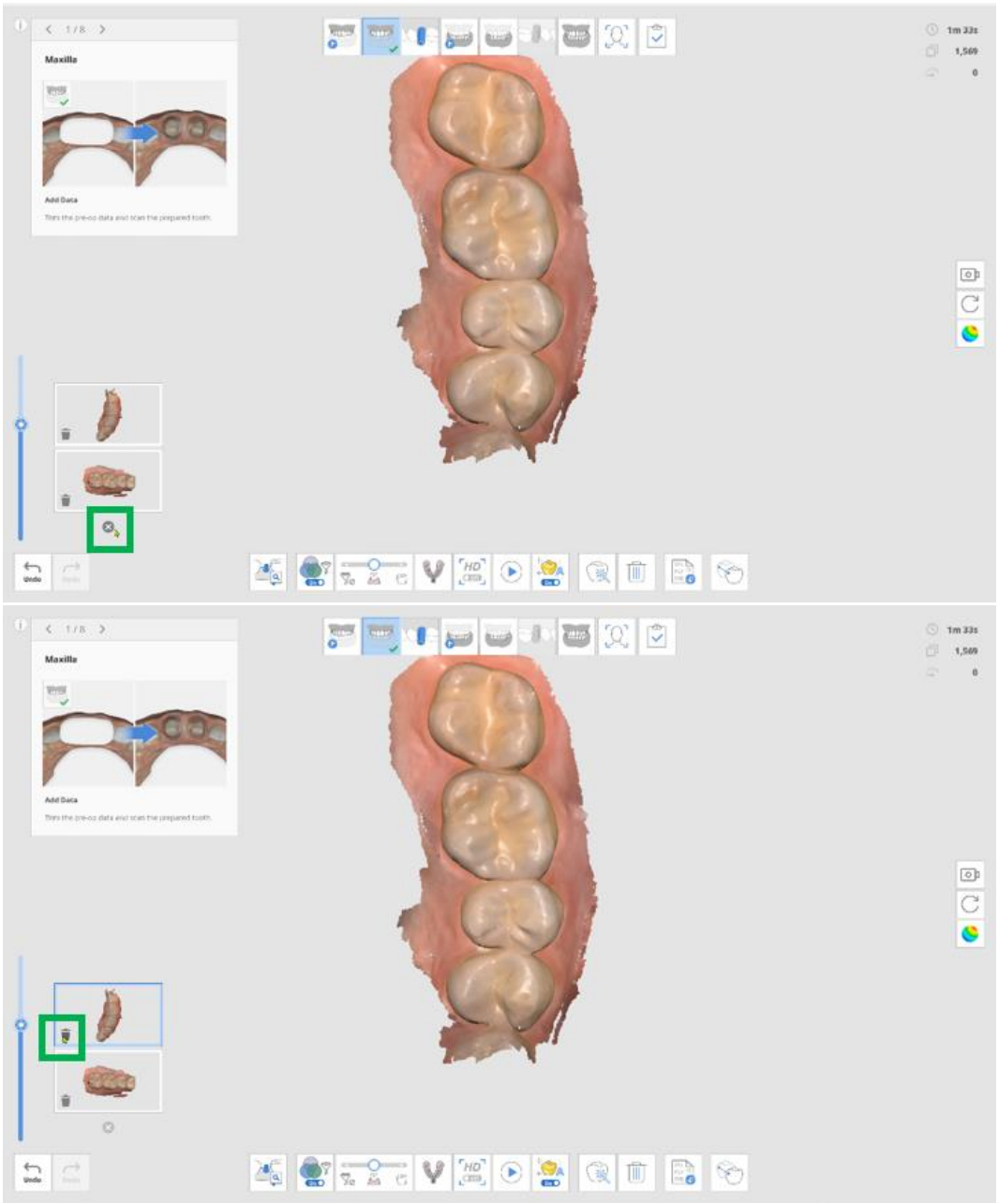
⑤ If the new area is different from the acquired scan data, new scan data is acquired and the thumbnails of the acquired scan data will be aligned vertically.



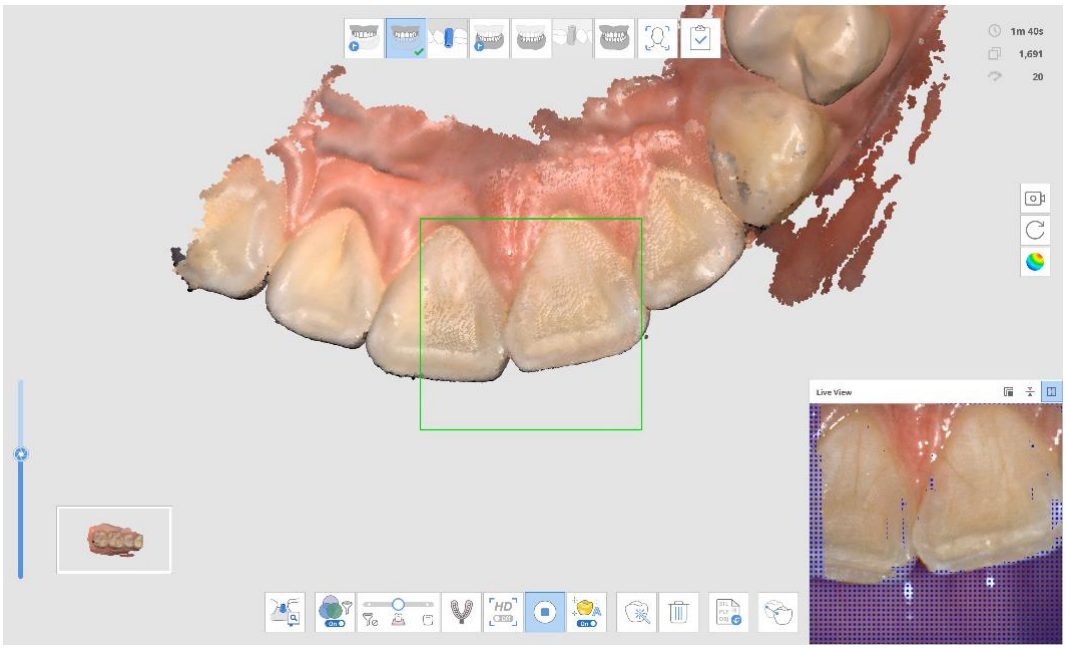
⑥ Stop the scanning process and click the thumbnail to change scan data in the data display area. Thumbnails of scan data which were previously displayed are created and added.



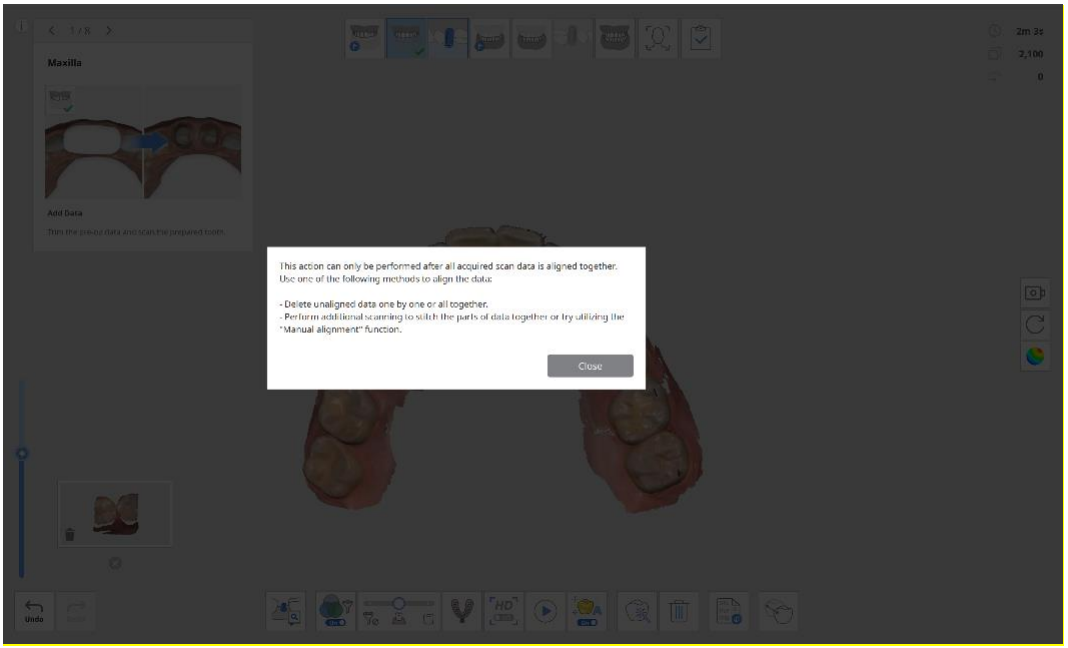
⑦ Non-aligned data can be deleted individually by clicking on the "Delete" button on the thumbnail. Or, it can be deleted all together by clicking on the "Delete All" button on the bottom of the screen.



⑧ When the scanner acquires new data in a non-aligned scan data area during scanning, it will automatically attempt to align, and any thumbnails of aligned data will disappear.

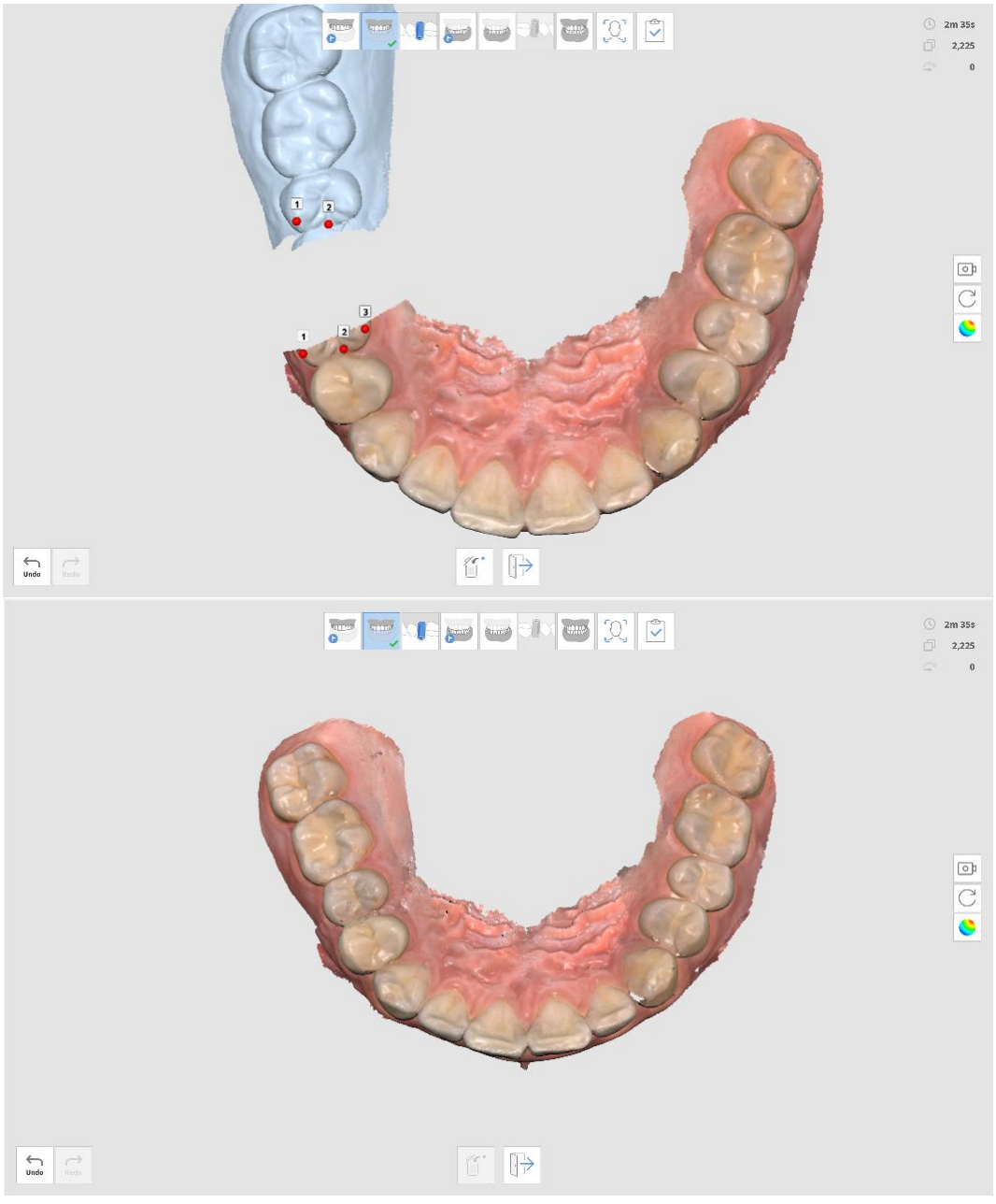


⑨ When there is non-aligned scan data still present, exiting is restricted from some scan stages. The following message may appear:

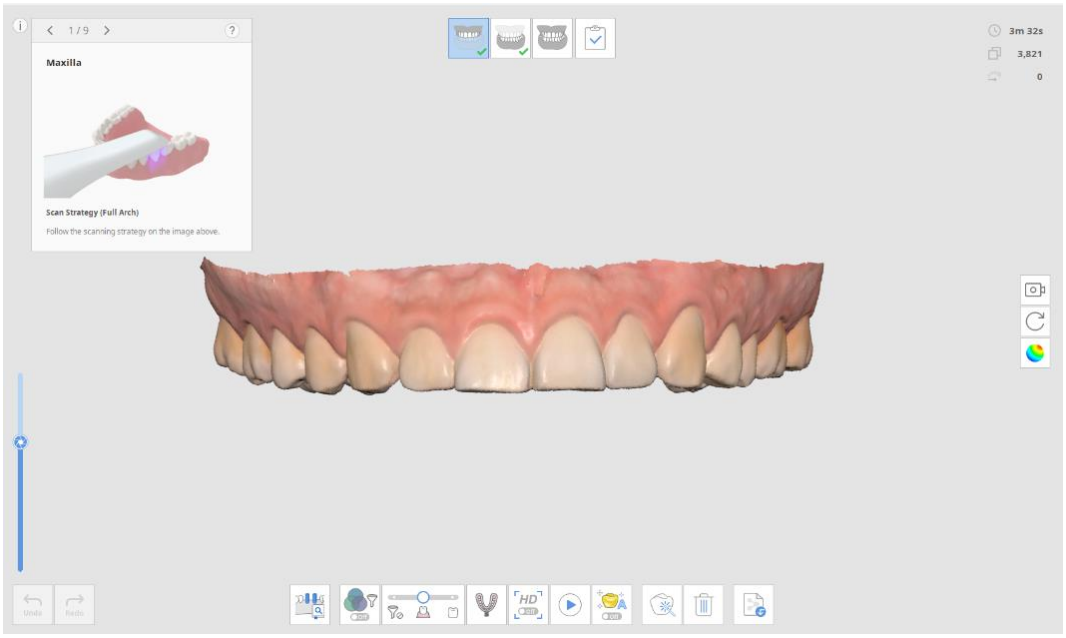


⑩ Do one of the following to align all scan data:

- Align data with an additional scan.
- Align data with the "Manual Alignment" function.
- Delete all or part of the non-aligned scan data.



⑪ When all non-aligned scan data becomes aligned, data acquisition is completed as shown below.



6 Scan Stages

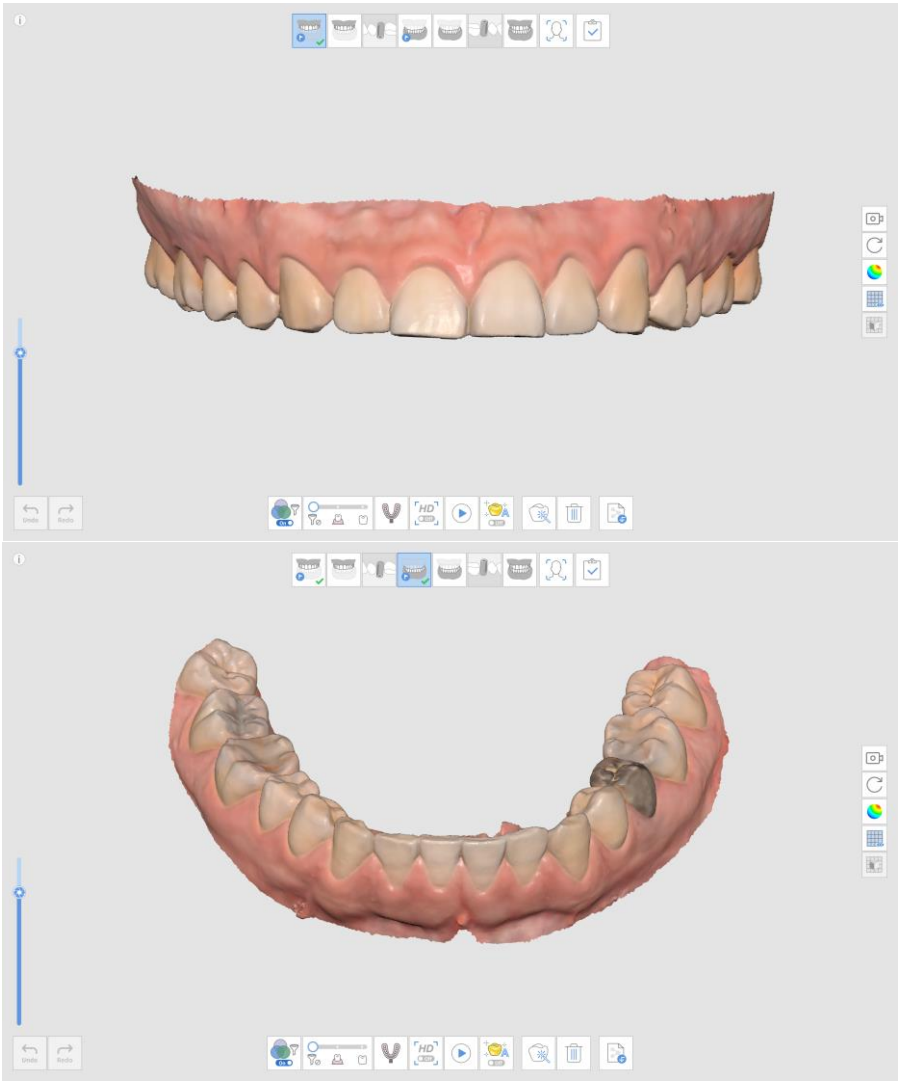
Scan Stage indicates the current section needing to be scanned.

	Pre-Op for Maxilla	Acquires a 3D image of the pre-op for maxilla.
	Pre-Op for Mandible	Acquires a 3D image of the pre-op for mandible.
	Maxilla	Acquires a 3D image of the maxilla.
	Maxillary Scan Body	Acquires a 3D image of the scan body of the maxilla.
	Mandible	Acquires a 3D image of the mandible.
	Mandibular Scan Body	Acquires a 3D image of the scan body of the mandible.
	Edentulous Maxilla	Acquires a 3D image of the edentulous maxilla.
	Maxillary Denture	Acquires a 3D image of the maxillary denture.
	Edentulous Mandible	Acquires a 3D image of the edentulous mandible.
	Mandibular Denture	Acquires a 3D image of the mandibular denture.
	Occlusion	Acquires a 3D image of the occlusion alignment.

	Face	Acquires 3D data of the teeth, mouth, nose, etc.
	Complete	Completes the scan and generates the result data.

6.1 Pre-Op for Maxilla and Mandible

	Acquires a 3D image of the pre-op for maxilla.
	Acquires a 3D image of the pre-op for mandible.

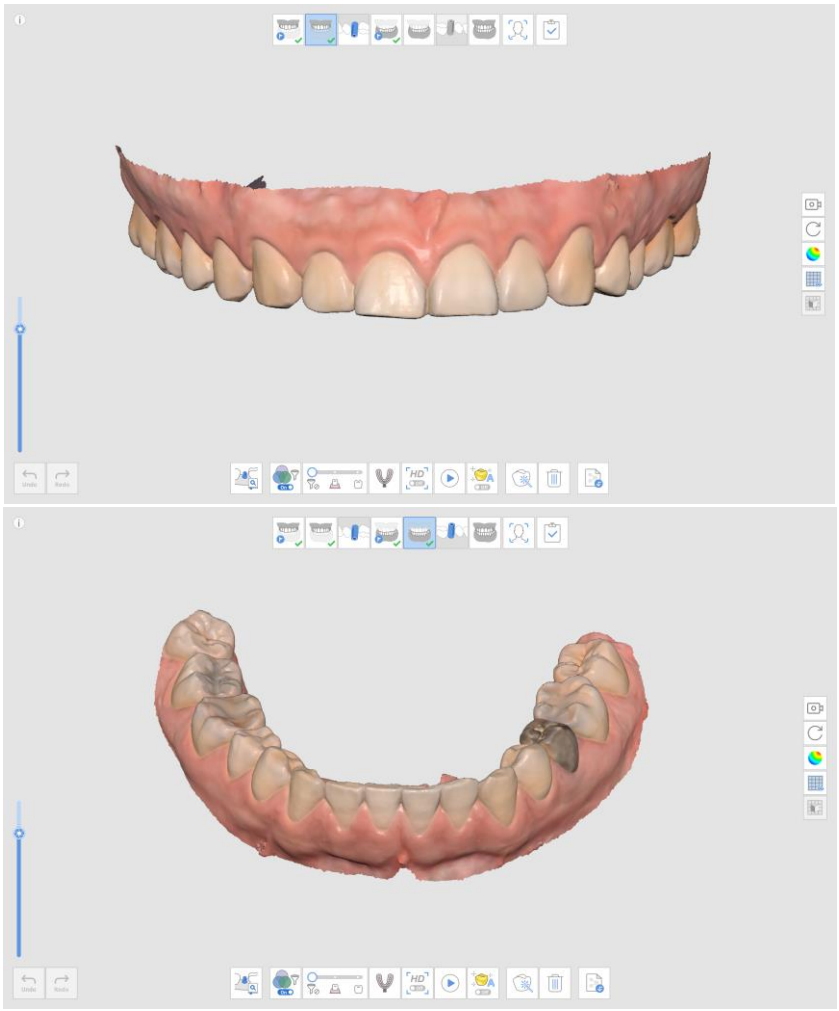


Toolbox

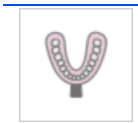
	Impression Scan	Acquires impression data and aligns it with intraoral data in real-time.

6.2 Maxilla and Mandible

	Acquires a 3D image of the maxilla.
	Acquires a 3D image of the mandible.



Toolbox

	Impression Scan	Acquires the data of impression model. Impression data is aligned with intraoral data in real-time.
	A.I. Abutment Matching	Manages custom abutment libraries. This library data is aligned automatically with the scan data, minimizing the need to scan difficult-to-reach areas. The library data can be shared for further processes, such as design.

6.3 Scan Body

	Acquires a 3D image of the scan body of the maxilla.
	Acquires a 3D image of the scan body of the mandible.

Toolbox

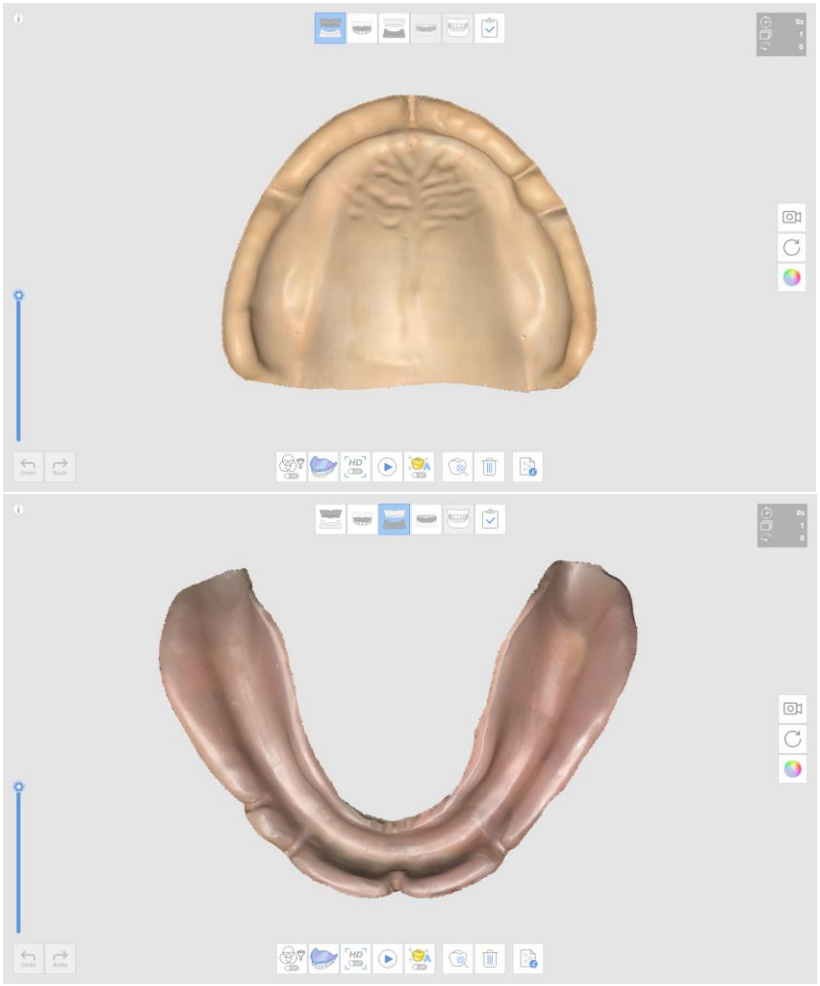
	A.I. Scan Body Matching	Manages pre-set and custom scan body libraries. This library data is aligned automatically with the scan data, minimizing the need to scan difficult-to-reach areas. The library data can be shared for further processes, such as design.

6.4 Edentulous Maxilla and Mandible

Acquires a 3D image of the edentulous maxilla.

Appears when the denture is set in the dental form in Medit Link.

Acquires a 3D image of the edentulous mandible.



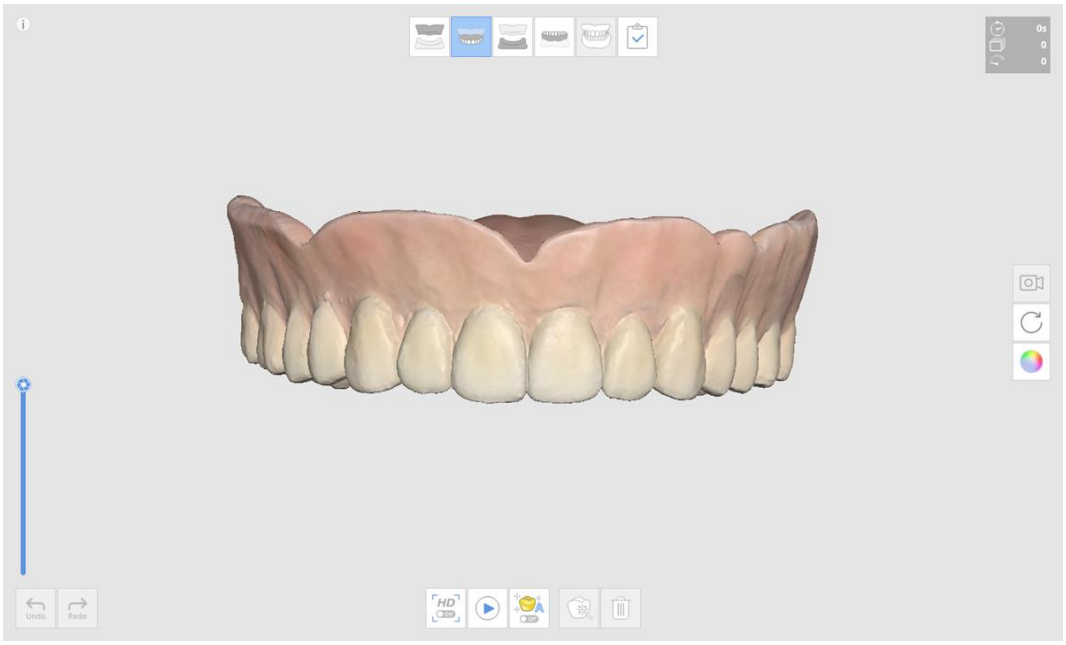
Toolbox

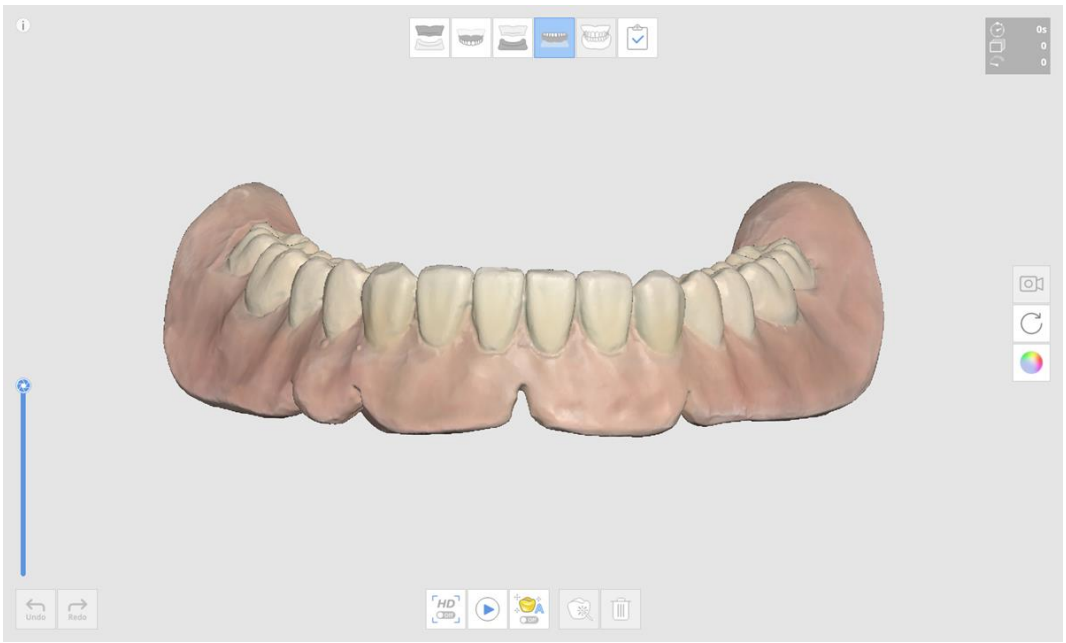
	Relined Denture Scan	Scans the fitting surface of the relined denture, which will be utilized as edentulous scan. This helps reproduce the edentulous environment for optimal denture manufacturing process.

See **9.4 Edentulous Scan Process** for more details on how to handle denture cases.

6.5 Maxillary and Mandibular Denture

	Acquires a 3D image of the maxillary denture.
	Acquires a 3D image of the mandibular denture.

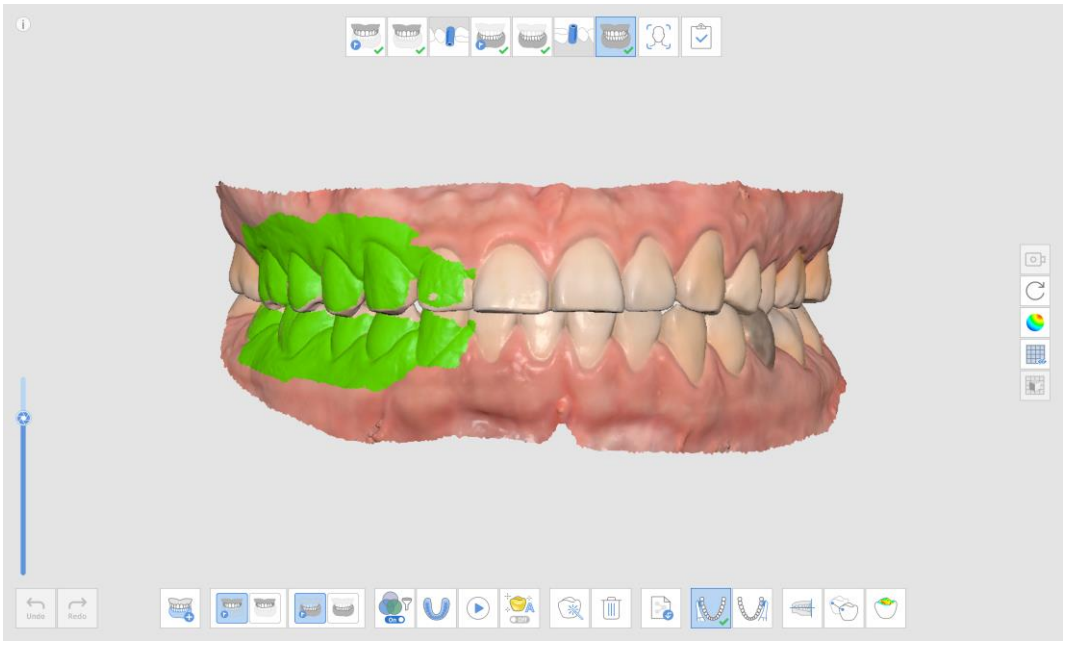




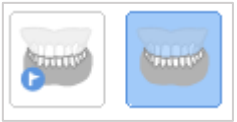
See **9.4 Edentulous Scan Process** for more details on how to handle denture cases.

6.6 Occlusion Scan

	Acquires the 3D image of the occlusion.



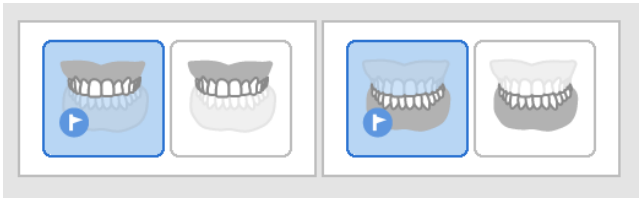
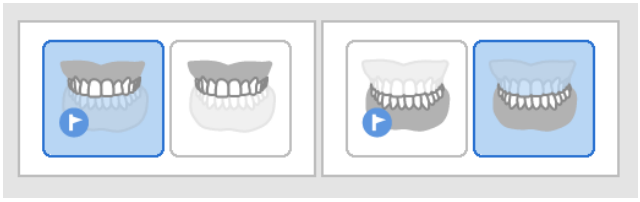
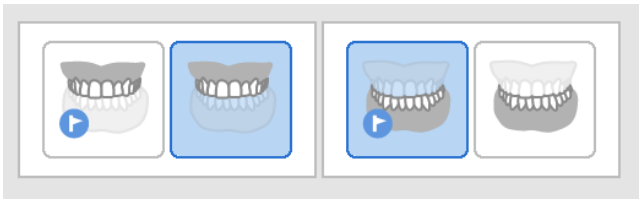
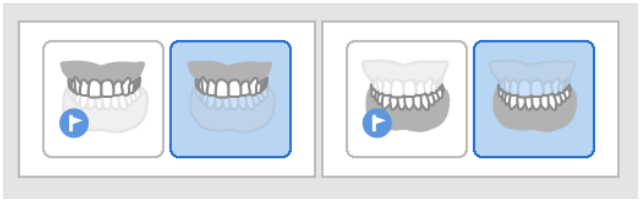
Toolbox

	Multi Occlusion	Reproduces various types of occlusion scan data and alignment. Only available on Occlusion scan stage.
	Impression Scan	Acquires the data of an impression model. Impression data is aligned with intraoral data in real-time.
	Occlusion Target for Maxilla	Chooses pre-operation maxilla or maxilla data for occlusion alignment.
	Occlusion Target for Mandible	Chooses pre-operation mandible or mandible data for occlusion alignment.
	First Occlusion	Acquires the 3D model for an occlusion alignment.
	Second Occlusion	Acquires the 3D model for an occlusion alignment of the opposite side of the first occlusion.

	Align with Occlusal Plane	Adjusts the position of data on the occlusal plane in exocad.
	Manual Alignment	Aligns the scan data manually using user-defined points.
	Detach Maxilla	Detaches the maxilla and moves it back to the pre-alignment position.
	Detach Mandible	Detaches the mandible and moves it back to the pre-alignment position.
	Detach Occlusion Data	Detaches first and second occlusion data and moves them back to the pre-alignment position.
	Detach All	Detaches all data and moves it back to the pre-alignment position.

Learn more about how to acquire or align scan data for various occlusion groups by using the “Multi Occlusion” section.

Choose one of four pairs for alignment.

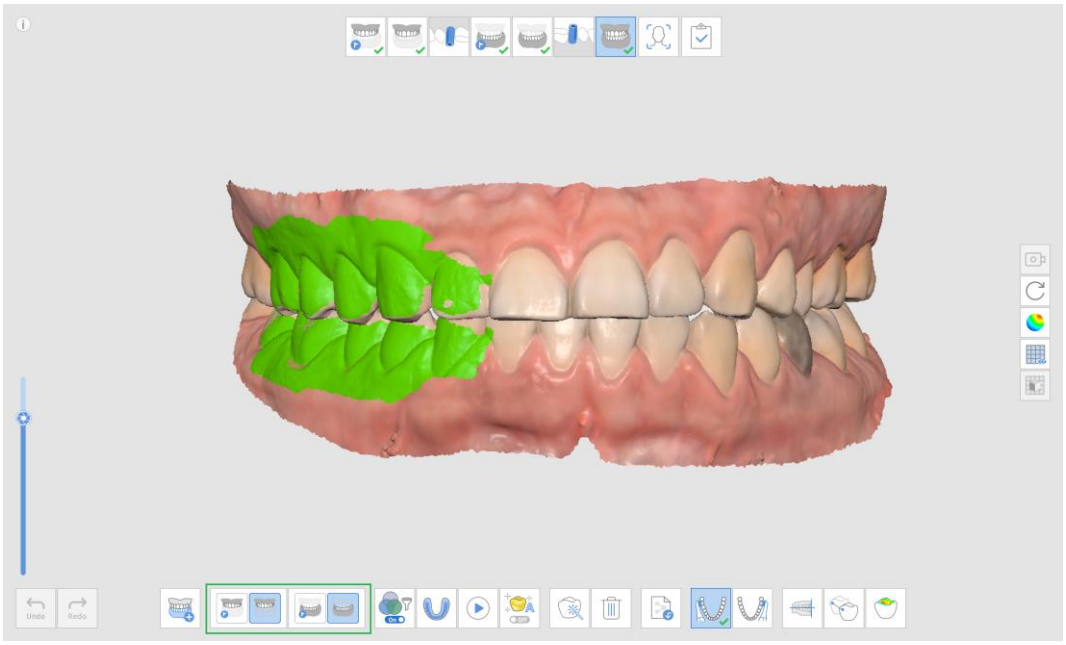
Pre-Op for Maxilla / Pre-Op for Mandible	Pre-Op for Maxilla / Mandible
	
Maxilla / Pre-Op for Mandible	**Maxilla / Mandible**
	

6.6.1 Occlusion Alignment Data

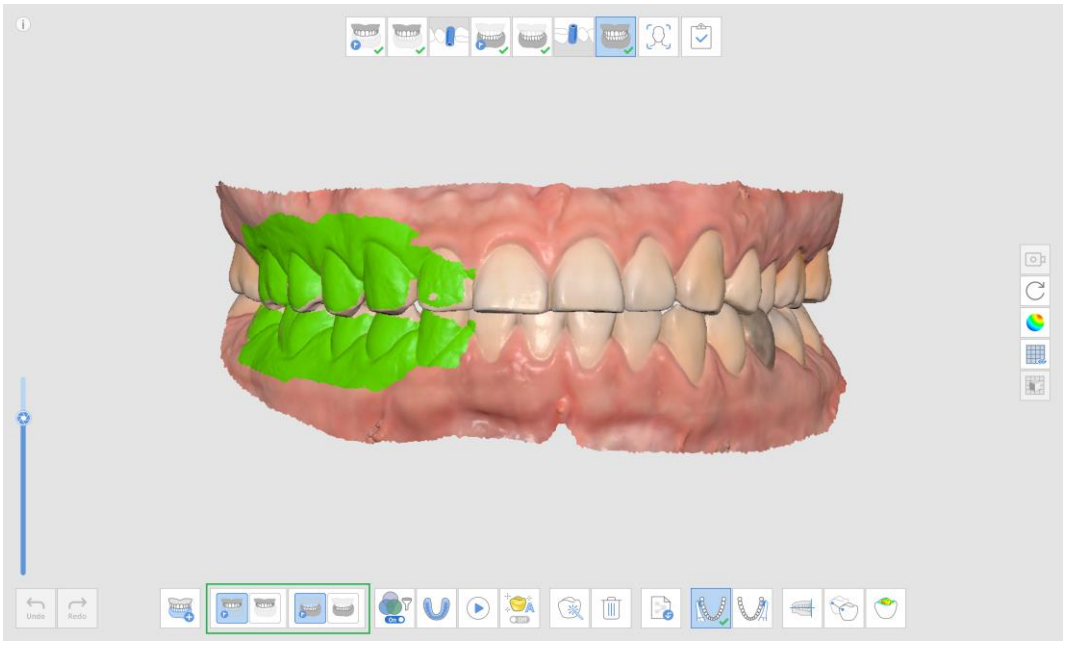
Use pre-operation maxilla and pre-operation mandible data for alignment in the **Occlusion** scan stage.

How to Use

① Scan the maxilla, pre-operation maxilla, mandible, and pre-operation mandible. Then, go to the **Occlusion** scan stage where the user will see four icons on the bottom left.



② Click these buttons to change the data as pre-operation data to use it for occlusion alignment.



6.7 Face Scan

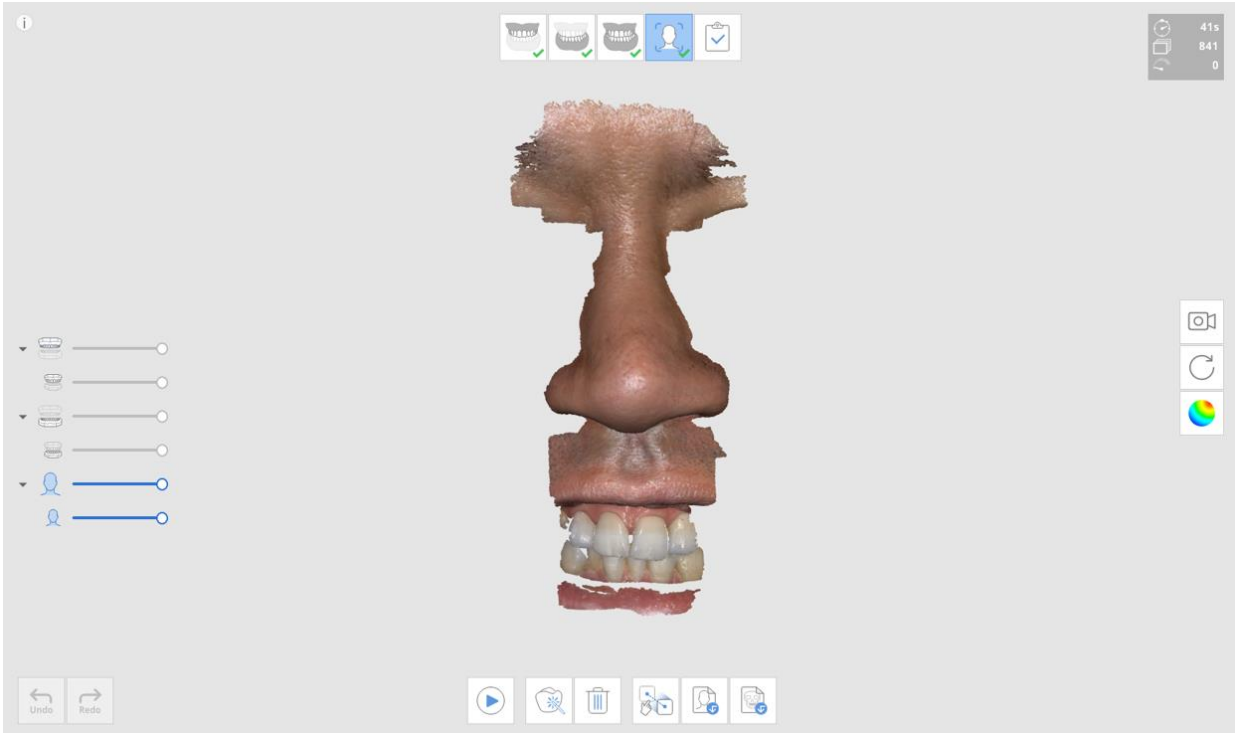
	Acquires the scan data of teeth, mouth, nose, etc.

Toolbox

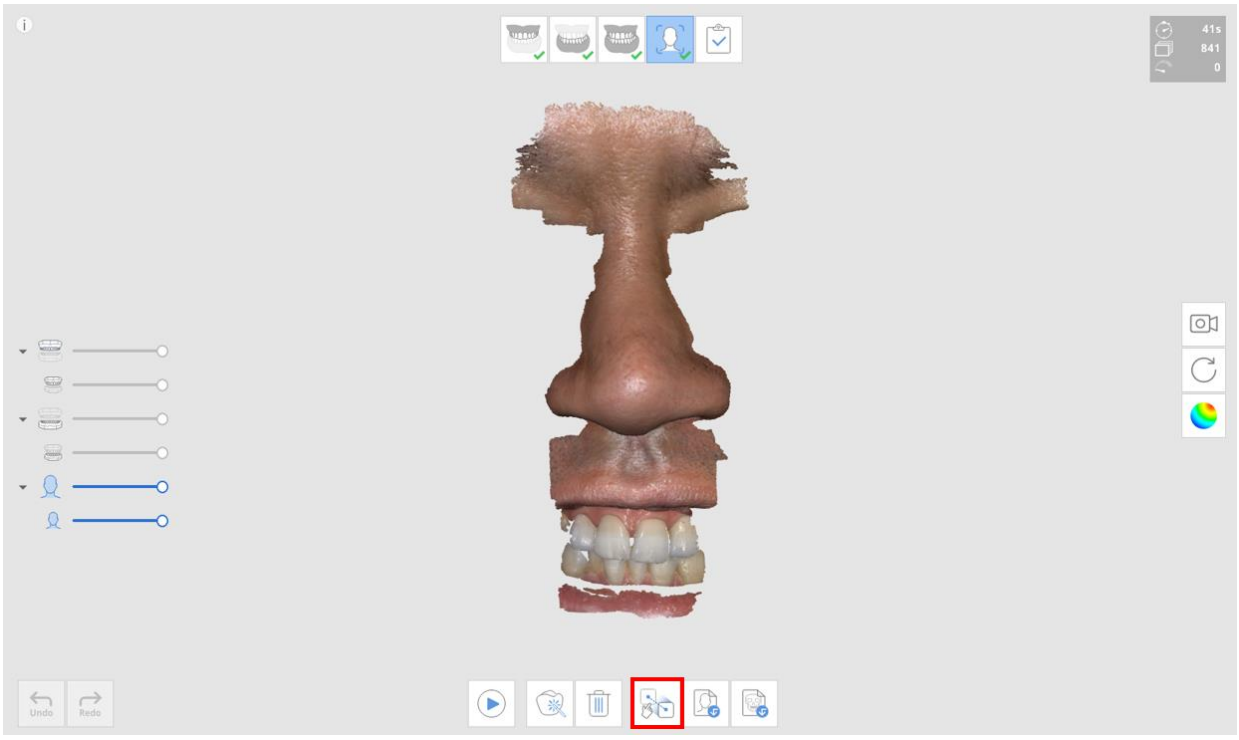
	Align Face Data	Selects data and picks points on each of them for alignment.
	Import 3D Face Data	Imports face data from an external source.
	Import 3D Bone Data	Imports 3D face data taken by a CT scan. Cannot use the DICOM file.

How to Use

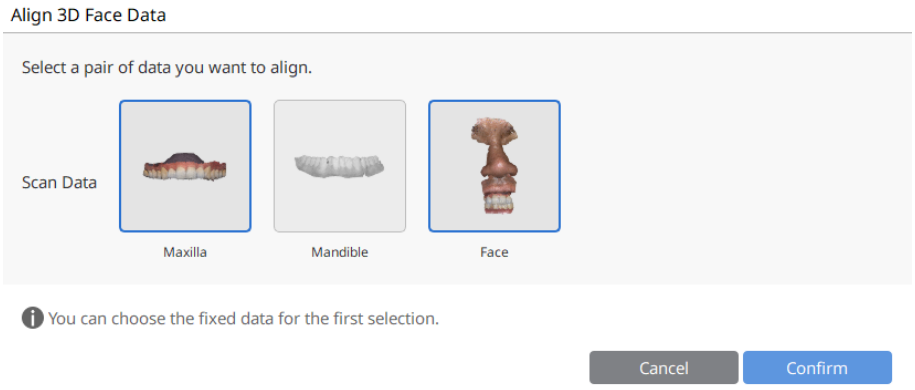
① Teeth, nose, and the area around the mouth are scanned during the **Face** scan stage. Be careful not to point the scanner light into the patient's eyes.



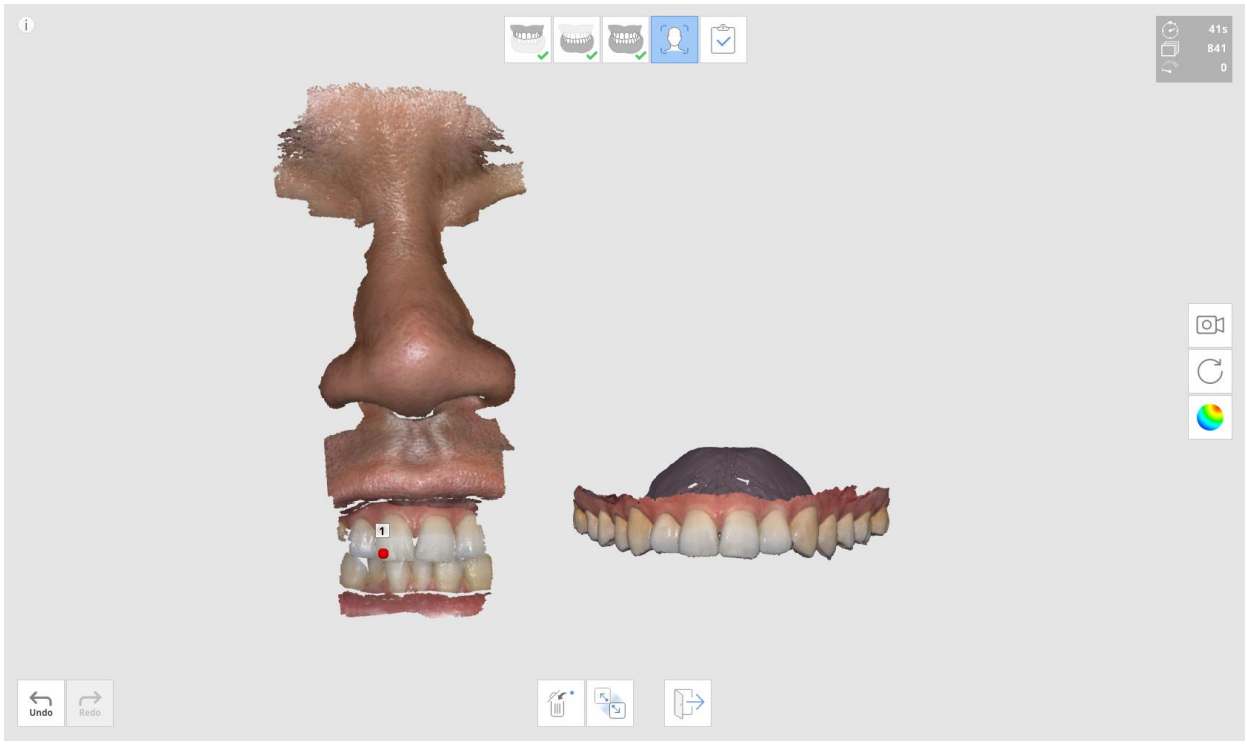
② Click the alignment icon to align scanned face data and teeth data.



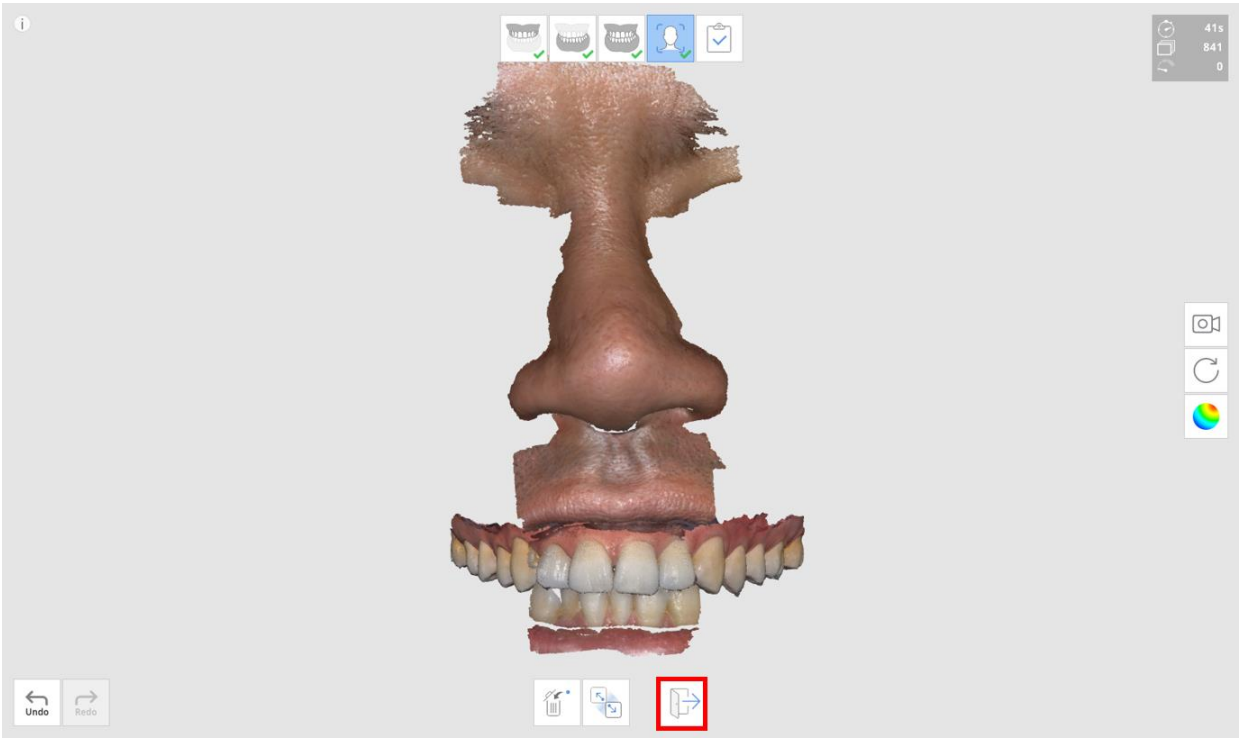
③ Select the arch data you want to align with face scan data. We recommend aligning maxilla scan data with face data.



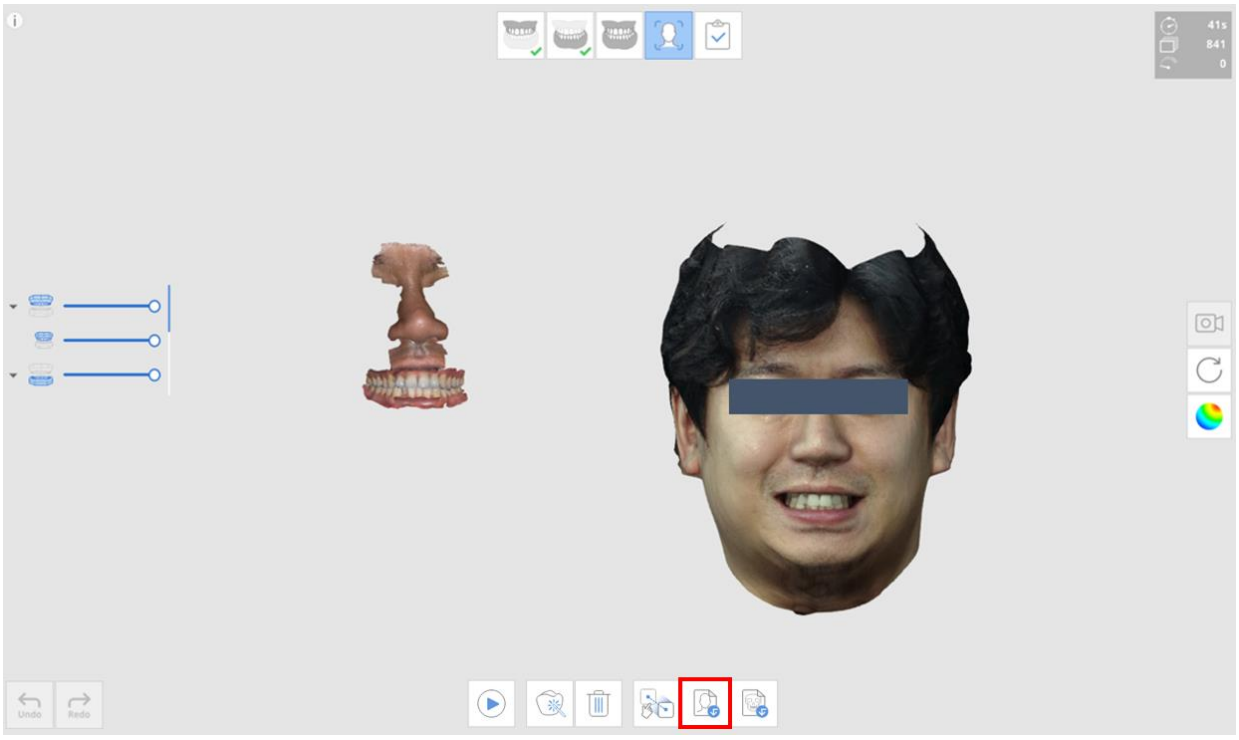
④ Select corresponding points on both scanned face data and teeth data to align them. Use as many points as are needed. The minimum number of points is one.



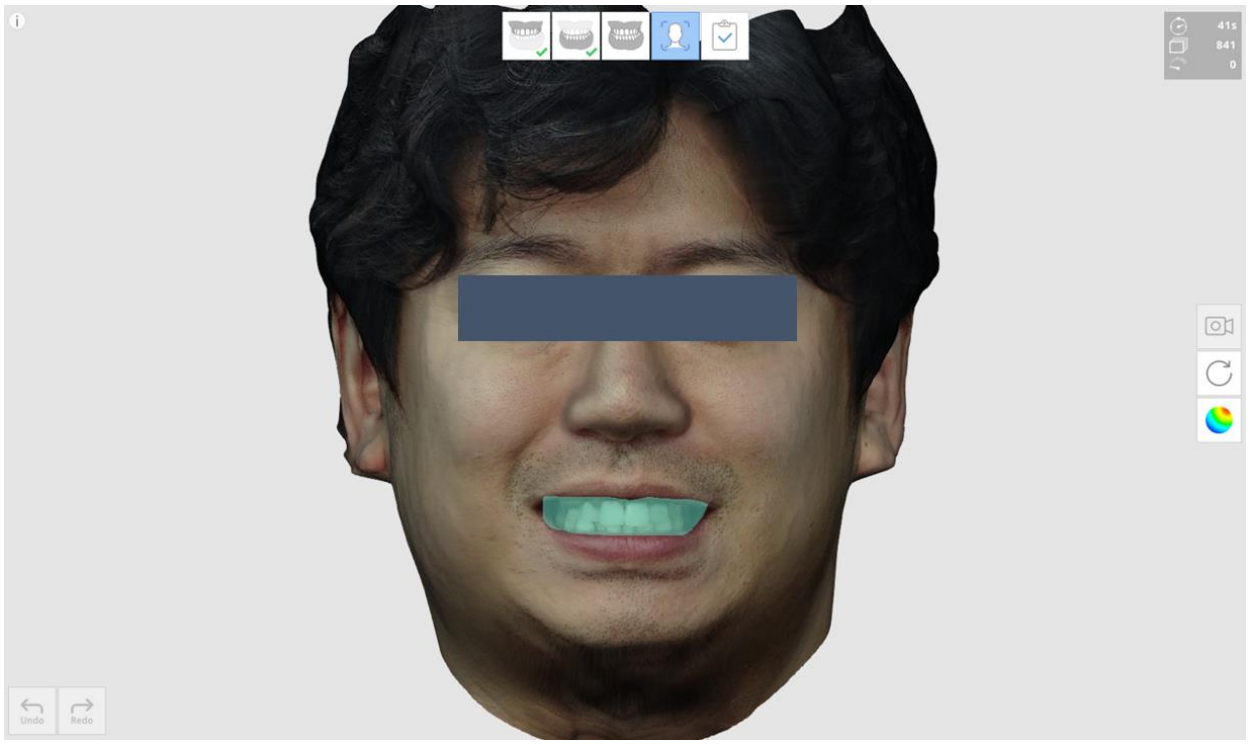
⑤ Click Return to Previous after the alignment is complete.

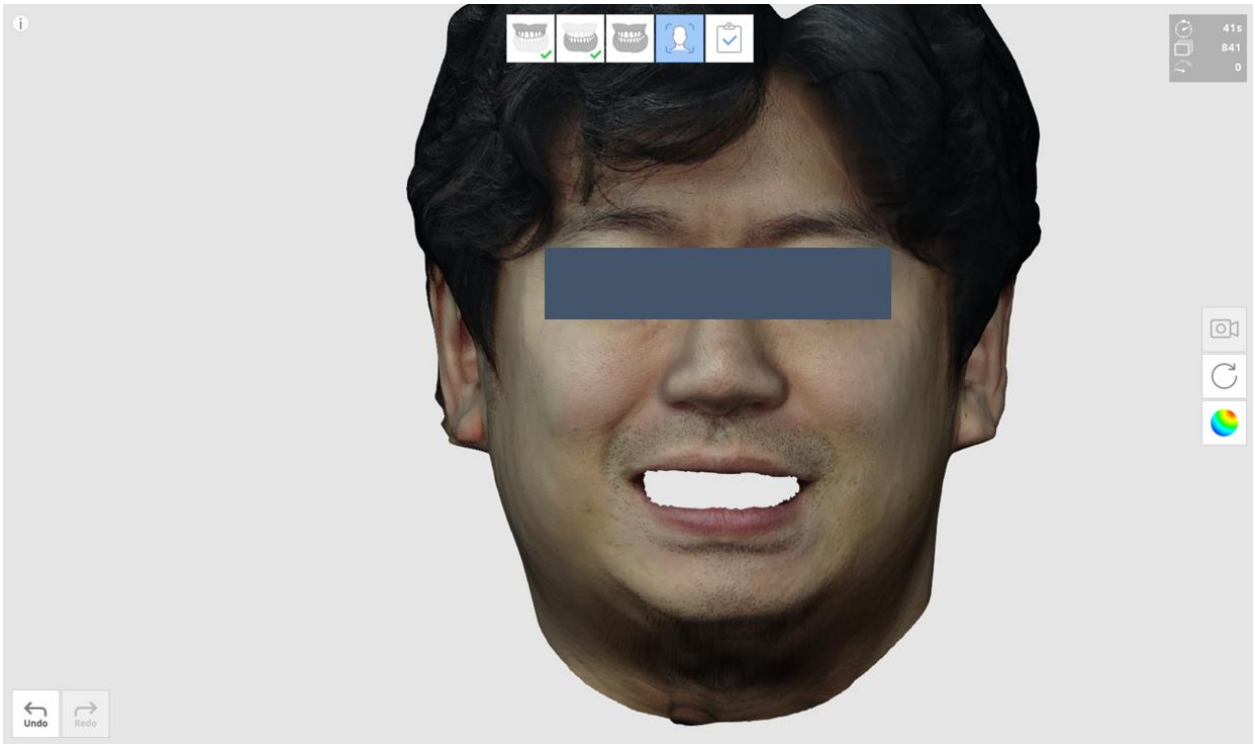


⑥ Click “Import 3D Face Data” to import the 3D face data scanned by the scanner.
(Supported file formats: .obj, .ply, .stl)

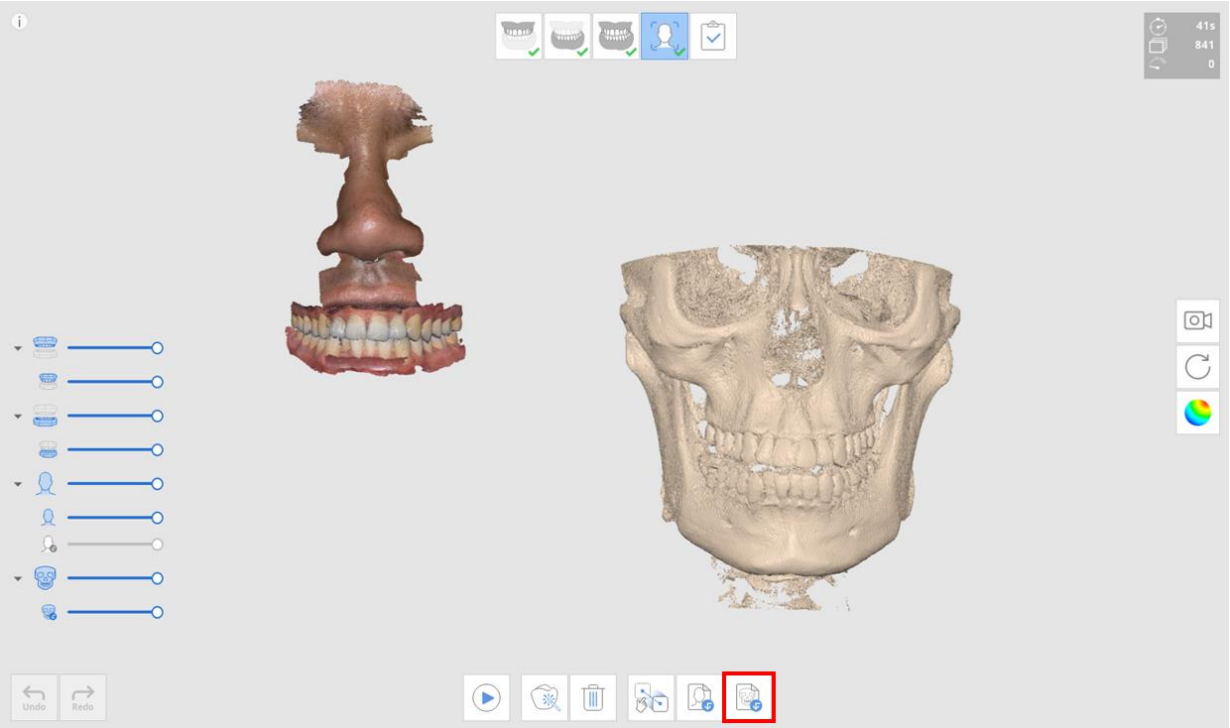


⑦ Click the edit button to remove teeth from the imported data.



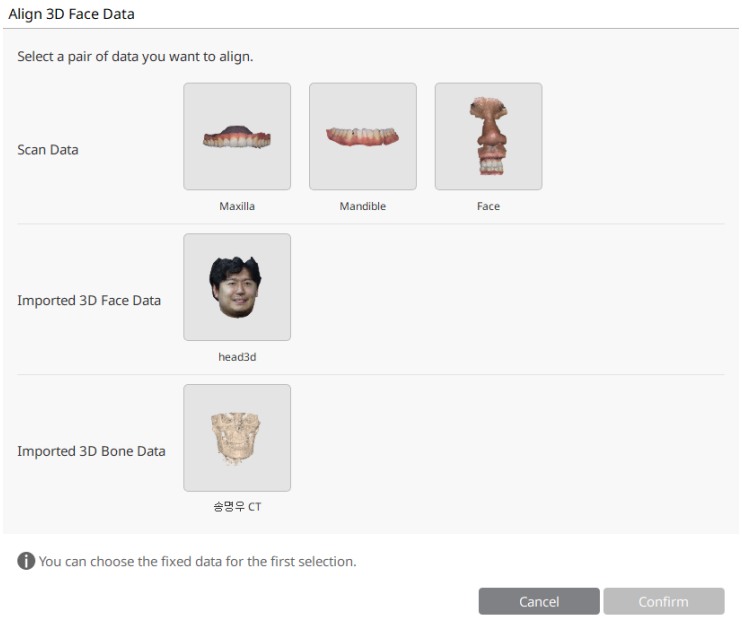


⑧ Click “Import Bone Data” to import bone data.
(The user cannot use a DICOM file. Supported file formats: .obj, .ply, .stl)

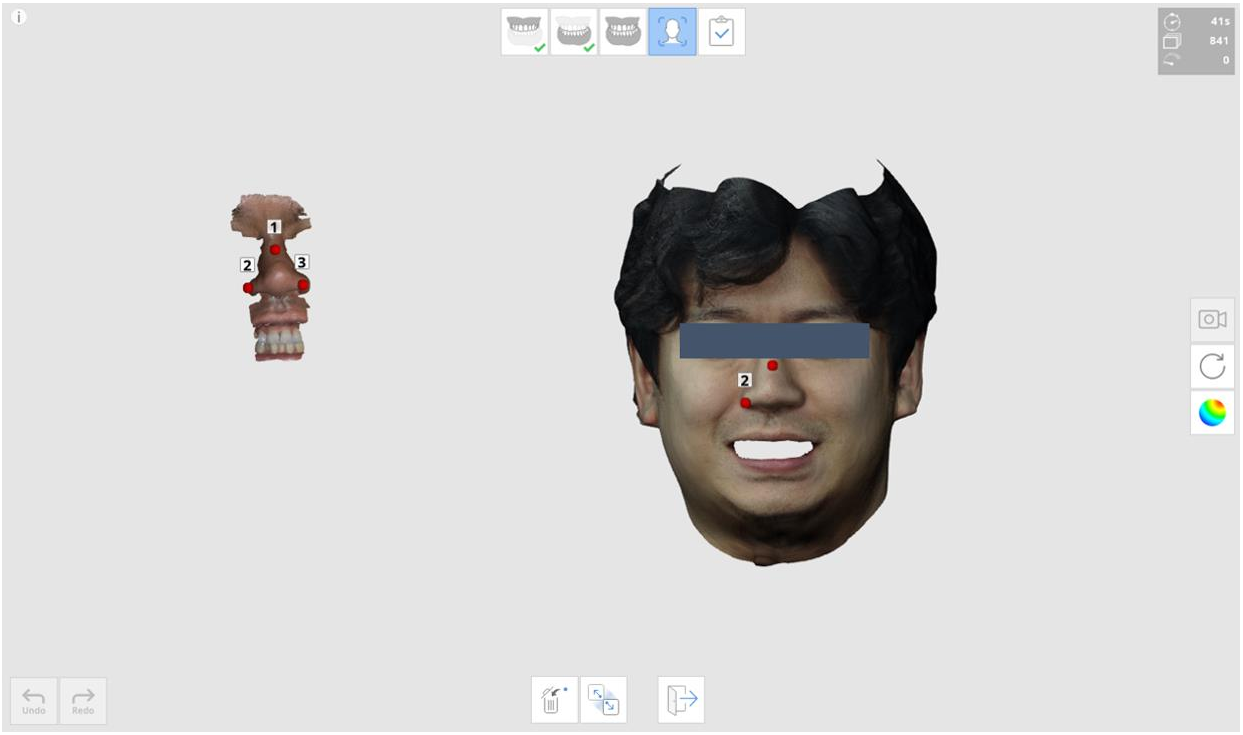


⑨ Click the alignment button to align the respective data. The user can align the following data pairs:

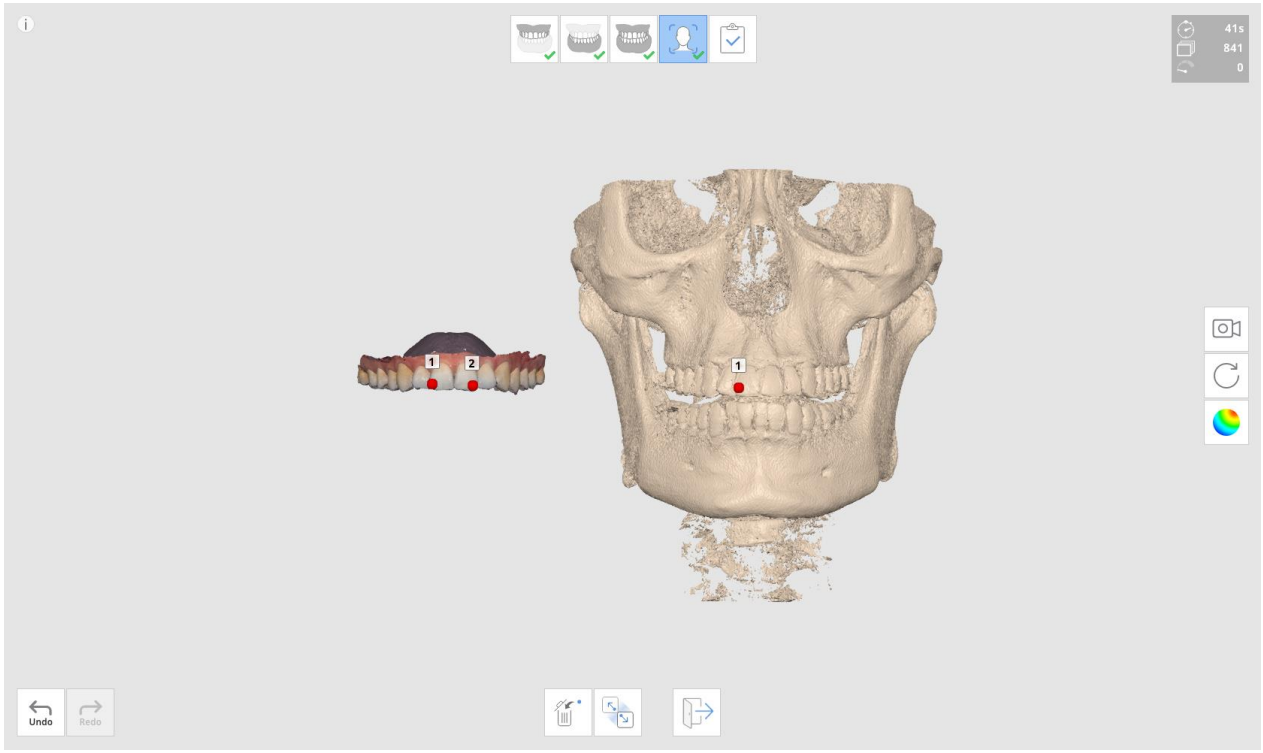
- Face Scan – Teeth Scan
- Face Scan – Imported 3D Face
- Teeth scan – Imported 3D Bone



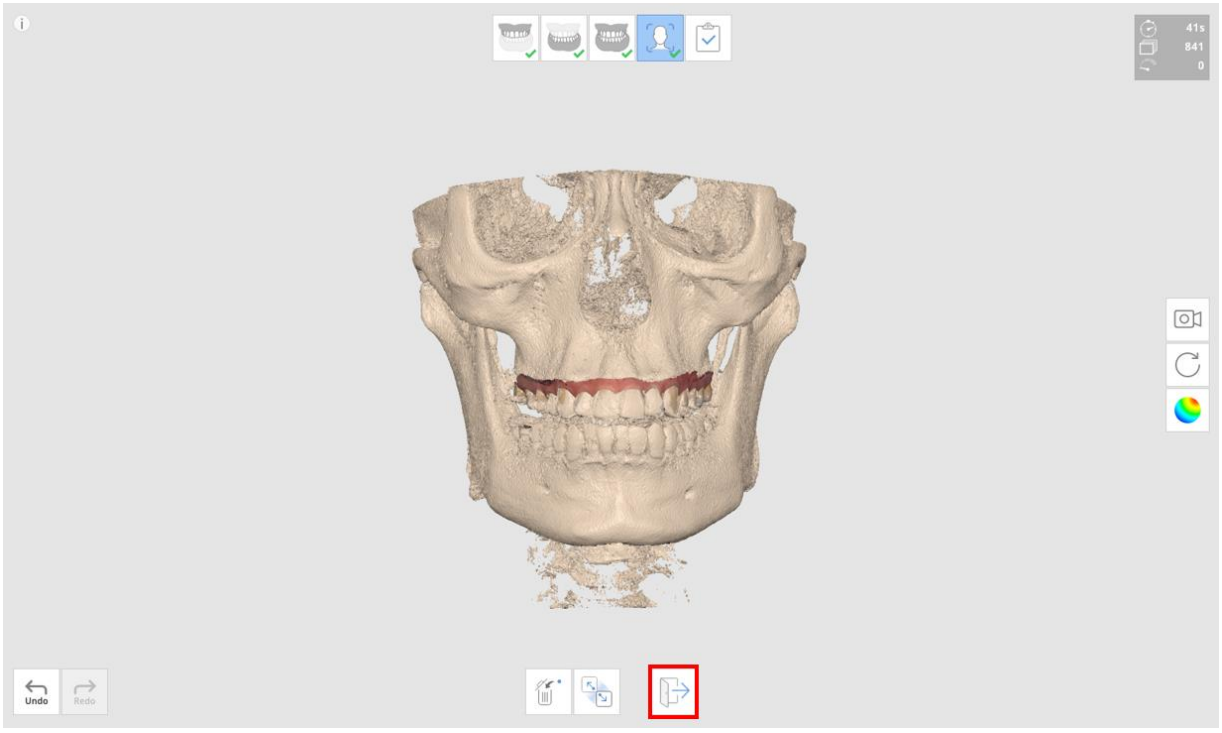
⑩ Face scan data should be aligned with the imported 3D face data.



⑪ The maxilla scan data should be aligned with the imported 3D bone data.



⑫ Click “Return to Previous” after the alignment is complete.

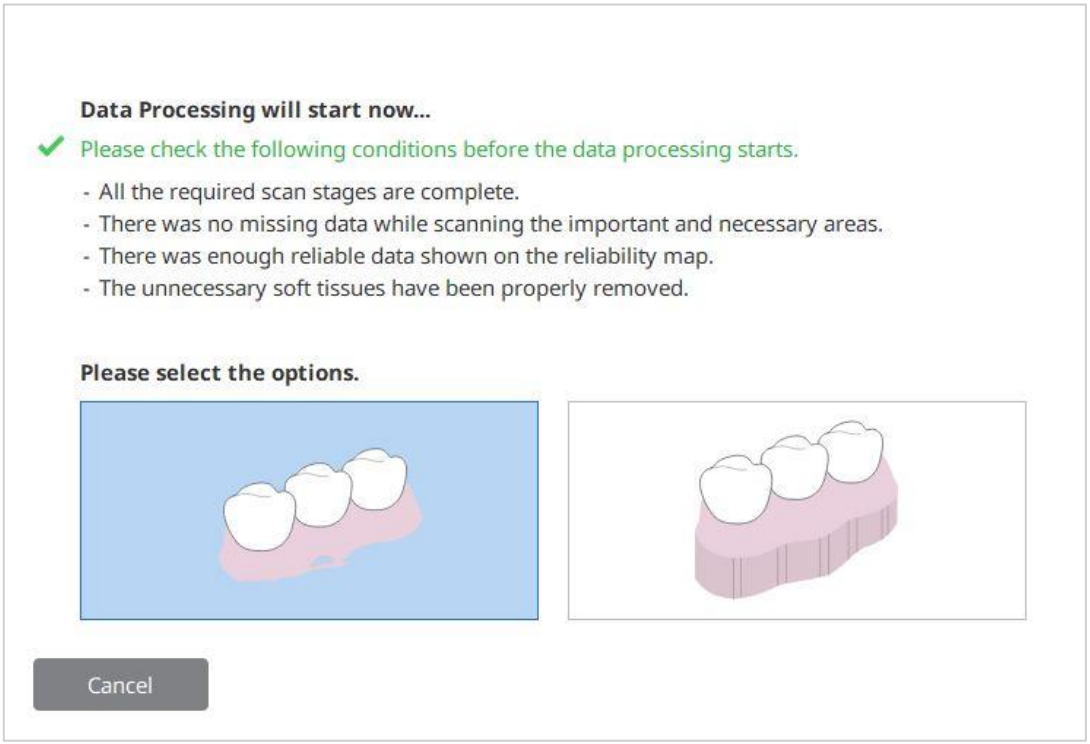


⑬ Face data processed in exocad can be imported automatically.

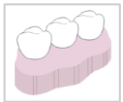
6.8 Complete

Completes the scan and generates the result data.

Check the following four conditions after clicking Complete.

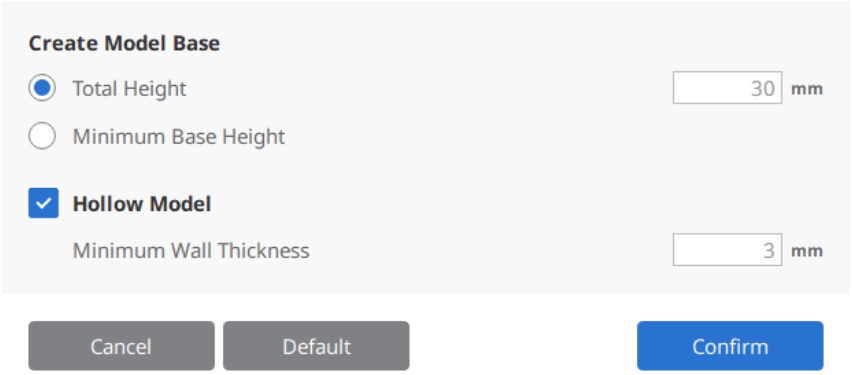


Toolbox

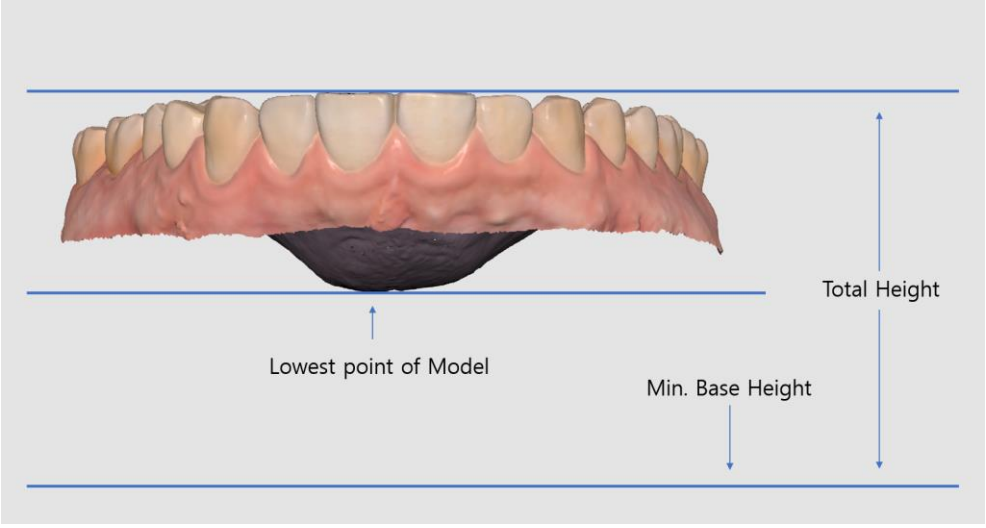
	Create Standard Digital Model	Creates optimized 3D digital model. The noise will be partly removed, and the areas with insufficient data will remain as empty spaces. If necessary, adjust file size and surface roughness options in the Settings.
	Create 3D Printable Model	Expands the largest boundary to make it thicker and produces a suitable result for 3D printing. If necessary, adjust file size and surface roughness options in the Settings.
	Create Replica Denture Model	Creates an optimized 3D replica denture model. The noise will be partly removed, and the areas with insufficient data will remain as empty spaces. If necessary, adjust file size and surface roughness options in the Settings.

6.8.1 Create Model Base

Expands the boundary data to produce results with an even base.



Total Height	Total height of the model.
Minimum Base Height	Height from the base to the lowest point of the model.
Minimum Wall Thickness	Minimum thickness of the model inner wall.



7 Practice Mode

"Practice Mode" provided by Medit helps the user to experience practical use.

Scan the QR code attached to the practice model in order to download sample data, or import stored sample data when it is already downloaded.

When the mode starts, user can select a difficulty level and start the scan.

The difficulty levels are divided as shown below. Each level has a different score criteria.

- For Beginners
- For Experts
- For Masters

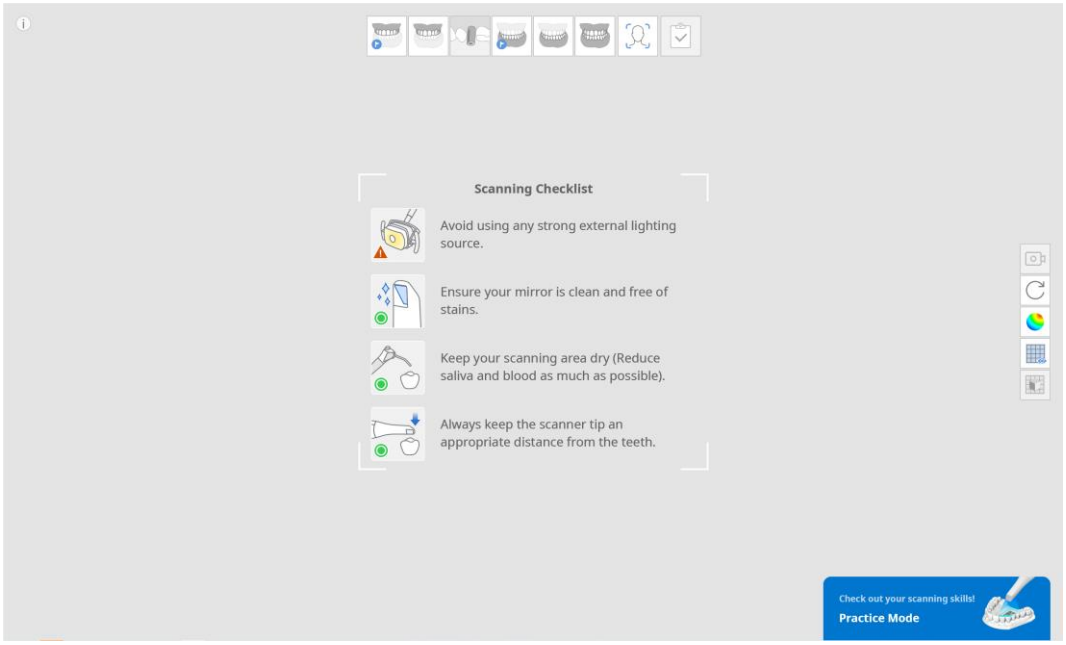
"Practice Mode" is intended to guide the user to perform the correct scanning by using a practice model. Data acquired from "Practice Mode" is not stored when the mode is closed.

Practice Mode - How-To Guide

Run Scan for Clinics and click the "Practice Scanning" button on the bottom right side of the screen.

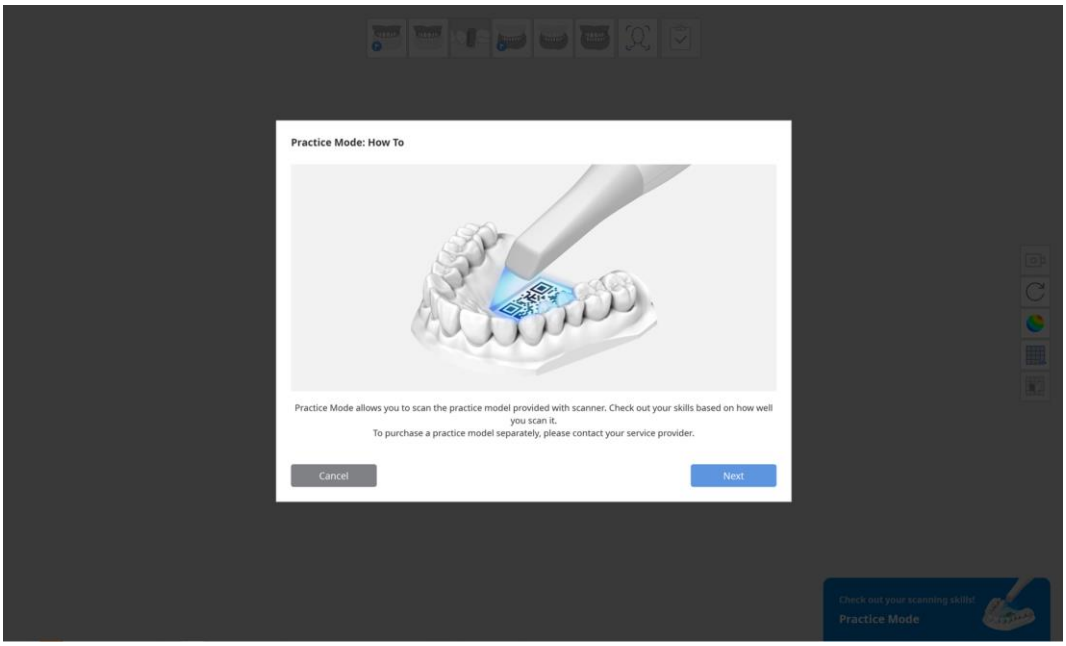
The "Practice Mode" banner is displayed on full screen only when there is any scan data acquired.

"Practice Mode" can be turned on/off by going to "Menu" > "Settings".



Tips for "Practice Mode" are presented.

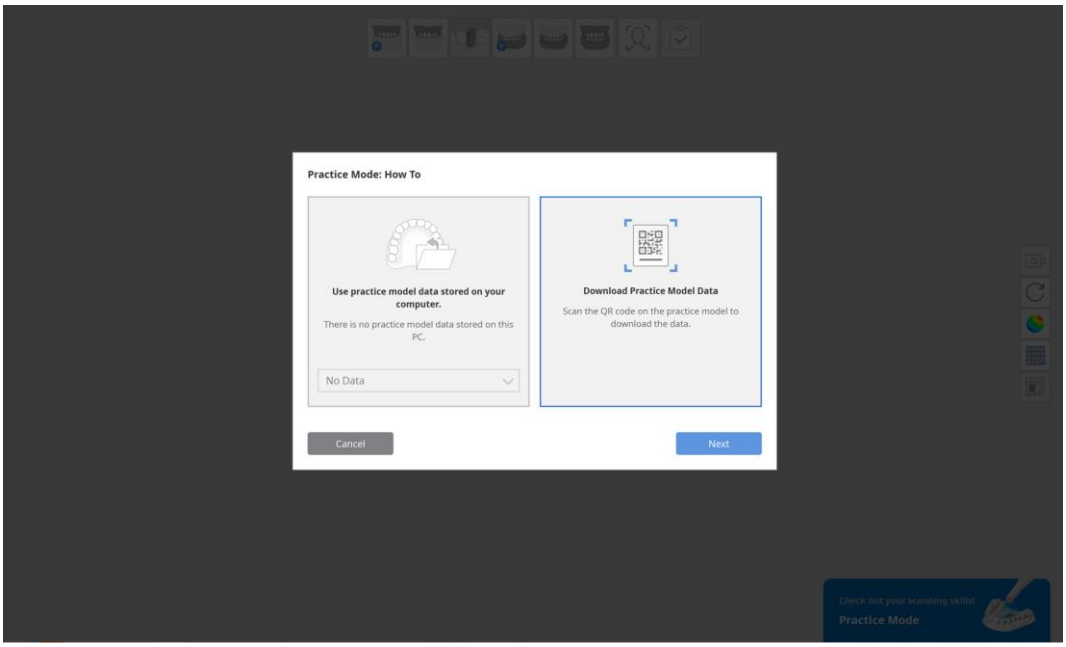
The practice model is included with the i700. Please contact a local service provider for additional information.



Select the sample data of a serial number attached on the practice model.

Download the data from a server by scanning the QR code, or import the data when it is already downloaded.

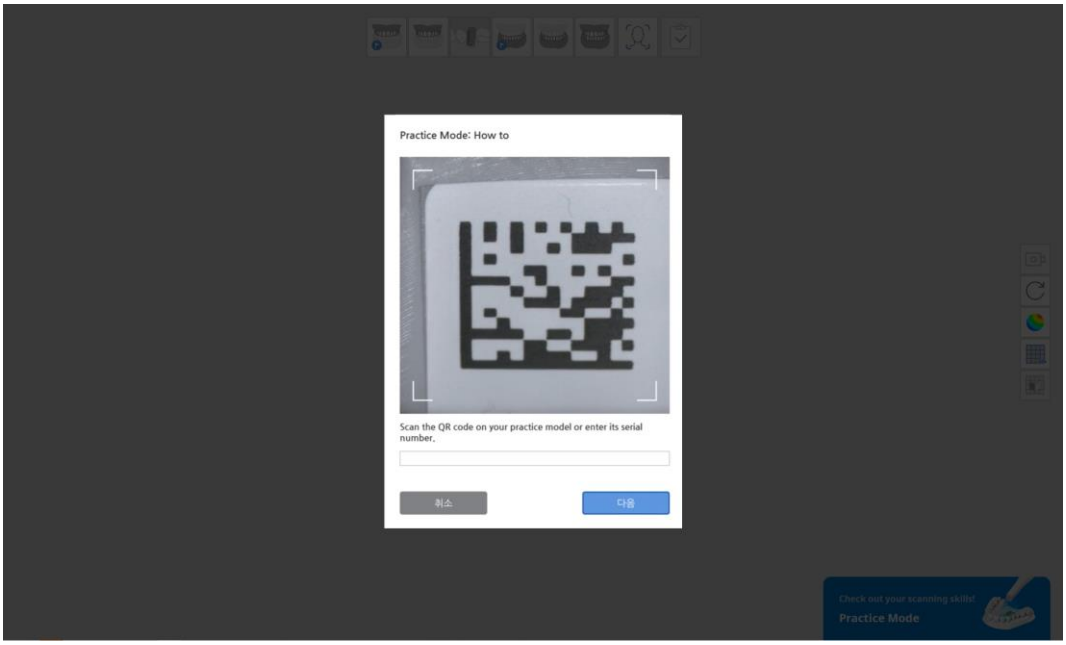
If there are two or more stored sample data, check and select the correct serial number attached to the practice model.



Download the sample data from the server by scanning the QR code.

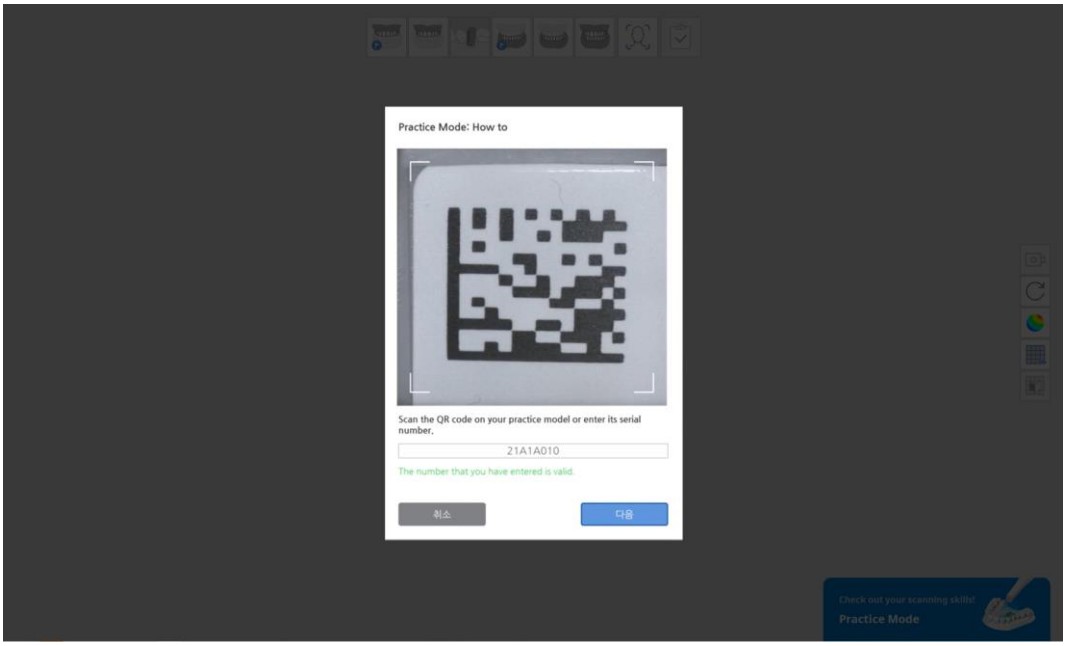
When the camera turns on, the scanner will recognize the QR code attached on the practice model.

If the QR code has been damaged, enter the serial number included on the sticker to download data.

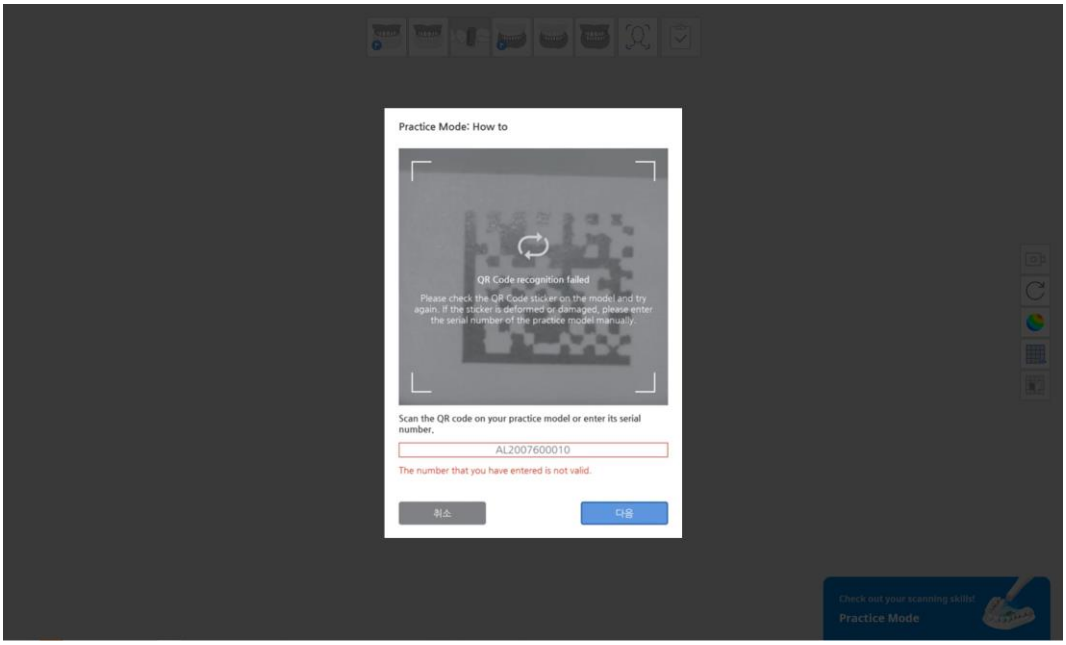


QR code or manual serial number validation will be displayed.

If the serial number is valid, the text will turn green.

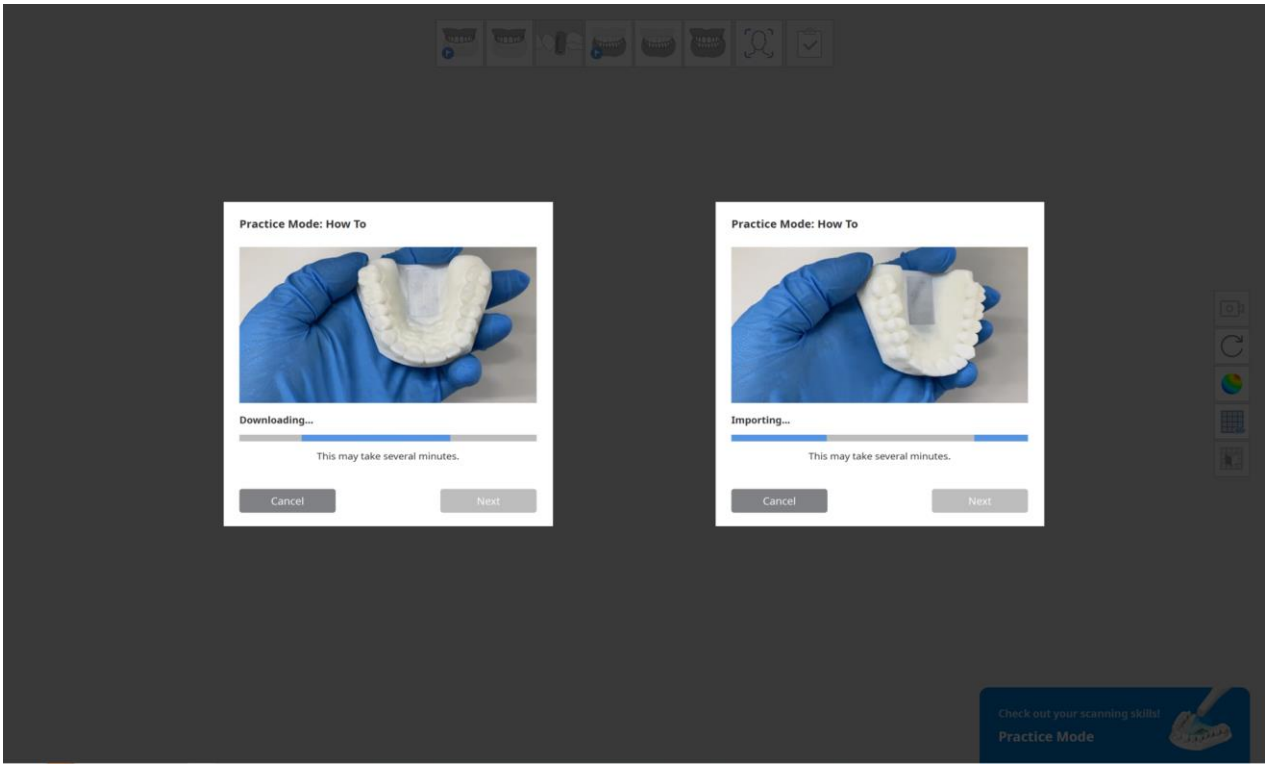


If the serial number is invalid, the text will tun red.



With a valid serial number, click "Next" to download the sample data from the server.

An information video on how to scan the practice model will be displayed during download.

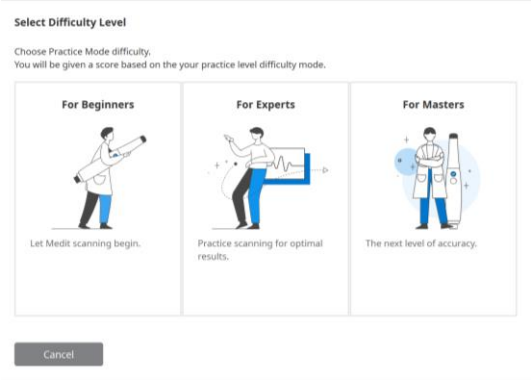


When download is complete, click "Next" to select the l a level of difficulty in the "Practice Mode".

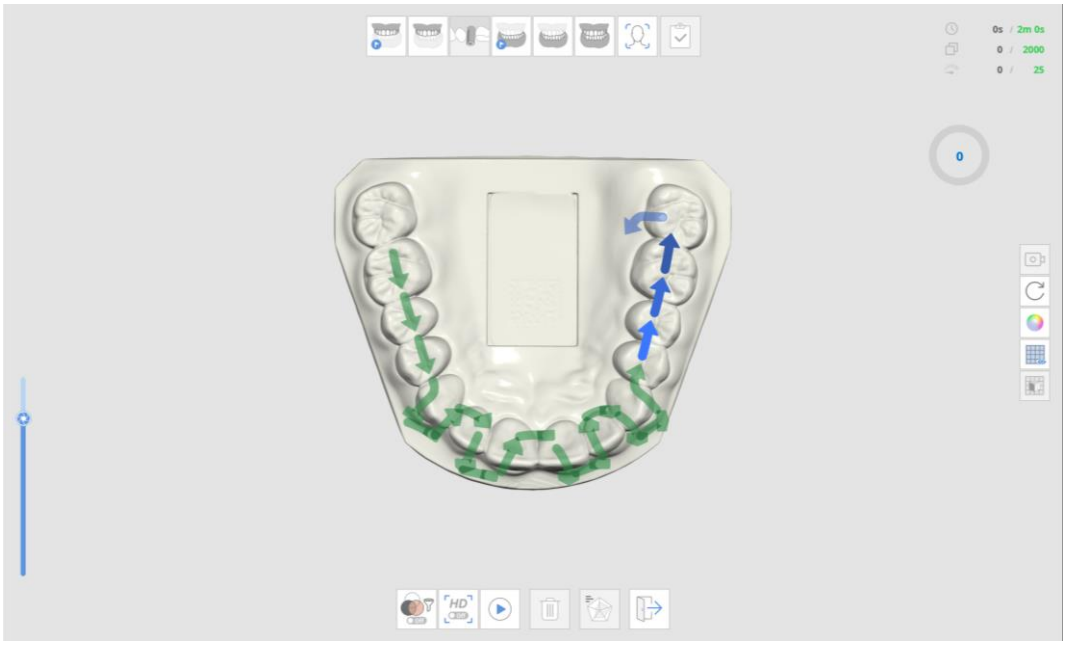
Select a level of difficulty in the "Practice Mode".

For Beginners	A level for beginners who are not accustomed to using an intraoral scanner.
For Experts	A level for experts who are accustomed to using an intraoral scanner.
For Masters	A level for masters who want to reach the highest level beyond the experts.

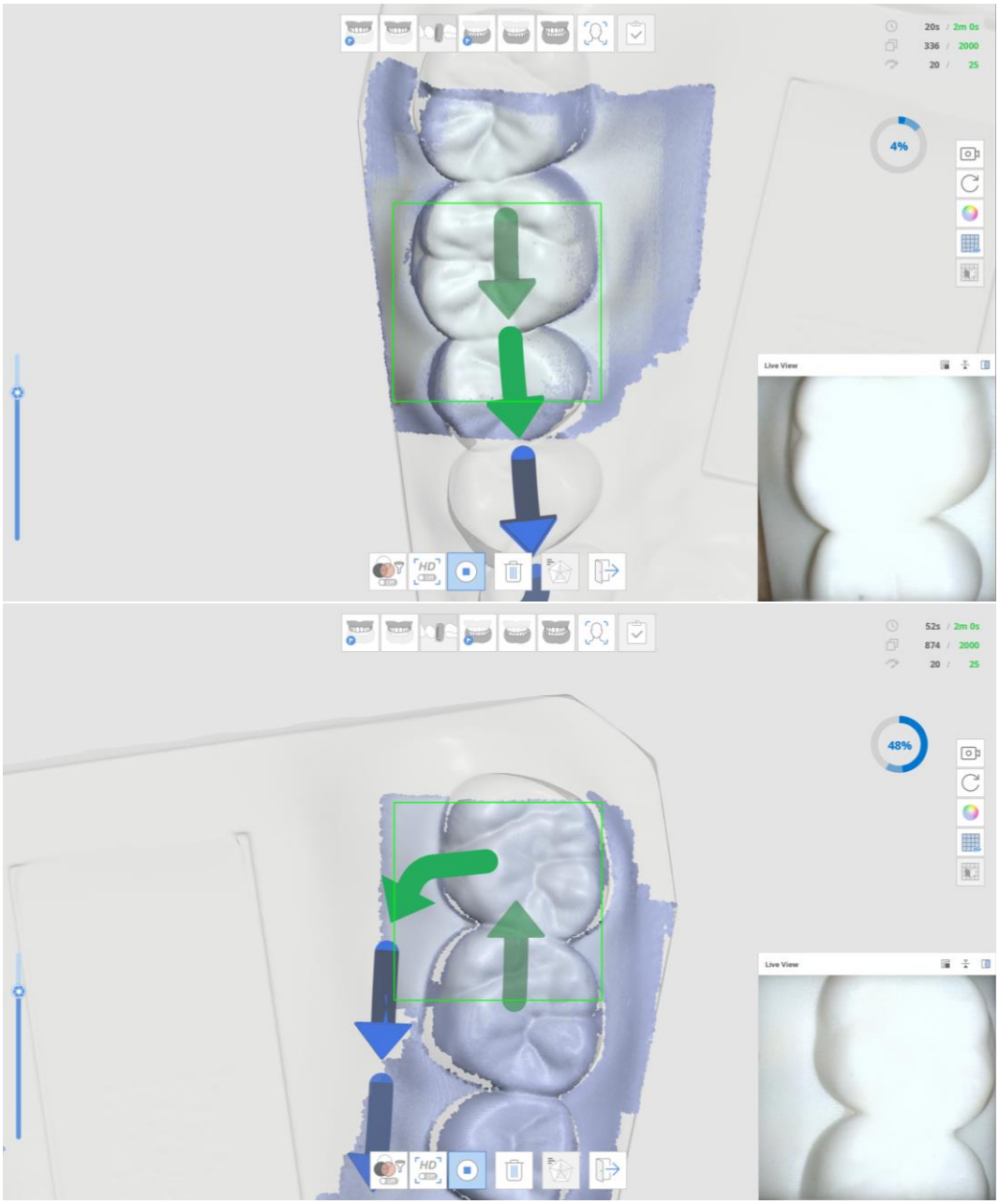
The score criteria is varied based on the difficulty level. The acquired scan data will be deleted if the difficulty level is changed during scanning.



① Click the "Scan" button to start after the downloaded sample data is displayed.

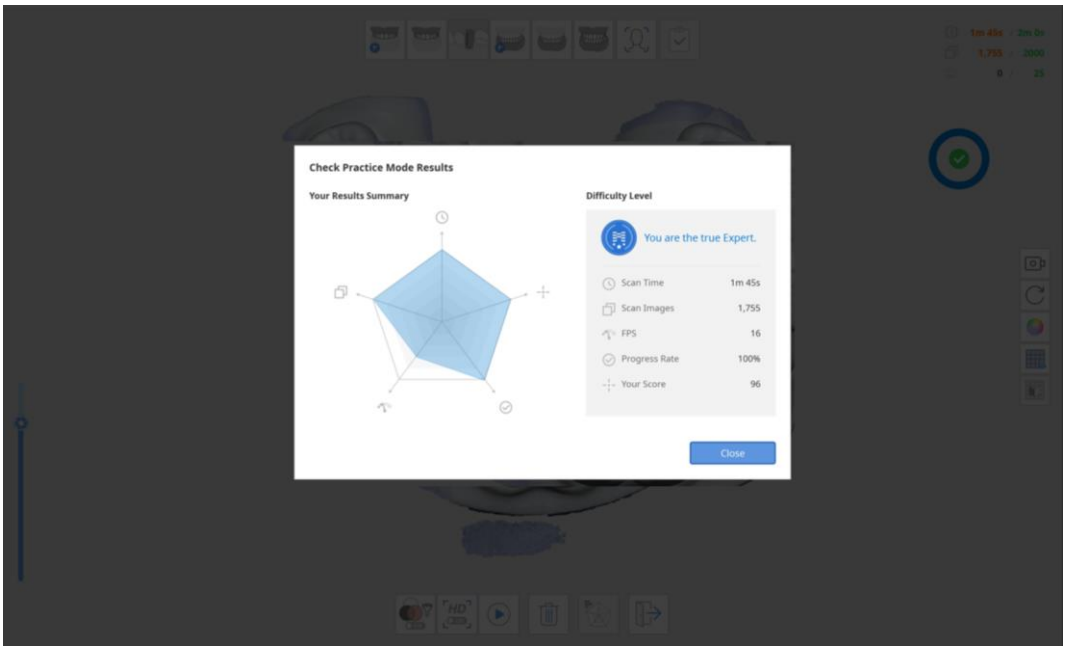


② Check the information and progress while acquiring data for effective scanning practice.

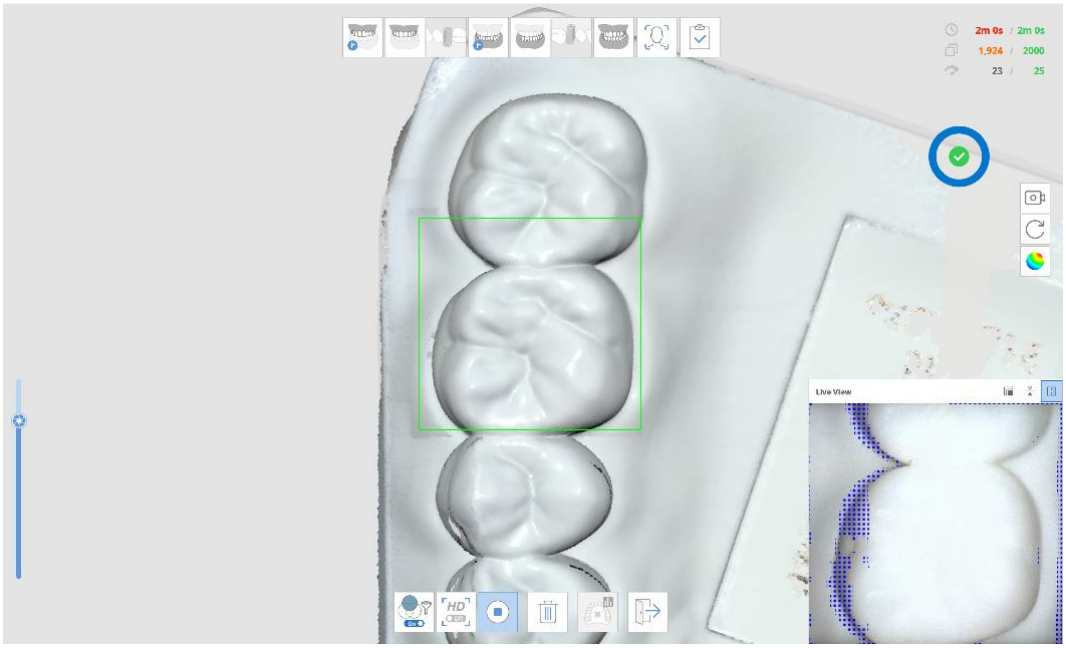


③ When scan data is acquired above a certain standard, a check mark will be displayed in the progress bar and the "View Results" button will be activated.

④ Click "View Results" to check the score. Score will be based on selected difficulty level, scan time, number of scans, etc.



⑤ Additional scans are available after viewing the results. The "View Results" could be re-run based on data from additional scanning.

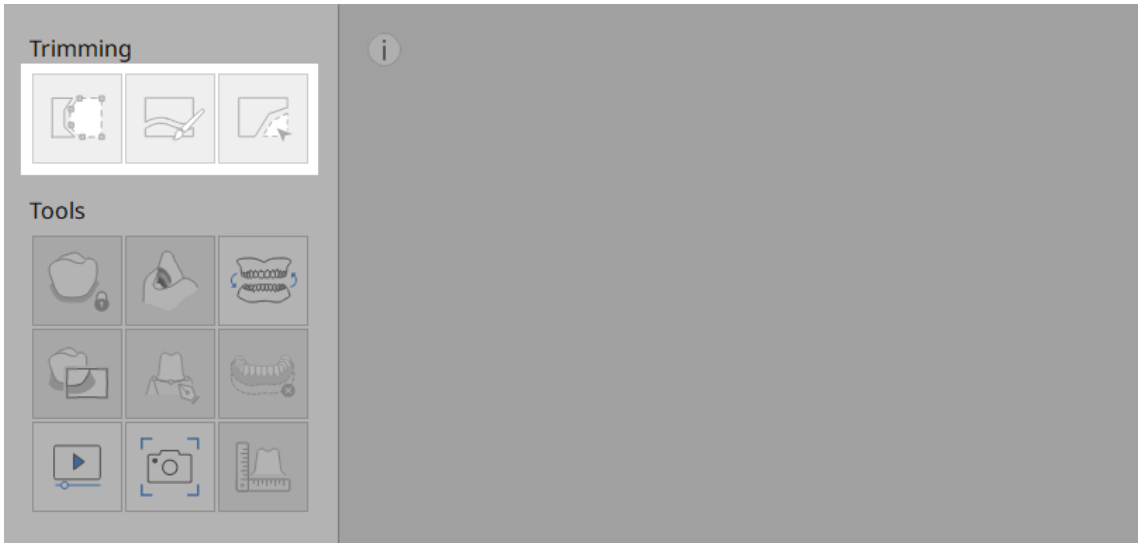


8 Functions of Main Toolbar

The Main Toolbar contains tools for editing and analyzing the 3D model, as well as the scanner status.

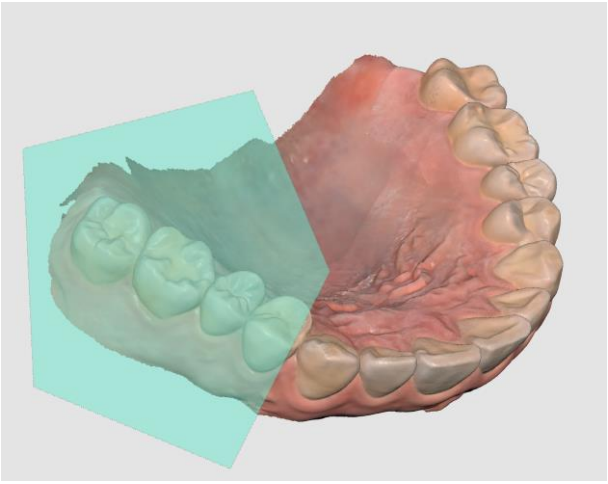
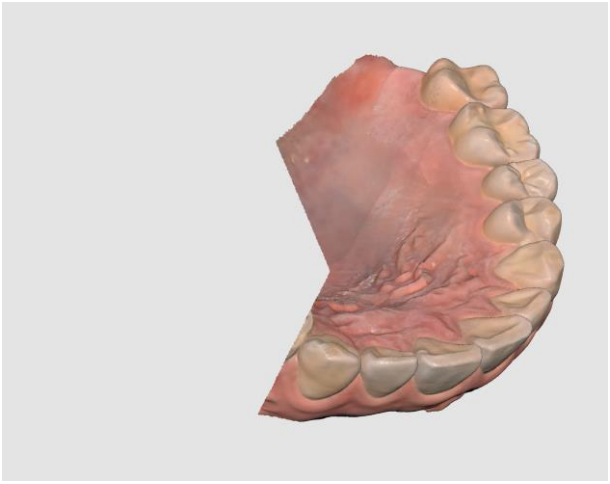
8.1 Trimming

Trimming tools allow for editing the data and removing the noise form the data.



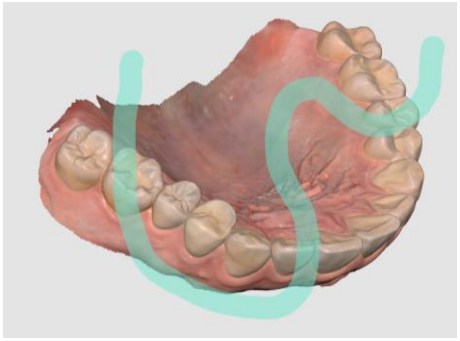
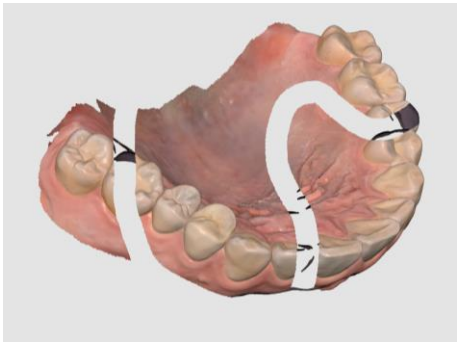
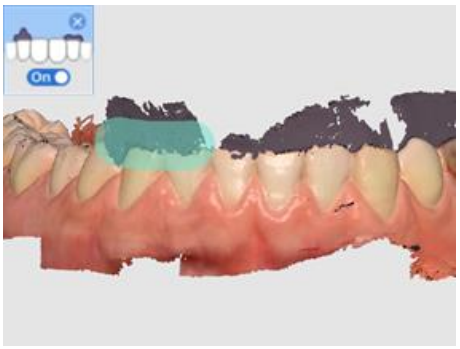
8.1.1 Polyline Trimming

	Removes all entities within a polyline shape drawn on the screen.

Select	Remove
	

8.1.2 Brush Trimming

	Removes all entities on a freehand-drawn path on the screen. This brush comes in three different sizes. Utilize the **Noise Trimming** tool to cut out the noise without affecting the data itself.

Data Selection	Delete Selected Data
	
	

8.1.3 Toolbox: Noise Trimming

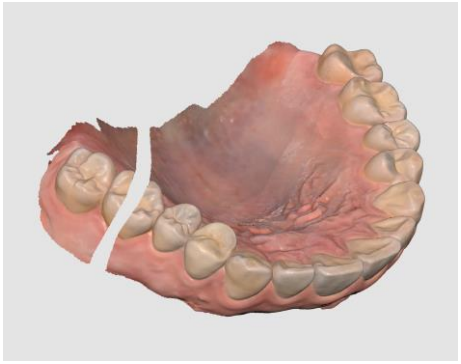
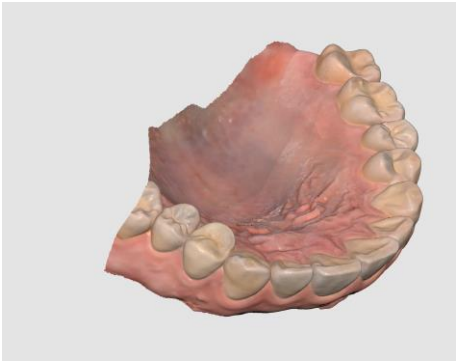
	Brush Size	Trims the noise based on the selected size of the brush. This brush comes in three different sizes.
	Manual Noise Trimming	Allows for the removal of noise on the selected area.
	Automatic Noise Trimming	Automatically trims the noise data.

① Click “Noise Trimming”  located on the bottom of the screen. Choose the size of the brush and select the areas where noise should be trimmed.

② Trim the noise manually using the brush, or utilize the “Automatic Noise Trimming” function.

8.1.4 Quick Trimming

Removes island data such as soft tissue.

Select the Data	Delete Selected Data
	

8.2 Tools

This tool kit is useful for the scanning process, as well as getting maximum information during scanning.

Toolbox

	Polyline Selection	Selects all entities within a polyline shape drawn on the screen.
	Circle Selection	Selects all entities within a circular area.
	Brush Selection	Selects all entities on a freehand-drawn path on the screen. The brush comes in three different sizes.
	Selection	Enables the ability to select the area using different tools.
	Deselection	Deselects the area using different tools.
	Clear All Selection	Clears the entire selection.
	Confirm	Applies the margin line for selected tooth.

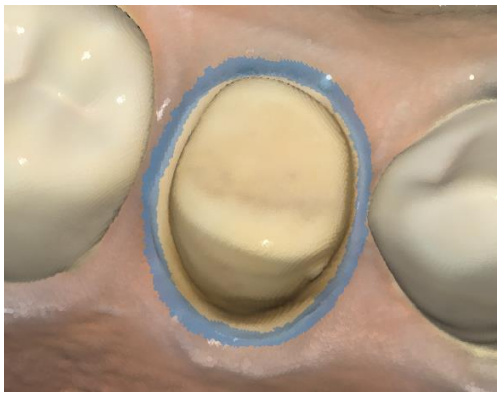
8.2.1 Lock Area

You can lock a specific area using the “Selection” tools.
Once the area is locked, further scanning will not affect the shape of this area. It will only affect the color. This feature is useful when preserving the retracted gingiva data scanned after cord removal.

How to Lock the Area

① Click “Lock Area” and choose a selection tool.

② Select the area you want to lock. The selected area is indicated by a different color.

Before Selection	After Selection
	

How to Unlock the Area

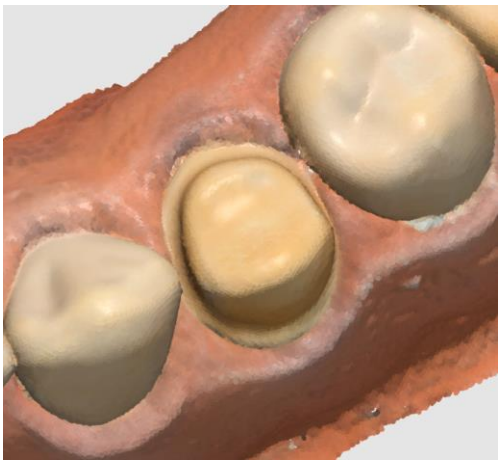
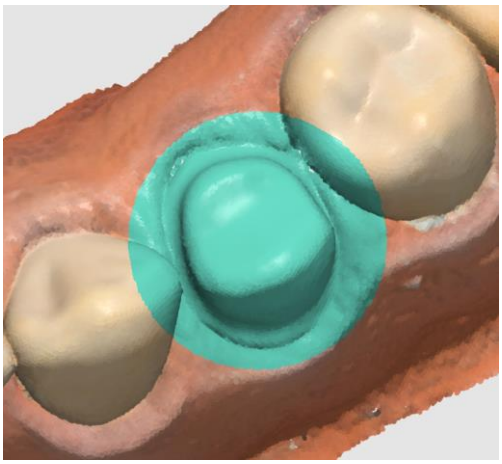
① Click “Deselection”.

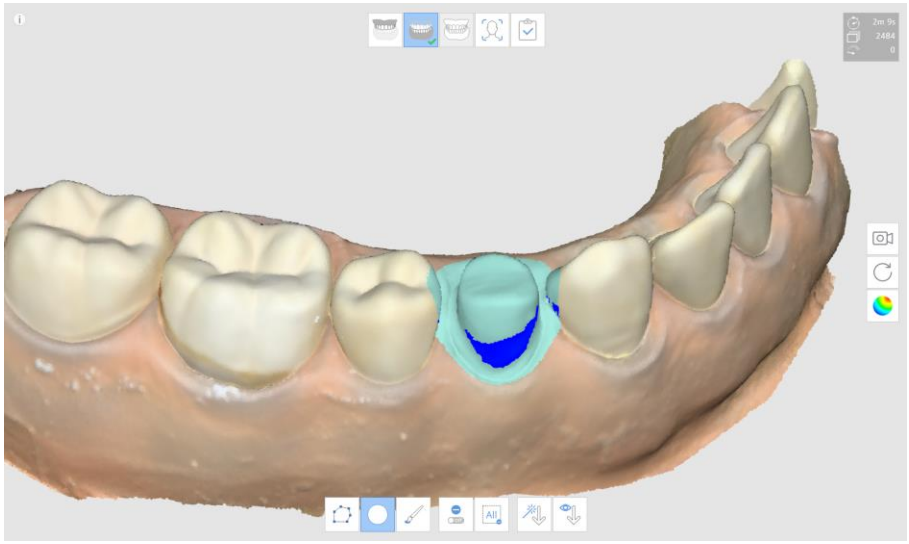
② Select the area to unlock.

③ If the user wants to unlock the entire area, click “Clear All”.

8.2.2 Undercut Analysis

Analyzes the undercut area based on the direction of insertion. The user can set the direction using two methods.

Before Selection	After Selection
	



Toolbox: Set Insertion Direction

	Auto Direction	System automatically calculates the direction in which the undercut area is minimized. Then, it displays the undercut area on the View Screen.
	Manual Direction	System calculates the undercut area based on the direction specified by user. Then, it displays the undercut area on the View Screen.

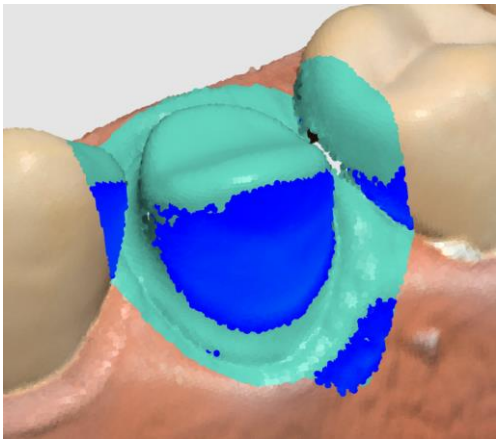
How to Calculate the Undercut Region using Auto Direction

① Click “Undercut Analysis”.

② Set the region of interest to calculate the undercut area.

If the user does not set the region of interest, the system will calculate the undercut region using all the 3D models on the View Screen.

③ Click “Auto Direction”.



How to Set the Insertion Direction Manually

① Click “Undercut Analysis”.

② Adjust the direction of model by using “Move”, “Rotate”, “Zoom In”, and “Zoom Out” tools.

③ Click “Manual Direction”.

8.2.3 Swap Maxilla and Mandible

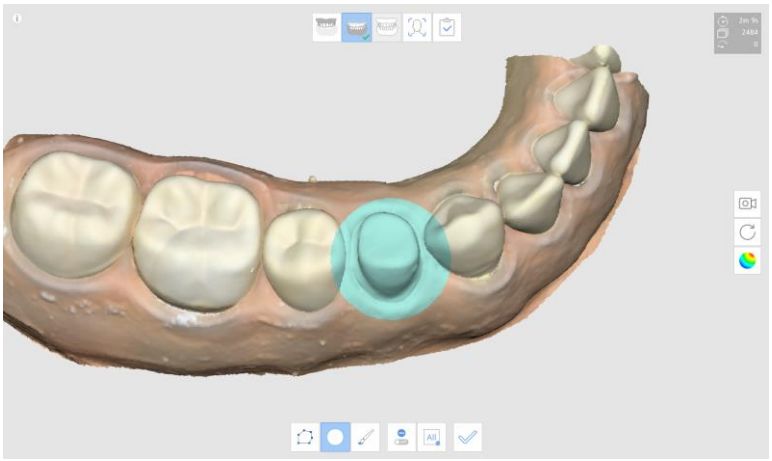
Swaps maxilla and mandible scans. This is useful if the operator accidentally scans the wrong jaw.

8.2.4 Result Preview

Shows preview of the selected area to check the quality of data before actual processing.

How to Use

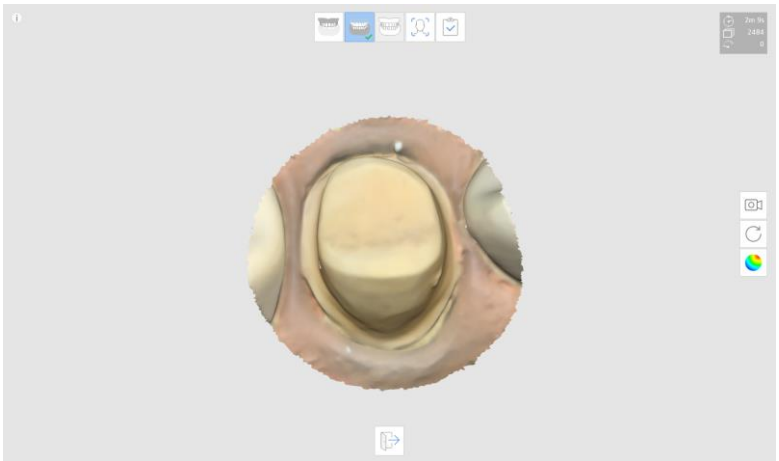
① Click “Result Preview”.



② Select the area you want to preview.

③Click  .

④System shows the preview result.



8.2.5 Margin Line

	Creates a margin line using tools such as “Auto Creation”, “Manual Creation”, and “Edit”. The margin line information can also be imported to a design program.

Toolbox

	Auto Creation	Creates a margin line automatically based on the points selected by the user. By selecting multiple points, a closed margin line will be created.
	Manual Creation	Creates a margin line manually according to the points selected by the user.
	Edit	Edits the margin line. User can add, move, and remove the control points of a margin line.
	Delete	Deletes the margin line.

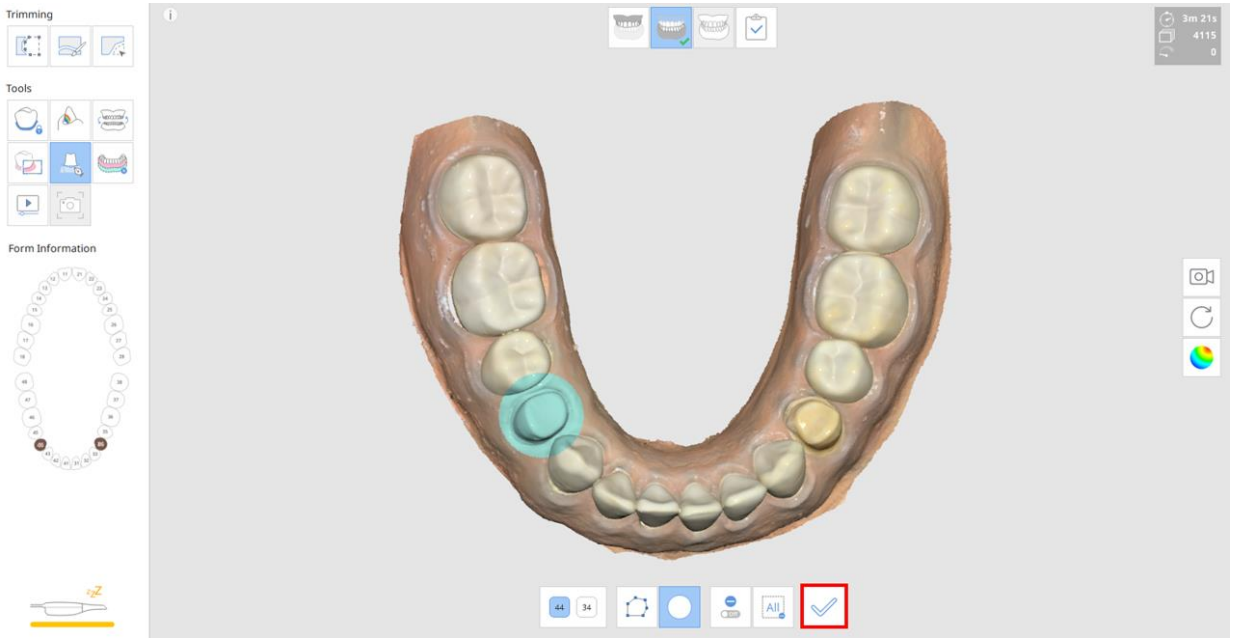
How to Create a Margin Line

① Run Margin Line.

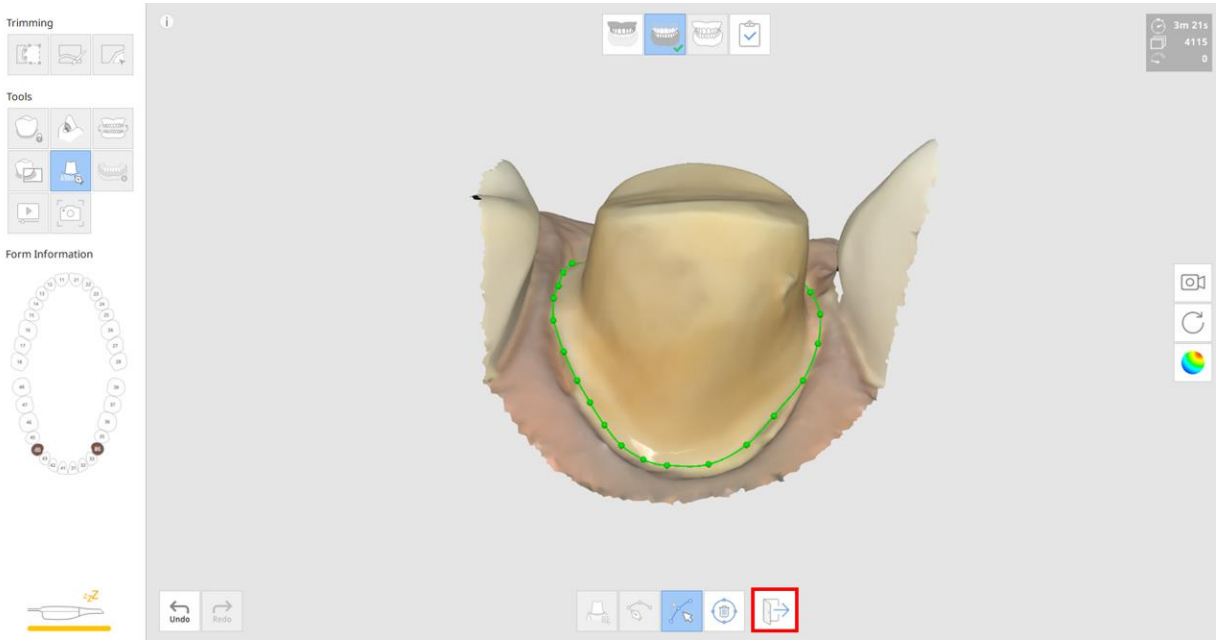
② Select maxilla or mandible.

③ Select the tooth number.

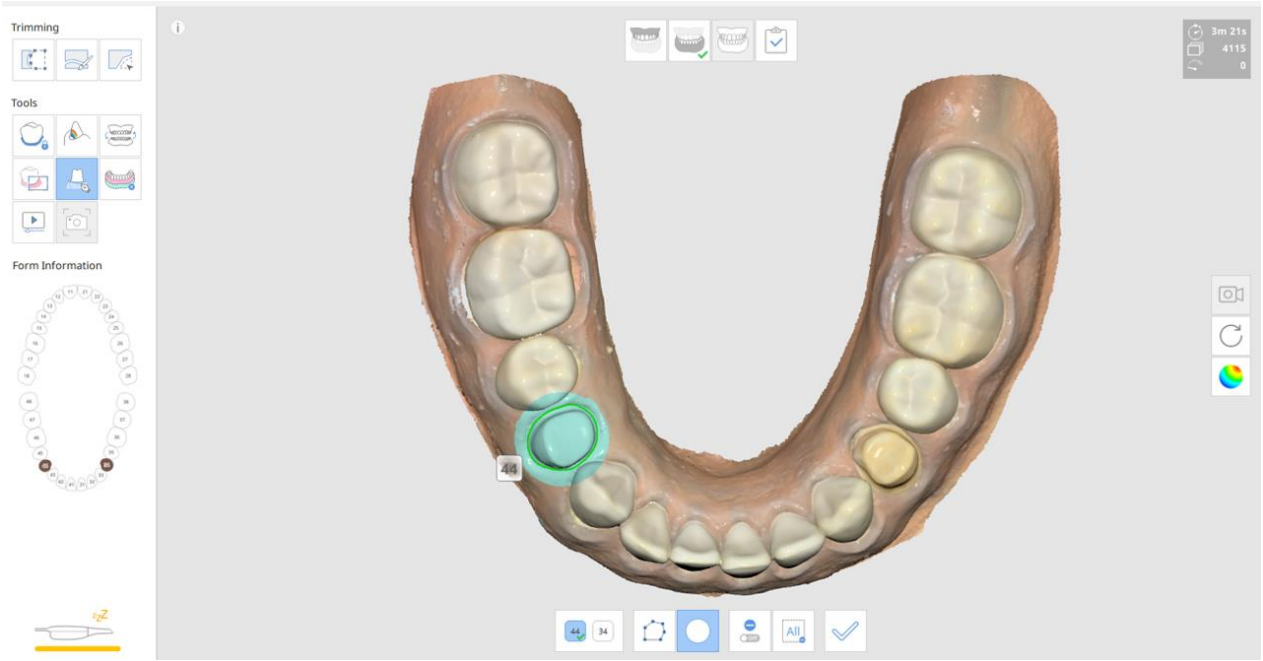
④ Define the region for the selected tooth. Then, click “Confirm”.
System will generate a temporary result using selected area. User can create the margin line on this result.



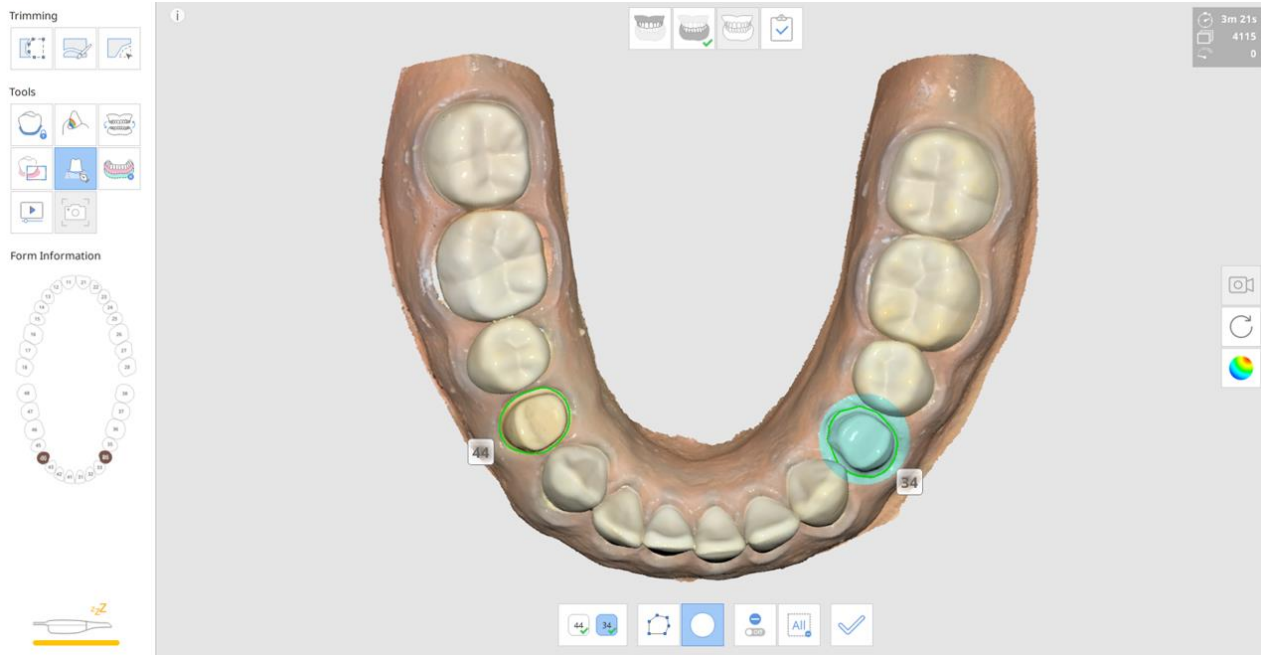
⑤ Create the margin line and click “Confirm”.



⑥ The margin line, along with the tooth number, will be shown.



⑦ Create the margin line for other teeth by repeating the process.



Margin Line Control During Auto Creation

A control point can be added during “Auto Creation”.
If a control point is added, the system will recalculate the entire margin line based on the control points.

Margin Line Control During Manual Creation

A control point can be added by clicking the left mouse button on the model.
Hold and drag the mouse to move the control point only onto the section.

Margin Line Control During Editing

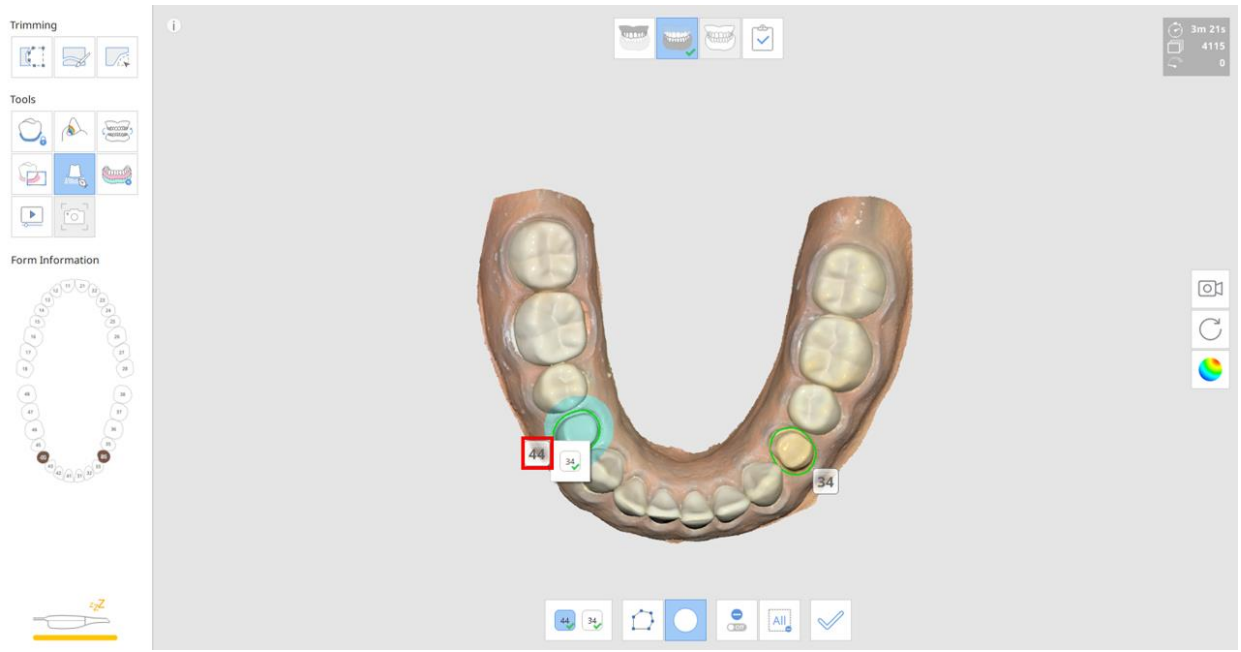
Add, move, and remove control points of the margin line. There are various methods to control the margin line during Editing.

- Click the left mouse button on the line: Add a control point.
- Click the right mouse button on a point: Remove a control point.
- Click the left mouse button on a point and drag: Move selected point on the 3D model.
- Click the left mouse button and hold for 1 sec on a point and then drag: Move selected point on the section.

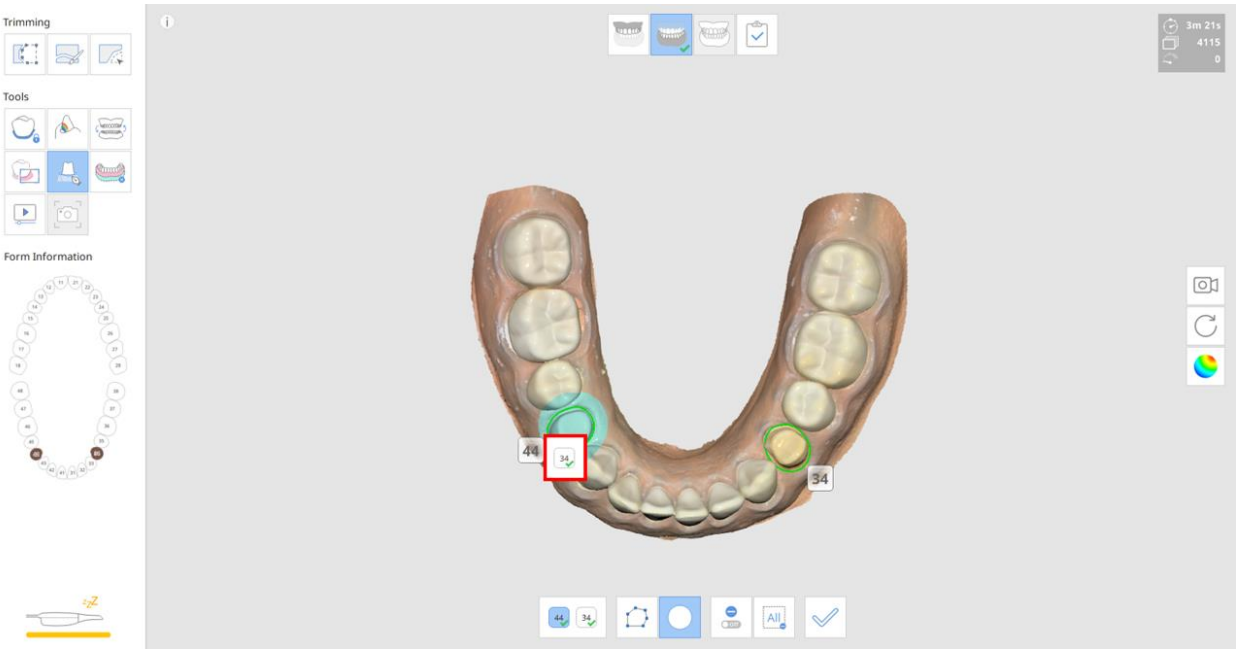
Change the Tooth Number for a Margin Line

If the user creates a margin line using the wrong tooth number, it can be changed using the steps below:

- Select the tooth number on the 3D view.



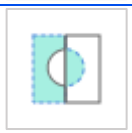
- Select a target number from the pop-up window.



8.2.6 Smart Data Cleaning

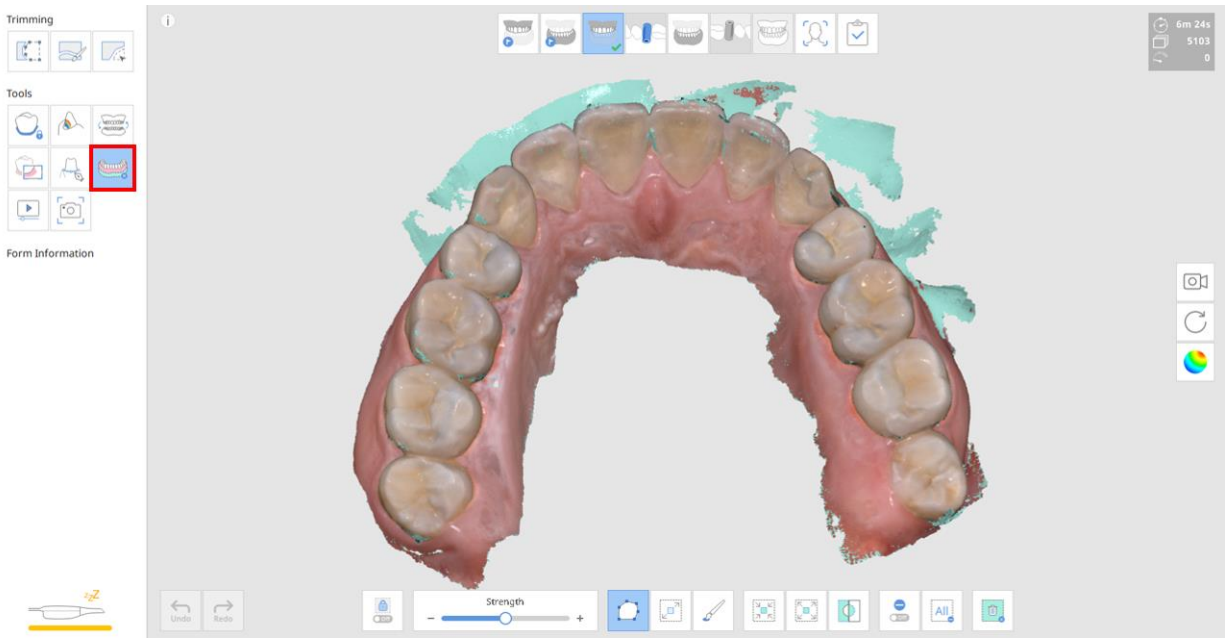
	The user can easily select and remove soft tissue by using the Reliability Map.

Toolbox

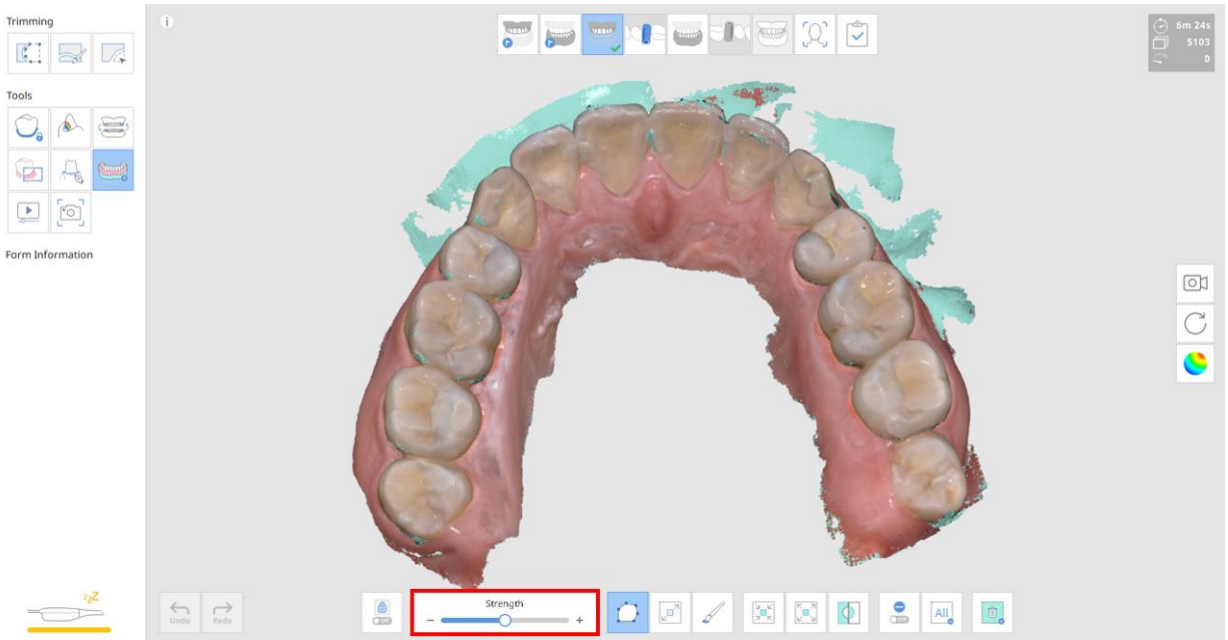
	Make Area Edit-Proof	Enables the user to select the area they want to protect from editing.
	Select Teeth Area	Selects only the teeth area in the scan data.
	Strength	Select the data with a slider bar. Easily select and remove the soft tissue using the Reliability Map. The selected data will be displayed in real-time.
	Flood Fill Selection	Selects all data in the connected area.
	Shrink Selected Area	Reduces the selected area each time the user presses the button.
	Expand Selected Area	Expands the selected area each time the user presses the button.
	Inverse Selected Area	Inverses the selection of area. The selected area will be deselected, and the previously not selected area will get selected.
	Delete Selected Area	Deletes the data in the selected area.

How to Use

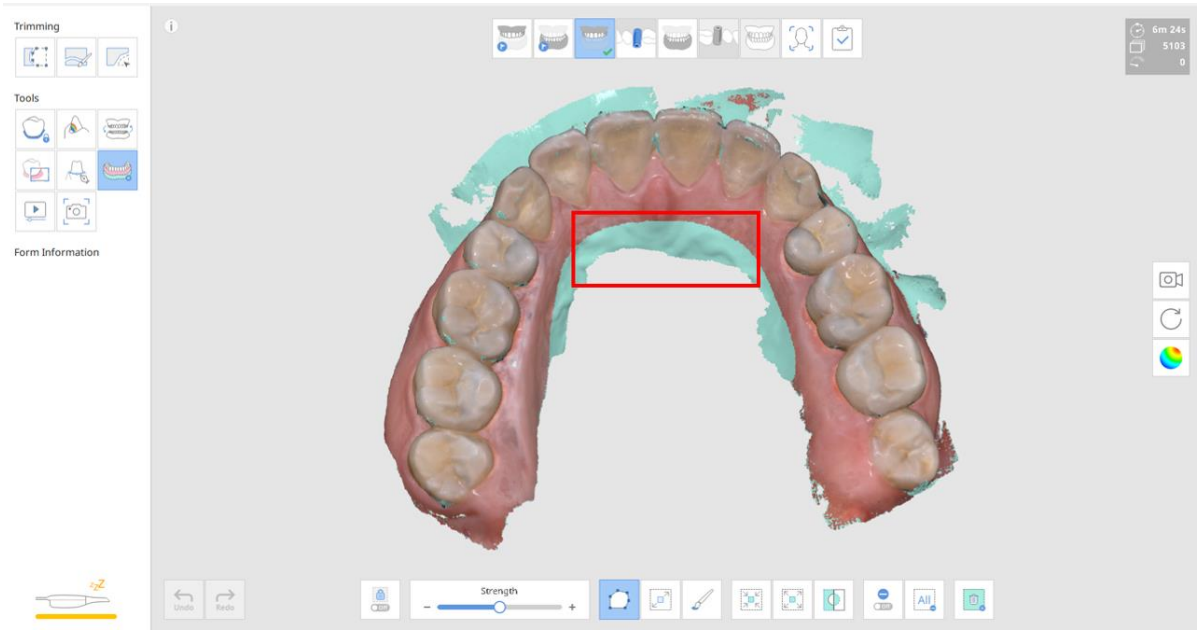
① Run “Smart Data Cleaning”.



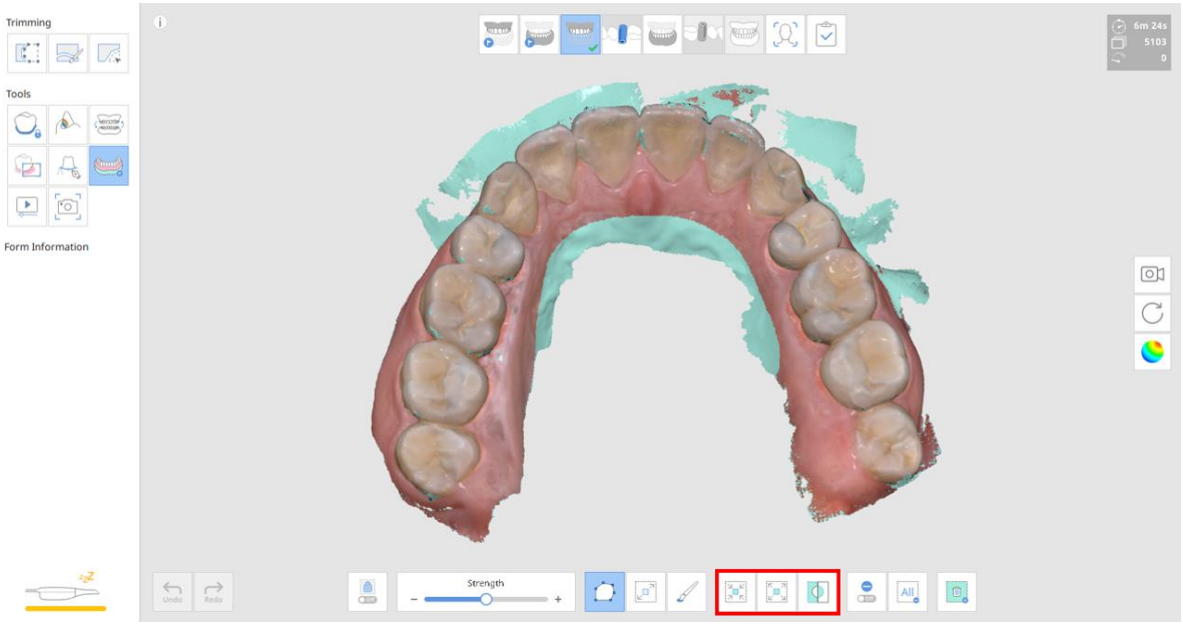
② Adjust the strength by using the slider bar. The system selects data based on the Reliability Map and shows it in real-time.



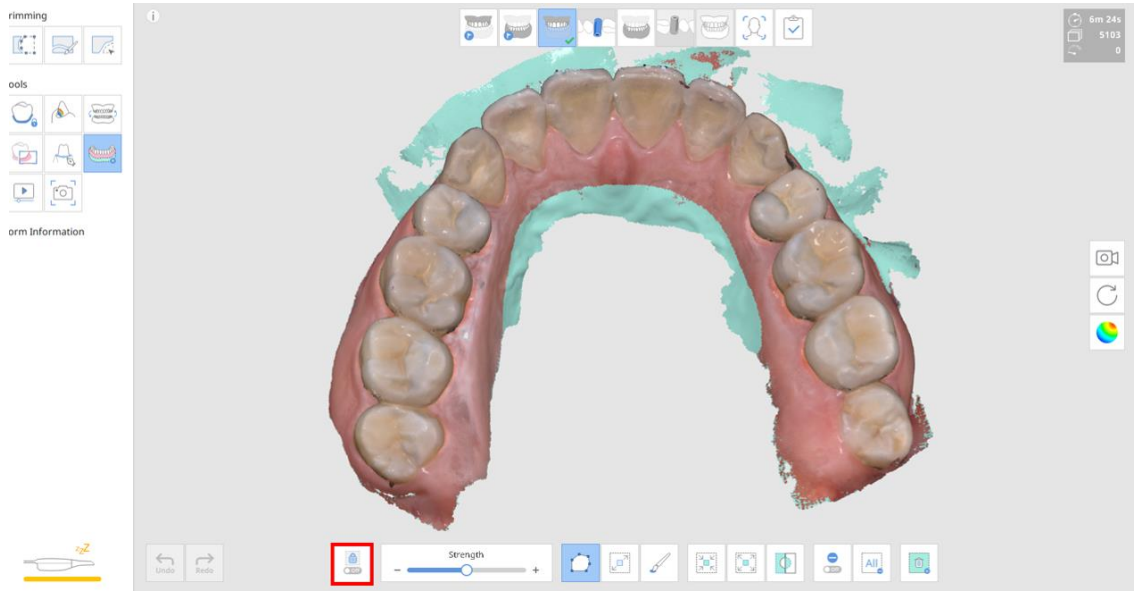
③ Increase or decrease this area using the slider bar.



④ Expand, reduce, or inverse the selected area by using the buttons highlighted in the image below.

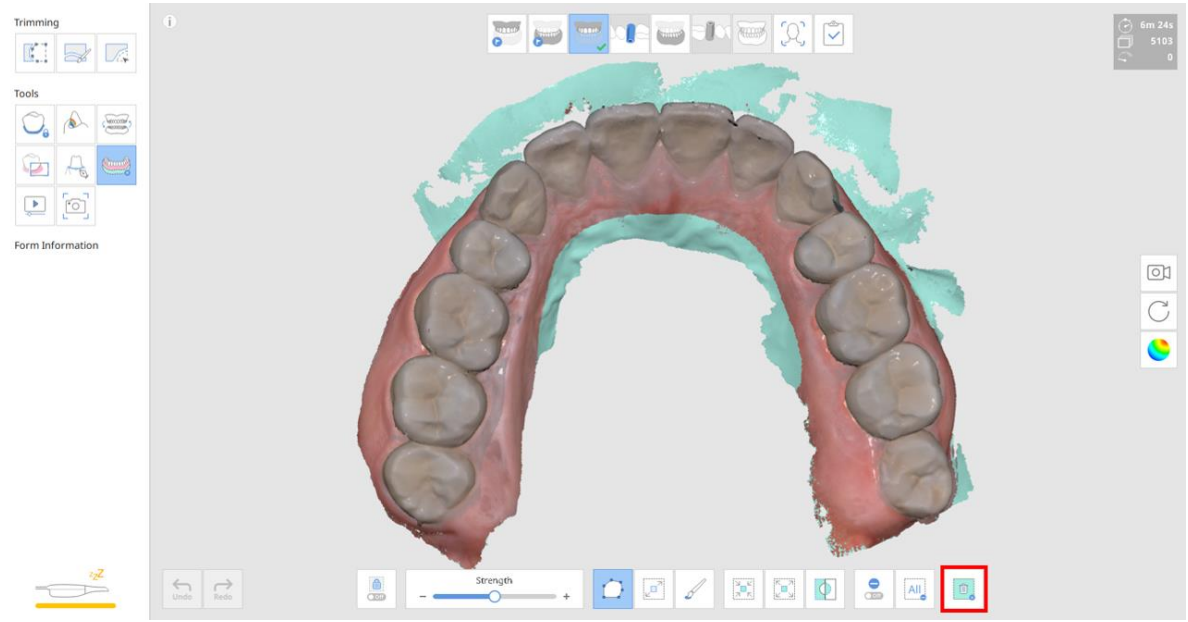


⑤ Click “Make Area Edit-Proof” to select an area. This area will be protected from deletion.

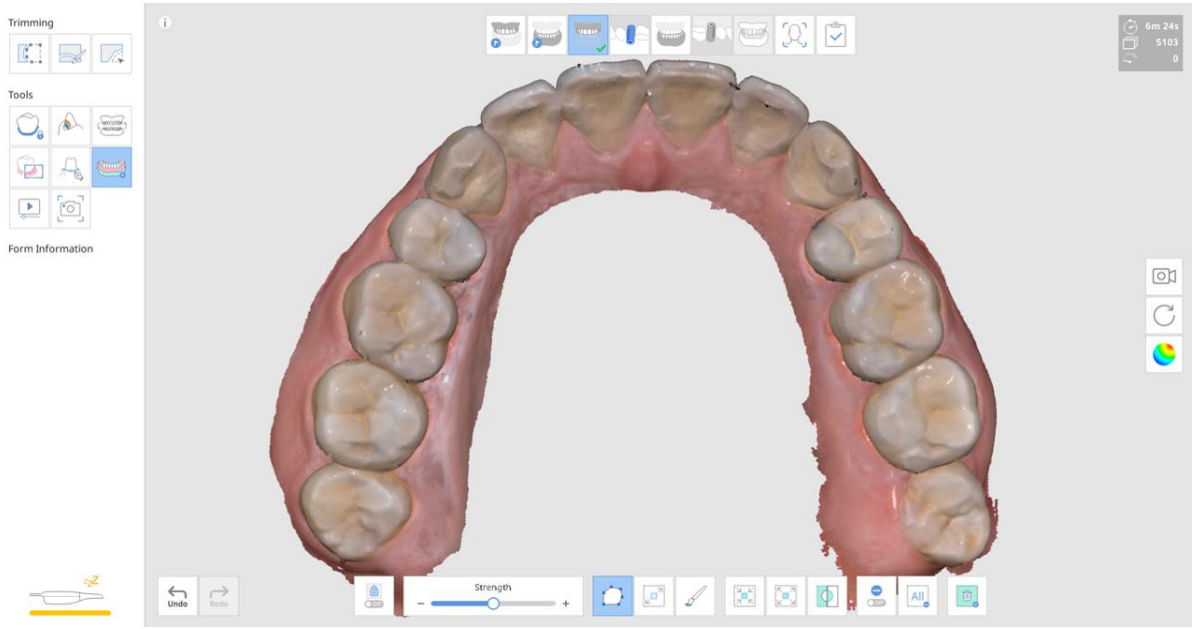


⑥ Click “Select Teeth Area” to select only the teeth area to protect from being deleted.

⑦ Click “Delete Selected Area” after selecting the correct area.

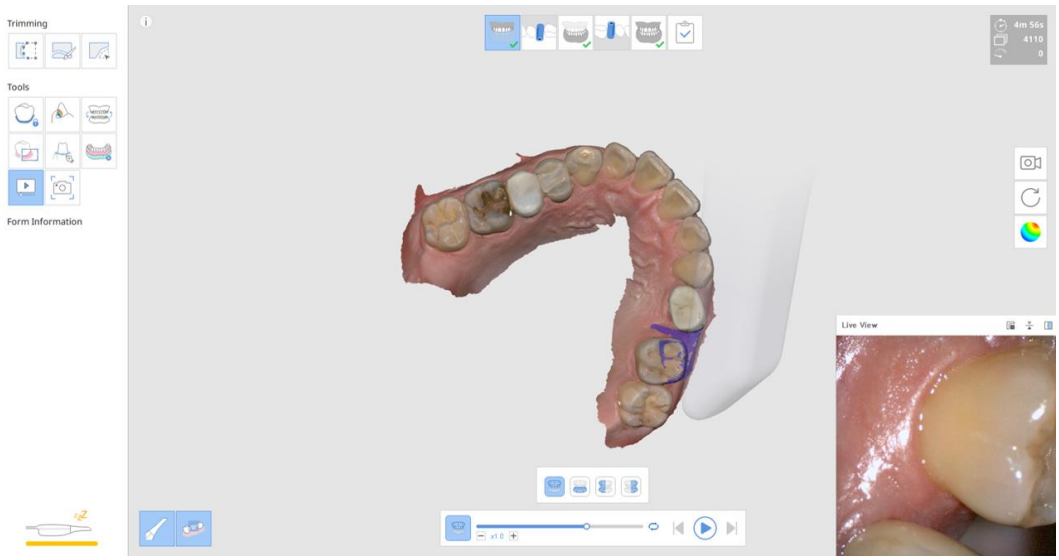


⑧ See the resulting image after deletion.



8.2.7 Scan Replay

Replays the scanning process.
The scanner tip and scanning area will be shown in the video.
Check scanning conditions, such as scanning environment, how one scans, etc.



Toolbox

	Scanner Tip	Shows or hides the scanner tip during replay.
	Scan Area	Shows or hides the scanning area during replay.

8.2.8 Playing Control

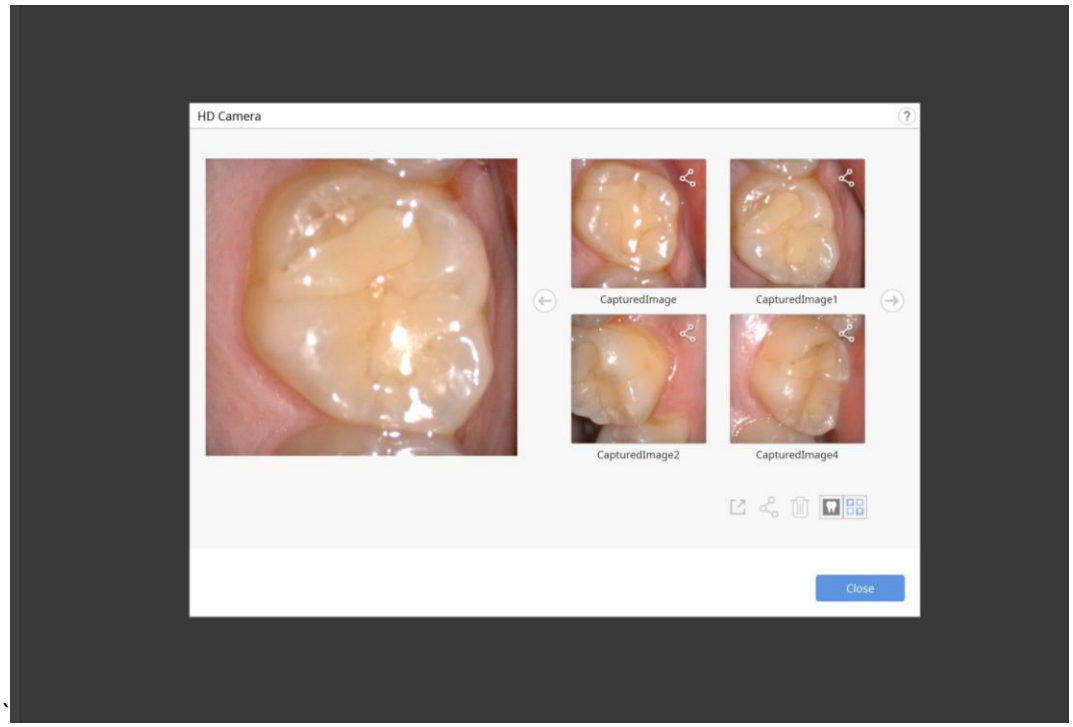
Provides various tools to control the video.

	Slider Bar	Starts the video from the point of interest.
	Video Speed	Changes the speed (x0.5, x1.0, or x3.0).
	Repeat	Turns on or off play on repeat.
	Previous Replay	Replays the scan of the previous step.
	Play	Starts playing the scan replay.
	Stop	Stops the scan replay.
	Next Replay	Replays the scan of the next step.

The selected steps will be replayed in sequence.

8.2.9 HD Camera

	Takes 2D images with 3D model data and shares the images with a laboratory.



Toolbox

	Exports the selected files on to the computer.
	Allows user to select whether they want to share data or not.
	Deletes selected image.
	Moves to previous or next page.
	Changes the view style of a thumbnail.

How to Use

① Click “HD Camera”.

② Place the tip inside the patient’s mouth.

③ Position the tip carefully according to the region of interest and press blue button on the scanner.

④ The 2D image will be saved in the gallery.

How to Change the Status of Sharing

① Select the image to share (or to stop sharing).

② Click on the  button.

③ The sharing status of the selected image will be changed.

How to Change the Name of an Image

① Select the image.

② Click anywhere on the selected image.

③ Enter the new name for the image.

How to Export Selected Images

① Take pictures with the scanner.

② Select the images to export and click “Export”.

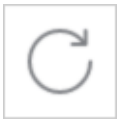
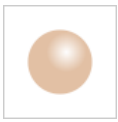
③ Select folder to save the files to.

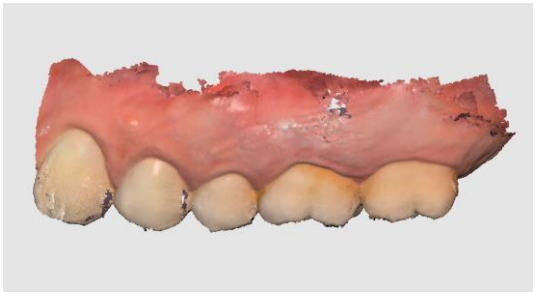
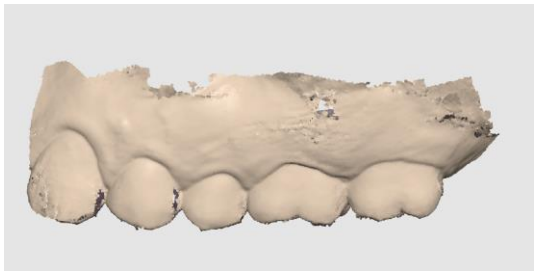
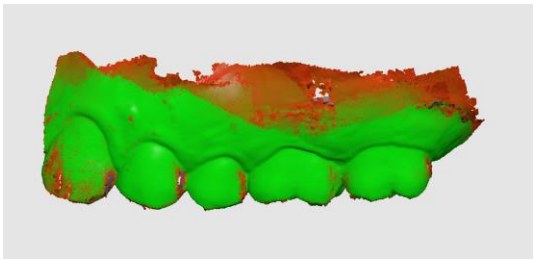
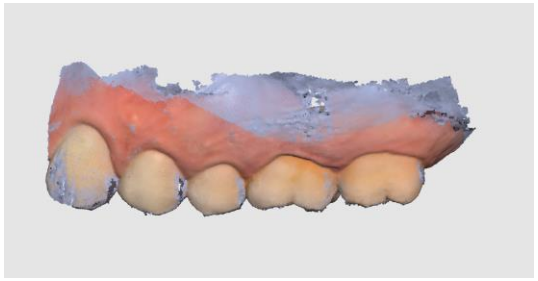
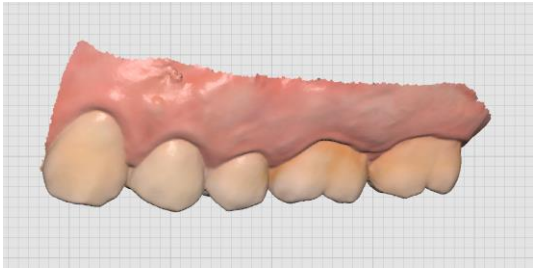
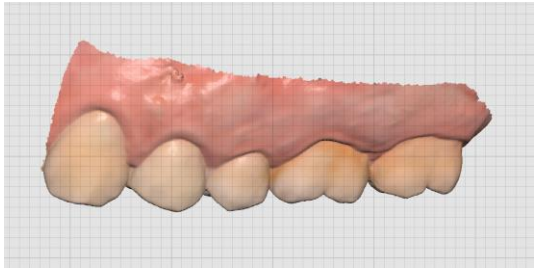
8.3 Side Toolbar

The Side Toolbar provides tools to control the 3D model in the Model View screen and to change scan depth.

8.3.1 Tools to Control the 3D Model

Toolbox

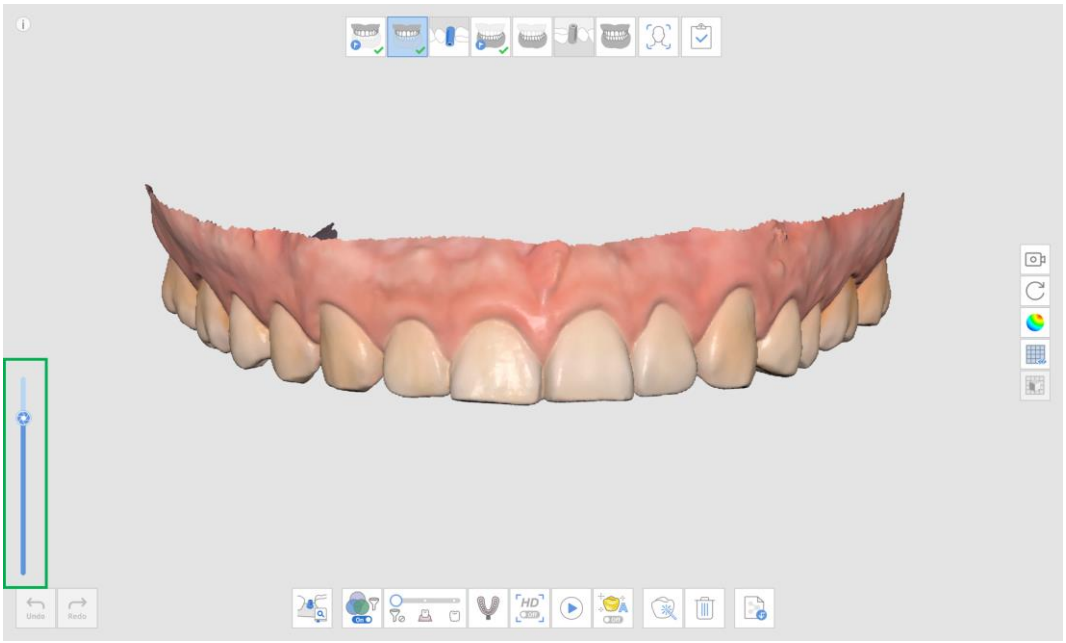
	Camera View Mode	Changes the camera view mode. Choose between Dynamic View or Fixed View.
	Rotate	Rotates the model.
	Pan	Moves the model. Enable moving the model by going to Menu > Settings > Expand Model Control Icons.
	Zoom In/Zoom Out	Zooms in or out on the model. Enable moving the model by going to Menu > Settings > Expand Model Control Icons.
	Zoom Fit	Positions the model in the center of the screen. Enable moving the model by going to Menu > Settings > Expand Model Control Icons.
	Texture On	Displays the model with texture color.
	Texture Off	Displays the model without texture color.
	Reliability Map	Shows the trend of reliability of scan data in green, yellow, or red. Green shows the reliable area. Red shows the unreliable area. Reduce the unreliable area by additional scanning.
	Texture On + Reliability Map	Assists in acquiring better results by allowing reference to the reliability map while also scanning with the texture on.
	Grid Off	Hides the grid on the background.
	Grid On	Shows the grid on the background.
	Grid Overlay	Overlays grid over the model.

Model Control Icons (Enabled)	Model Control Icons (Disabled)
	
Texture On	**Texture Off**
	
Reliability Map	**Texture On + Reliability Map**
	
Grid On	**Grid Overlay**
	

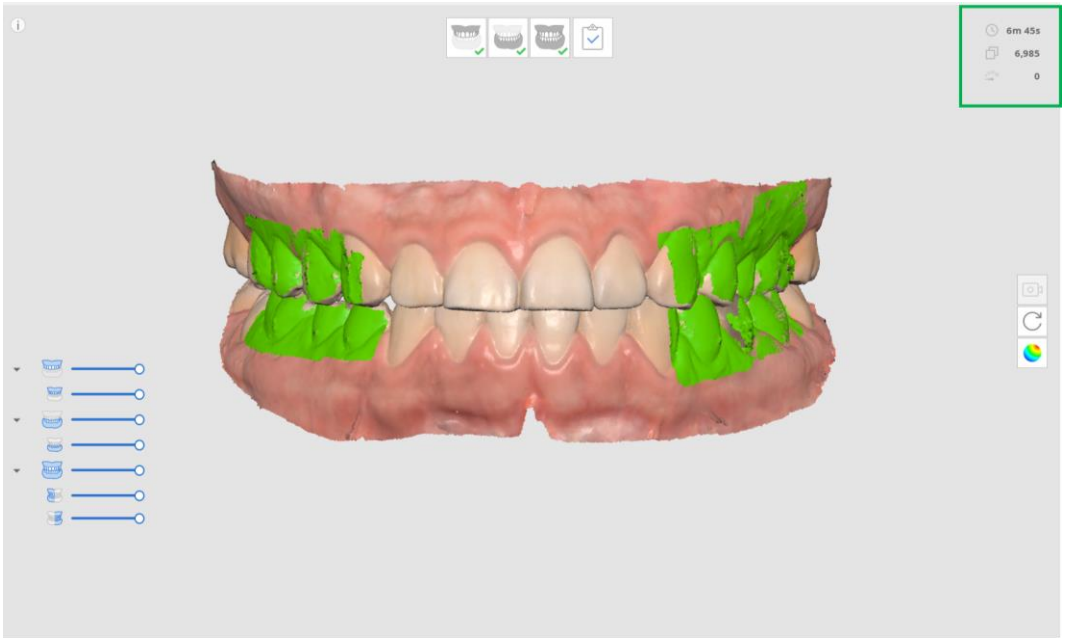
8.3.2 How to Change the Scan Depth

Scan depth can be adjusted from 12-23 mm.

In general, deeper scan depths are more useful. However, less scan depth is more useful to filter data which is far away from the tip end.



8.4 Scan Information



	Scan Time	Shows scan time during scanning.
	Number of Frames	Shows the number of images taken during scanning.
	Scan Speed	Shows the current scan speed.

9 Useful Information and Examples

9.1 Remote Control Mode

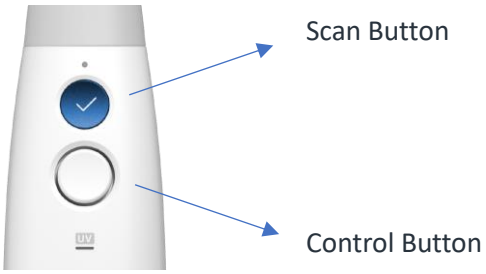
On the i700, "Remote Control Mode" is available while using Scan for Clinics.

Press the "Control" button on the scanner to switch to "Remote Control Mode".

Settings required for scan and data control such as data rotation, pan, and zoom, as well as acquisition of scan data, can be changed easily on "Remote Control Mode".

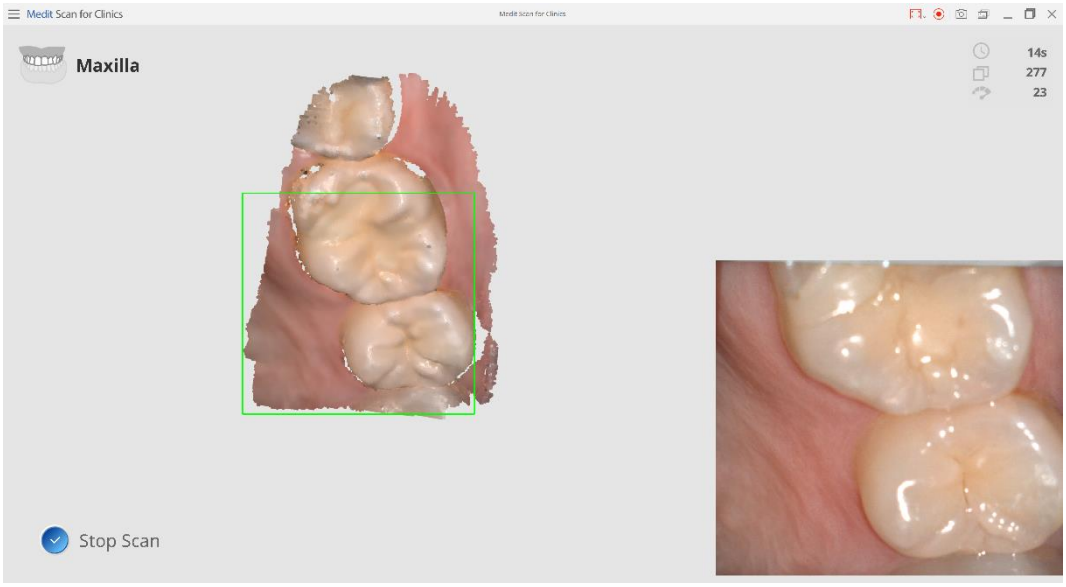
Functions requiring mouse control such as "Trimming", "Tools", and "Calibration" are not supported in "Remote Control Mode".

Remote Control Mode - How-To Guide



① Click the "Control" button on Scan for Clinics to switch to "Remote Control Mode". However, the "Control" button is not available while scanning.

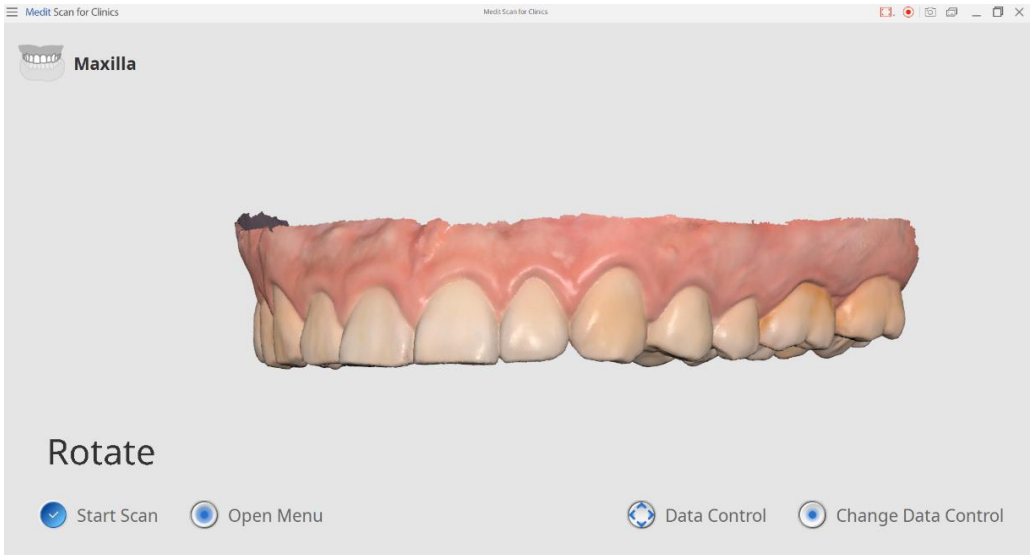
② Click "Scan" to start scanning. While scanning, UIs such as "Live View" and "Scan Information" are expanded for the user's convenience.



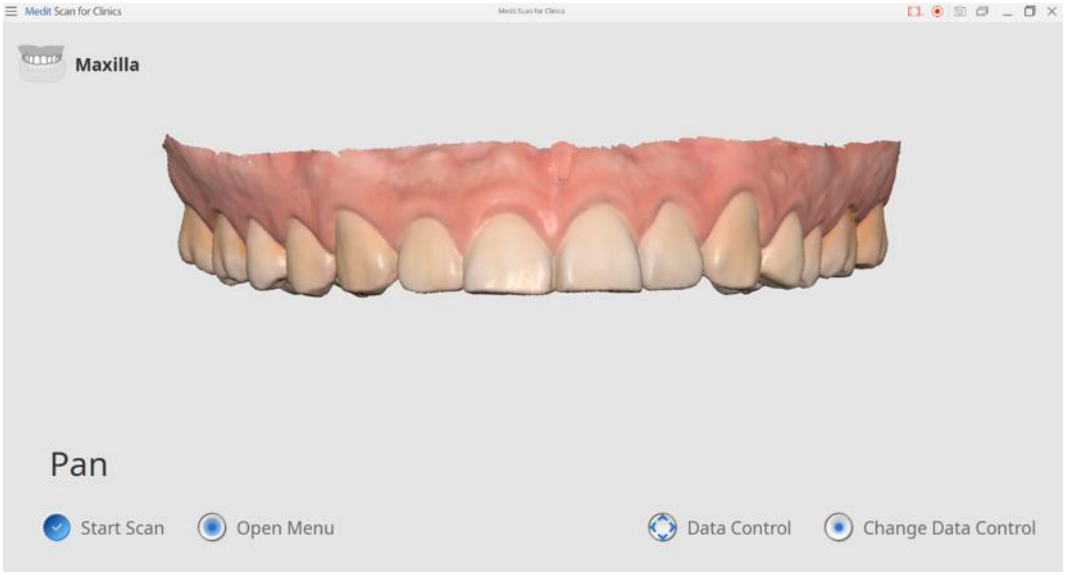
③ After scanning, click "Control" to check the acquired scan data.

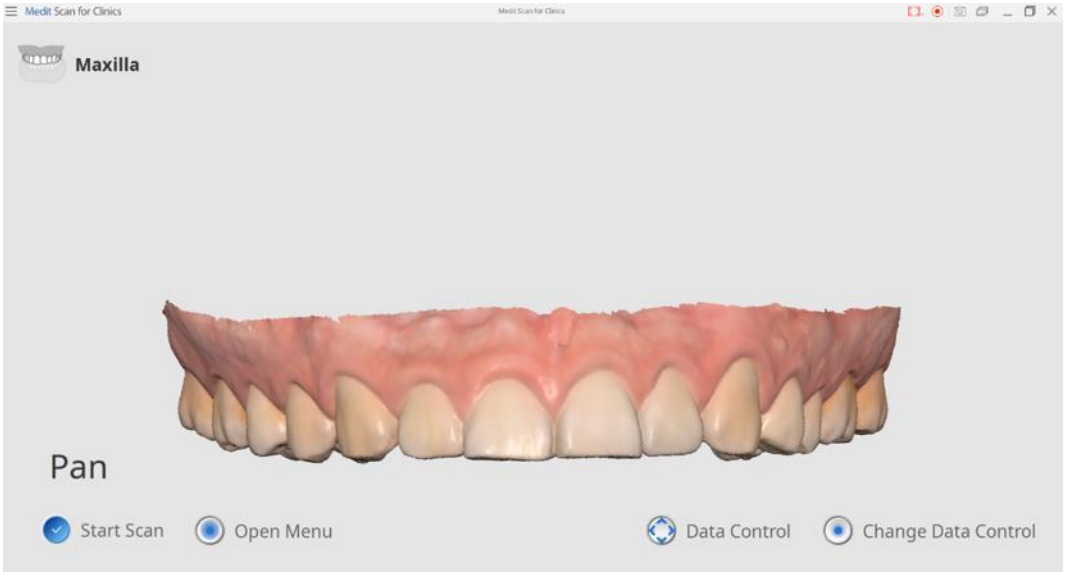
Functions such as "Rotate", "Pan", and "Zoom" are supported, and can be switched using the center of the "Control" button. Please refer to the key information at the bottom of screen on buttons use.

- Rotate - Rotate the scan data in four directions using the "Control" button.

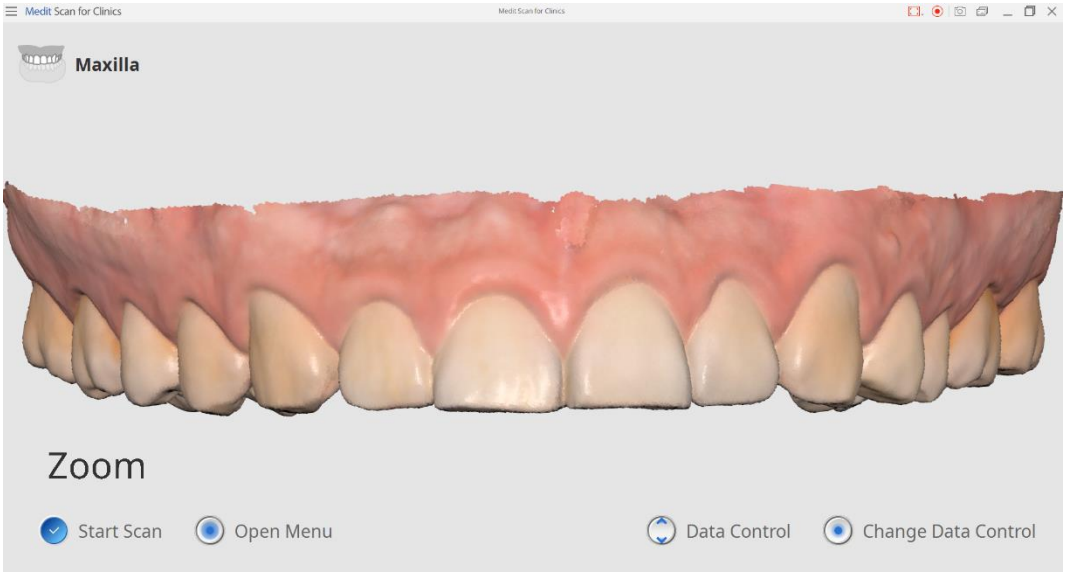


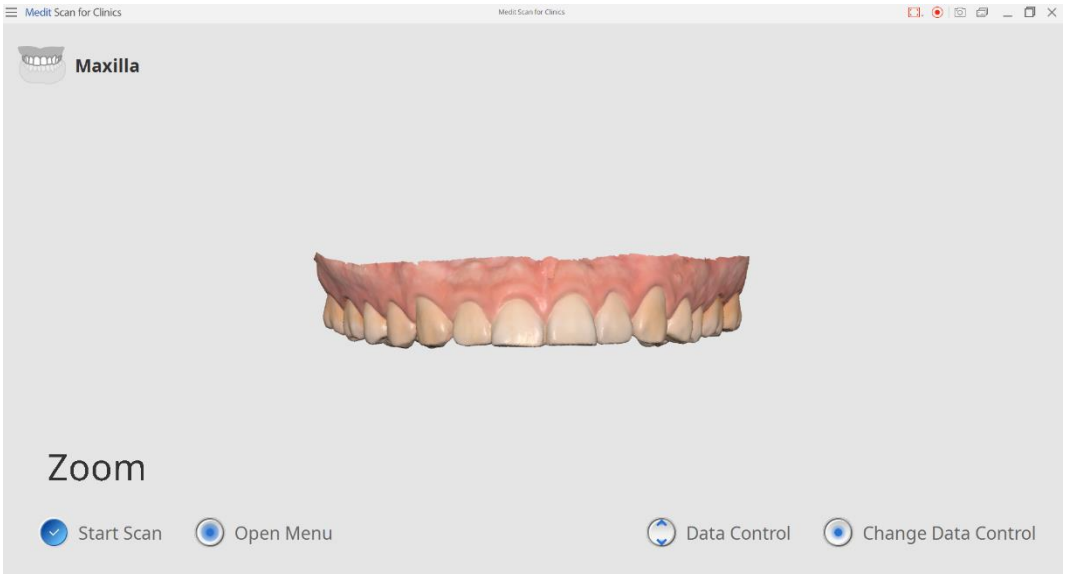
- Pan - Move the scan data in four directions using the "Control" button.





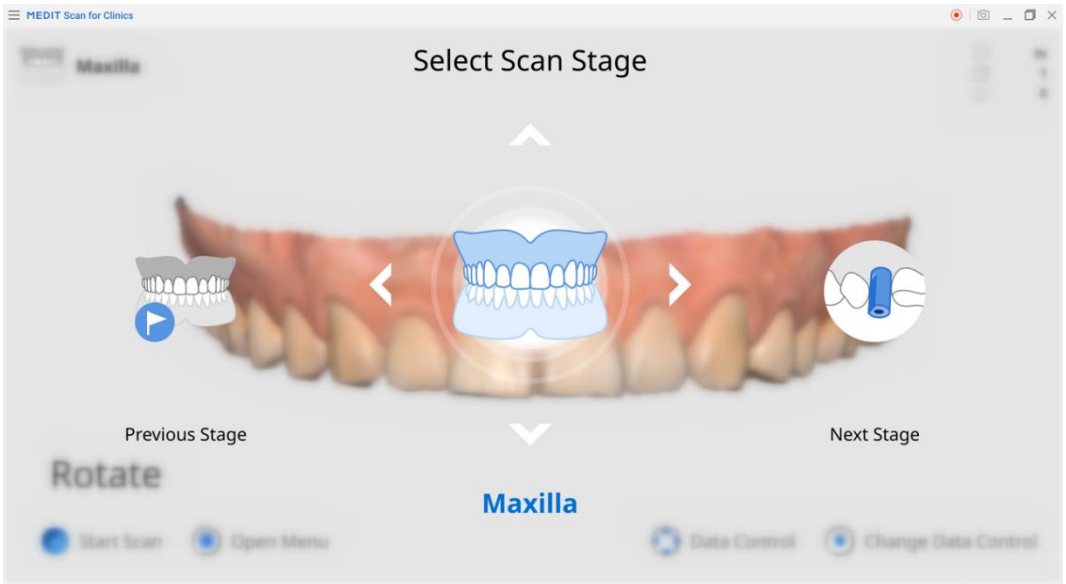
- Zoom - Zoom in or out on the scan data using the up and down directions of the "Control" button.



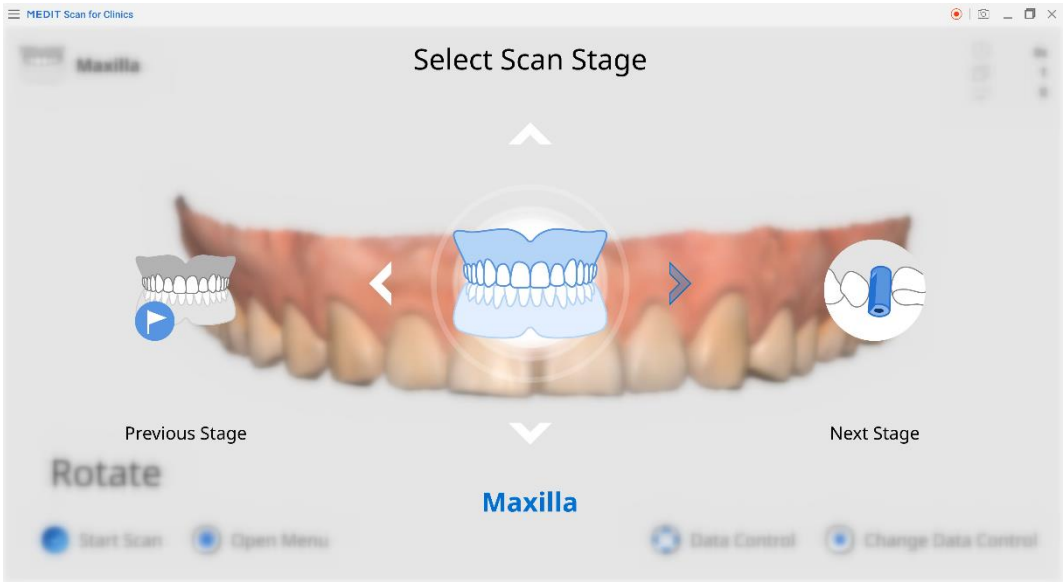


- Zoom Fit - Double click the "Control" button to zoom fit.

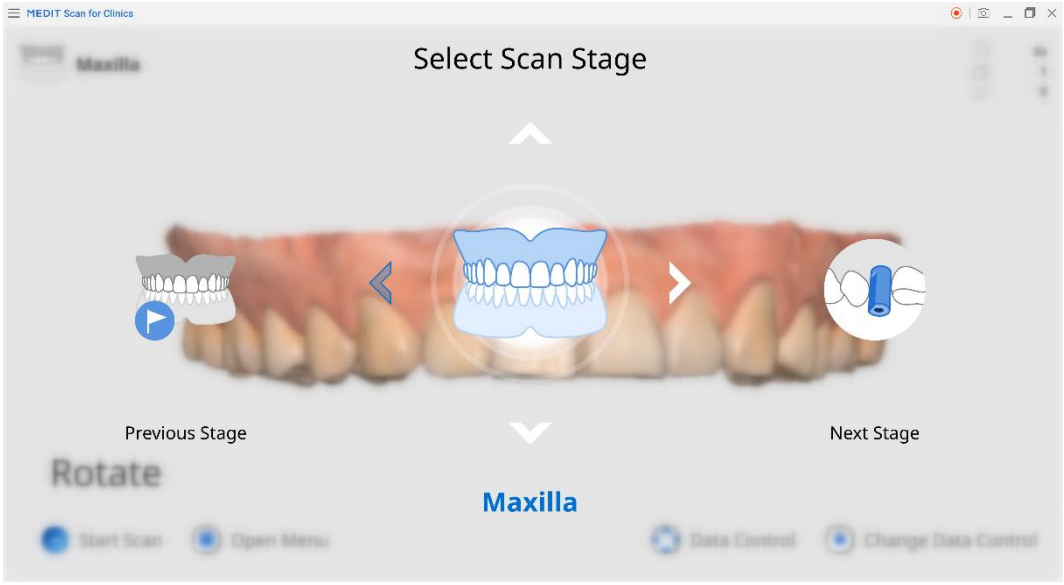
Hold the "Scan" button to move scan stages with pop-up.



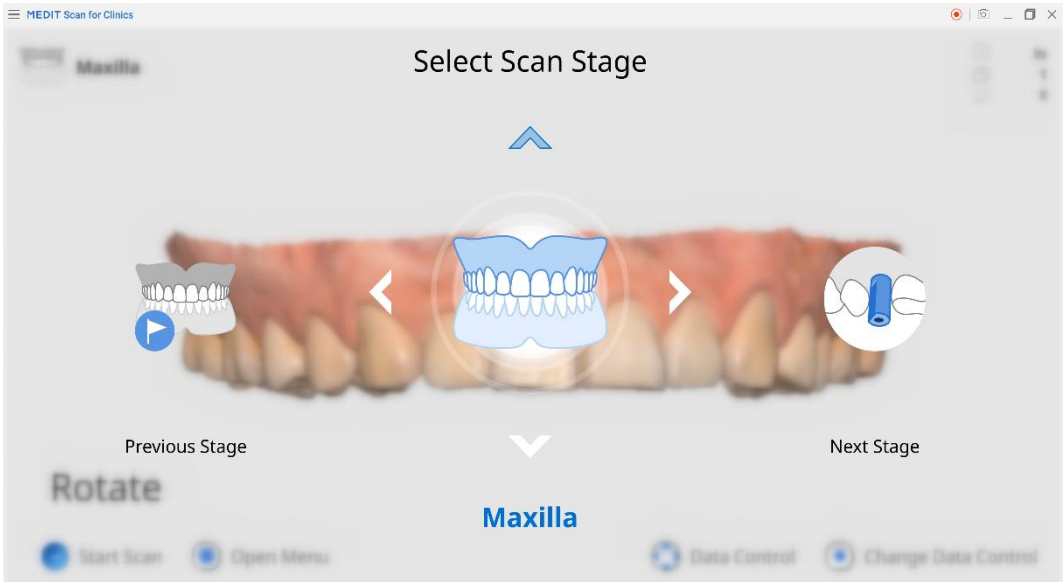
Click the left side of the "Control" button to move to the previous stage.

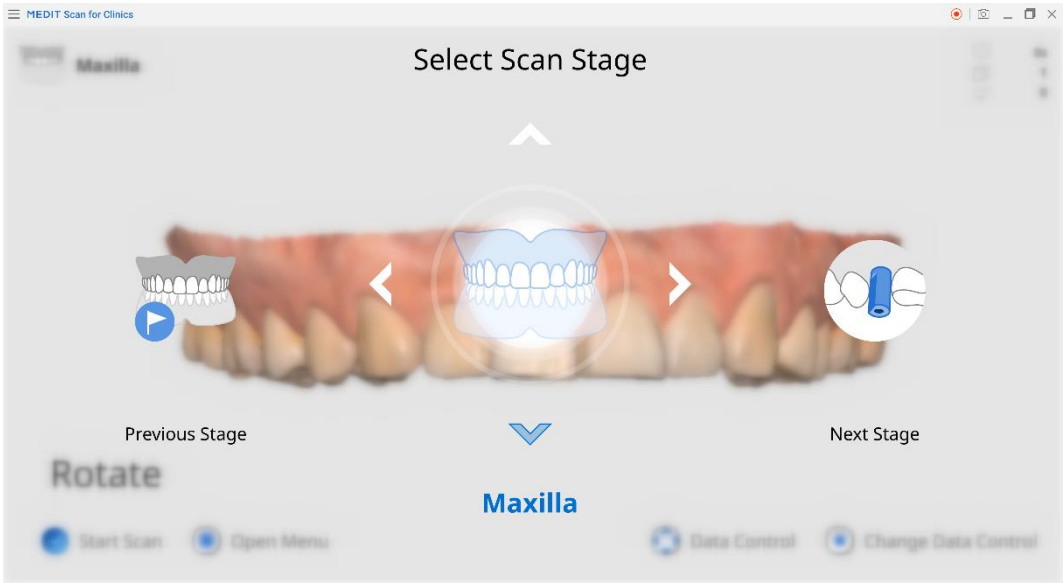


Click the right side of the "Control" button to move to the next stage.

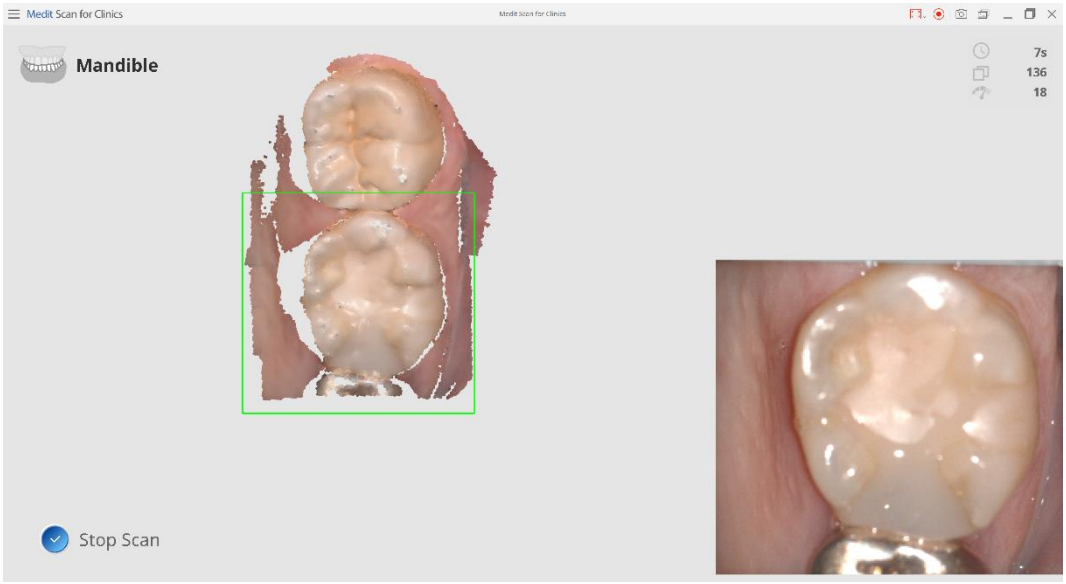


Scan stages can be changed by clicking up/down on the "Control" button, and confirmed by the center button.

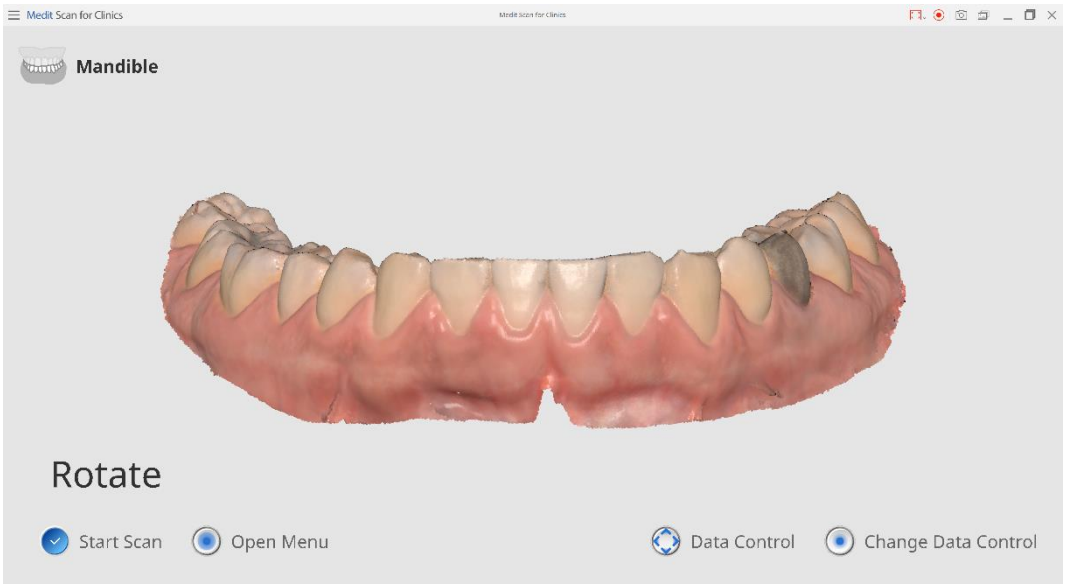




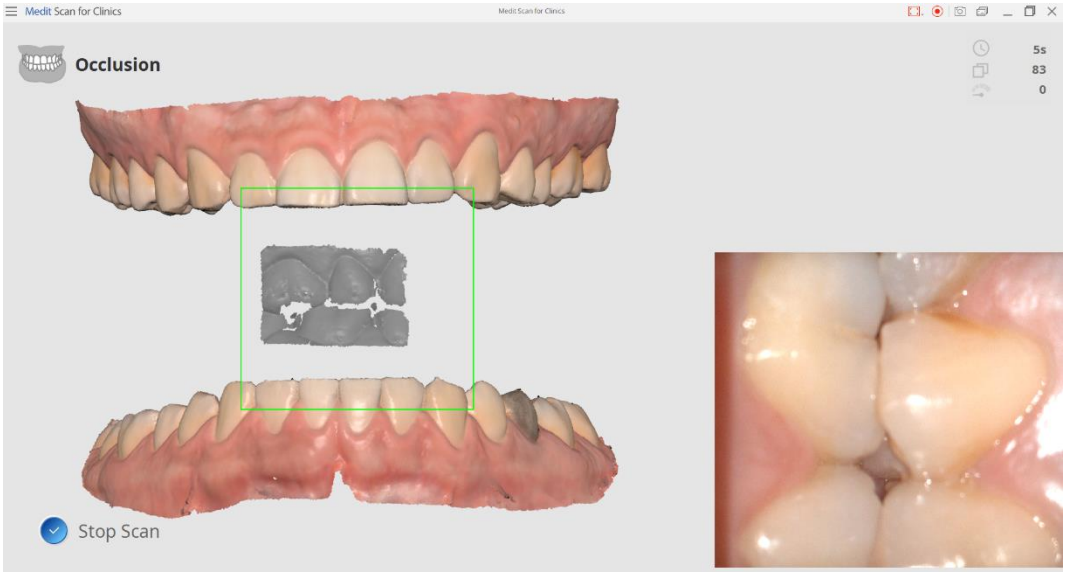
In Mandible scan stage, acquire the scan data.

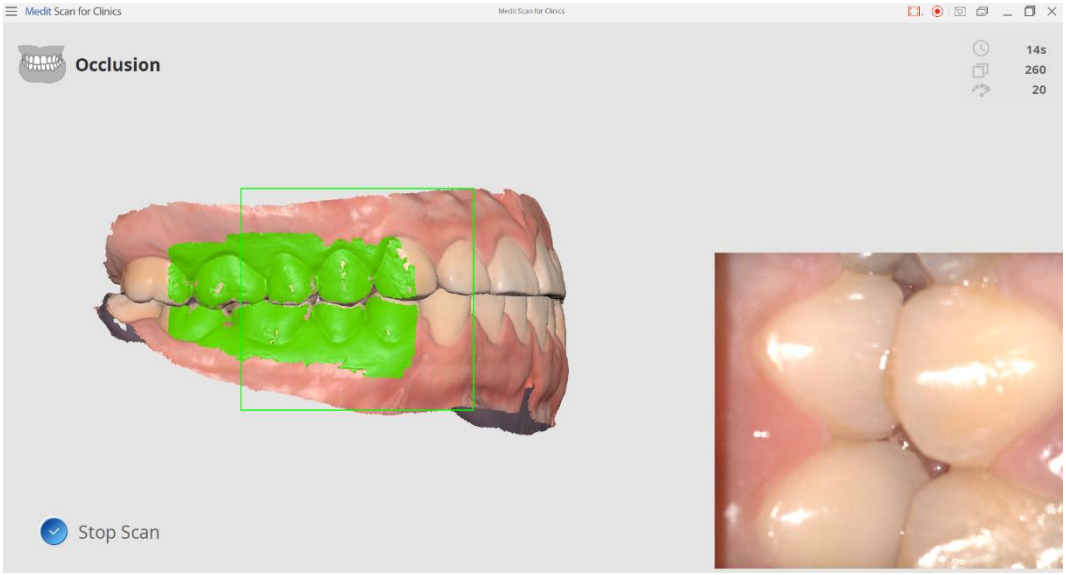


Stop the scan to check and control the data.



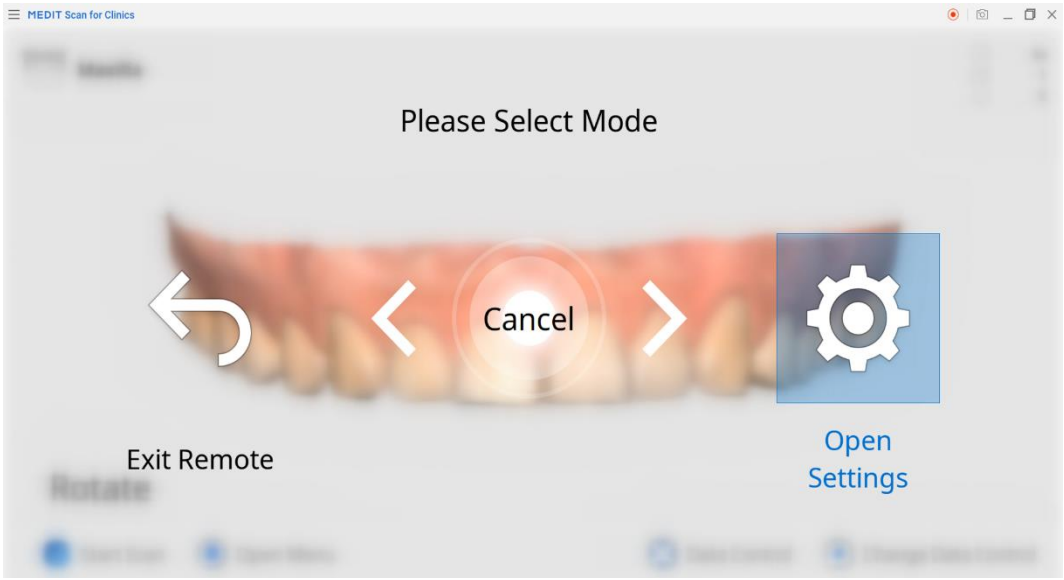
Start the scan in occluded status to acquire and align the occlusion data.



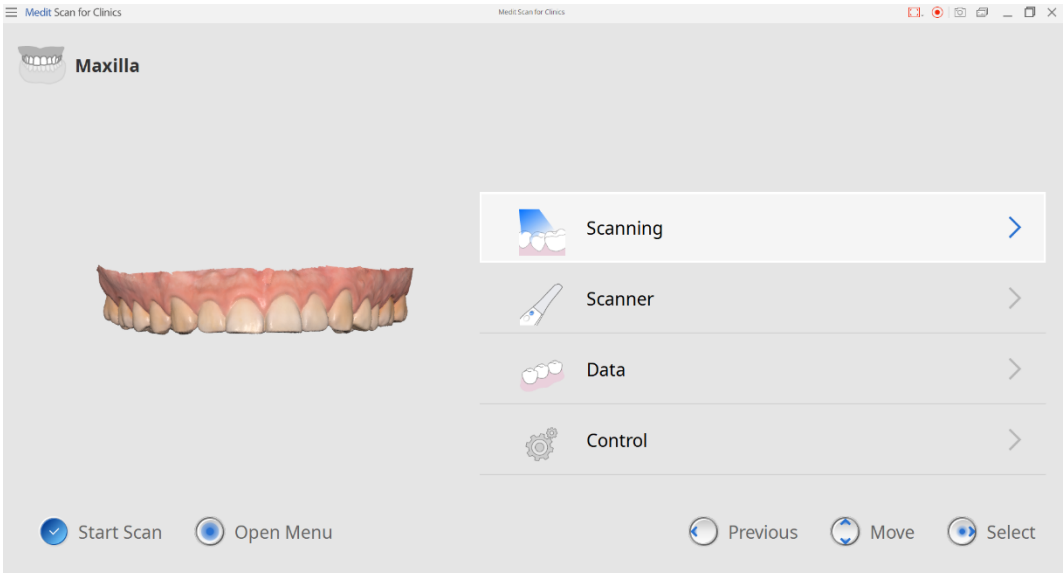


Hold the "Control: button on "Remote Control Mode" to open the menu.

In the "Menu", "Open Settings" or "Exit Remote Control Mode" can be selected.

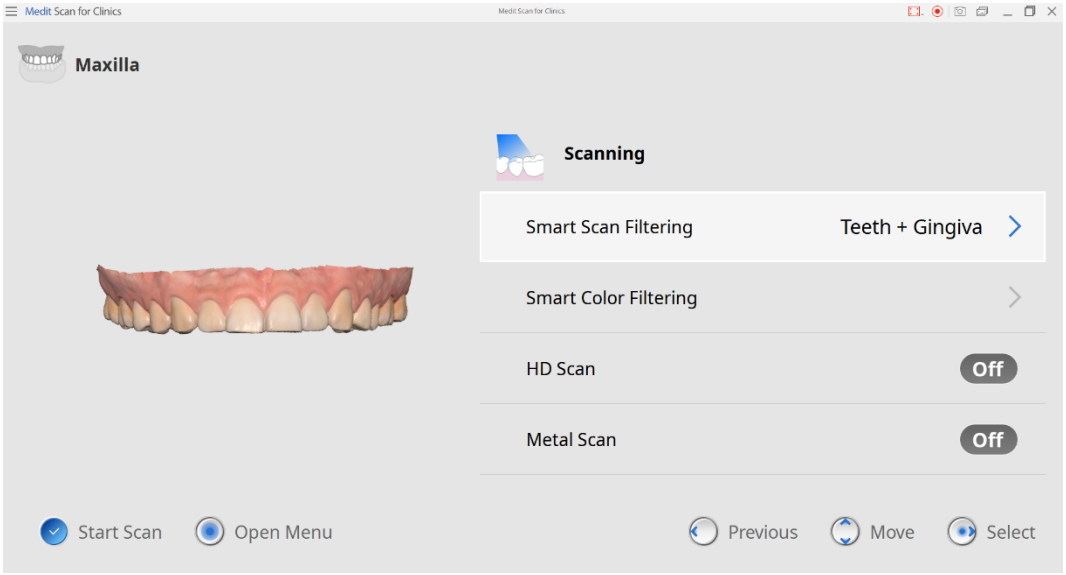


Select "Open Settings" with the right button to display the changeable settings on "Remote Control Mode".



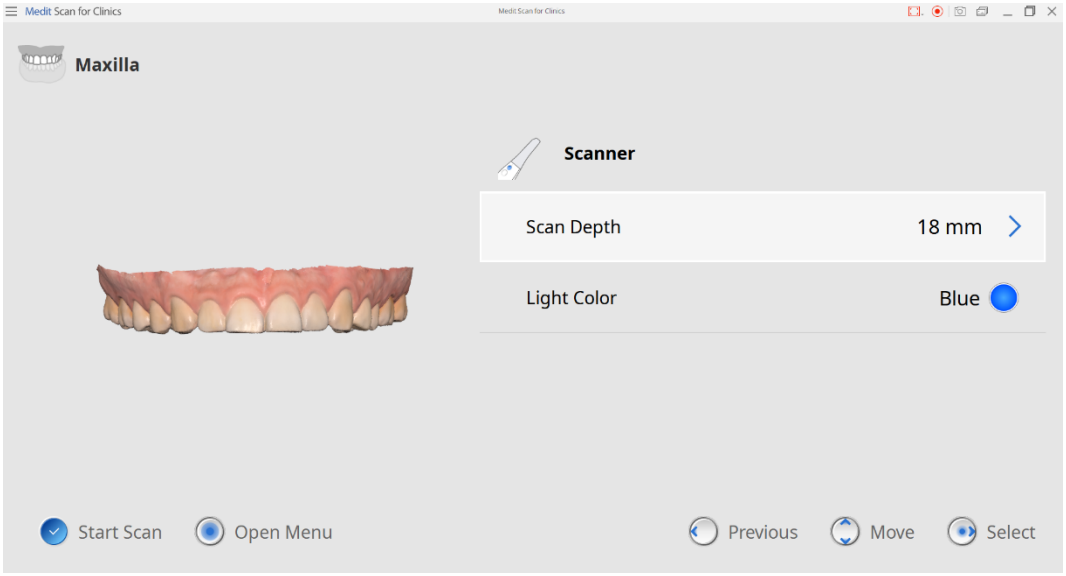
9.1.1 Scan Settings

Smart Scan Filtering	Automatically deletes unnecessary soft tissues during scanning.
Smart Color Filtering	Filters specific colors during scan+-ning.
High Resolution Scan	Acquires the high resolution scan data for the entire or specific area.
Metal Scan	Automatically detects metal surfaces to support the optimal result during scanning.



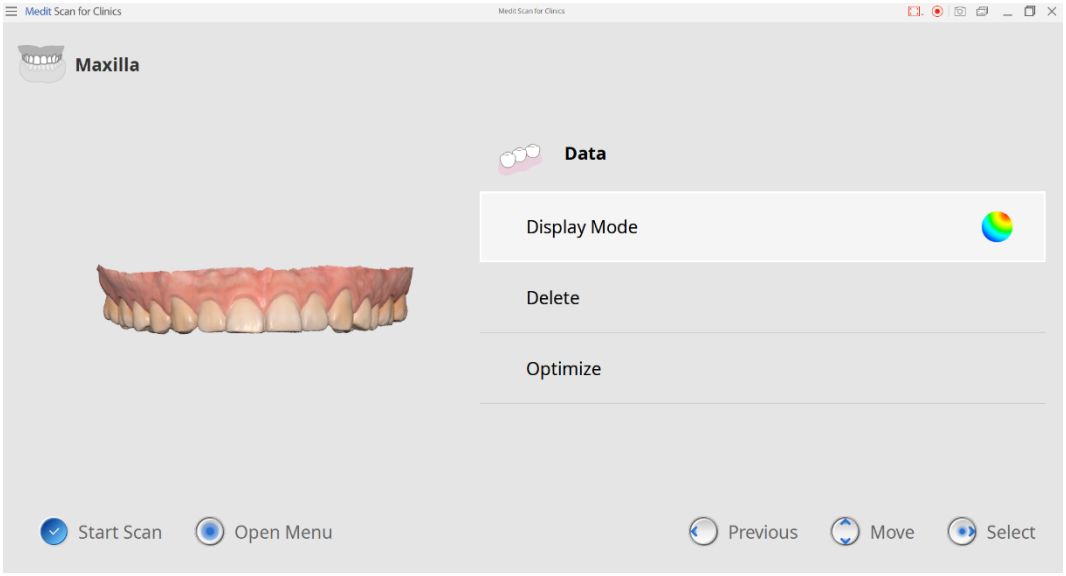
9.1.2 Scanner Settings

Scan Depth	Changes the scan depth in the range of 12 mm to 21 mm. Only changes by 3 mm are available in "Remote Control Mode".



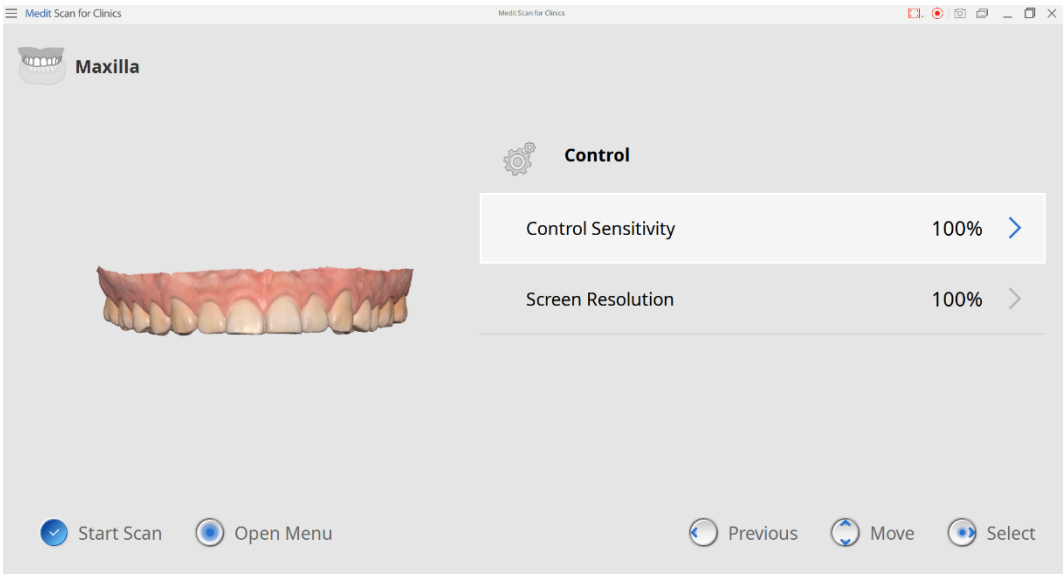
9.1.3 Data Settings

Display Mode	Changes the scan data view modes. Supports 4 modes: Texture On, Texture Off, Reliability Map, and Texture On + Reliability Map.
Delete	Deletes the scan data on the current stage.
Optimize	Optimizes the alignment of scan data and deletes the noises.
Multi Occlusion	Reproduces various types of occlusion scan data and alignment. Only available on Occlusion scan stage.

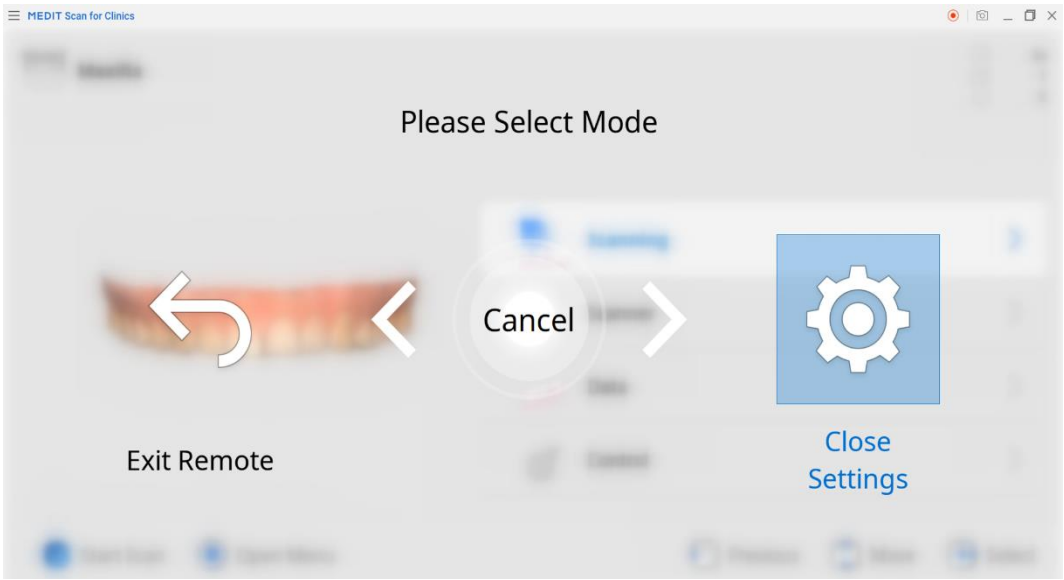


9.1.4 Control Settings

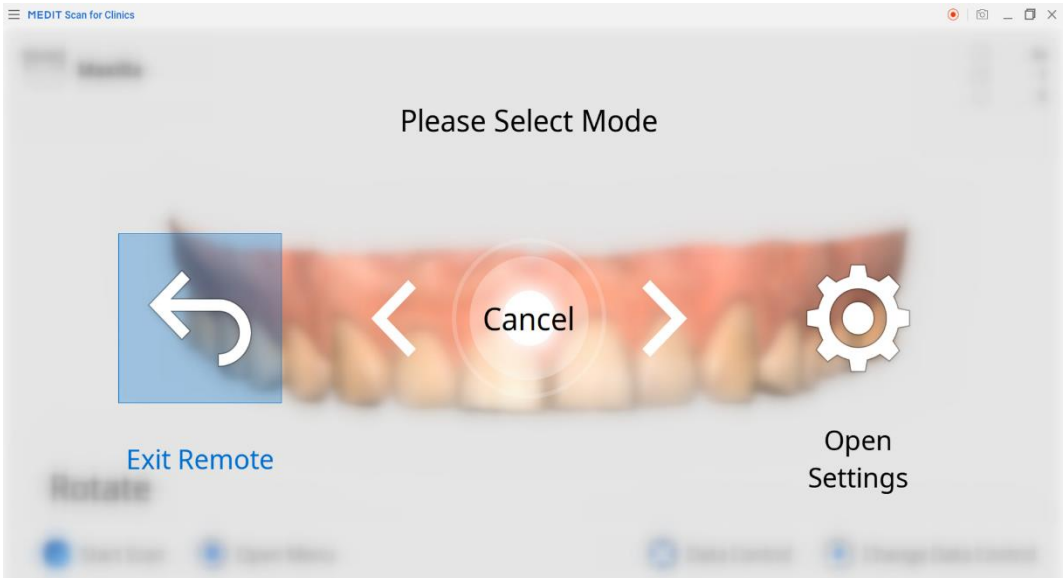
Control Sensitivity	Adjusts the sensitivity of data control.
Screen Resolution	Changes the screen resolution of "Remote Control Mode". Only applies to the display size of scan data.

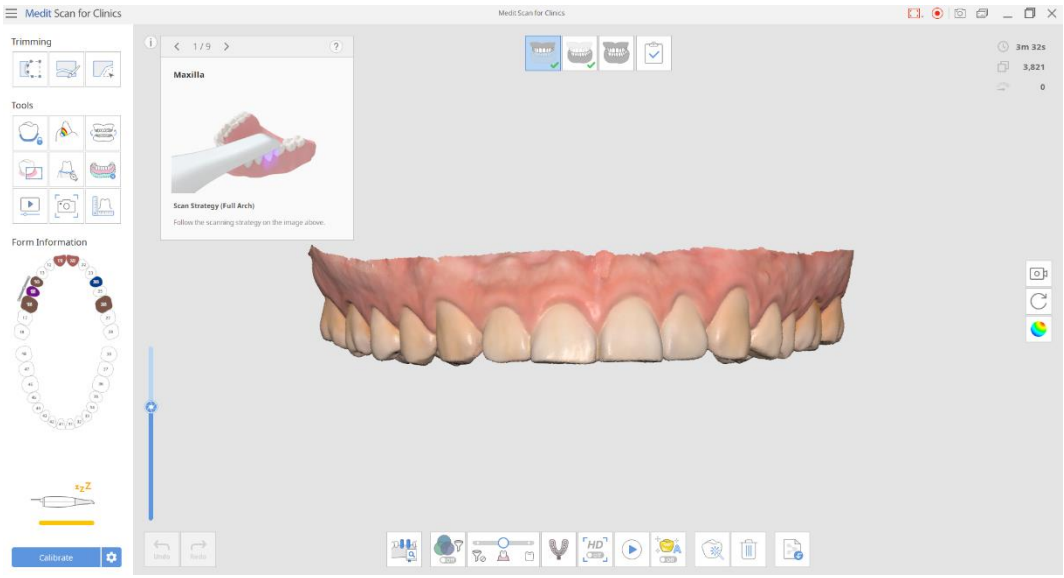


Hold the "Control" button to open the menu, and select the "Close Setting" with right button to close the settings on the "Remote Control Mode".



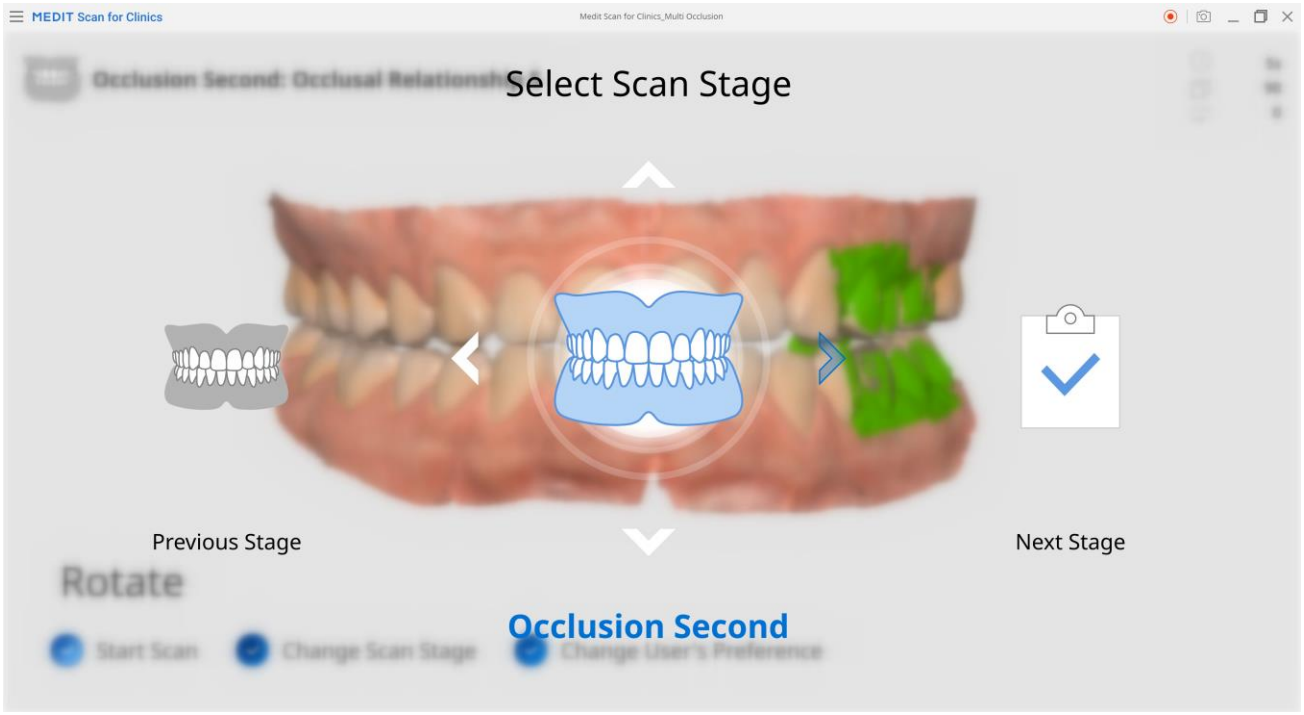
Hold the "Control" button to open the menu, and select "Exit Remote" with left button to close "Remote Control Mode" and move to the main UI.



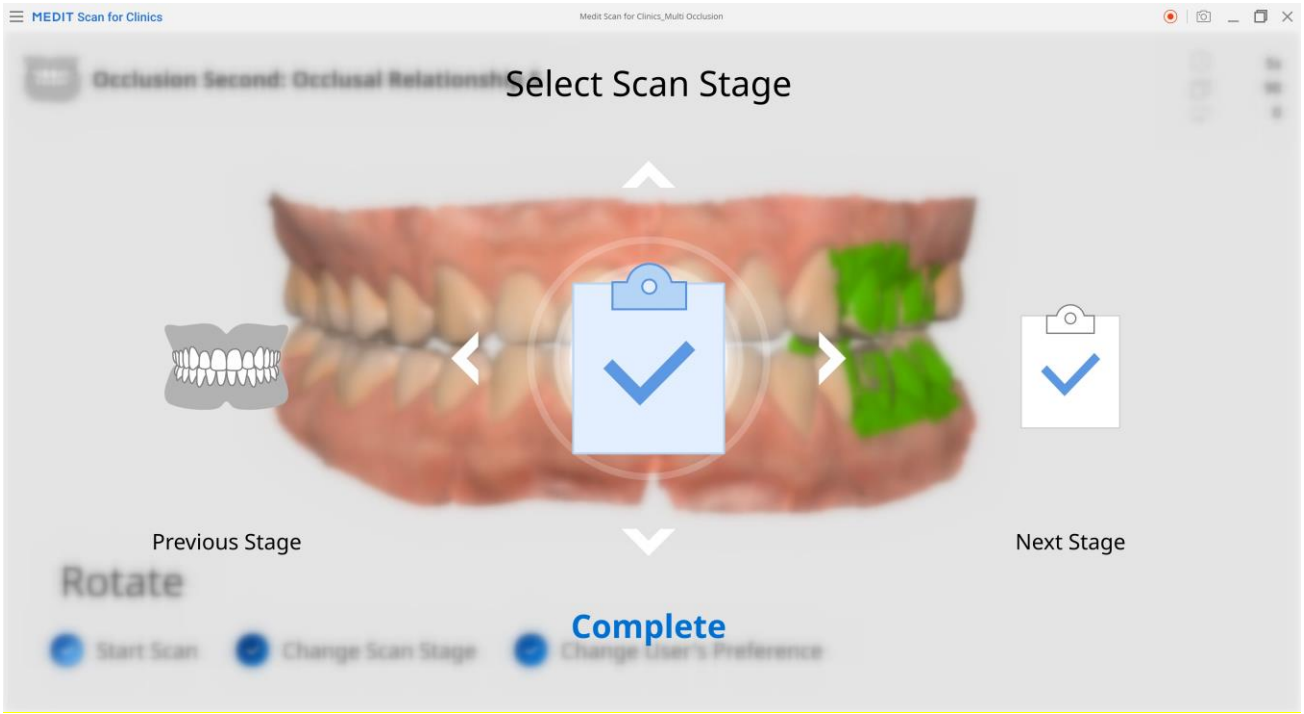


The Complete stage is also available in the Remote Control Mode.

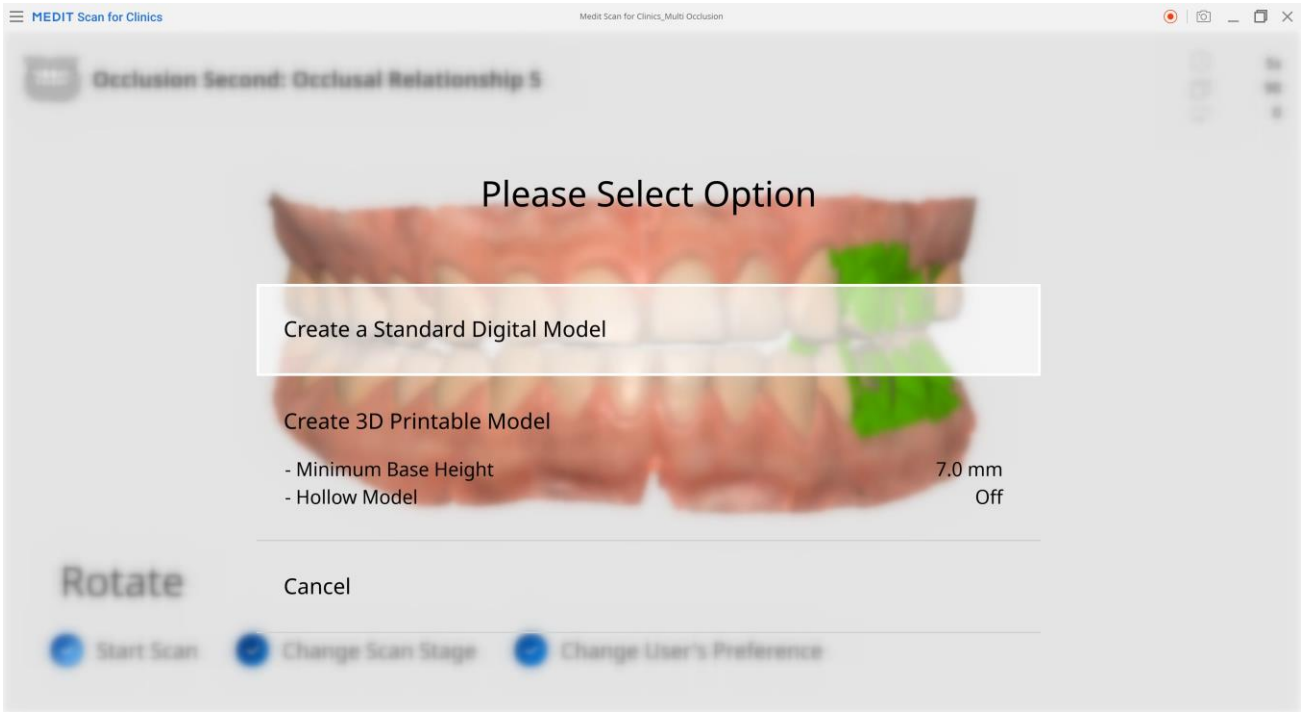
Press and hold the "Scan" button and press up or down to go to the Complete stage.



Or you can go to the Complete stage by clicking right on the "Control" button after the Second Occlusion stage.



Select one of the options to proceed.



9.2 Multi Occlusion

The "Multi Occlusion" function from the occlusion scan stage can reproduce various occlusion scan data and alignments.

Multiple occlusion patterns can be acquired in patients with large or irregular tooth movements. Various occlusions can be created and managed in the case, such as centric occlusion for the edentulous patient, open bite for production of a mouthpiece, protrusive occlusion for production of snoring prevention appliance, and centric occlusion for patient clinics.

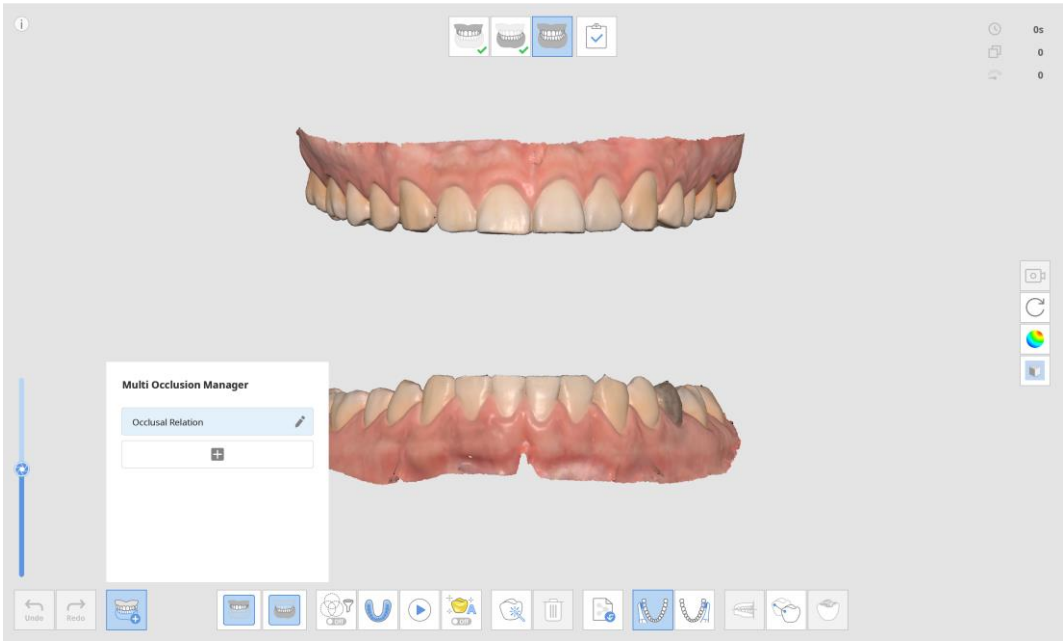
Since scan data of the same maxilla and mandible is reproduced according to alignment of each occlusion group, this function is not available if scan data of different maxilla and mandible is required.

Multi Occlusion - How-To Guide

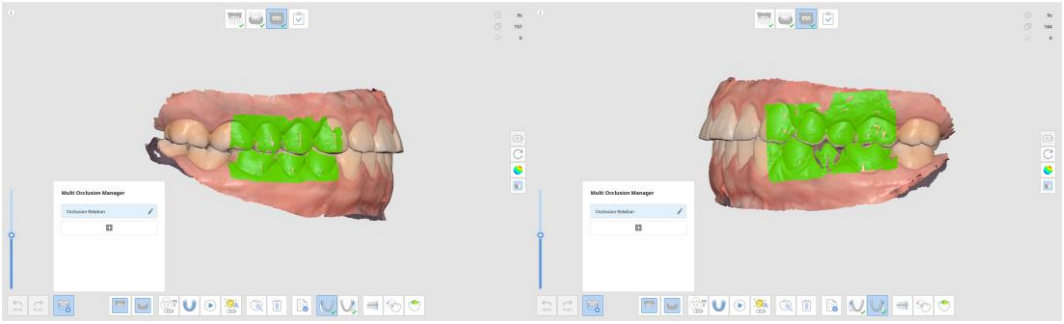
Enter the Occlusion scan stage of the Scan for Clinics.

Click on the "Multi Occlusion" button on the bottom of the screen to manage a newly produced multi occlusion.

The existing Occlusion scan stage will be assigned as Occlusal Group 1, and have support with functions of addition and management of occlusion groups.

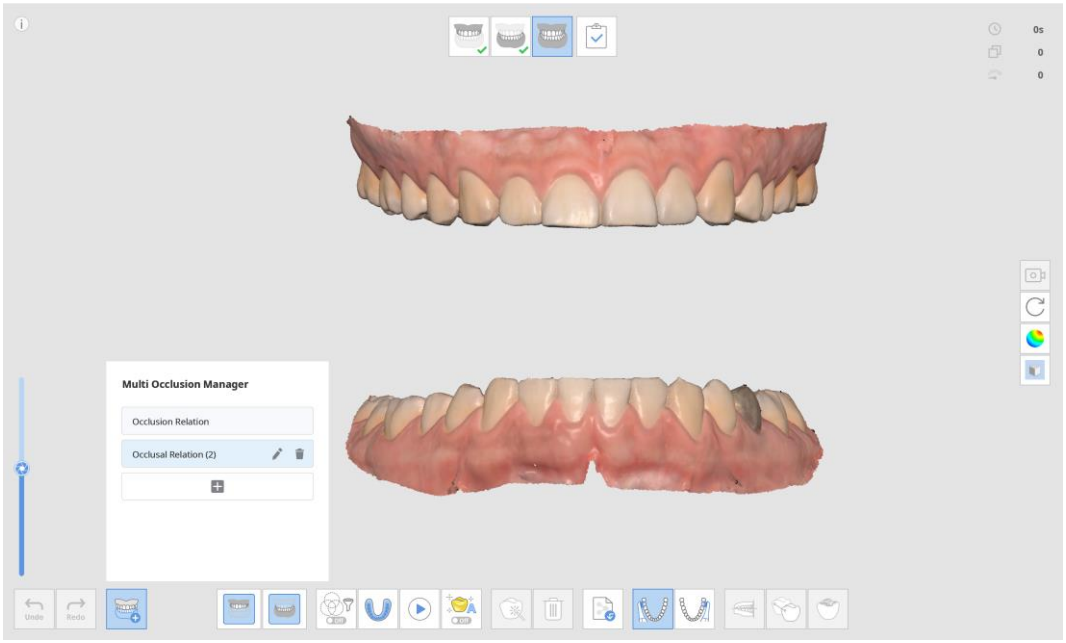


Perform the first and second occlusion scans, and align the scan data of maxilla, mandible, and occlusion.



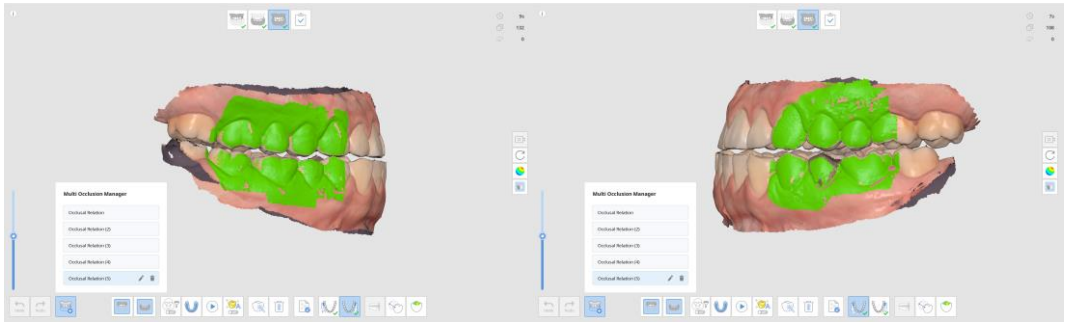
Click "Add Group" to create a new occlusion group.

Enter the first occlusion scan after the new occlusion group is created.

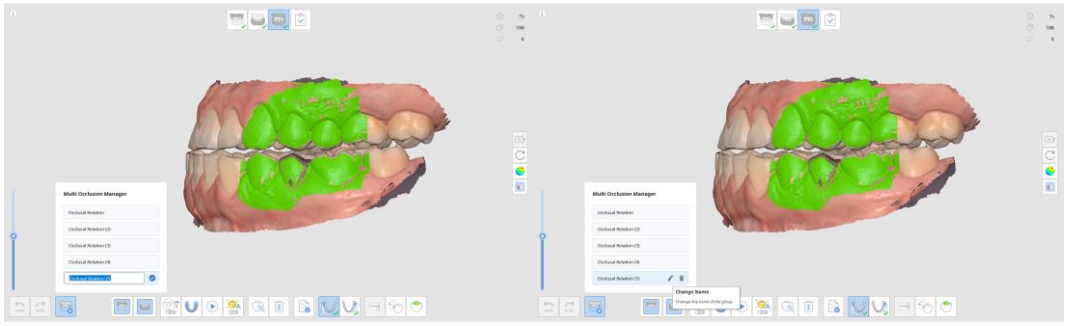


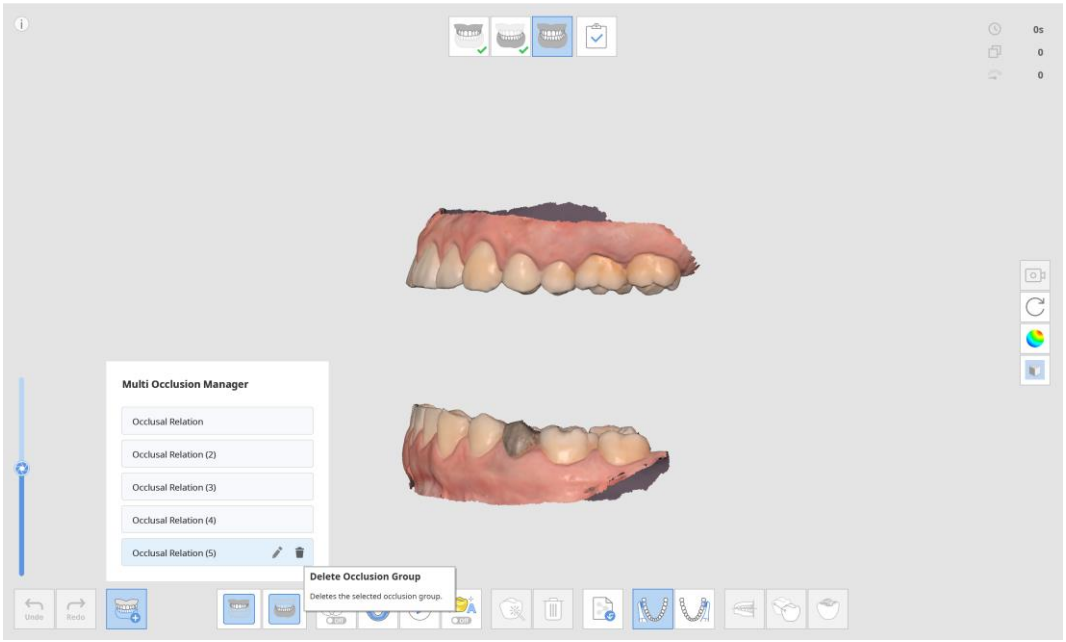
Perform the new occlusion scans, and align the scan data of maxilla, mandible, and occlusion.

Up to 5 occlusion groups can be created.

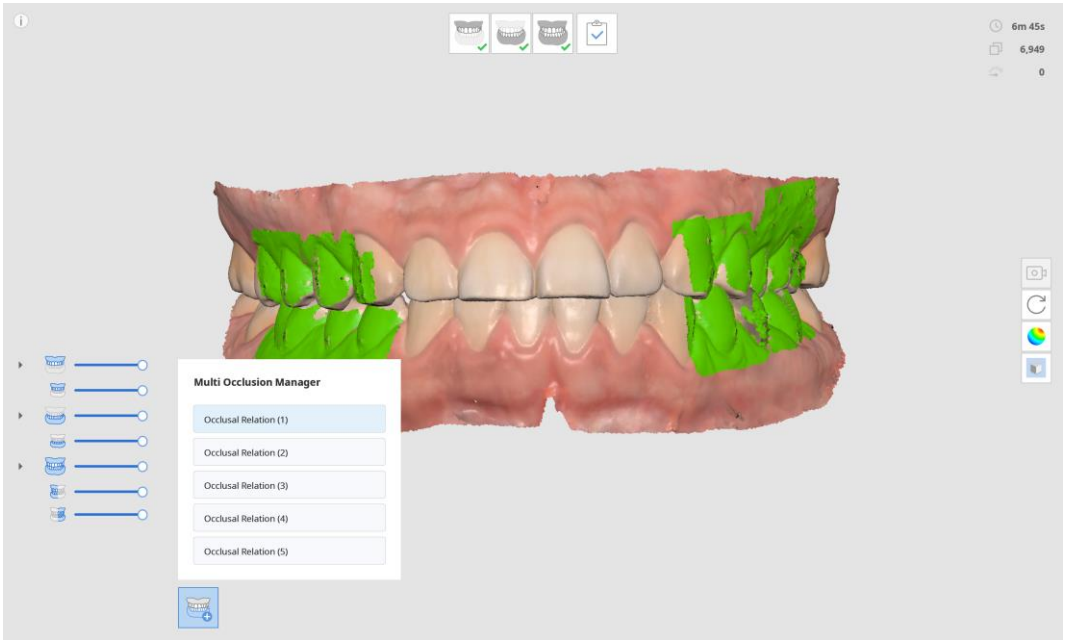


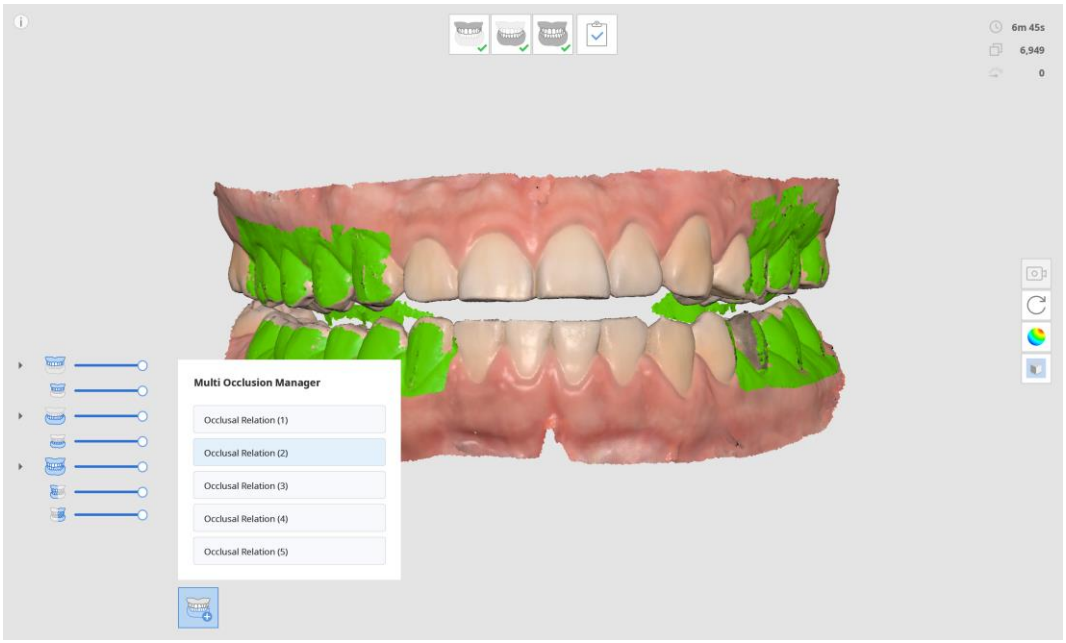
In "Multi Occlusion" mode, you can create a new group, change names of the created groups, and delete groups.

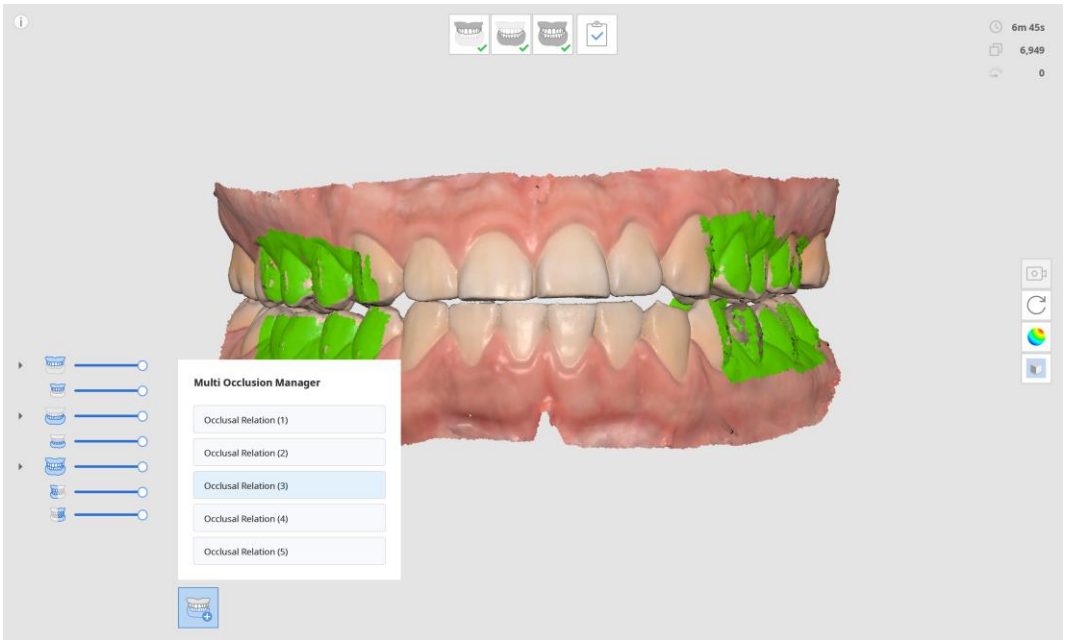




Scan data of various occlusion groups and alignment can be checked by using the "Multi Occlusion" function in full view.

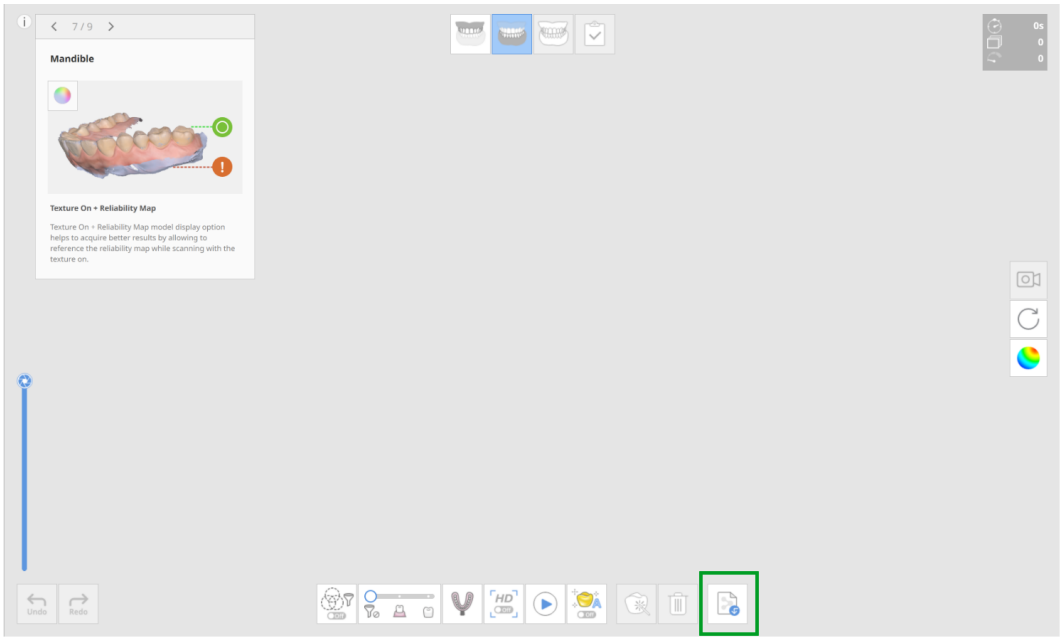





6m 45s
6,949
0
Multi Occlusion Manager
Occlusal Relation (1)
Occlusal Relation (2)
Occlusal Relation (3)
Occlusal Relation (4)
Occlusal Relation (5)

9.3 Import Scan Data (Continuous Scan)

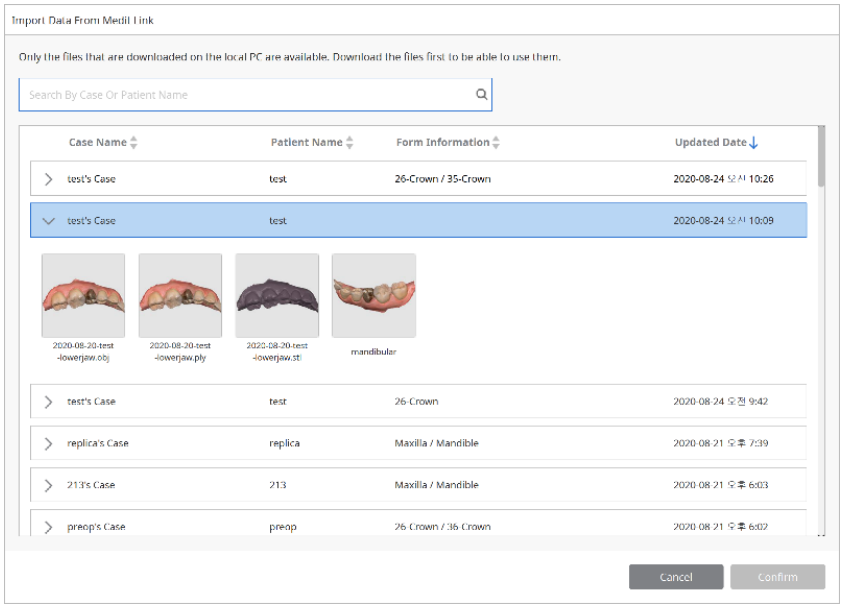
The **Import Scan Data** tool, located at the bottom of the screen, allows the import of scan data acquired by third-party scanners, performs additional scanning, and continues scanning.



Import a previously scanned file from a case in Medit Link.

Import the file before starting the scanning process, or when moving on to the next stage.

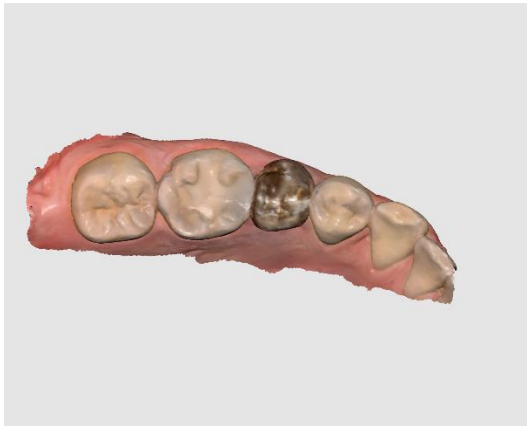
① Click “Import Scan Data” to choose a file from a Medit Link case.



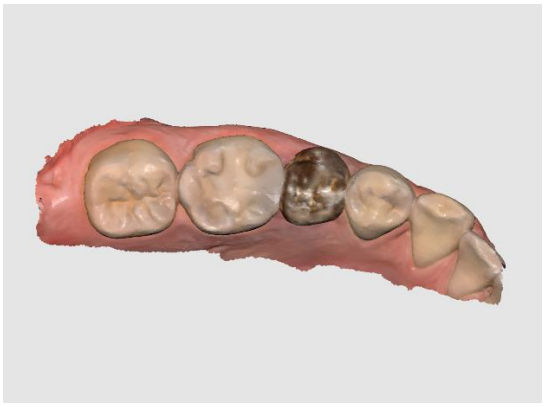
When importing a third-party scan file, make sure to attach it to a case in Medit Link before proceeding.

The following file formats are available for import: 1) Meditmesh; 2) OBJ; 3) PLY; 4) STL.

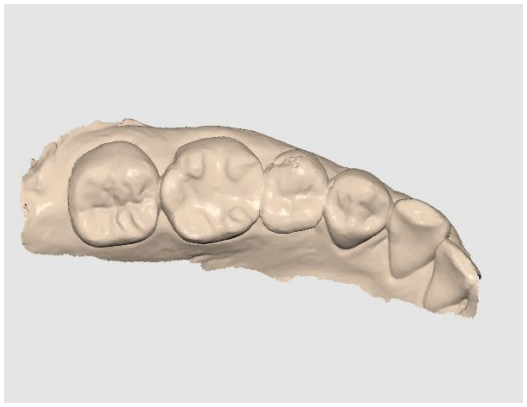
Meditmesh



OBJ

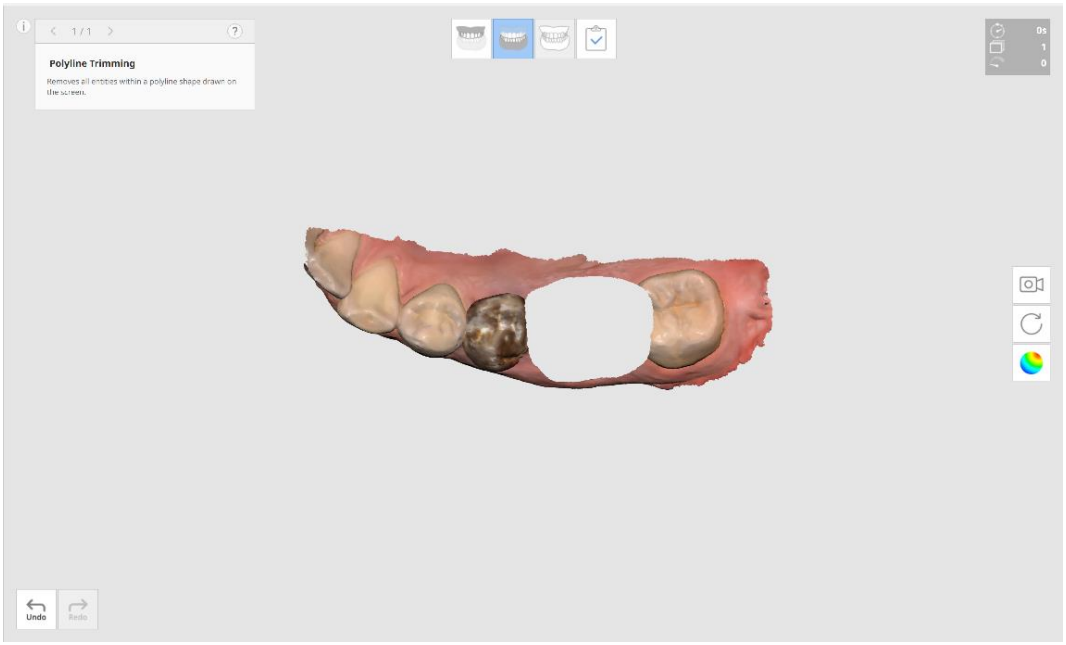


PLY

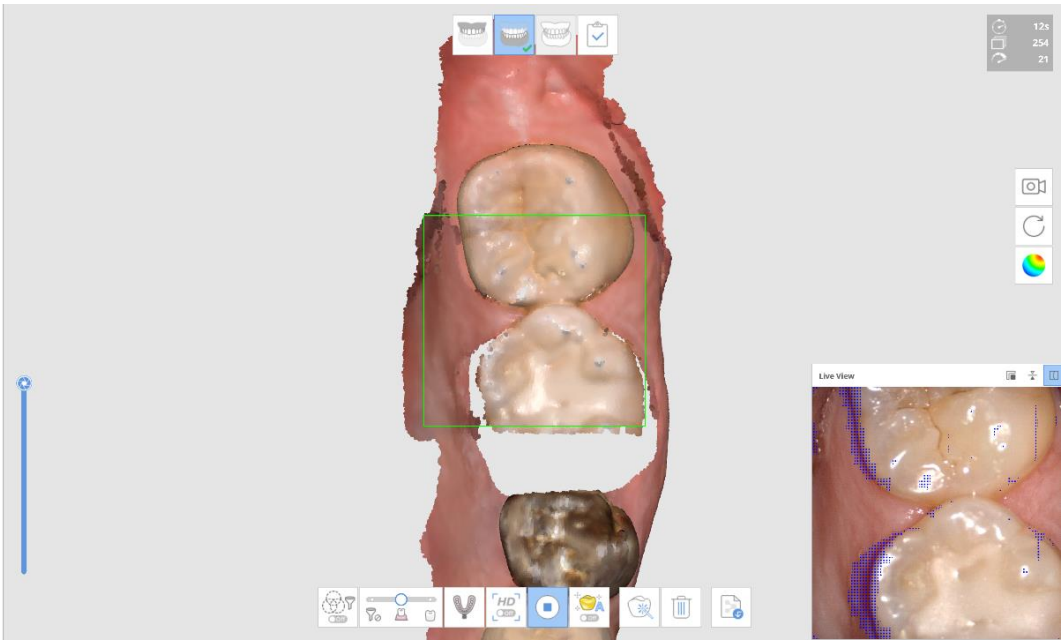


STL

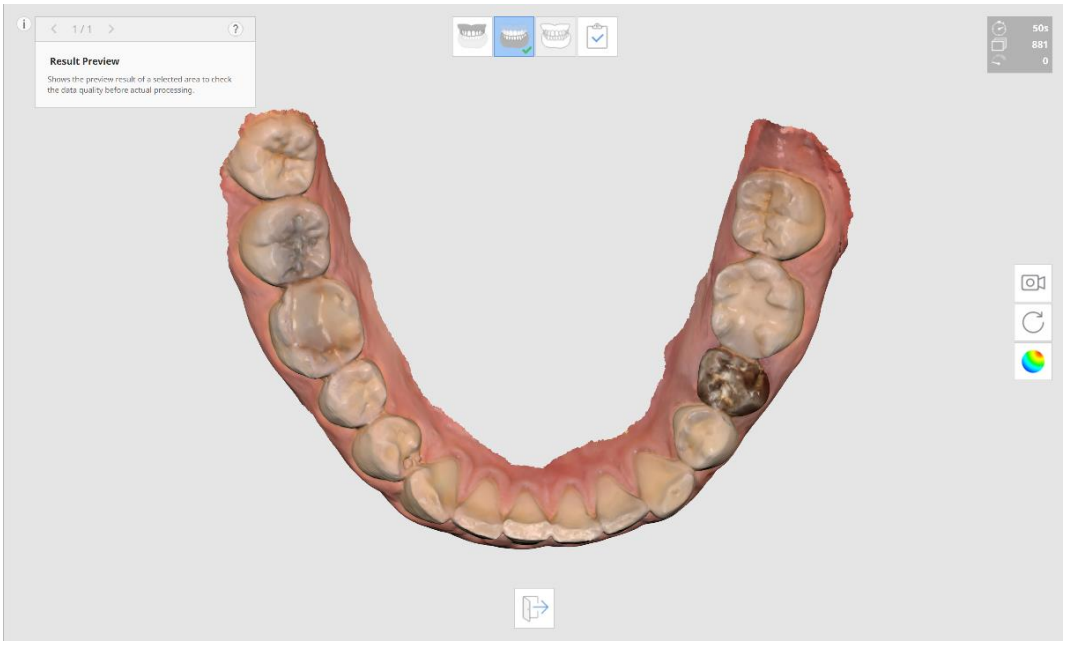
② Trim the part needing a rescan.



③ Perform additional scanning.



④ Finish the scanning.



9.4 Denture Scan Process

The denture sequence can be utilized for scanning the patient's existing denture, or in the process of creating one (also applicable for temporary denture, wax rim, etc.). Occlusion scan is also supported.

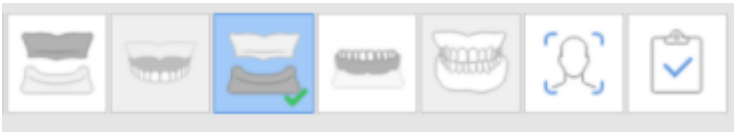
To enable the denture process, make sure to register Denture – Full Denture, Denture – Replica Denture, or Denture – Implant Supported Denture in Medit Link.

9.4.1 Guidelines for the Denture Scanning Process

- Make sure all sides of the denture are sufficiently scanned, including labial/buccal and palatal/lingual surfaces.
- For maxilla, make sure to scan the palatal area, including the palatal rugae and maxillary tuberosity.
- For mandible, make sure to scan the retromolar triangle.
- If the camera is lost during scanning, start again at the palate's most prominent part, such as palatal rugae or residual alveolar ridge.

9.4.2 Denture – Full Denture

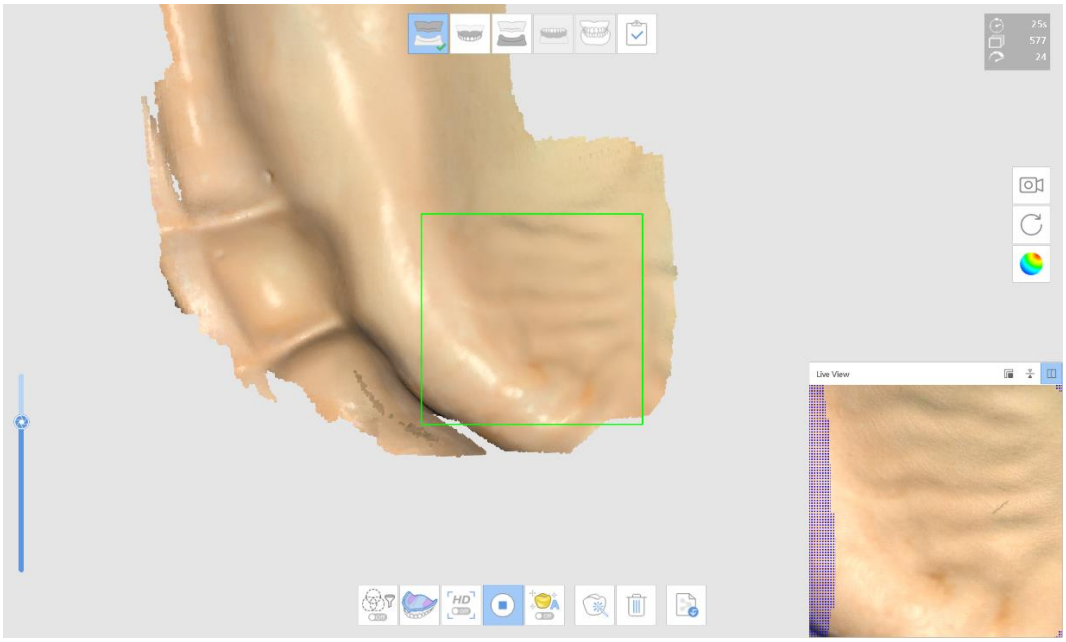
The scan sequence will appear as follows: Edentulous Maxilla > Maxillary Denture > Edentulous Mandible > Mandibular Denture > Occlusion.



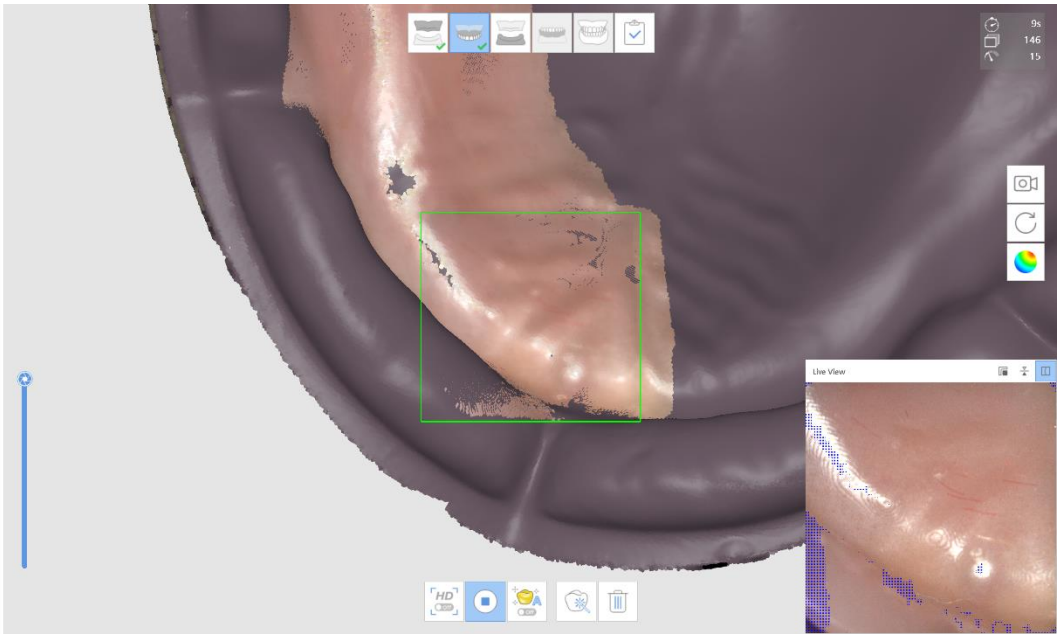
9.4.3 Denture – Full Denture (Acquiring Edentulous Scan Data)

Scan the edentulous arch at the **Edentulous Maxilla** scan stage. Then, proceed to scanning the denture at the denture stages.

① Scan the edentulous surface.



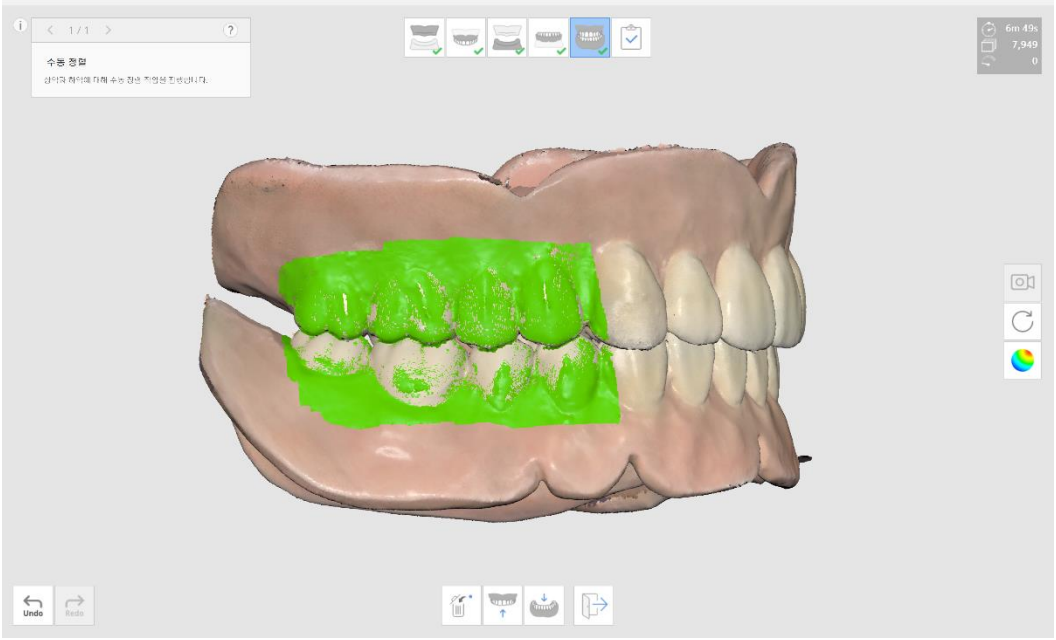
② The edentulous data acquired at the first scan stage (**Edentulous Maxilla**) will be reversed and used as the basis for the denture alignment at the next scan stage.



- The scan should be done according to the following path: Fitting surface > border > polished surface and artificial teeth.

③ Repeat the process for the mandible.

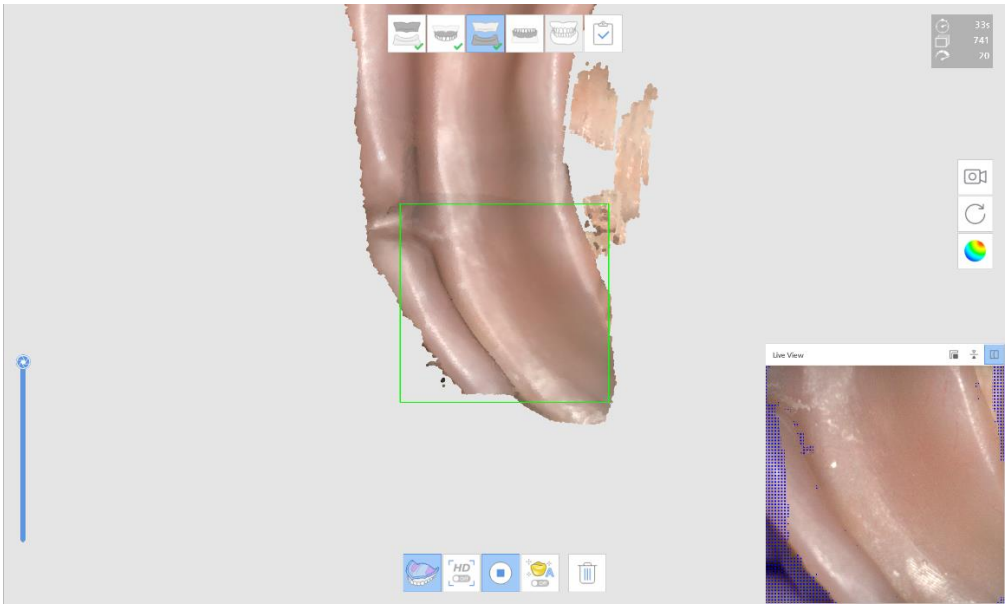
④Scan the denture occlusion at the **Occlusion** scan stage. The data can be utilized in CAD.

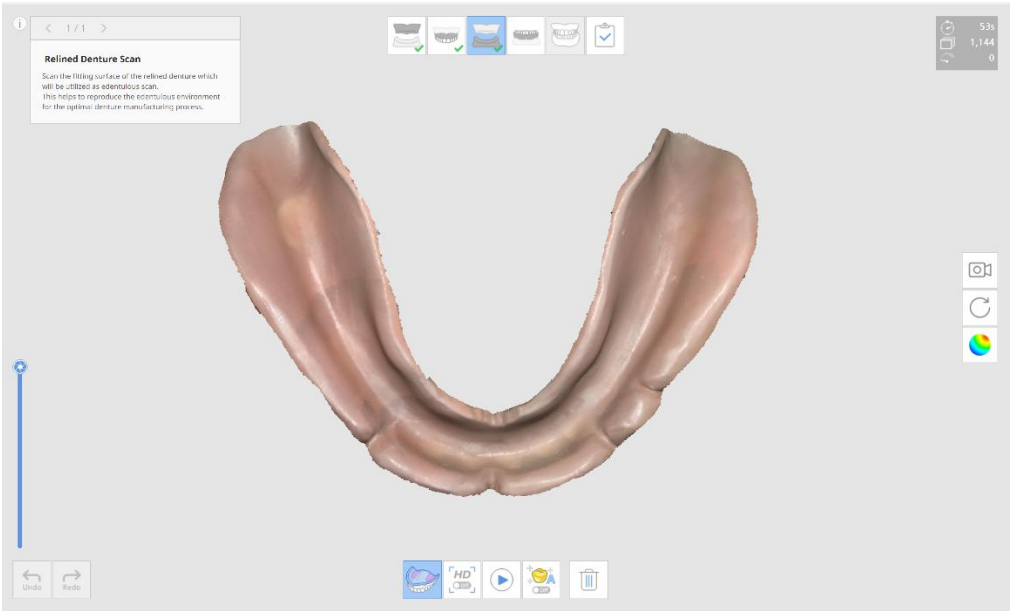


9.4.4 Denture – Full Denture (Relined or Rebased)

Scan the denture without acquiring intraoral data from the patient. Scan the fitting surface of the denture at the **Edentulous Mandible** scan stage and the outer side at the denture stages.

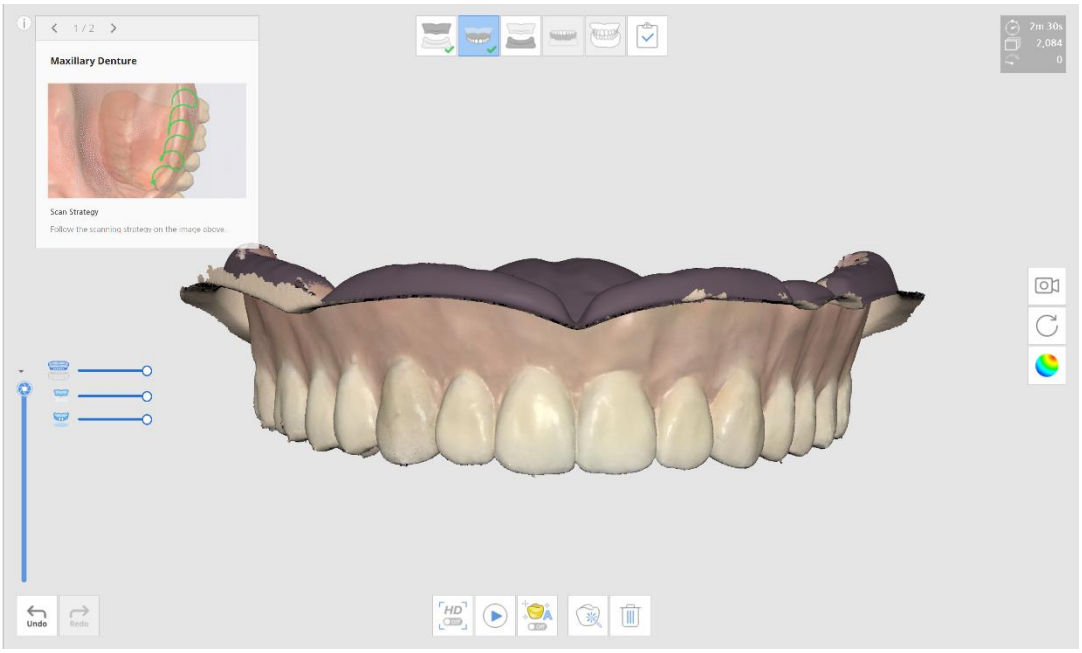
① At the **Edentulous Mandible** scan stage, click “Relined Denture Scan”  to scan in reverse mode.



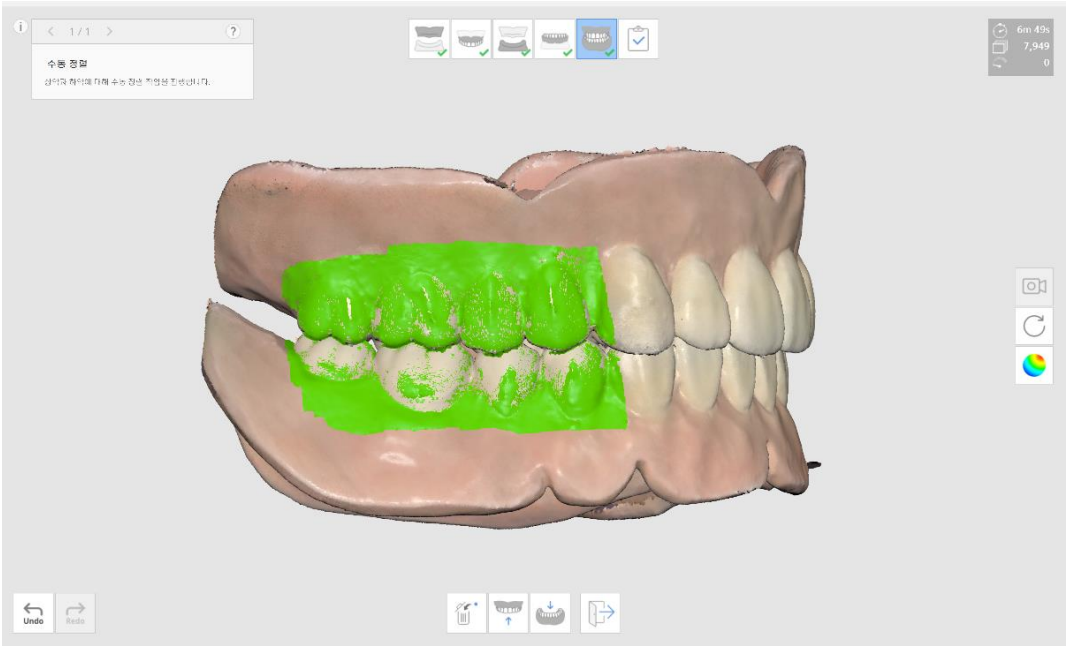


② After moving to the next stage, scan the outside of the denture. The data from the previous stage will be copied and reversed, since it will be used as the basis for denture alignment.

③ Repeat the process for the maxilla.

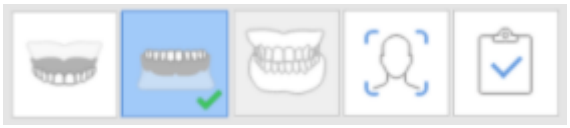


④ Scan the denture occlusion at the **Occlusion** scan stage. The data can be utilized in CAD.

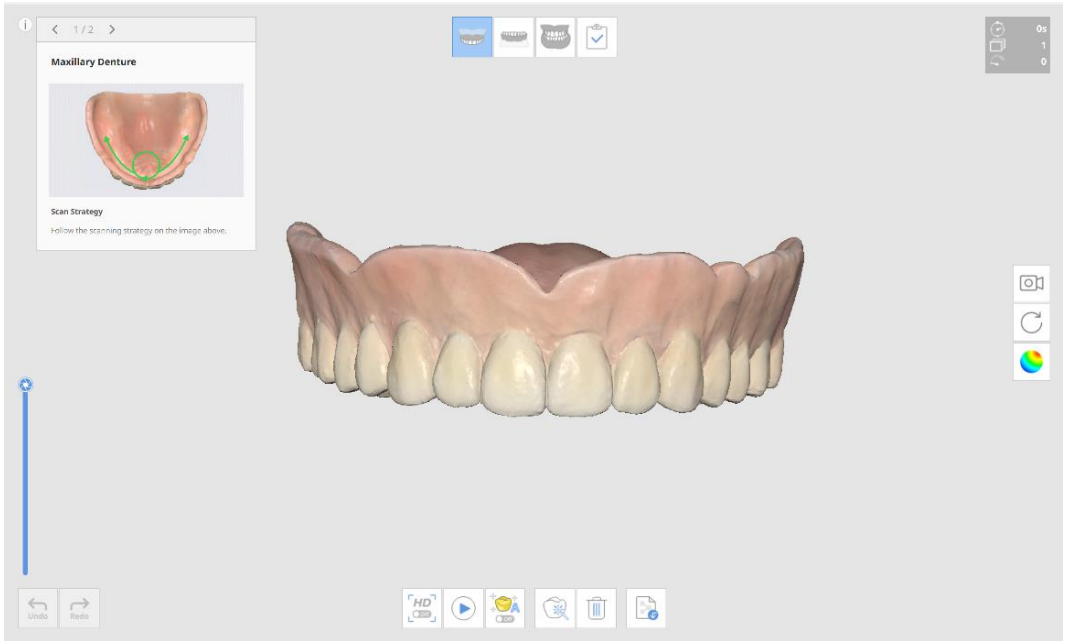


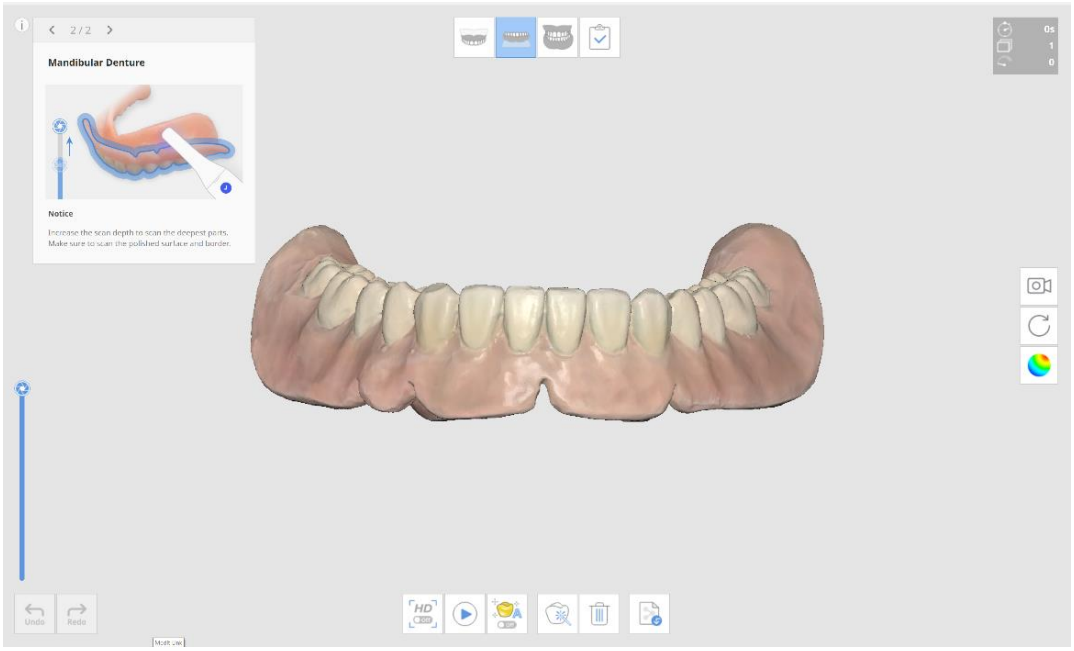
9.4.5 Denture – Replica Denture

The scan sequence will appear as follows: Maxillary Denture > Mandibular Denture > Occlusion.



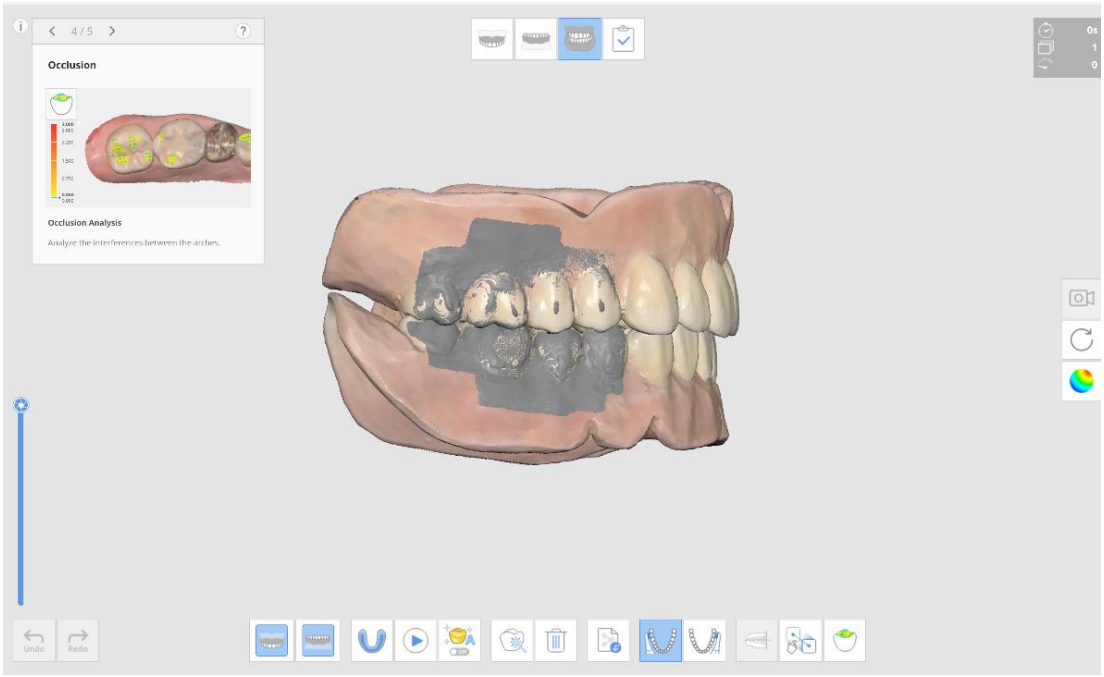
① Scan both dentures.





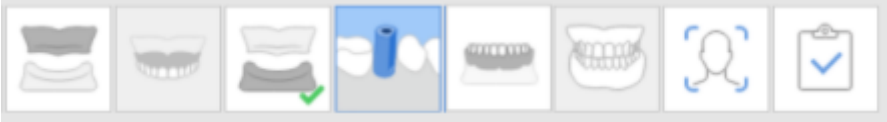
② The scan should be done according to the following path: fitting surface > border > polished surface and artificial teeth.

③ Scan the denture occlusion at the **Occlusion** scan stage. The data can be utilized in CAD.



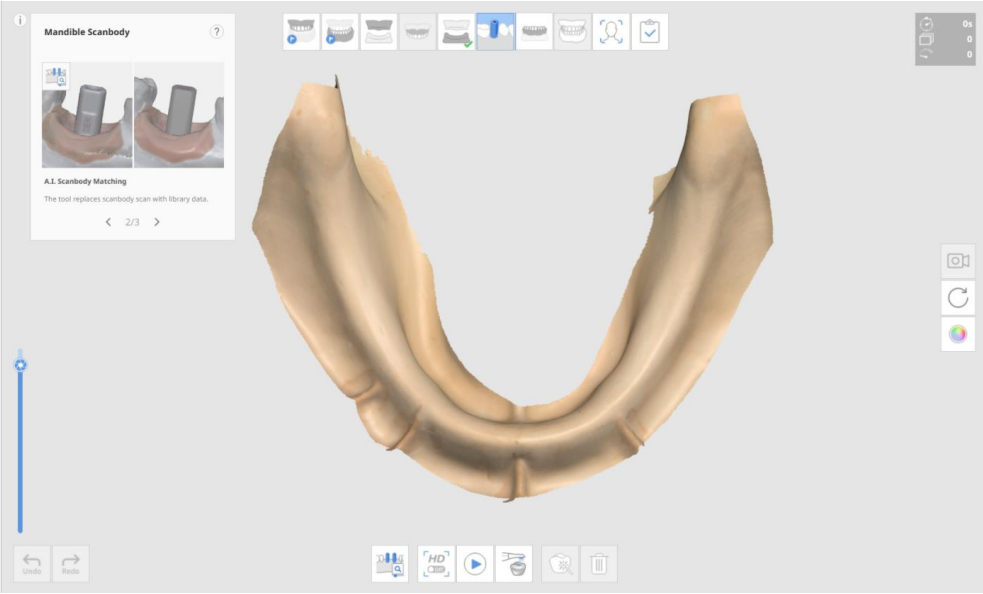
9.4.6 Denture – Implant Supported Denture

The scan sequence will appear as follows: Edentulous Maxilla > Maxillary Denture > Edentulous Mandible > Scan Body > Mandibular Denture > Occlusion.



① Acquire the data for the edentulous scan stages.

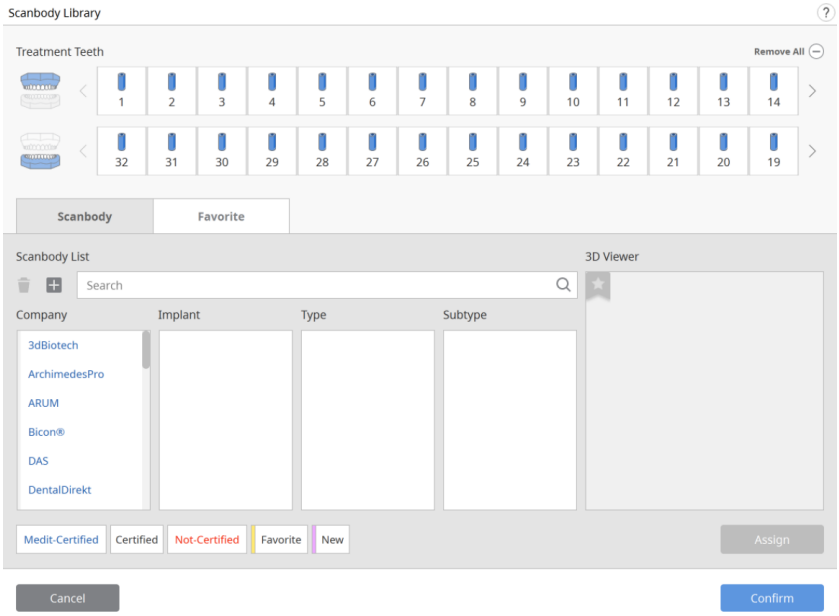
② Scan the scan body at the corresponding scan body scan stage.



Do not forget the option to use the “A.I. Scan Body Matching” tool to get the precise scan body data from the pre-set library.

③ Select the tooth number, and find the corresponding scan body data in the library.

④ Click “Conform” after the selection is complete.



⑤ Scan the denture occlusion at the **Occlusion** scan stage. The data can be utilized in CAD.

9.5 Pre-Op Scan Stage

The data in this stage is usually acquired for pre-operation conditions of the maxilla or mandible. It is used as reference data for the maxilla or mandible.

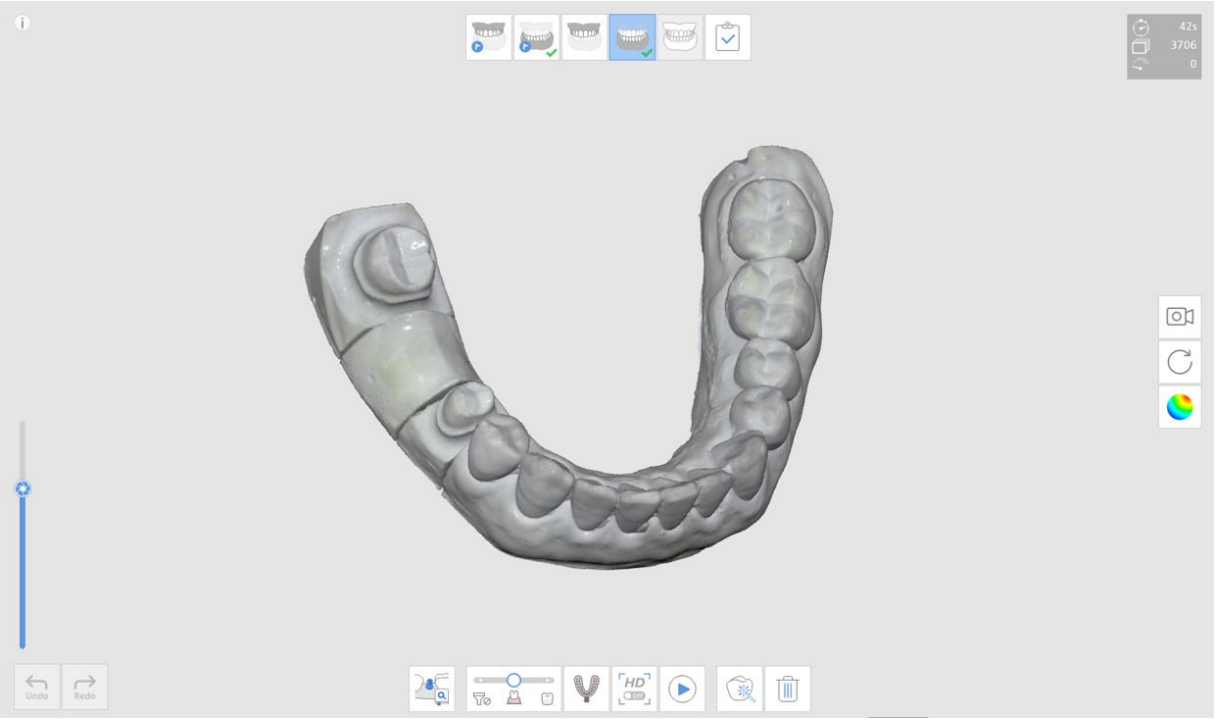
How to Use

① Acquire the data for the pre-operation condition.

② Move to the **Maxilla** scan stage. Data of **Pre-Op for Maxilla** will be copied to the **Maxilla** scan stage.

③ Delete the area to be treated.

④ Acquire the additional scan data for the deleted area.



The Pre-Op Model and Maxilla (or Mandible) will have corresponding positions throughout the process.

9.6 Impression Scan (Post and Core, etc.)

	**Impression Scan** provides seamless scanning to combine intraoral and impression scan data. Easily merge the intraoral and impression scan data with integrated scan.

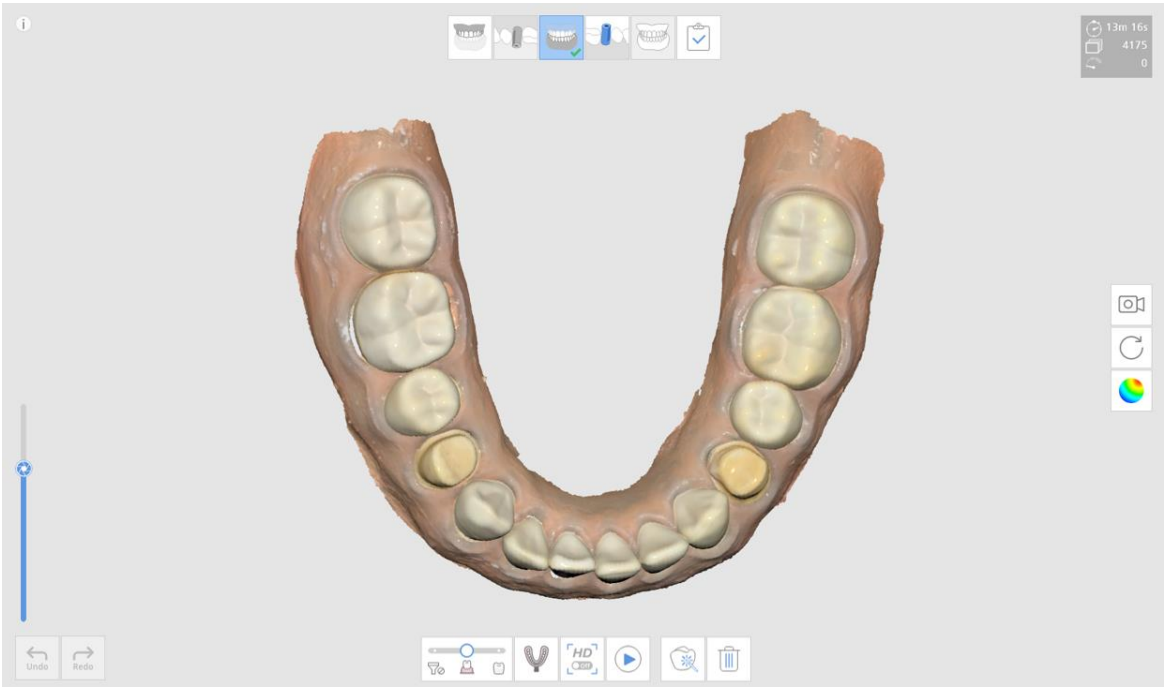
Toolbox

Various selection tools are provided to limit the scanning area. The impression scan data is acquired in the marked area only.

	Polyline Selection	Selects all the entities within a polyline shape drawn on the screen.
	Circle Selection	Selects all the entities within circular area drawn on the screen.
	Brush Selection	Selects all the entities on a freehand-drawn path on the screen. The brush comes in three different sizes.
	Selection	Selects the area using different tools.
	Deselection	Deselects the area using different tools.
	Clear All Selection	Clears selection of the entire area.

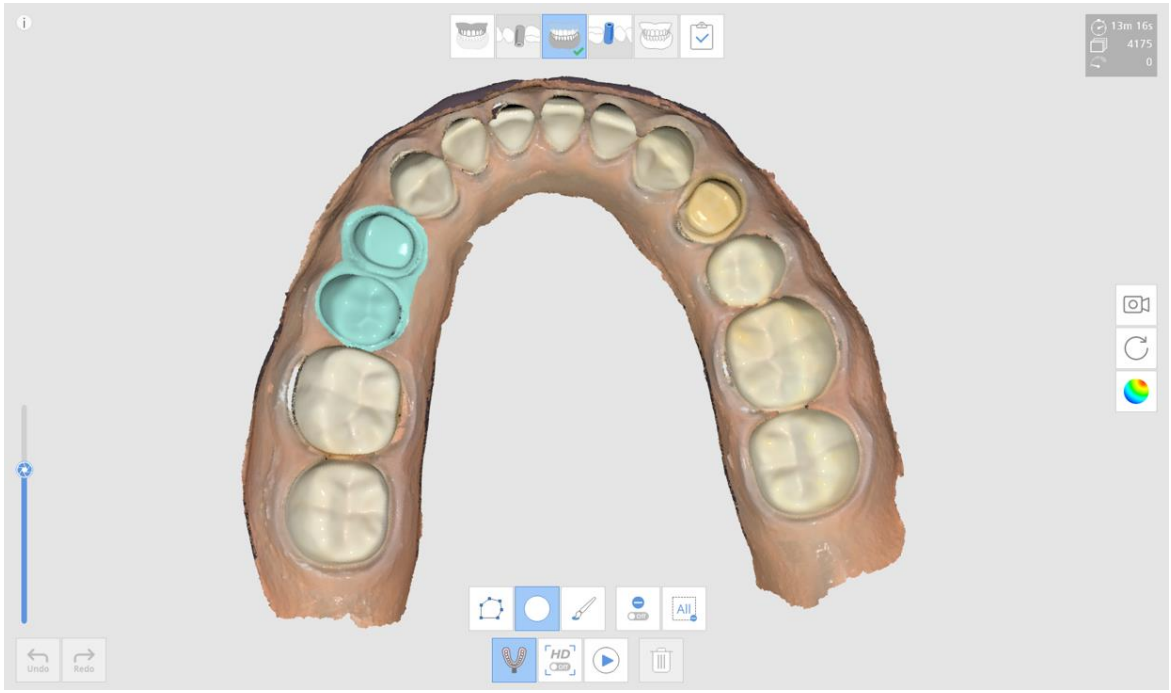
How to Use Impression Scan

① Acquire intraoral scan data.



② Turn on “Impression Scan”.

③ Mark the area to replace intraoral data with impression data.
This function is useful to limit the area to be replaced.
If the user skips the marking process, the intraoral data will be replaced by the impression data.

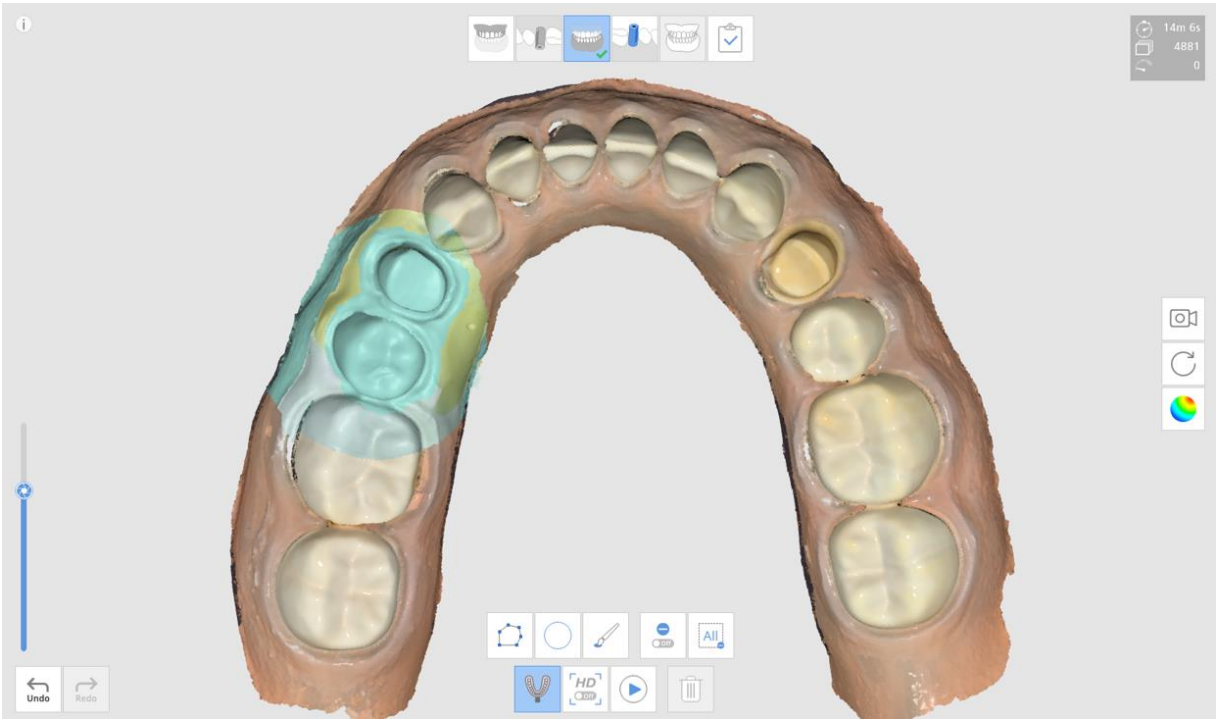


④ Scan the impression model the for marked area. The impression data will be aligned with intraoral data automatically.

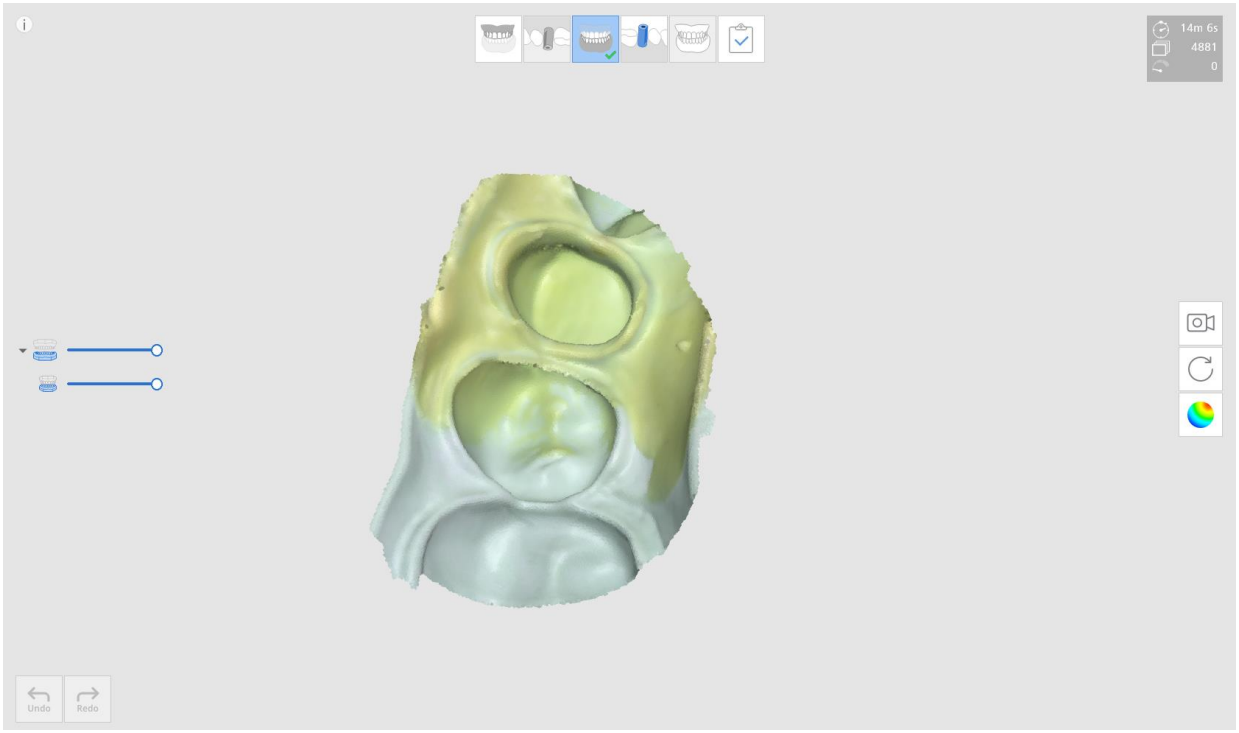
How to Edit Impression Data

When impression data is taken, the unnecessary area has to be removed before completing the case.

For example, if the impression data is taken like the image below, unnecessary data from the impression scan should be removed.



① Run the trimming function in impression scan mode. The impression data will be shown on the Model View screen.



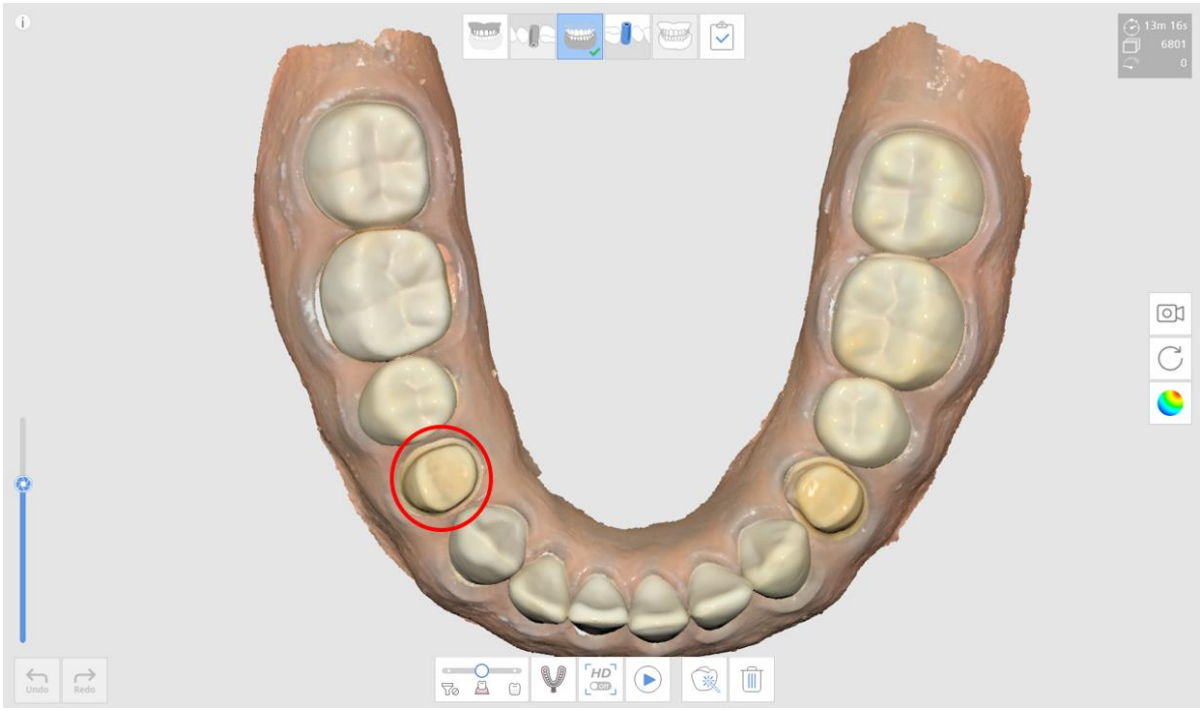
② Delete any unnecessary areas in the impression data.

③ The result will appear as shown below.

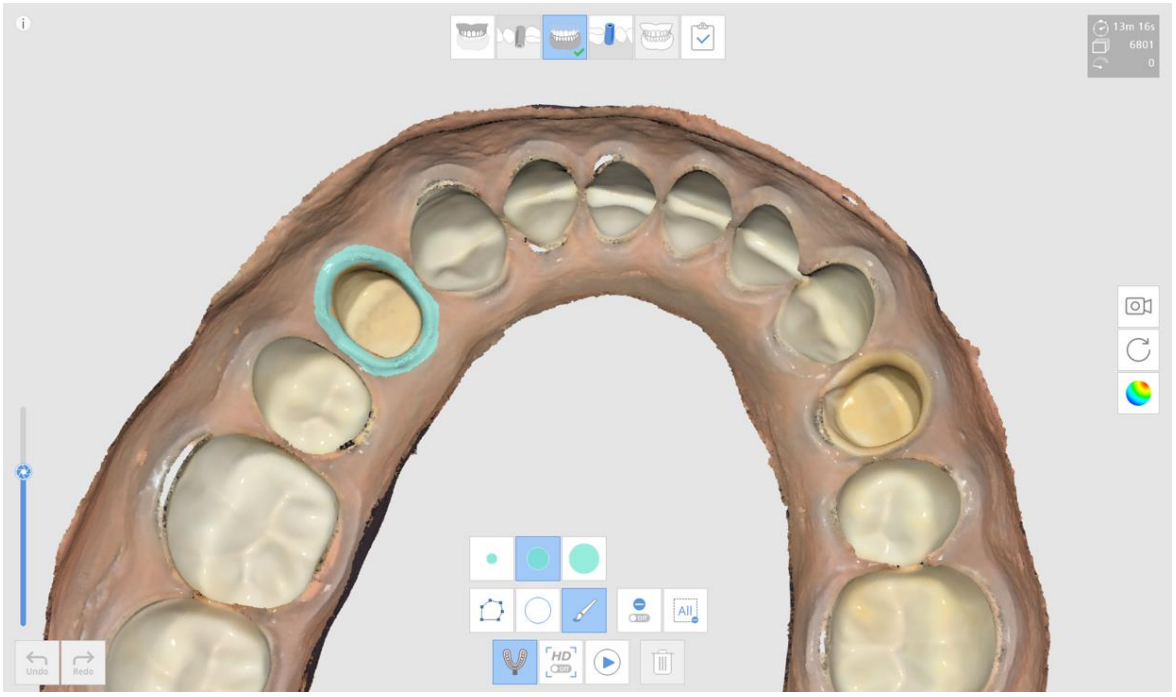
When Impression Scan is Useful

① Replace the margin of intraoral data with impression data.

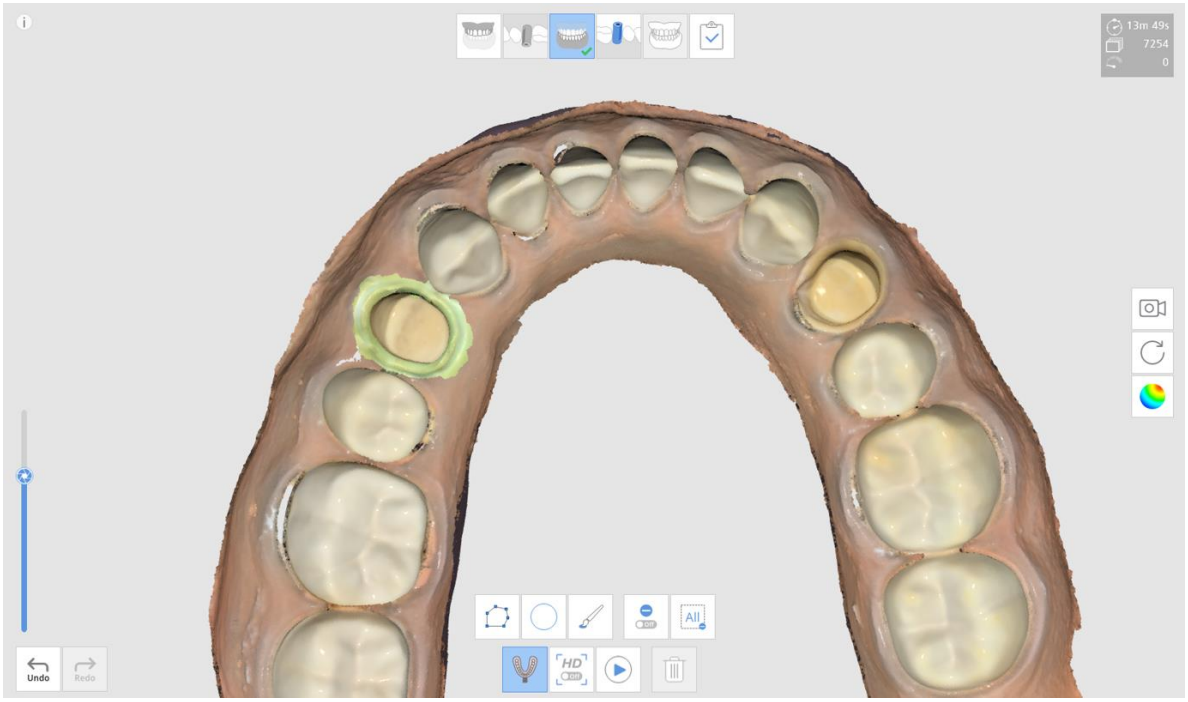
② Scan base model.



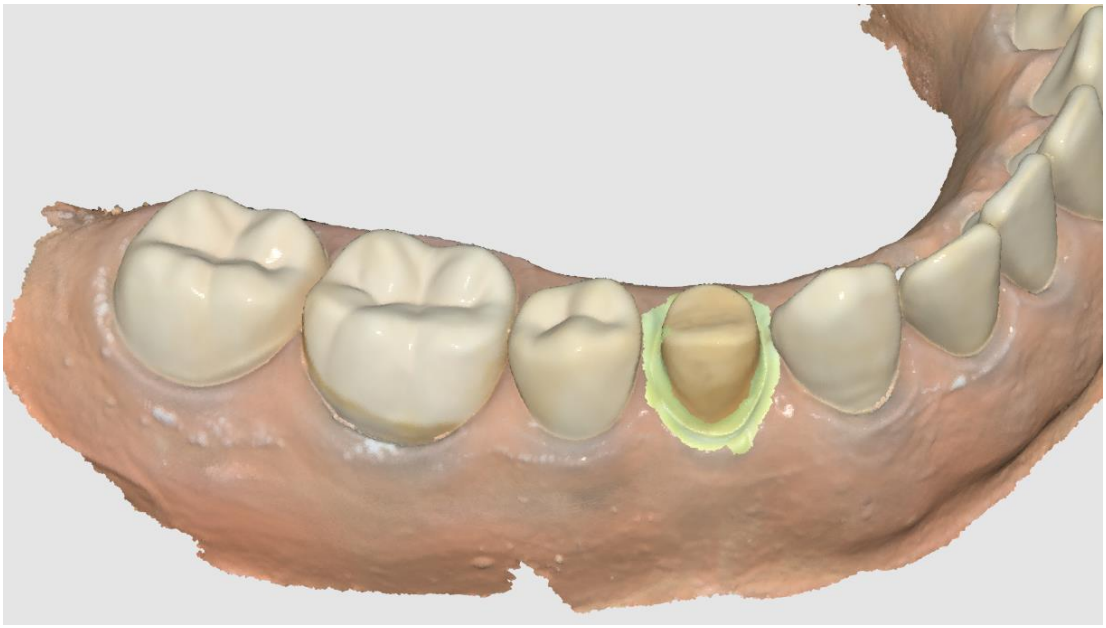
③ Turn on “Impression Scan”. Then, mark the area of interest. In this case, the margin area is marked.



④ Acquire the impression data.

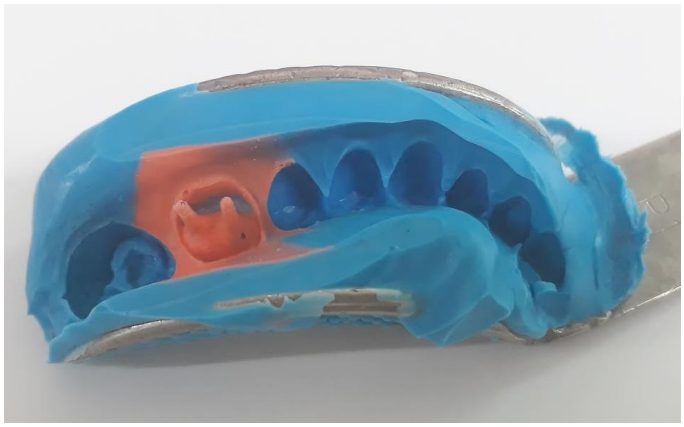


⑤ The result will appear as shown below.



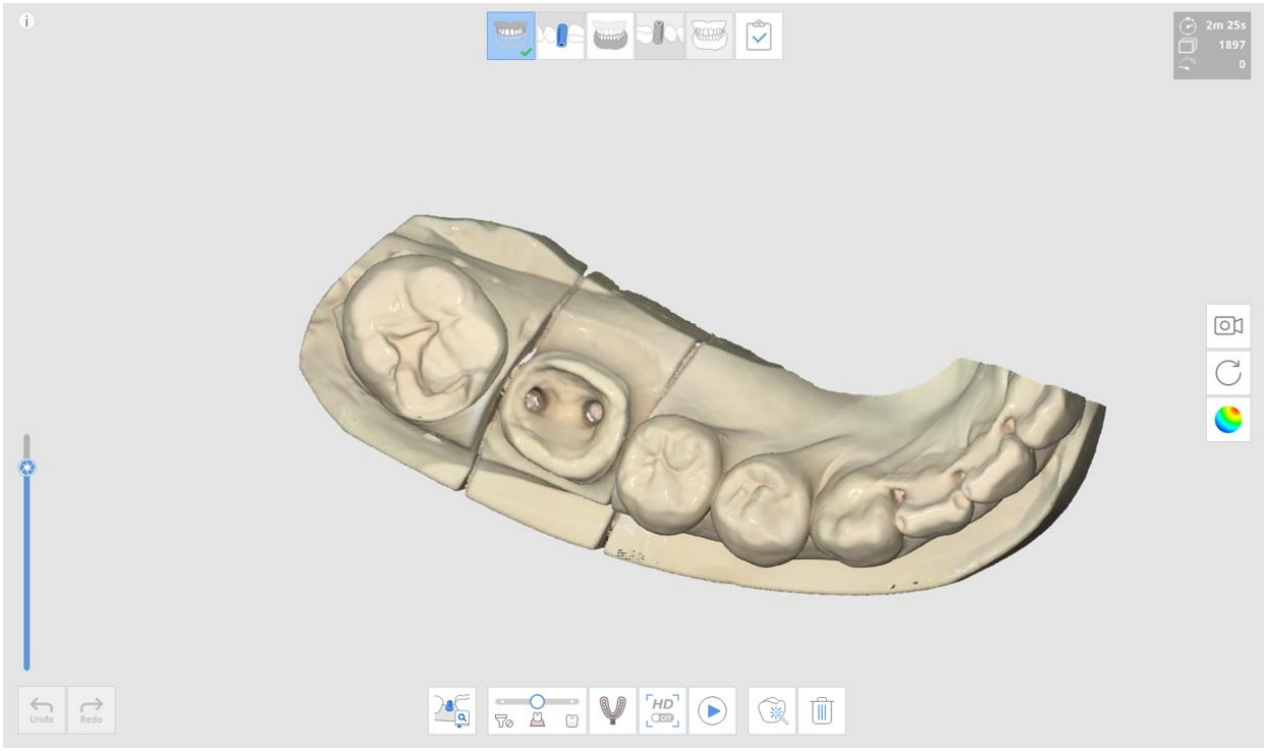
9.6.1 Post & Core Case

In some cases of Post & Core, it is very difficult to get the data for the post area due to the area being very deep and hard to scan. The “Impression Scan” is useful for these cases.

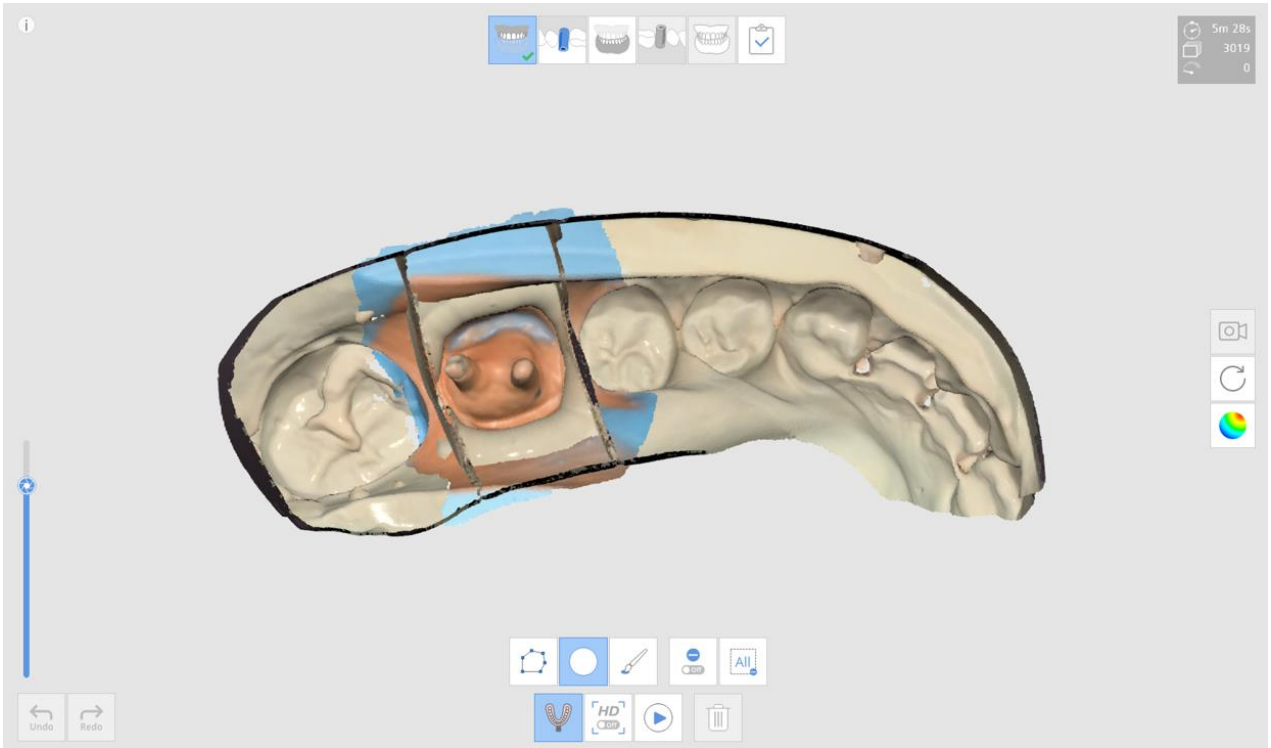
Base Model	Impression for Post
	

How to Use

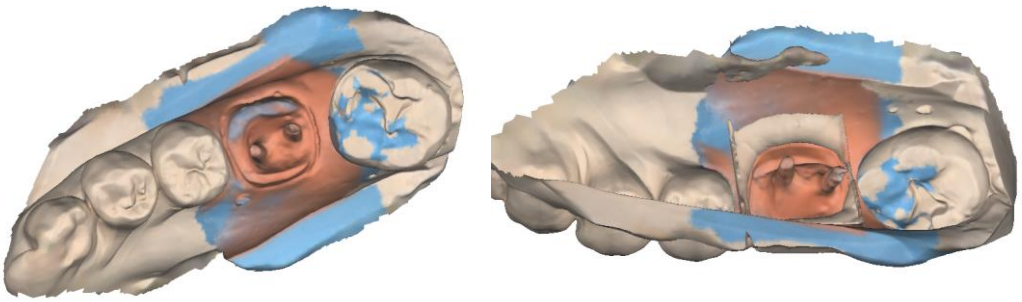
① Scan base model. The post area is deep and the scan did not proceed normally.



② Turn on “Impression Scan” and scan impression model.



③ The result will appear as shown below.

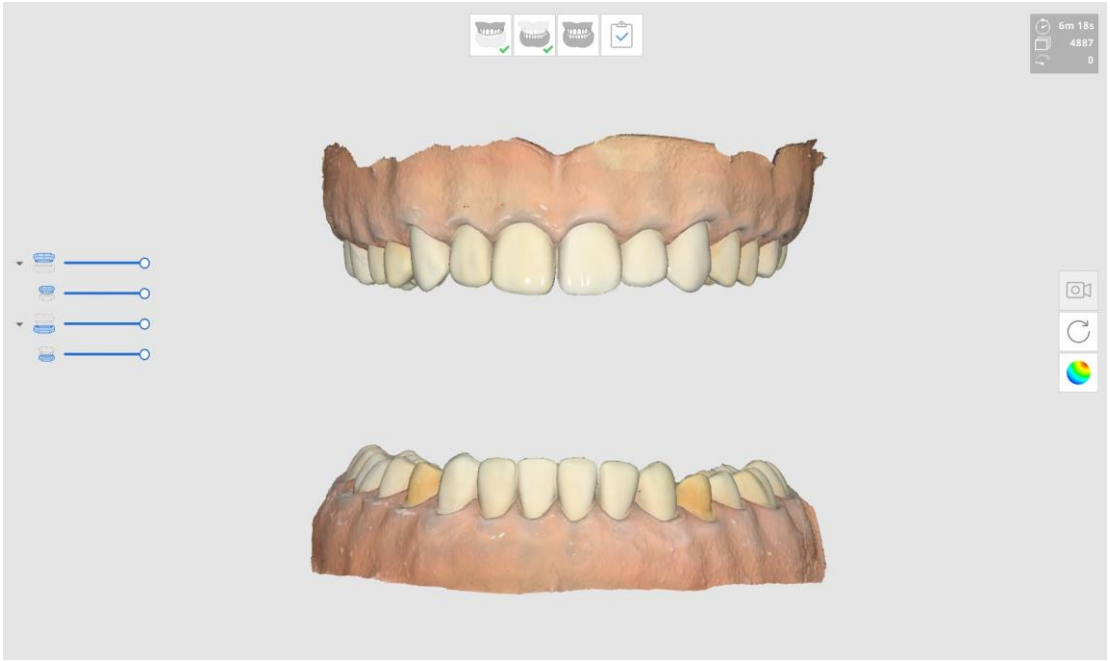


9.6.2 Occlusion Case

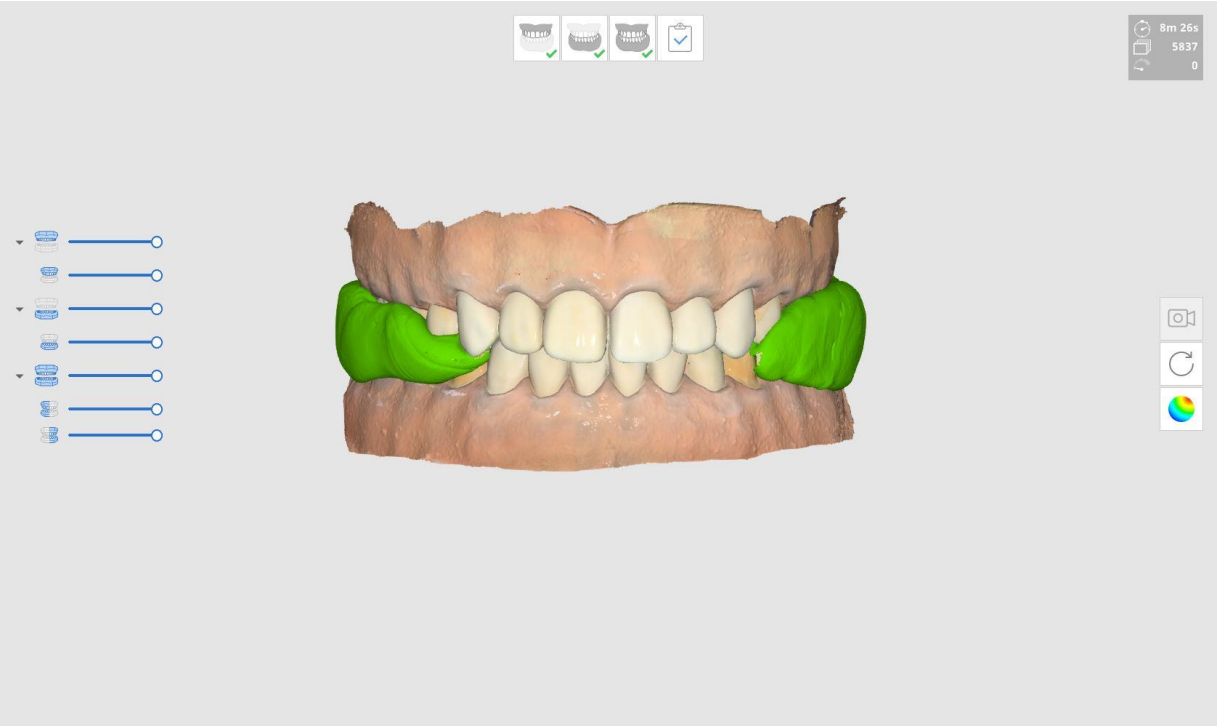
Use the “Impression Scan” for occlusion alignment.

How to Use

① Scan the maxilla and mandible.



② Turn on “Impression Scan” in the **Occlusion** stage. Then, get occlusion data using the impression model. In this case, the user should take the impression model from all the angles for each bite.



High Resolution Scan is available during impression scan.
When impression data is acquired with high resolution, it will be shown with different colors if the model rendering is set to Texture Off.

9.7 A.I. Abutment Matching

	Manages custom abutment libraries. This library data is aligned automatically with the scan data, minimizing the need to scan difficult-to-reach areas. The library data can be shared for further processes, such as design.

Toolbox

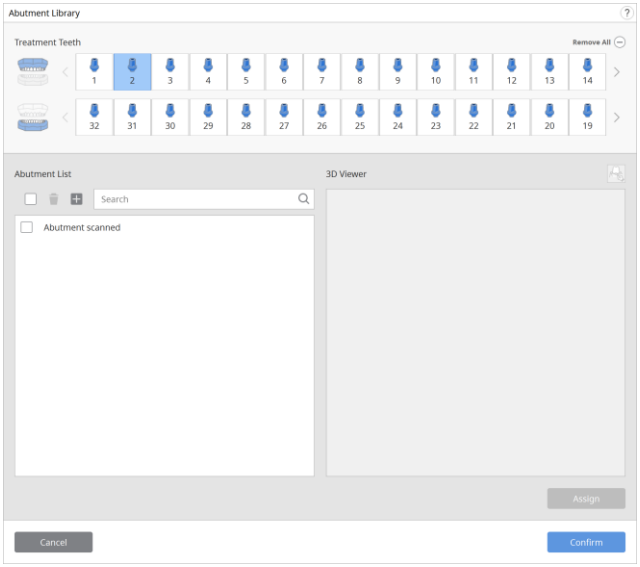
	Tooth Number	Selects the tooth number for treatment.
	Manual Alignment	Performs the alignment between the library data and scanned data manually. One point and three point alignments are available.
	Define Library	Defines library data for each tooth and manages the library data.

9.7.1 How to Assign the Abutment Library

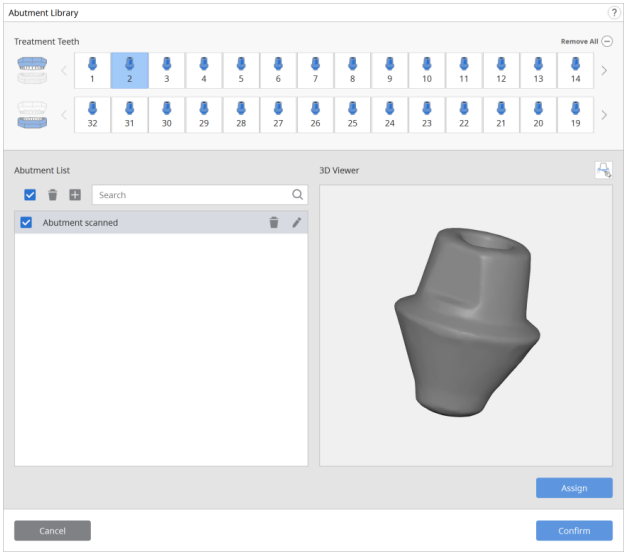
The library data should be assigned to each tooth to use the replacement feature.

① Click “Define Library”.

② Click on the tooth number.



③ Select the abutment library to use.



④ Click “Assign”.

⑤ Assign library to every tooth in the same way.

⑥ Click “Confirm”.

9.7.2 Manage Abutment Library

	Provides various tools to manage the library.

Toolbox

	Search	Allows the user to search for an item.
	Add Library	Adds a new library. .obj, .ply, and .stl are available.
	Delete Library	Deletes the selected library from the list.
	Rename	Changes the name of the library.
	Unassign All	Unassigns the library for the all teeth.

9.7.3 How to Align the Library Data with Scan Data Automatically

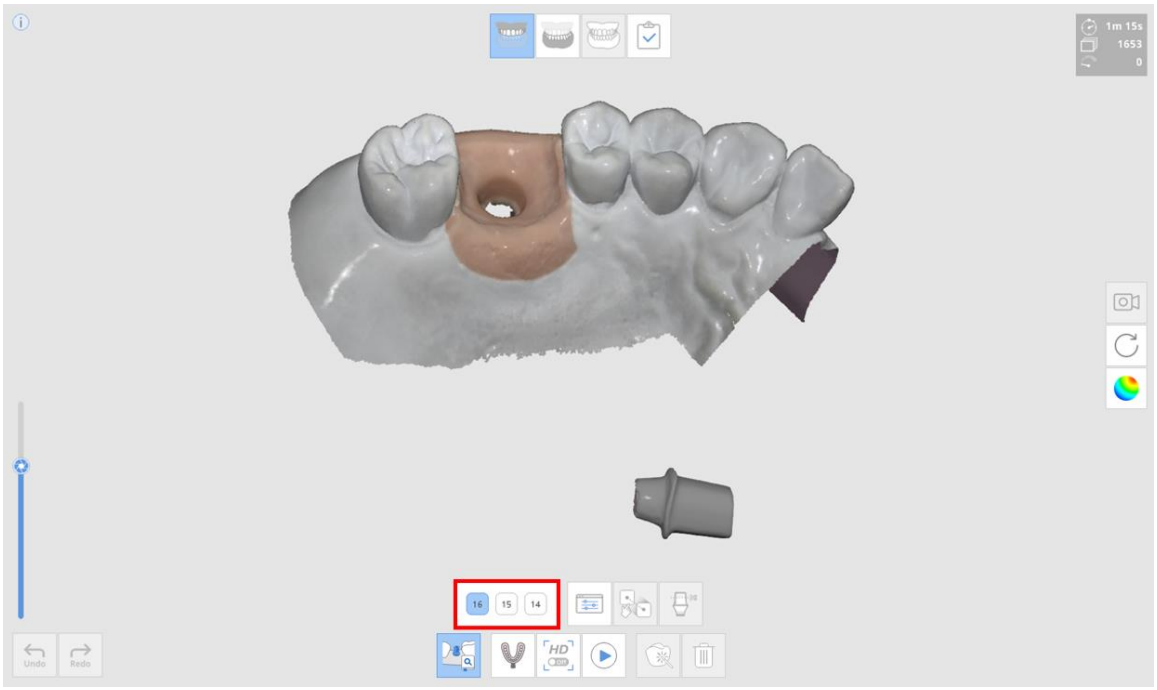
The library data is aligned automatically with the scan data. The user does not need to scan all the shapes of abutment in difficult-to-scan intraoral areas.

① Scan maxilla or mandible.

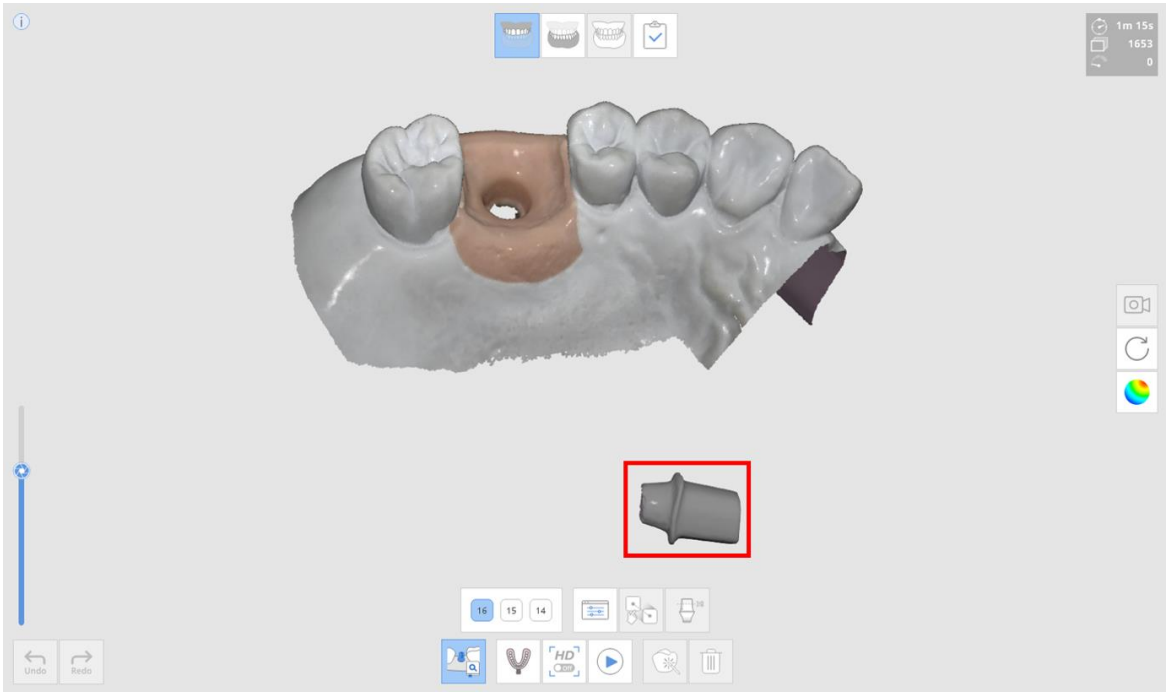
② Click “A.I. Abutment Matching”.

③ Define the library data for teeth.

④ Select the tooth number.

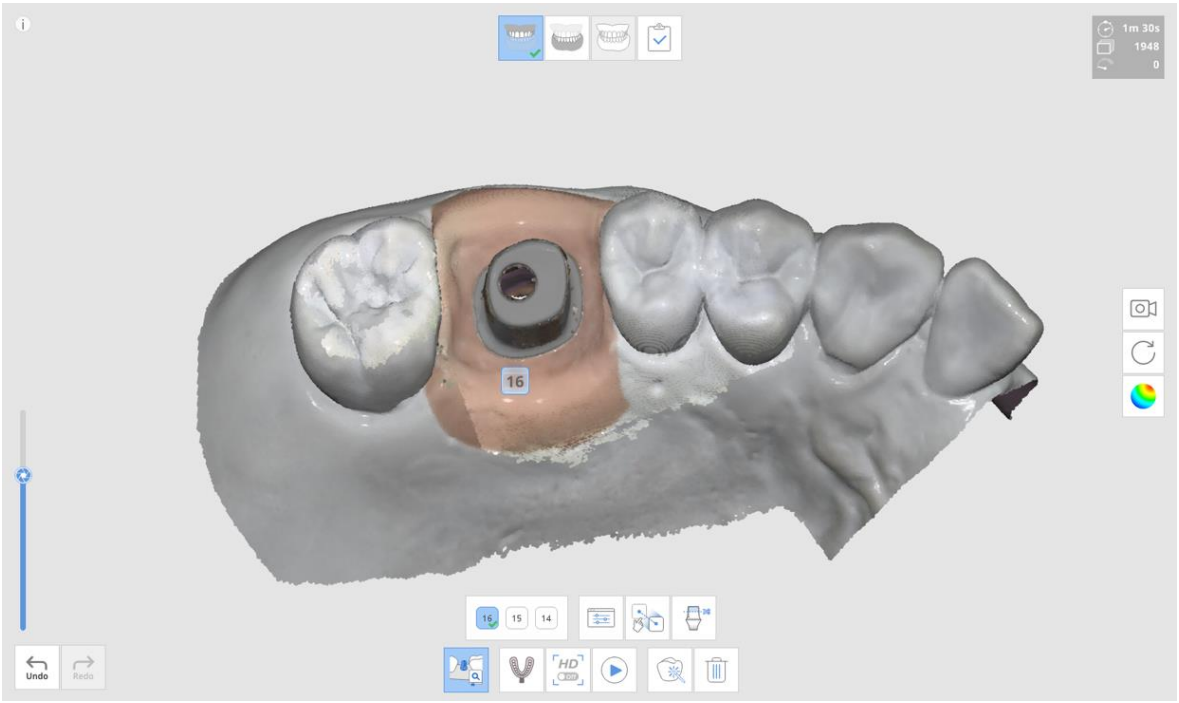


⑤ Library data for the selected tooth will be shown on the screen.



⑥ Scan the area of the selected tooth.

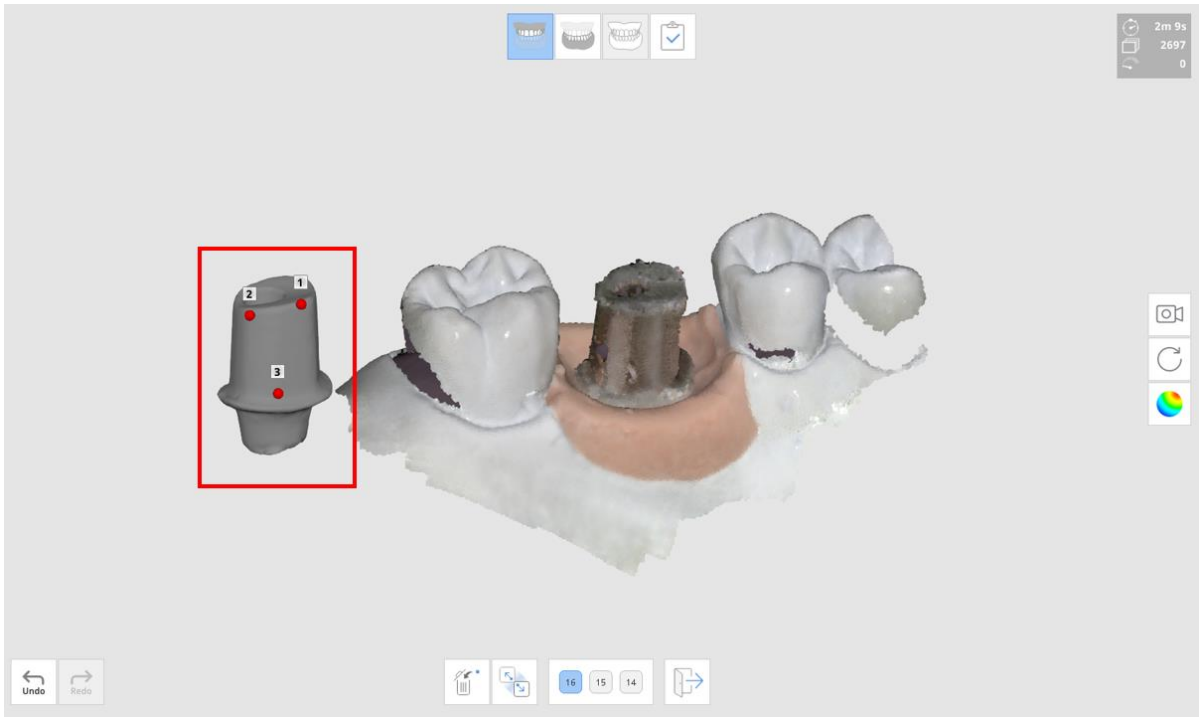
⑦ When scan data is enough for alignment, the library data will be aligned with the scan data automatically.



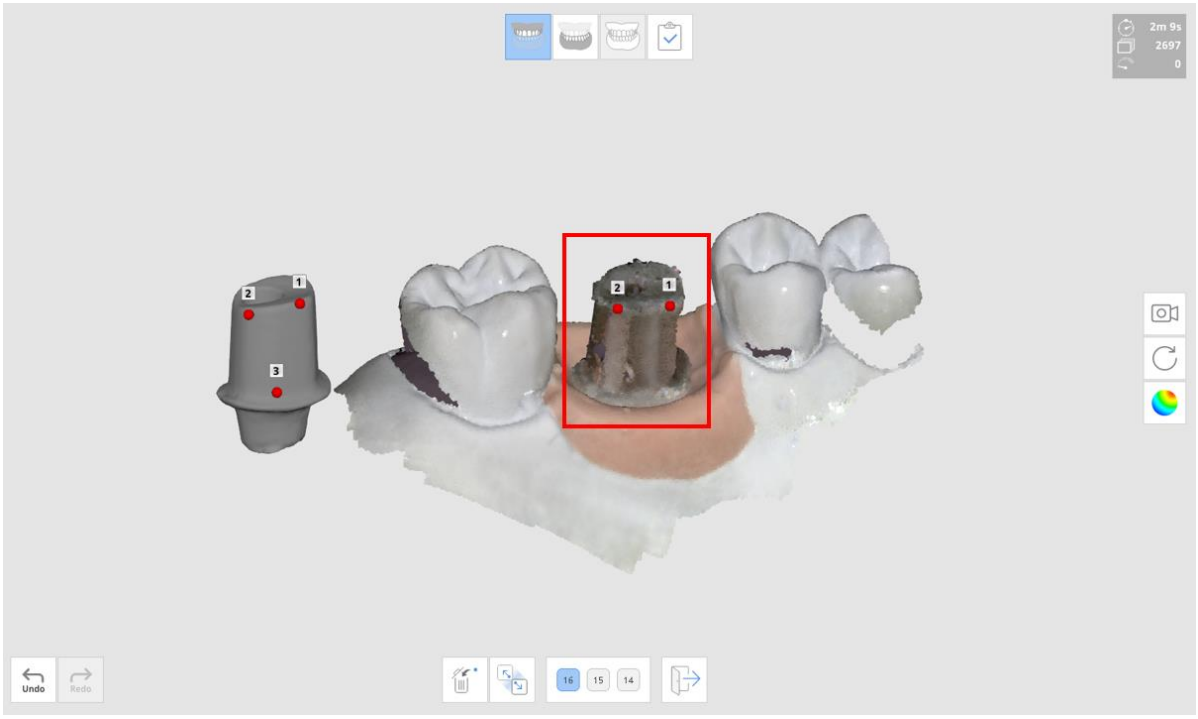
9.7.4 How to Align the Library Data to Scanned Data Manually

If the library data is not properly aligned with the scanned data automatically, the user can align the data manually using the “Manual Alignment” function. One point or three point pairing is available for alignment.

① Select the points on the library data (one point or three points).



② Select the points on the abutment data for maxilla or mandible.



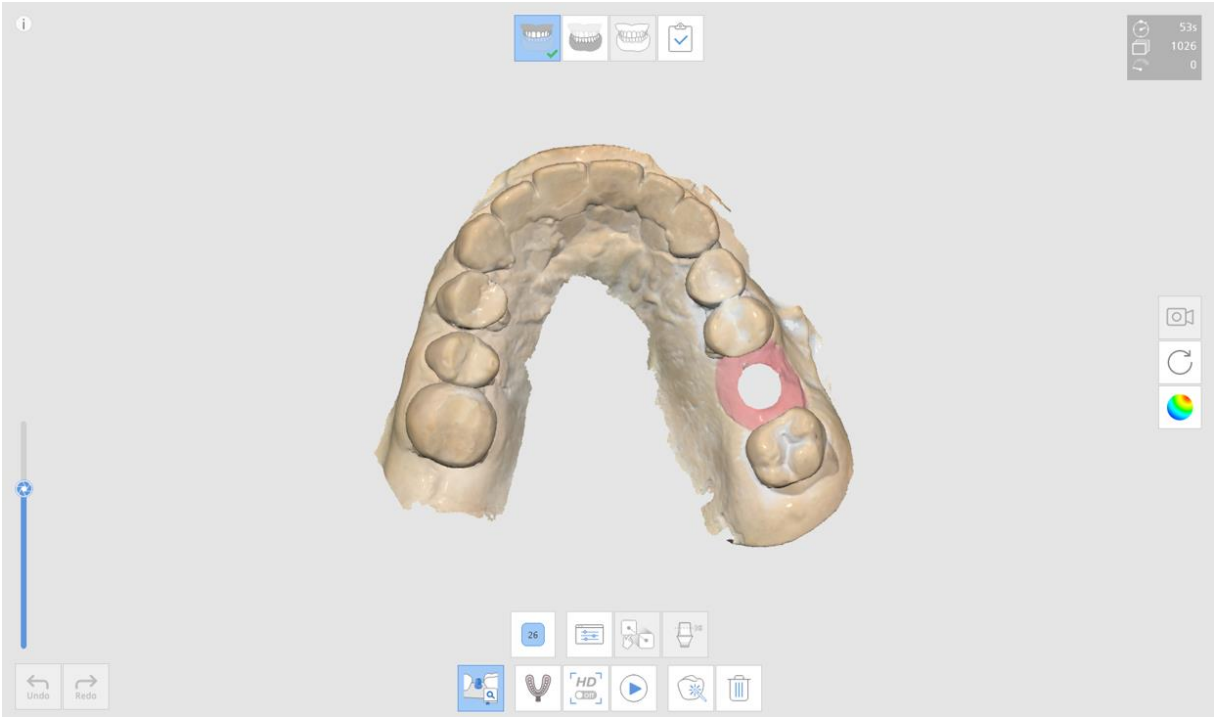
9.7.5 Abutment Library, Scan Data Alignment, and Margin Line Drawing

Easily adjust the height of registered stock abutment according to the abutment in the mouth. Once the margin line is drawn on the stock abutment, the user can skip the margin line drawing in the lab or dental clinic.

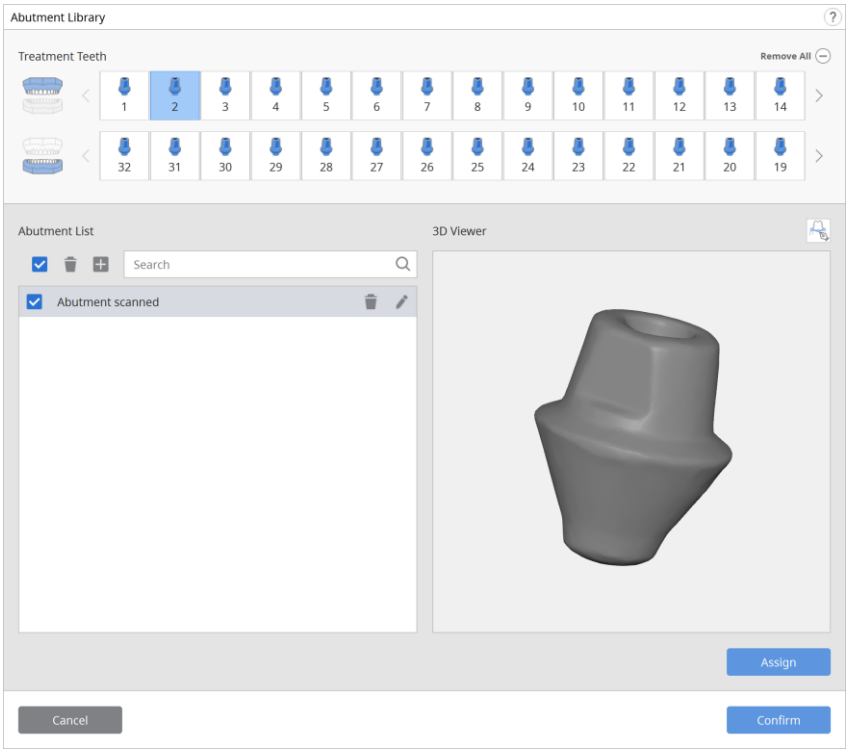
Toolbox

	Margin Line	Creates a margin line using tools such as “Auto Creation”, “Manual Creation”, and “Edit”.
	Cut Abutment Manually	Cuts the abutment to adjust the height manually.

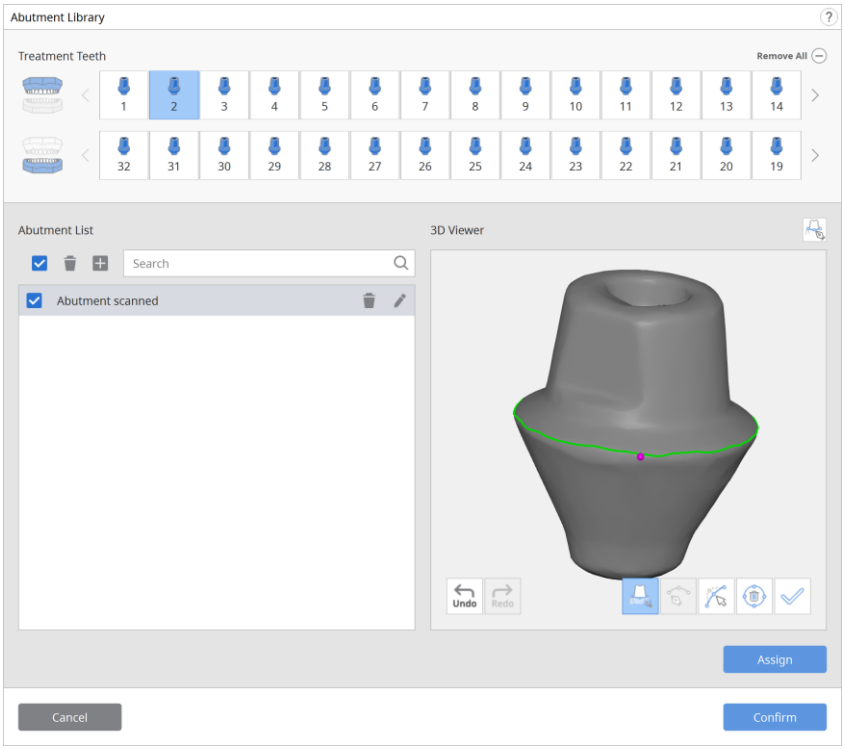
① In A.I Abutment Matching, assign the library data before scanning the abutment.



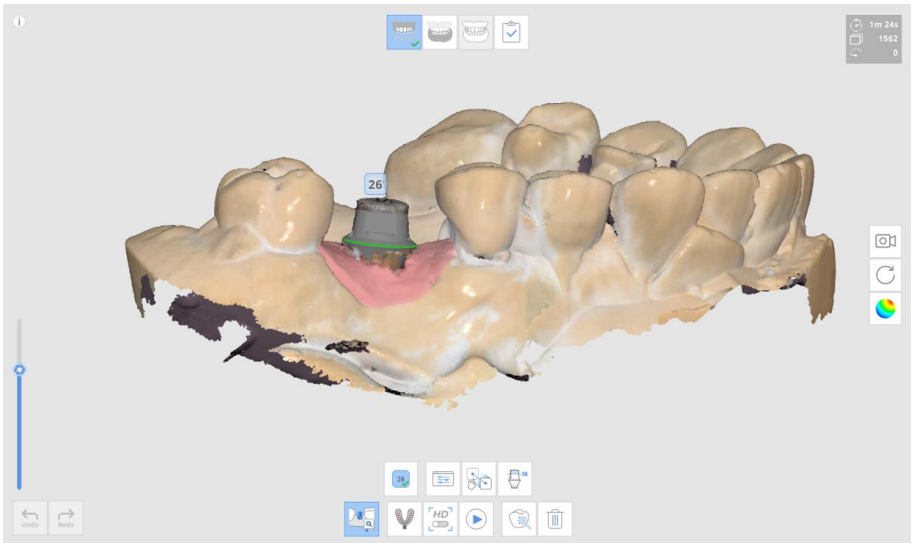
② Click on the icon in the top right corner to activate the Margin Line function.



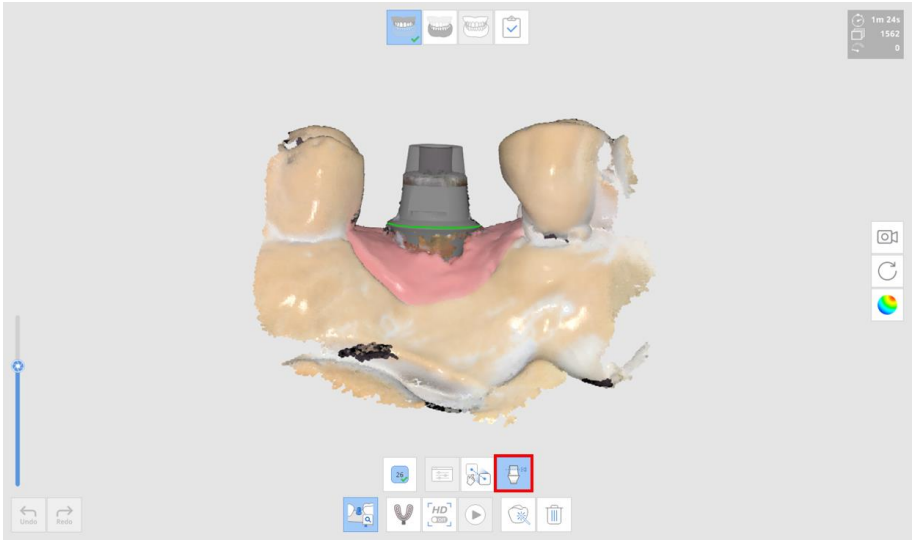
③ The buttons will be the same as the ones in Draw Margin Line. Please refer to the **Draw Margin Line** feature for details. Draw the margin line on the abutment and click the check button to save it.

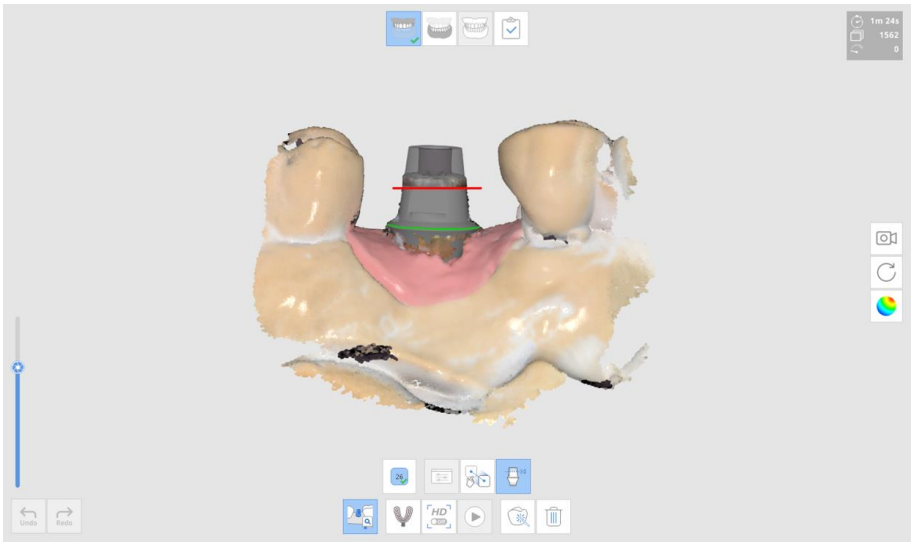


④ Scan the abutment. If there is a lot of chopped areas, the automatic alignment may not work properly. In this case, the user can use the “Manual Alignment” function. When the alignment is complete, the height of the 3D abutment library data will be adjusted automatically, with reference to the scan data.

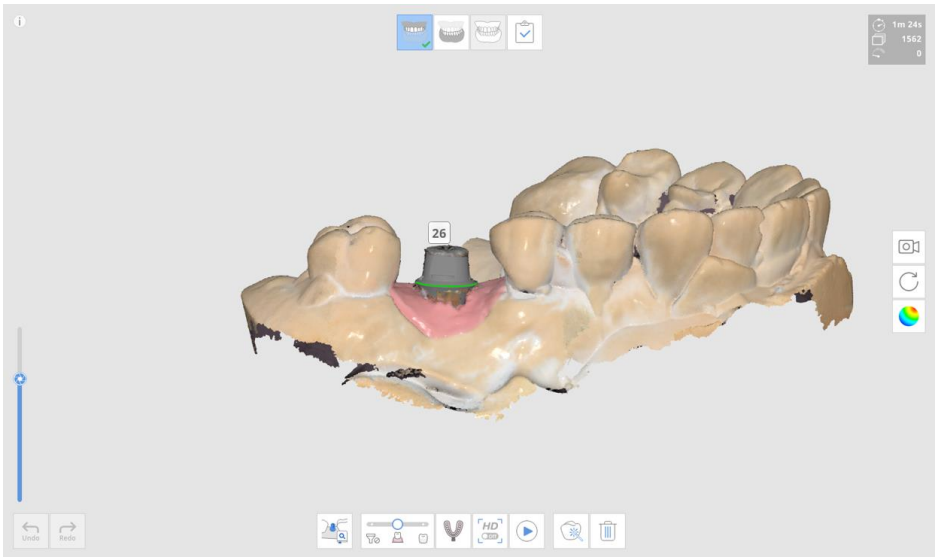


⑤ Adjust the height of the abutment by clicking “Cut Abutment”. The transparent data will be the abutment before cutting. The user can cut the abutment again by selecting a point, dragging it to another point, and cutting the line.



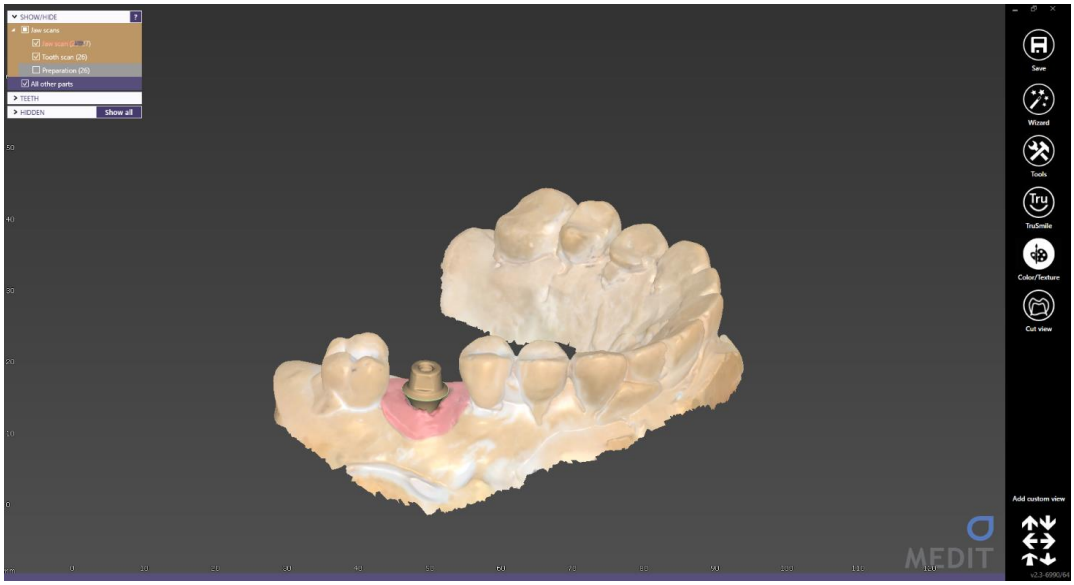


⑥ Check to see if the cut abutment is properly aligned by returning to the **Maxilla** scan stage. The user can also check the margin line.



⑦ Click “Complete”. The user can check the processed data in Medit Link ensuring the upper and lower part of the 3D scan data and the margin line are aligned properly.

⑧ Check the margin line in exocad.



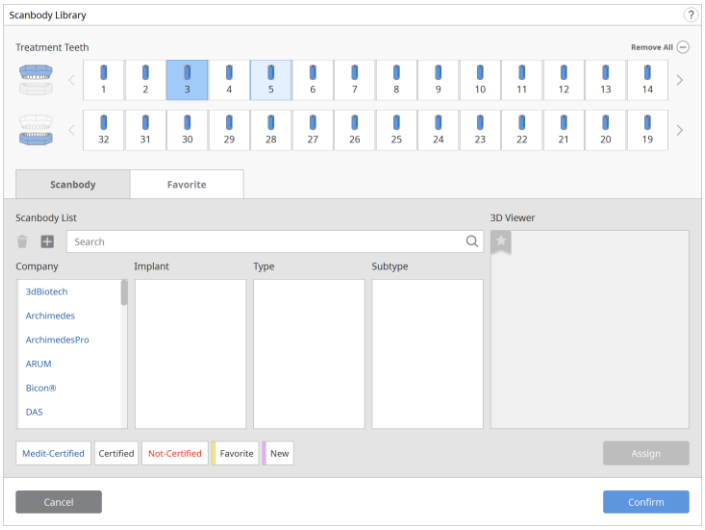
9.8 A.I. Scan Body Matching

Manages pre-set and custom scan body libraries. This library data is aligned automatically with the scan data, minimizing the need to scan difficult-to-reach areas. The library data can be shared for further processes, such as design.

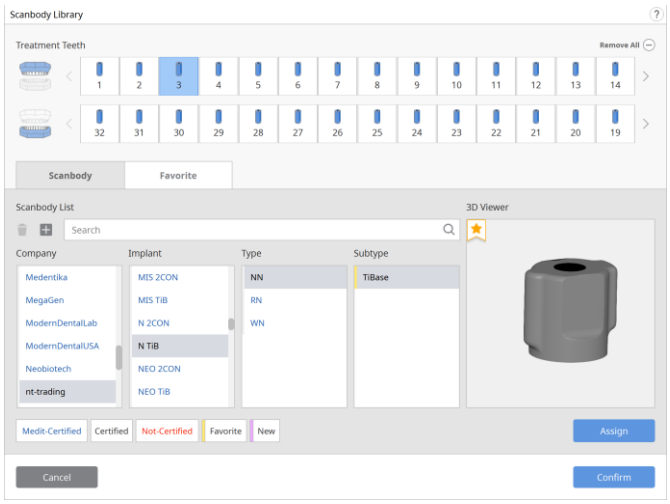
9.8.1 How to Assign the Scan Body Library

Library data should be assigned to each tooth in order to use the replacement feature.

① Click “Define Library” to select tooth number.



② Select scan body library.



③ Click “Assign”.

④ Assign library to every tooth in the same way

⑤ Click “Confirm”.

9.8.2 Manage Scan Body Library

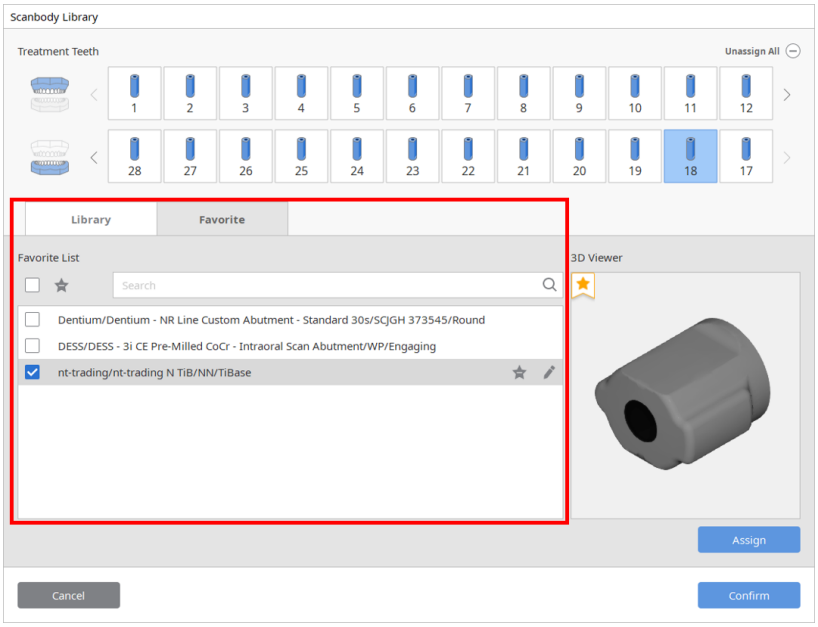
	Provides various tools to manage the library

Toolbox

	Search	Searches for an item.
	Add Library	Adds a new library. Supports libraries which are provided as a folder.
	Delete Library	Deletes the selected library from the list.
	Add to Favorites	Adds the selected library to Favorites. User can easily find the most used items.
	Unassign All	Unassigns the library for the all teeth.

9.8.3 How to Manage the Favorites List

Add and remove items from Favorites.



Toolbox

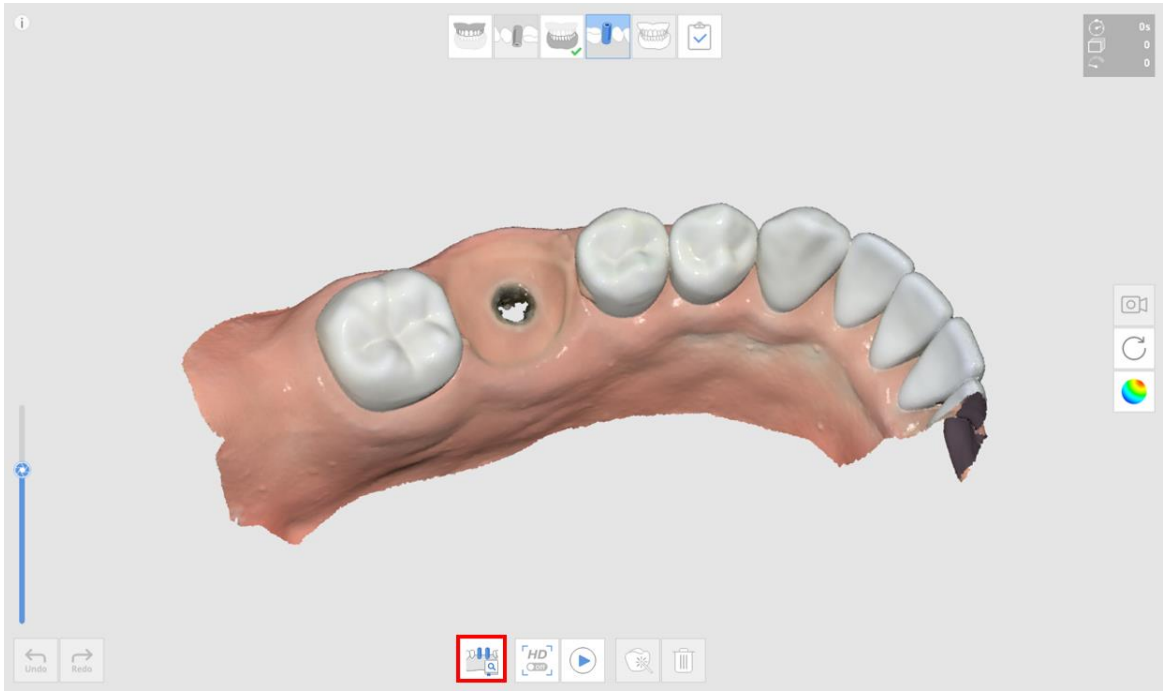
	Remove from Favorites	Removes selected library from Favorites.
	Rename	Changes the name of the library.

9.8.4 How to Align the Library Data to Scan Data

The library data is aligned automatically with the scan data, and the user does not need to scan all the shapes of scan body in difficult-to-scan intraoral areas.

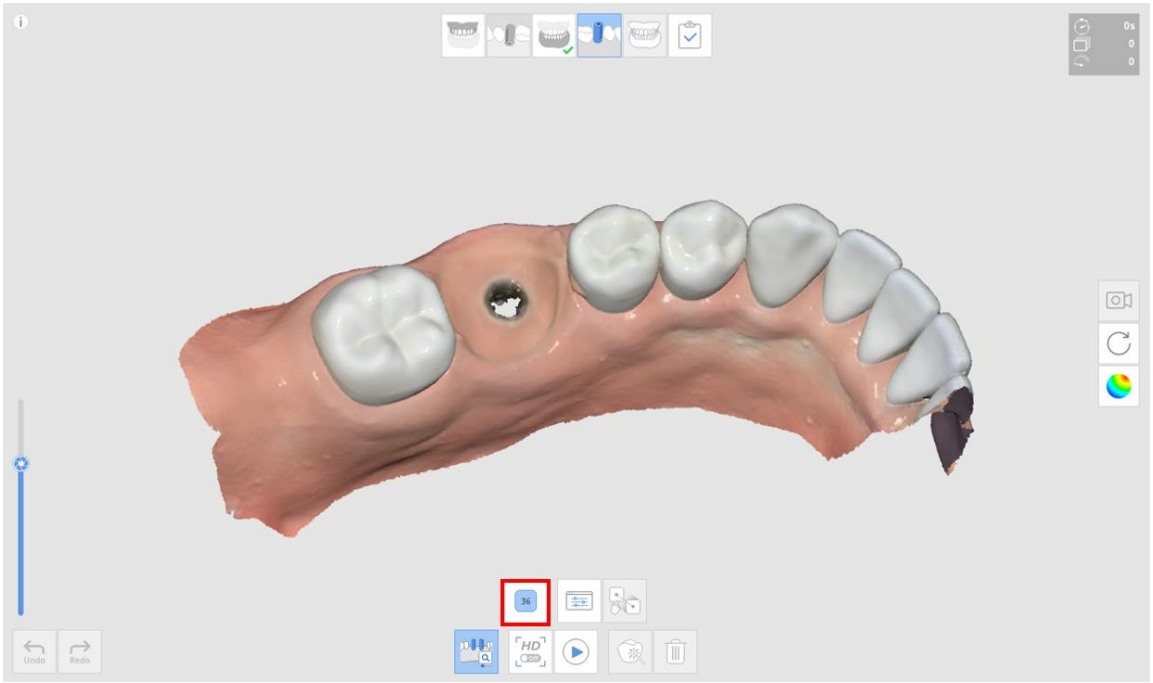
① Scan maxilla or mandible and move to the **Maxillary/Mandibular Scan Body** scan stage.

② Click “A.I. Scan Body Matching”.

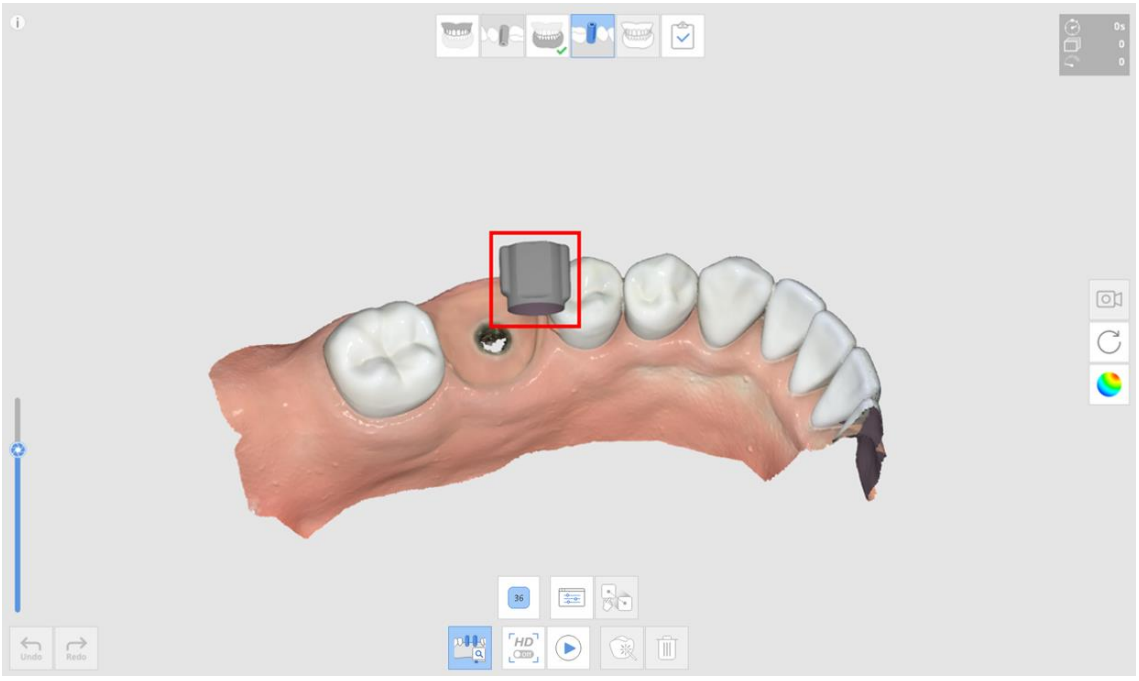


③ Define the library data for teeth.

④ Select the tooth number.

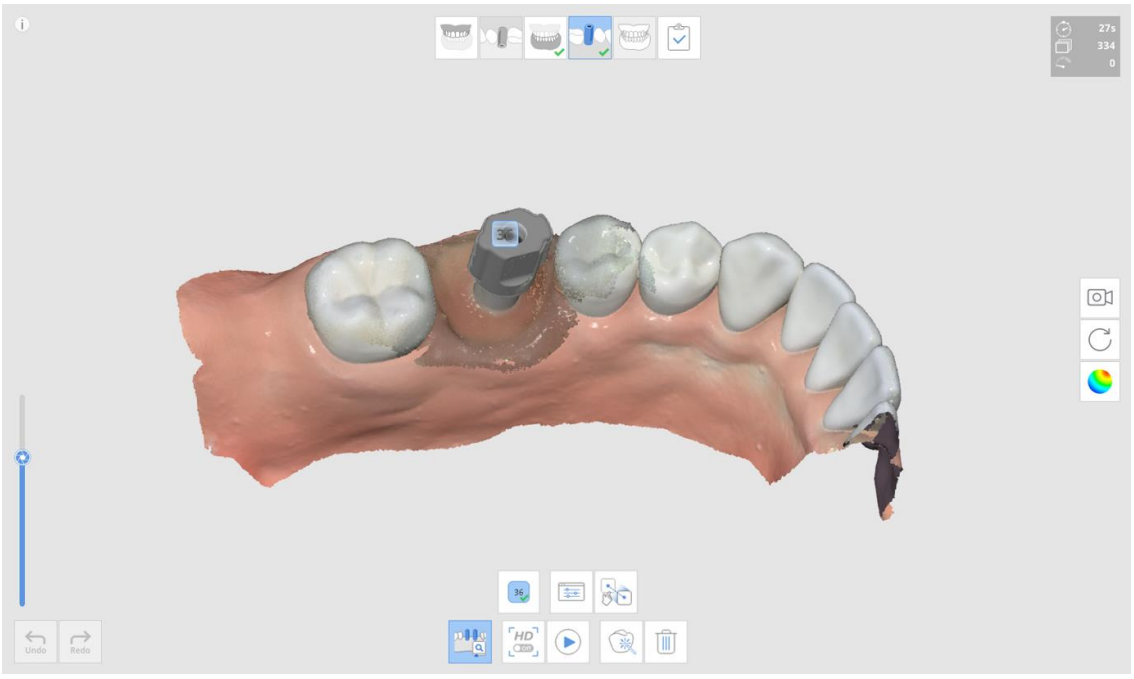


⑤ Library data for the selected tooth will be shown on the screen.



⑥ Scan the area of the selected tooth.

⑦ When scan data is enough for alignment, the library data will be aligned with the scan data automatically.

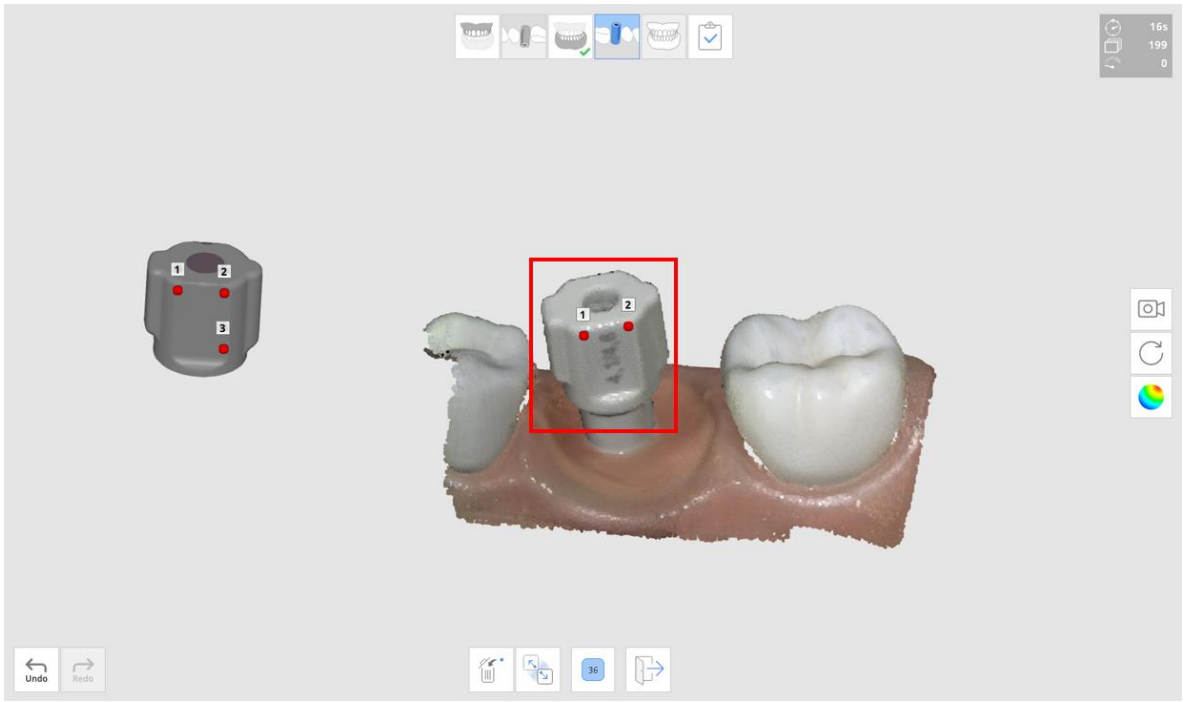


9.8.5 How to Align Library Data with Scanned Data Manually

If the library data is not properly aligned with the scanned data automatically, the user can align the data manually using the “Manual Alignment” function. One point or three point pairs are available for alignment.

① Select one to three points on the library data.

② Select the points on the abutment data for maxilla or mandible.



9.8.6 How to Scan Data for Scan Body Without Defining Library Data

① Scan the maxilla or mandible.

② Move to the **Maxillary/Mandibular Scan Body** scan stage.

③ Click “A.I. Scan Body Matching”.

④ Select the tooth number

⑤ Scan the area of the selected tooth.

⑥ Select another tooth number and scan.

Advantage of Using the Tooth Number

The scan data for each tooth number is separated and managed as a different group.
This concept is useful when all the scan bodies cannot be inserted in the mouth simultaneously because of interference.

If user scans the scan bodies one by one using the tooth number, the system will generate the results without interference from each scan body.

9.9 Alignment with Occlusal Plane

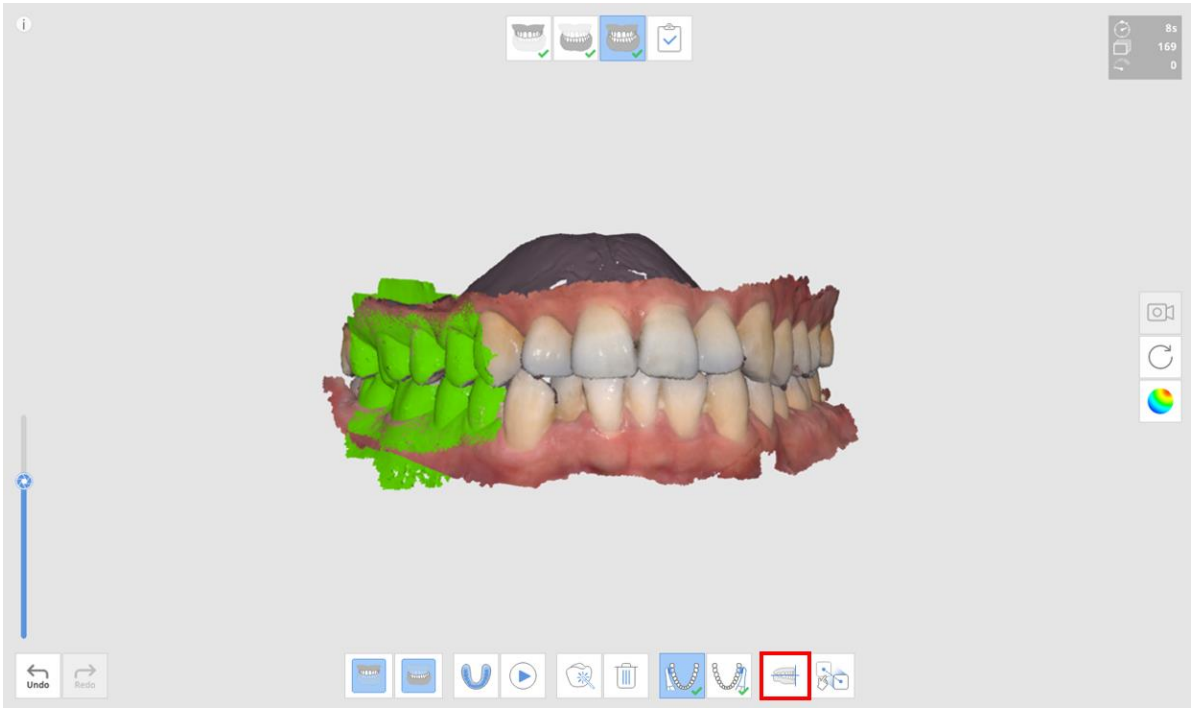
Adjust the position of scanned data on the occlusal plane in Medit Scan for Clinics, and make it compatible with virtual articulator in exocad.

Toolbox

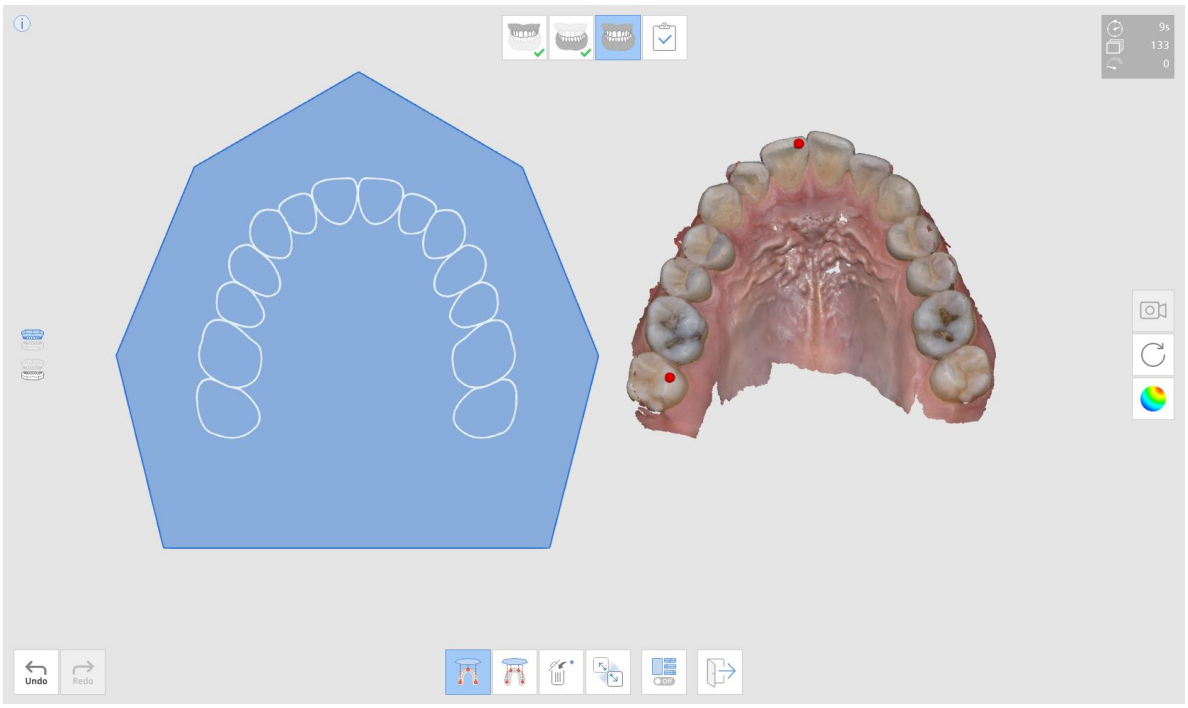
	Align With Occlusal Plane By Three Points	Selects three points on the maxilla or mandible to align with the occlusal plane.
	Align With Occlusal Plane By Four Points	Selects four points on the maxilla or mandible to align with the occlusal plane. It is beneficial when there are no anterior teeth.
	Delete Marker Point	Removes points which were selected for alignment.
	Detach Data	Separates the aligned data and moves it to the original position.
	Multi-View	3D scan data can be viewed from four sides.
	Exit	Takes the user to the previous step.

How to Use

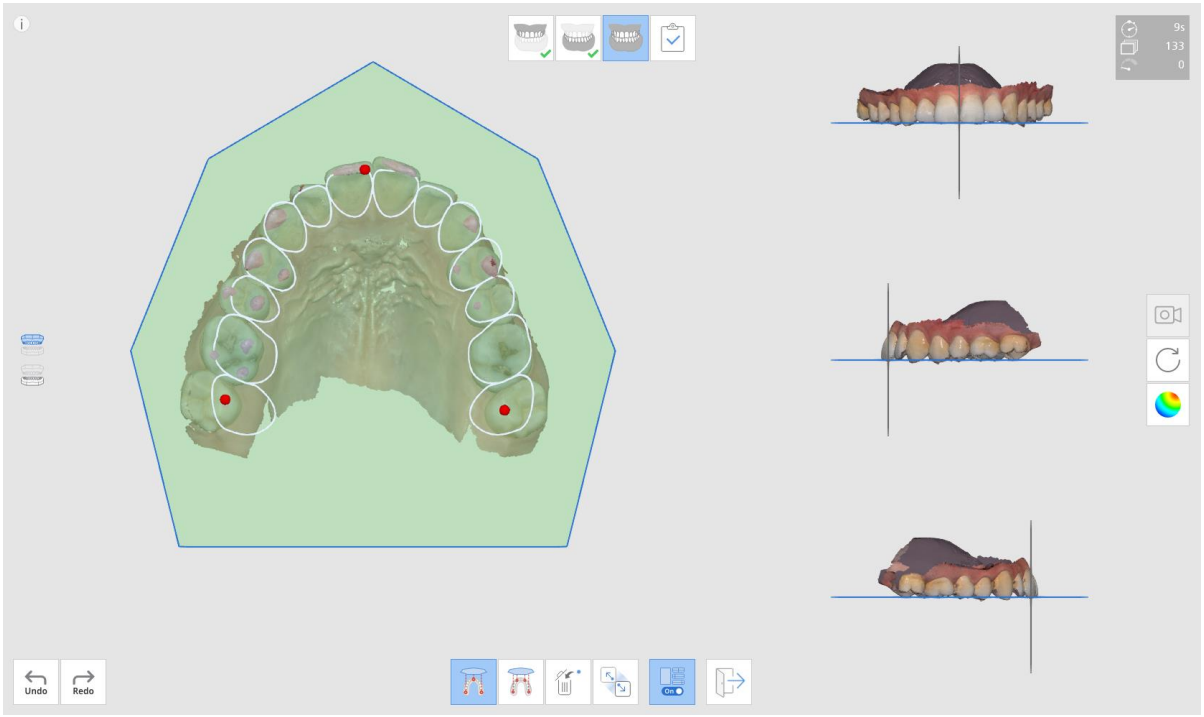
① Click “Align with Occlusal Plane” after the occlusion alignment is complete.



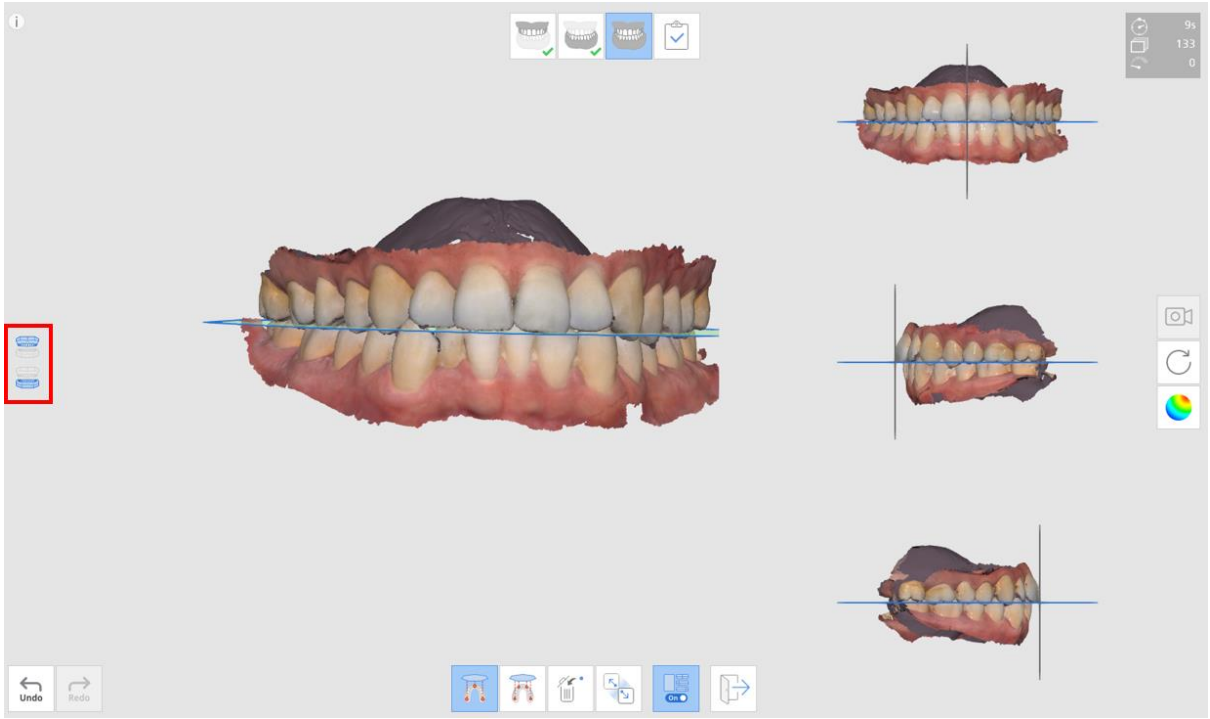
② Select three or four points on the maxilla or mandible. If there are no anterior teeth, select four points on the corresponding teeth on both sides.



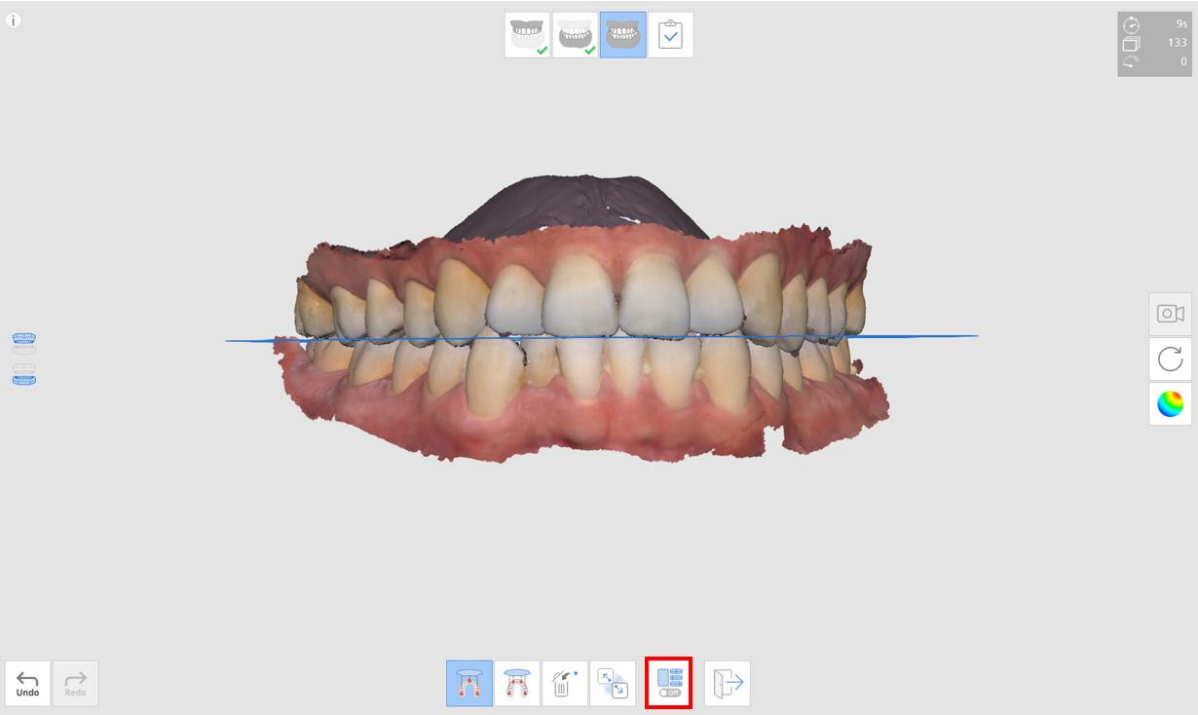
③ Move the arch data on the right side to adjust the position on the occlusal plane. The user can adjust it from different angles.



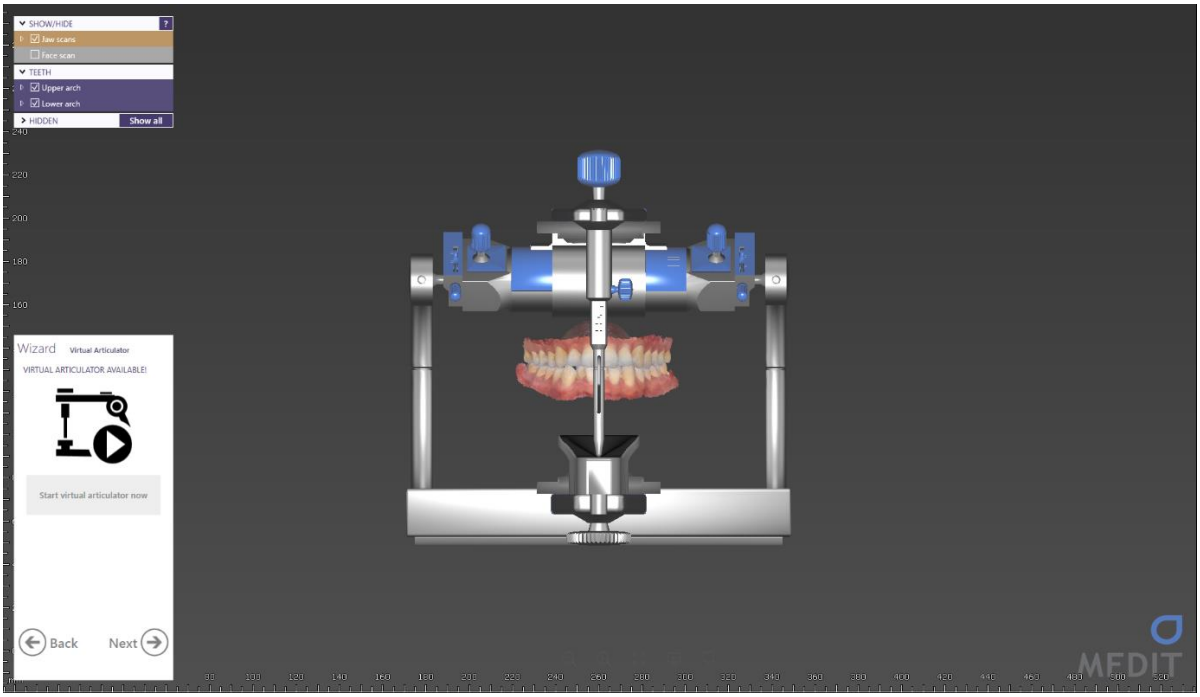
④ Select the maxilla, mandible, or both by using the buttons on the left. This allows the user to see the maxilla and mandible scan data individually or together.



⑤ The user can also turn off “Multi-View”.

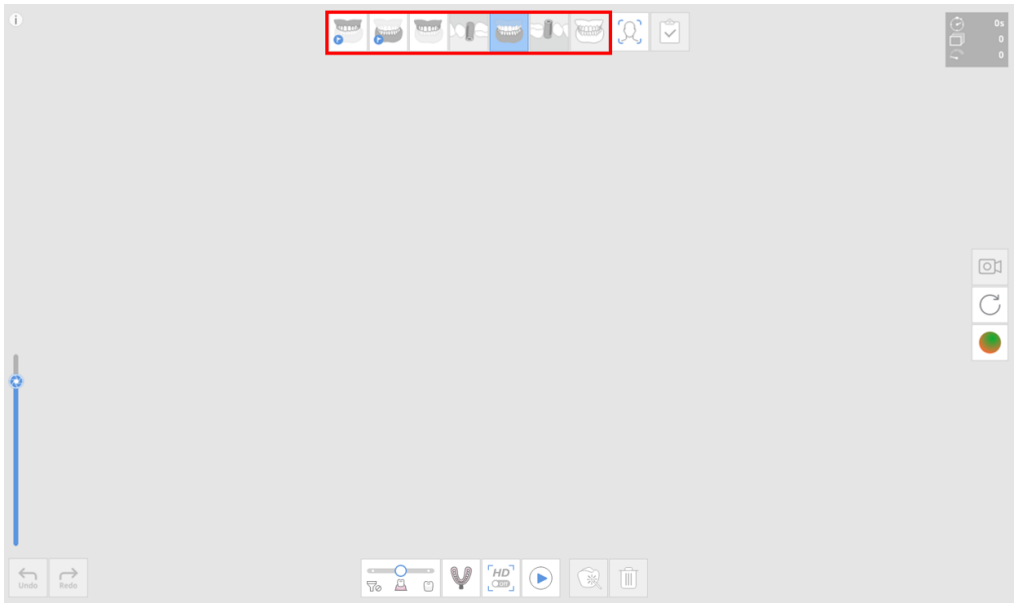


⑥ When the data is loaded from exocad after completion, the scan data will be positioned at the same location as the virtual articulator.

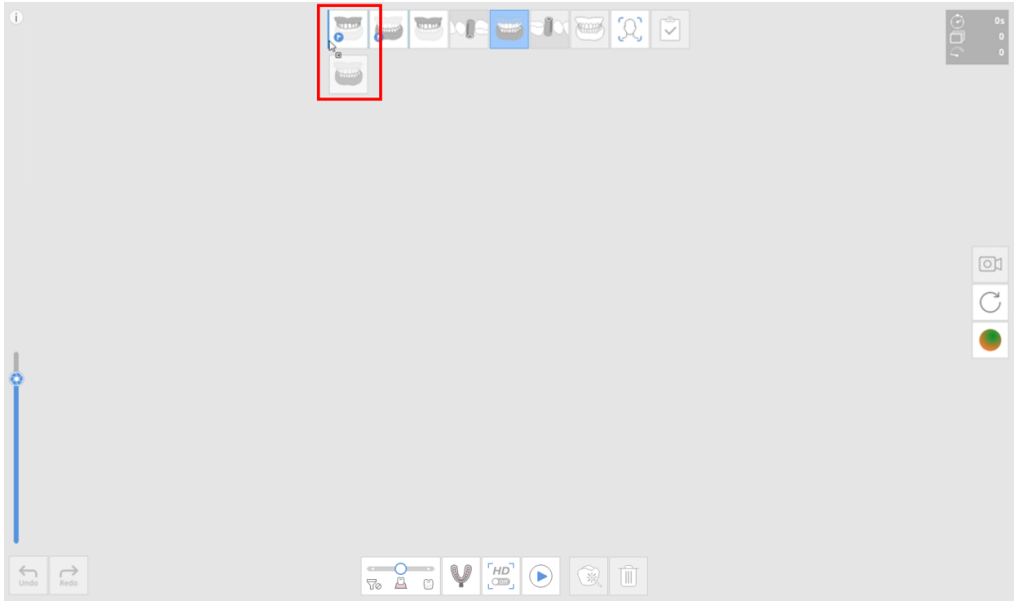


9.10 Changing Sequence of Scan Stages

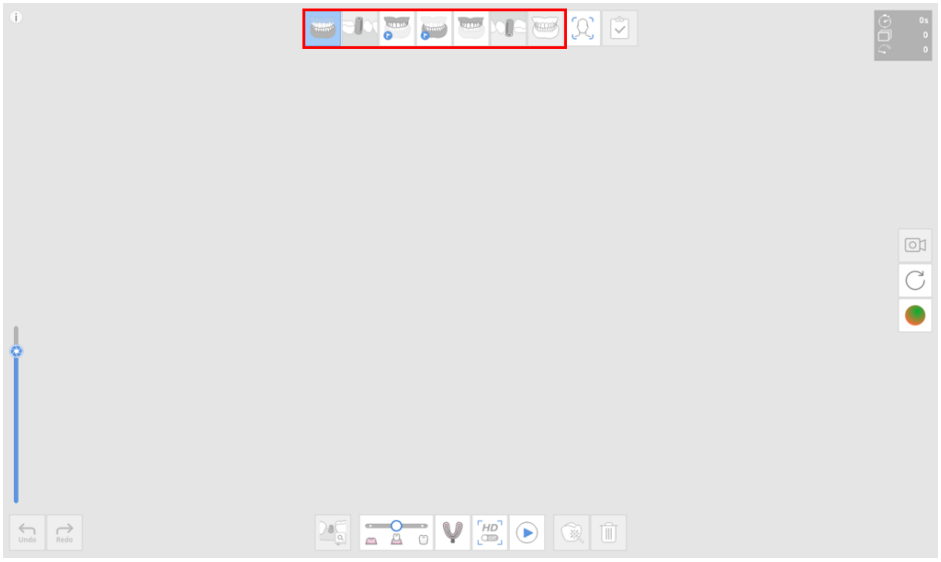
① Change the sequence of scan stages.

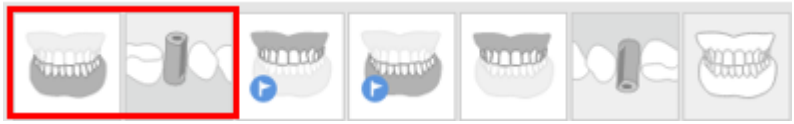


② To change the sequence, click and drag the icon until a blue line appears. Then, drop the icon at the desired position.



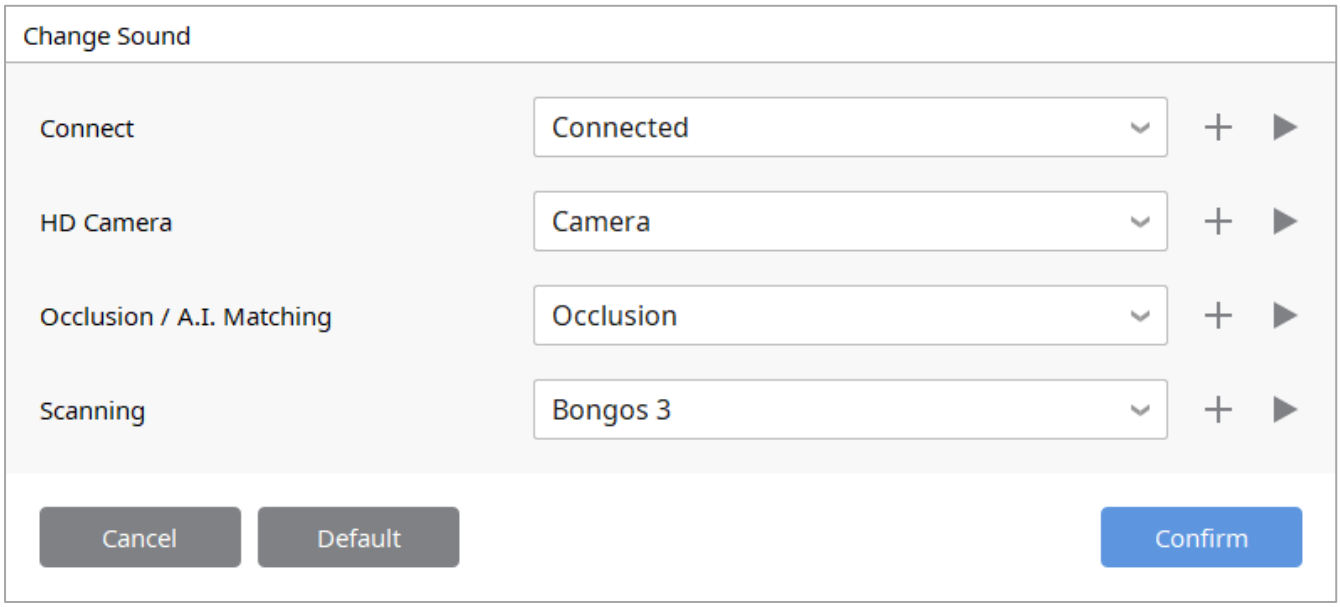
③ For example, here the maxilla is moved to the first position as the first stage of scan process. The arch and scan body stages are moved together as a group. A new sequence will be saved for the next scan.



Before Changing the Sequence	
After Changing the Sequence	

9.11 Change Sound

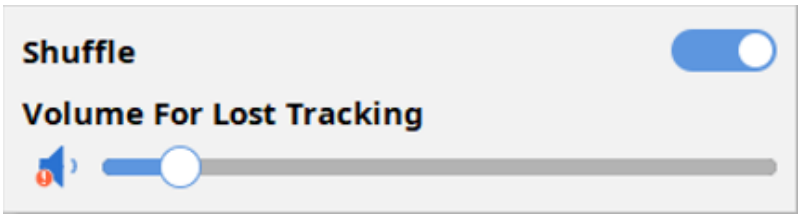
Use various file formats for the audio feedback such as .wav, .mp3, and .wma. All audio files created by the user are added to a list.



+	Add to List	Adds the file to the list. Available formats are WAV, MP3, and WMA.
▶	Play	Plays the selected sound file.

The list management tool is provided to manage items on the list.

For Scanning Sound, two special options are provided for when scanning is in progress.



Shuffle	Plays the files on the list in random order. Different scanning sounds can be used each time Medit Scan for Clinics is executed.
Data Tracking Loss Volume	Changes the volume if the alignment fails.

10 Updates to Image Acquisition Software

The image acquisition software automatically checks for updates when the software is running.

When a new version of software is available, the system will automatically download it.