Smile Design

ver. 1.2
Revision 4

CONTENTS

1 Introduction and Overview 3
1.1 Medit Smile Design Overview 3
1.2 Intended Use and Disclaimer 3
1.3 System Requirements 3
1.4 Installation Guide 4
2 Data Management 7
2.1 Acquiring Data 7
2.2 Running Medit Smile Design from Medit Link 8
3 User Interface 9
3.1 Title Bar 10
3.2 Data Tree 10
3.3 Toolbox 11
3.4 Undo/Redo 11
4 Modes 12
4.1 Select Images 12
4.2 Getting Started 14
4.2.2 Viewing Options 16
4.3 Consultation Mode 17
4.3.1 Template Options (Template Editing) 20
4.3.2 Template Options (Color Adjustment) 25
4.3.3 Braces Options 34
4.3.4 Preview Options 35
4.4 Measure Mode 36
4.4.1 Measure Helper 36
4.5 Complete 38

1 Introduction and Overview

1.1 Medit Smile Design Overview

Design smiles on 2D images with Medit Smile Design. You can use pre-set teeth templates and customize them with various tools to modify their color, shape, position, and scale. You can also simulate and preview metal and ceramic braces. The easy-to-follow guide messages accompany each stage to help you create brilliant smiles in minutes.

Run Medit Smile Design from both clinic and lab accounts in Medit Link.

1.2 Intended Use and Disclaimer

You are responsible for the smile design process and informing your patients that the Smile Design results generated by the application may not be precise or reliable. Smile Design should only be used for consultation or communication purposes. Medit does not take responsibility or liability for any misunderstandings or miscommunications which may occur from use of this device. This application should be used for communication purposes only.

Medit Smile Design was not developed for medical or clinical purposes.

This software may not be used for the following purposes:

- Diagnosing, treating, mitigating, or preventing diseases.
- Diagnosing, treating, mitigating, or preventing injuries or disorders.
- Inspecting, replacing, or transforming a structure or function.

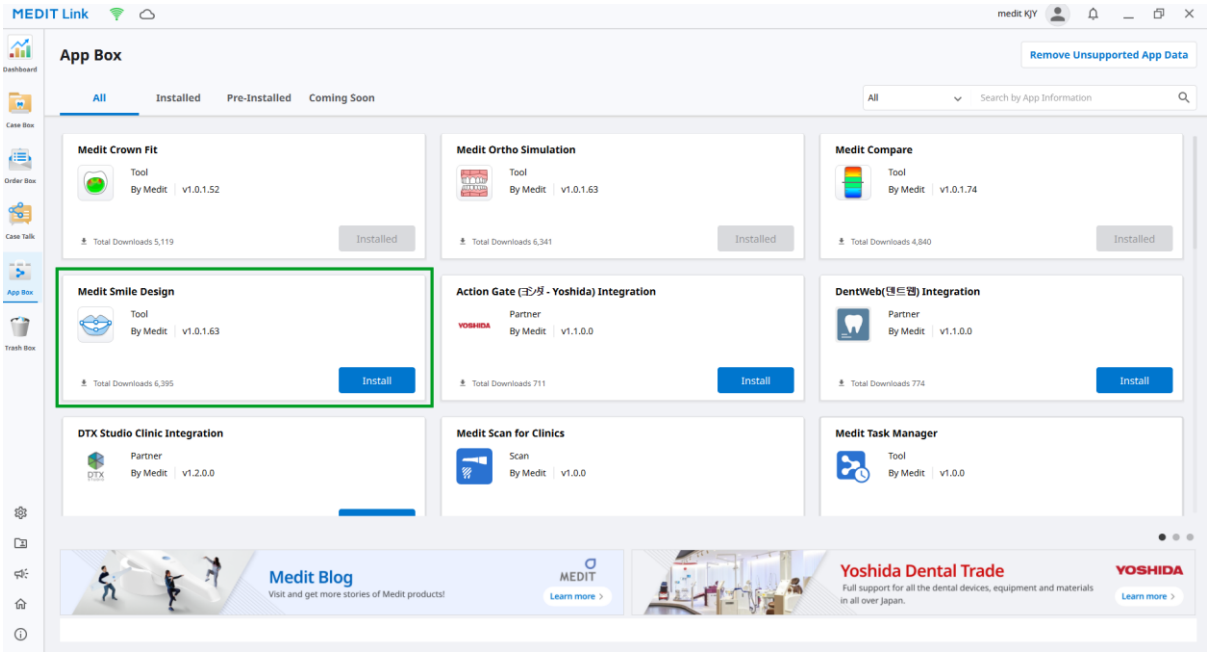
1.3 System Requirements

	Laptop	Desktop
CPU	Intel Core i5 2.6 GHz or higher	
RAM	16 GB or higher	
Graphics	NVIDIA GeForce GTX 1060 (2 GB) or higher	
OS	Windows 10 64-bit, Window 11 64-bit	

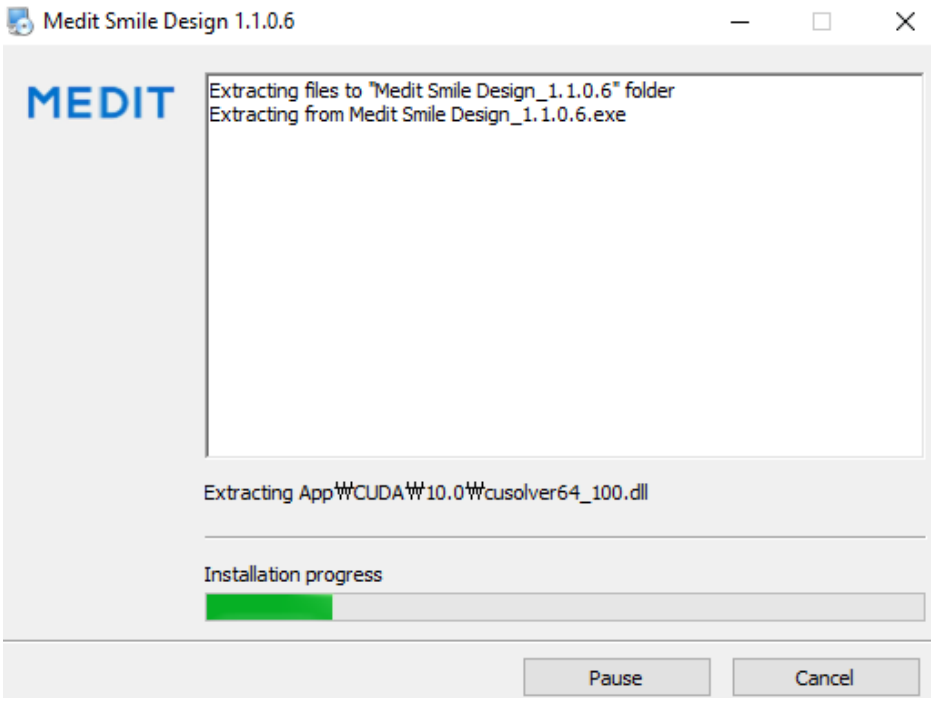
1.4 Installation Guide

① Log in to your Medit Link account and go to the App Box.

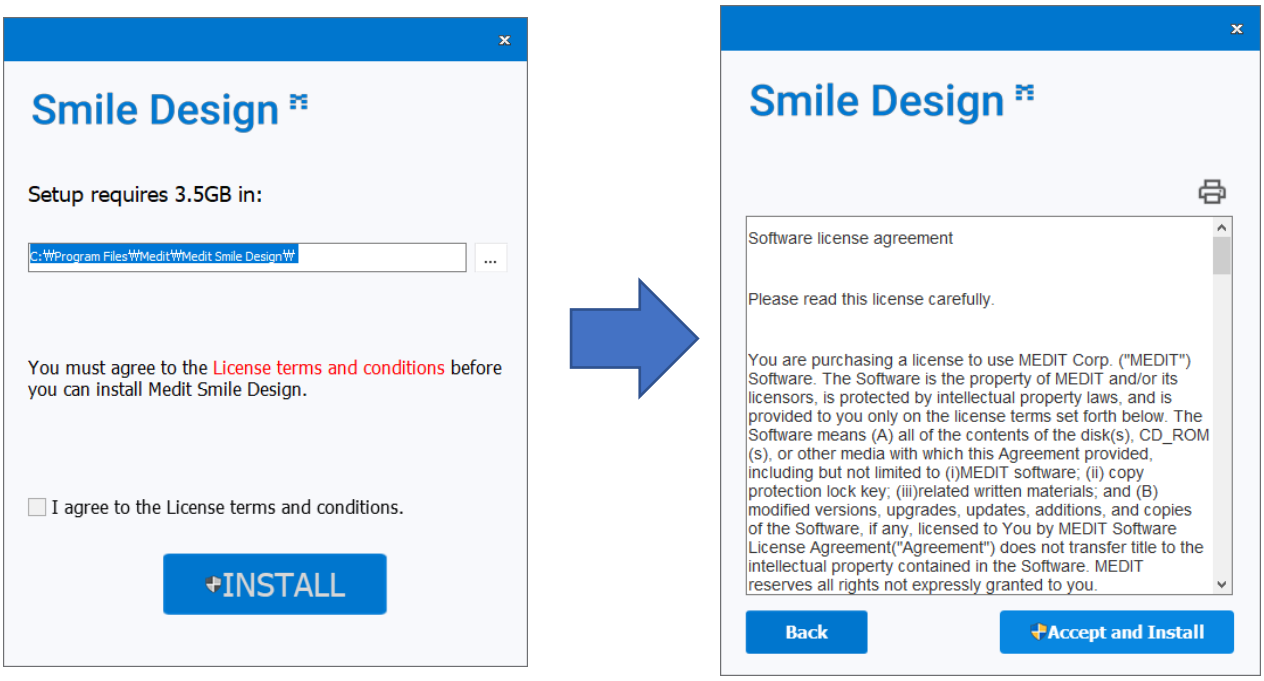
② Find the Medit Smile Design app and click on the “Install” button.



③ Once the download is complete, the Medit Smile Design installer will run automatically.

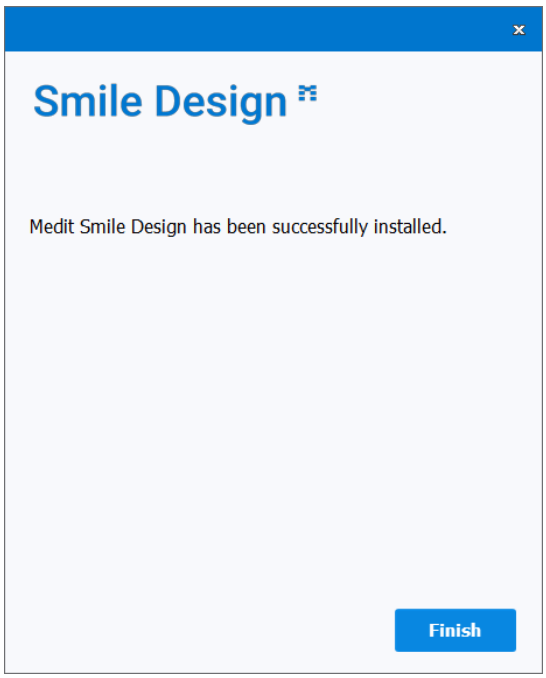


④ Read and agree to the License Terms and Conditions.



⑤ It may take up to several minutes to finish the installation process. Please do not turn off your computer until after the installation is complete.

⑥ Press “Finish” to complete the installation.



⑦ Restart Medit Link.

2 Data Management

2.1 Acquiring Data

Smile Design uses 2D images.

- We support the following file formats: JPG, JPEG, PNG, and BMP.

Medit Smile Design usually requires two images: a retracted mouth picture and a Smile Image.

IMPORTANT: We recommend importing at least two images for the intended design process.

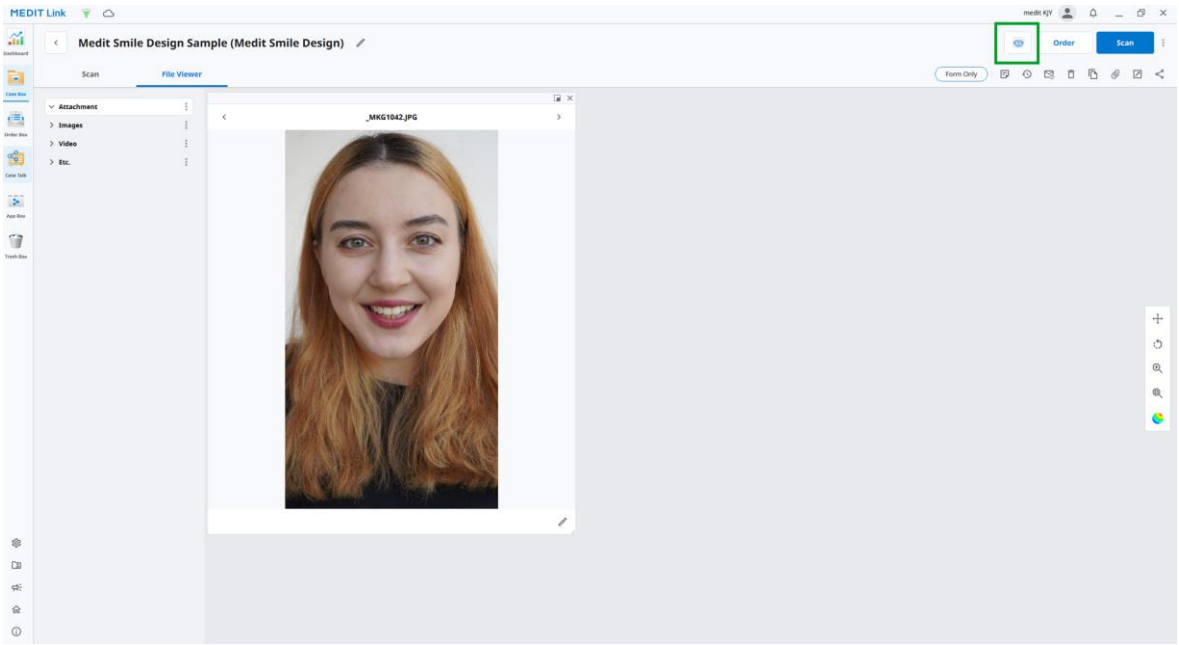
Smile Image

Retracted Mouth Image

IMPORTANT: Ensure both photos are taken from the same angle for better alignment.

2.2 Running Medit Smile Design from Medit Link

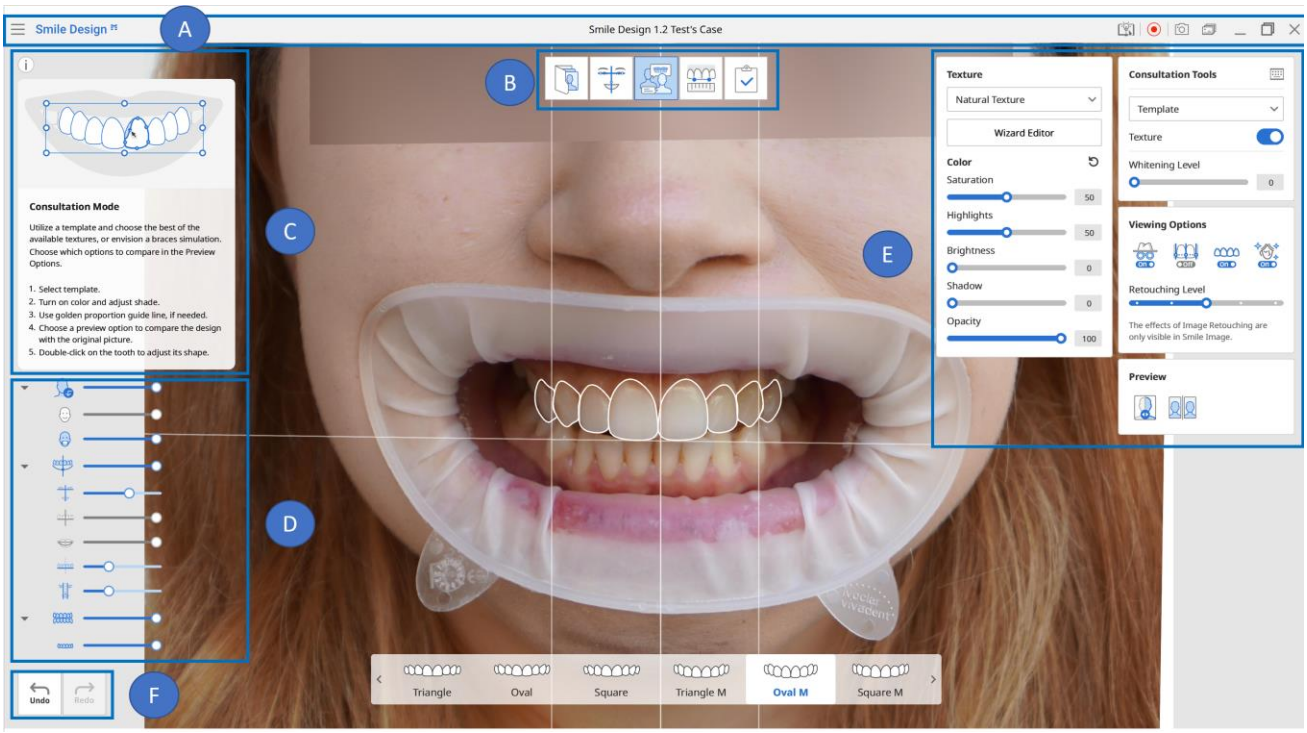
① Go to the **Case Box** (Clinic account) or **Work Box** (Lab account) and choose the case you would like to work on. The case must have 2D images attached to it.



② Click the icon in the upper right corner of the **Case Detail** window in Medit Link.

③ Once the app is launched, you will be asked to import images from the case in Medit Link.

3 User Interface



A. Title Bar
B. Modes
C. Guide Message
D. Data Tree
E. Toolbox
F. Undo/Redo

3.1 Title Bar

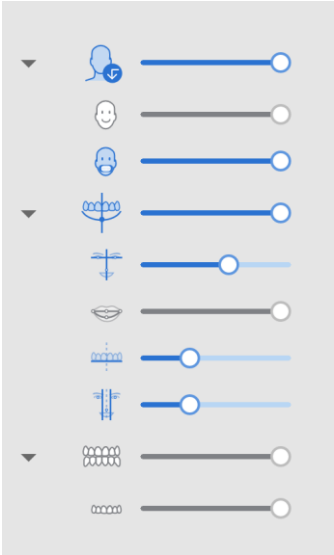
The Title Bar consists of the following options:

Menu	Open menu. It includes tools to manage the program and shows the details of application.
Help Center	Go to the Help Center page. It contains various information about using Medit Smile Design.
Start Video Recording	Start the video capture.
Screenshot	Capture the screen.
Screen Capture Image Manager	Manage the captured screen images
Minimize	Minimize the application.
Maximize or Restore	Maximize or restores the application.
Exit	Terminate the application.

3.2 Data Tree

The **Data Tree** is located on the left side of the window.

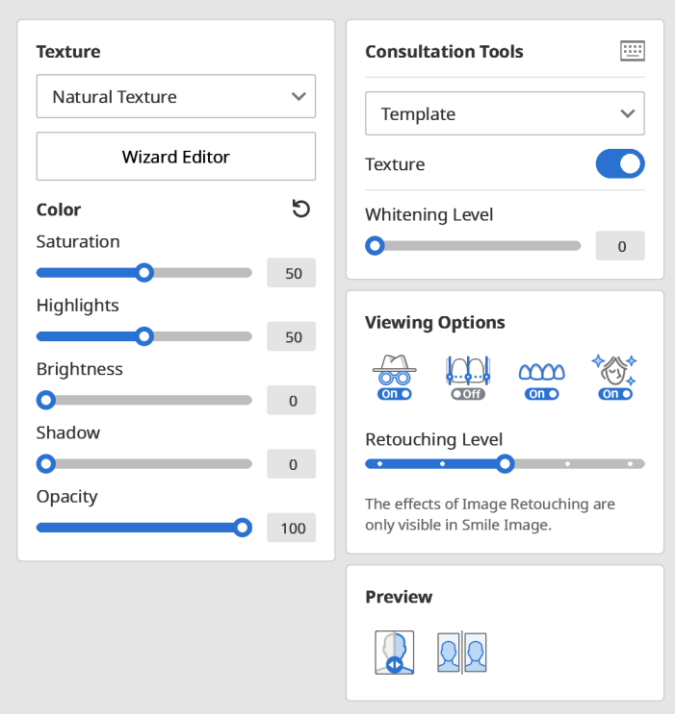
- The tree shows the list of data in Medit Smile Design: images, guidelines, and teeth template.
- You can easily control data viewing options by hiding, showing, or changing the transparency one by one or as a group.



3.3 Toolbox

The toolboxes contain all major tools to assist the smile design process.

① Turn options on and off using the toggles or icons.



3.4 Undo/Redo

The undo/redo buttons are located at the bottom left corner of the window.

Undo	Undo	Undo the previous action.
Redo	Redo	Redo the previous action.

4 Modes

Modes indicate the current step you are working on. They are subject to a specific sequence.

You will lose all current progress if you import new images while working on a project.

	Import Images	Import new images from Medit Link or directly from your local PC.
	Getting Started	Get started by aligning the facial guidelines.
	Consultation Mode	Create and preview simulations for consultation. You can apply templates, braces, or teeth whitening.
	Measure Mode	Get quick auto measurements using the Measure Wizard or man
	Complete	Save the current project and close the program.

4.1 Select Images

Import full-face images from the Medit Link case you are working on directly from your local PC. Medit Smile Design recommends importing at least two full-face images for the intended design process. Click “Import Local Images” or simply drag and drop.

You can blur the eyes of the person in the image by checking the “Anonymization” box.

Select Images

Import full-face images. Medit Smile Design recommends importing at least two images for the intended design process.
No images? Get sample images and learn more about the app here.

Import Local Images

Case Name	Patient Name	Form Information	Last Modified Date
Smile Design 1.2 Test's Case	Smile Design 1.2 Test		13/12/2021 14:12

_MKG1042.JPG

_MKG1046.JPG

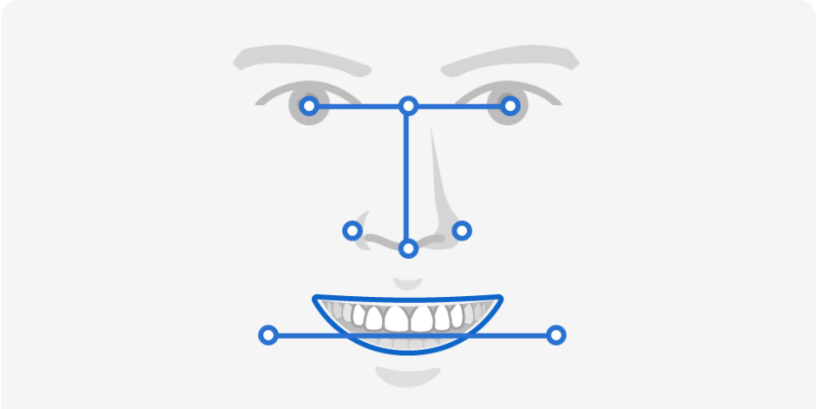
Anonymization Cancel Confirm

4.2 Getting Started

In “Getting Started,” prepare for the smile design process by ensuring the necessary guidelines are defined correctly.

The facial guidelines will be automatically applied to the image. However, you can modify the guidelines if any adjustments need to be made.

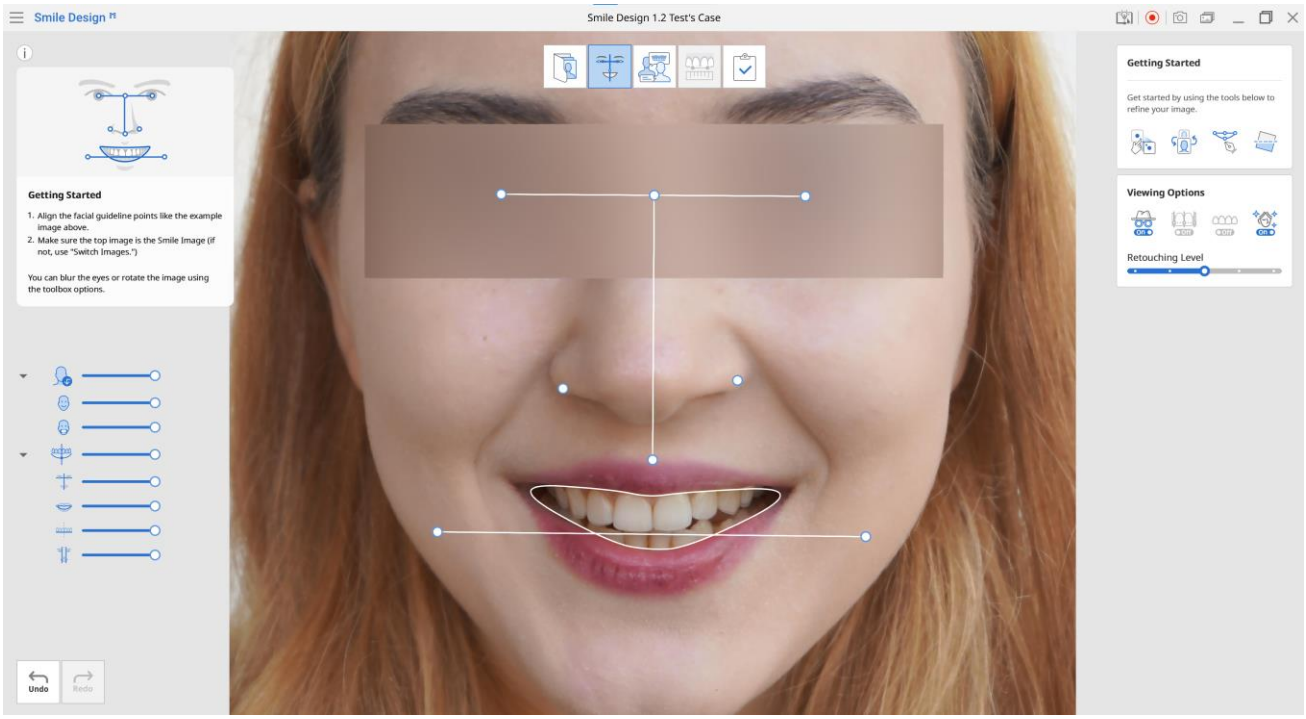
① The points and the facial guidelines align with the image as shown on the image below.



② The Smile Image is the top image (if not, use the “Switch Images” in the toolbox).

Move to “Consultation Mode” when the lip line and facial guidelines are defined correctly.

You can blur the eyes or rotate the image using the toolbox options.



Use the following tools when there is something wrong with the image.

Manual Alignment

If the teeth in the lip line look blurry, as shown on the image below, align the two images manually by clicking “Manual Alignment.”

This might happen if you took the images from different angles.

Use the left button to drag and align the two images or use the arrow keys on the keyboard.

This function can be used only when two images are imported.

Switch Images

Smile Design needs alignment of two images imported from Medit Link. If the top image at this stage is the retracted image, use the “Switch Images” tool to change their overlapping order.

This function can be used only when two images are imported.

Modify Lip Line

If needed, modify the lip line by clicking **“**Modify Lip Line.”

① Left-click to add new points.

② Right-click to delete points.

Rotate

Rotate and crop the image in the range of -3 to +3 degrees. Press Enter to finish cropping.

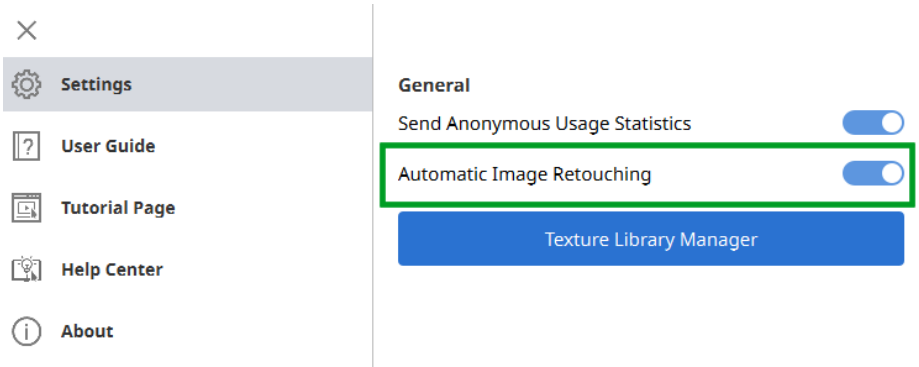
4.2.2 Viewing Options

	Anonymization	Import new images from Medit Link or directly from your local PC.
	Show/Hide Golden Proportion	Get started by aligning the facial guidelines.
	Show/Hide Template Outline	Create and preview simulations for consultation. You can apply templates, braces, or teeth whitening.
	Image Retouching	Remove or smooth over any blemishes.

You can retouch imported images.

Retouching is turned on automatically and is applied at middle intensity for all imported images.

To turn automatic retouching off, go to Settings.



Note that the retouching is only applied to the Smile Image, and its results are not shown during template editing. Retouching results will still be shown in both “Preview Options.”

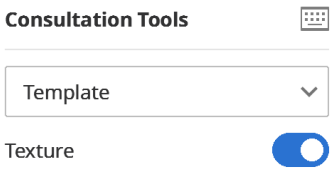
4.3 Consultation Mode

Consultation Mode helps you visually demonstrate the smile. You can use the template to better define the teeth's shape, trial different textures and shades, or test a braces simulation with ceramic or metal braces.

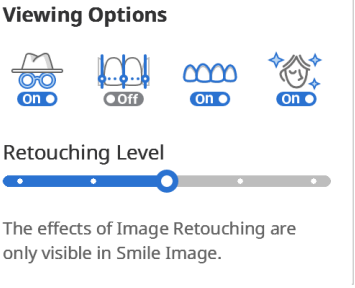
Simulation Options	Type	Details
Template	Default texture	Use standard Medit texture.
	Natural Texture	Replicate the texture and the shade of the person in the image.
	Texture Library	Use the custom texture library you imported to Medit Smile Design. Only activated once you import the images.
Braces	Metal	
	Metal with colored elastic bands	Bands come in 7 different colors: light blue, red, purple, white, green, blue, and yellow.
	Ceramic	
Teeth Whitening	Whitening level	Control the teeth's whitening level.

All simulation options you work with will be available for comparison in "Preview Options."

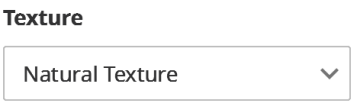
Toolbox



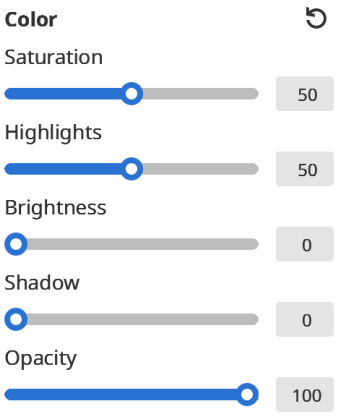
Choose between teeth template or braces simulation.



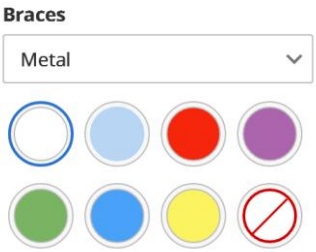
Control the viewing options. Turn on the template outline, anonymize the person in the image, or show the golden proportion when working on the template.



Select one of the three available options for the texture to fill the template.



Adjust saturation, highlights, brightness, shadow, and transparency.



When working on braces simulation, you will be able to choose between metal and ceramic braces using the drop-down menu.

Choose a colored elastic band or choose a simulation with no band (The bottom right option).

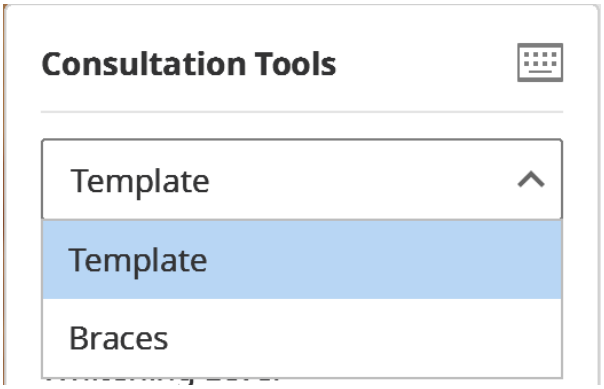
Use this slider to adjust the teeth's whiteness.

Use one of the preview options to select and compare various simulation options.

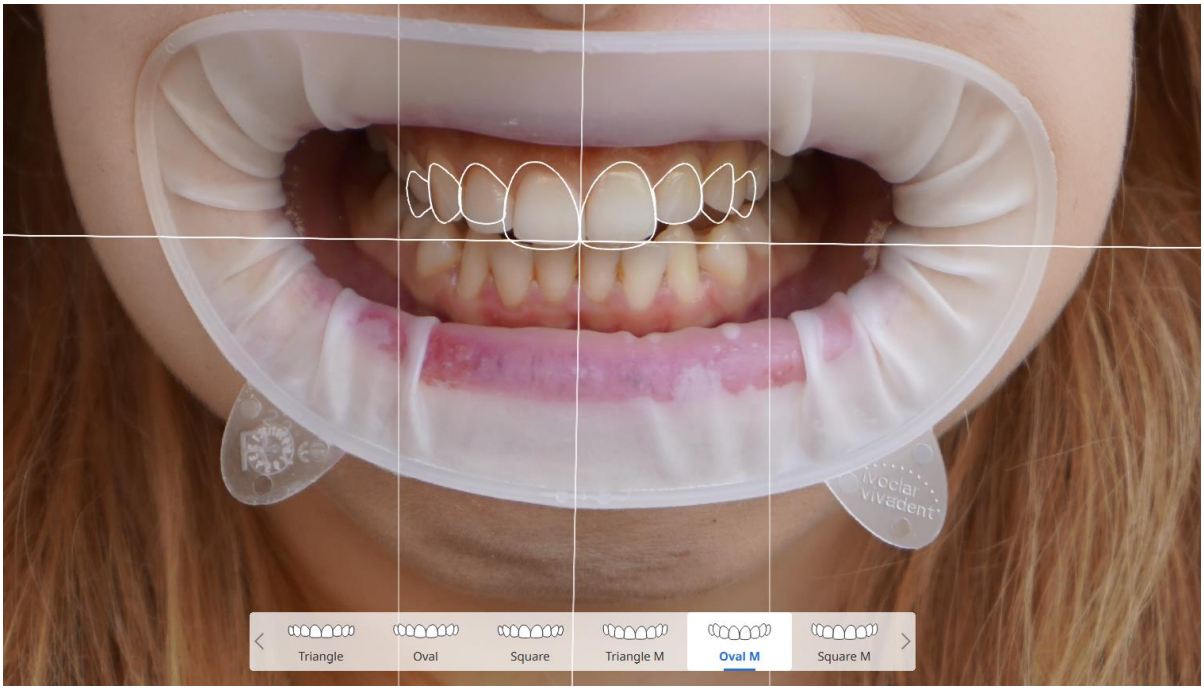
If you imported both a smile and a retracted mouth image, make sure you are working with the retracted mouth image at this stage. If not, return to the **Getting Started Mode** and use the “Switch Images” tool.

4.3.1 Template Options (Template Editing)

① Choose the template option from the toolbox.

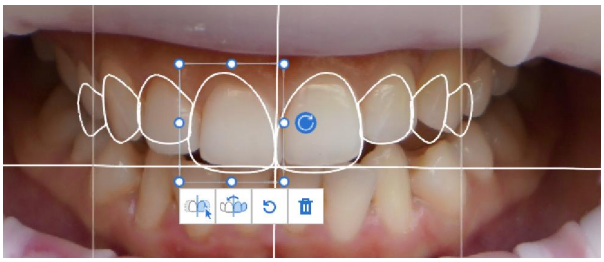


② Select one of the pre-set teeth templates to appear at the bottom of the screen. Use a mouse or keyboard arrows to navigate.

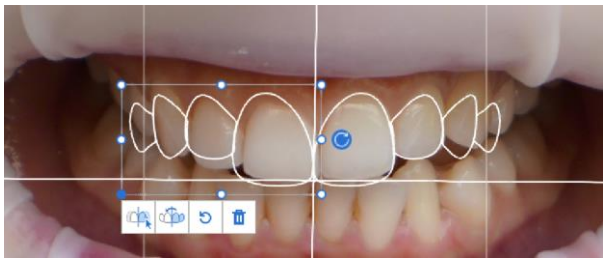


③ Select each tooth one by one to modify its scale, size, and location or select the whole template at once with the mouse. You can also rotate the template freely.

Selecting Teeth One by One



Selecting Several Teeth



The changes you make to the template while browsing other templates are temporarily saved while working with this tool.

④ Double-click on a tooth to modify its shape.

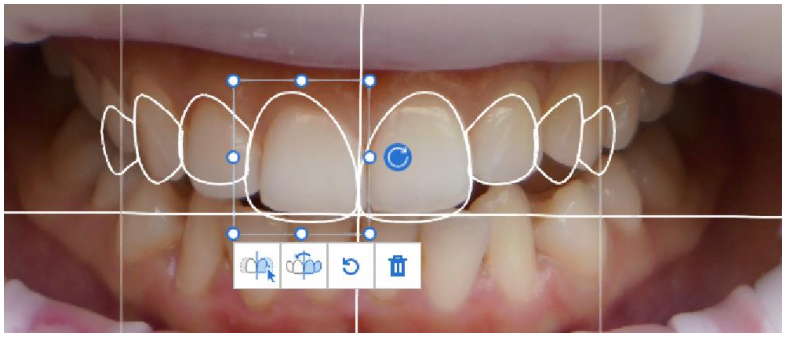
- Left-click to add new points and right-click to delete points.

⑤ Choose a texture from the toolbox and finish working on the template.

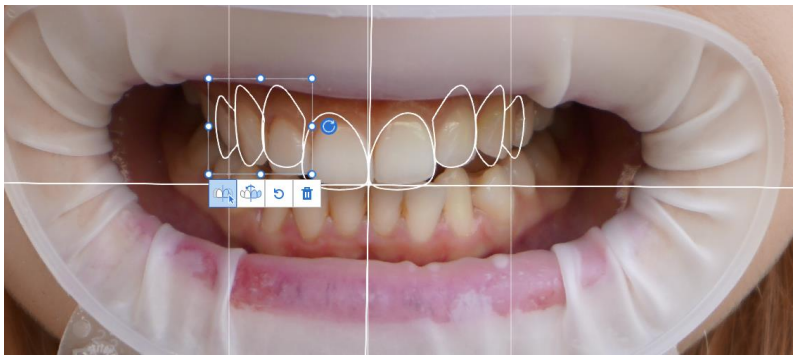
- See below for more details on texture options.

Modifying Template Shape

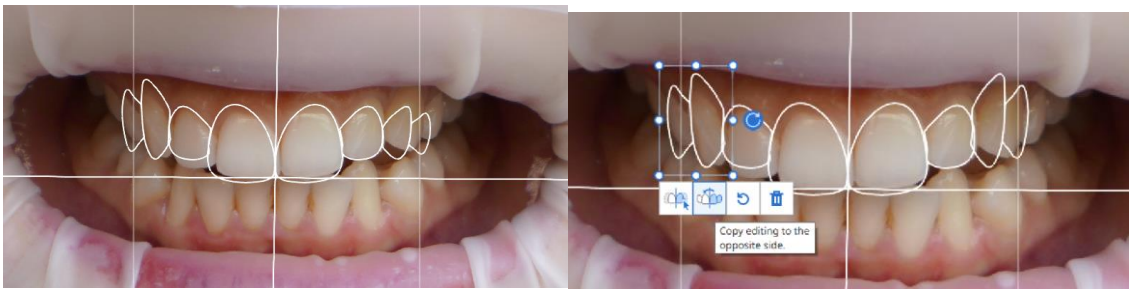
When clicking the template, you will see a box of tools to help design the template.



Simultaneous Design: Work on one side and have its design applied simultaneously to the other side in real-time.



Mirroring the Design: Mirror editing to the opposite side. Select the teeth to be copied by dragging the mouse and clicking the button.



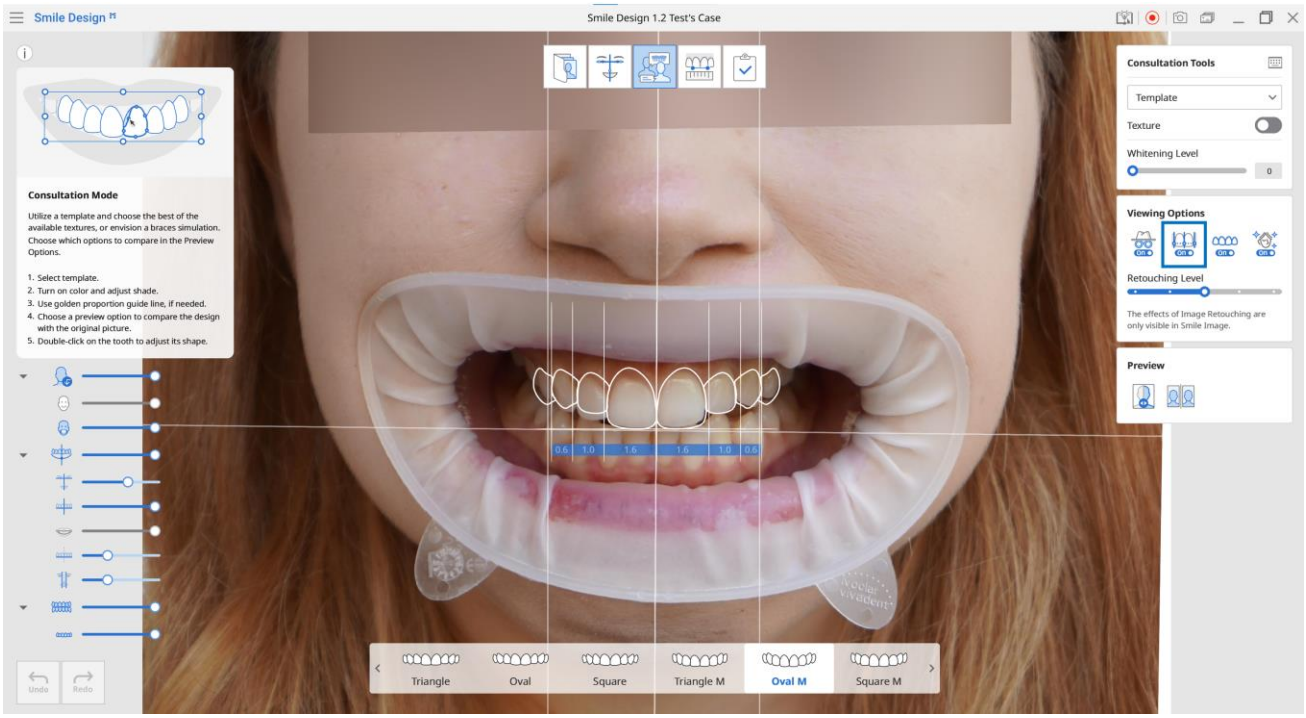
Reset: Restore to default.

To completely reset the template, right-click on the selected template at the bottom of the window.

Delete: Delete the selection.

While working with the template, you can choose to make the golden proportion visible on the toolbox on the right.

Select the golden proportion guidelines by clicking on it to modify the position and scale.



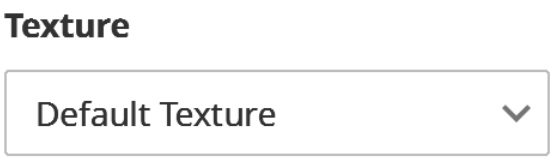
Template Editing Shortcuts

Use the following shortcuts for quicker template editing:

	Simultaneous Design	Shift +
	Reset	Ctrl + R
	Total Reset	Ctrl + Shift + R
	Copy	Ctrl + C
	Select All	Ctrl + A
	Delete	Del
	Slider Preview	F5
	Side-By-Side Preview	F6

4.3.2 Template Options (Color Adjustment)

① Select one of the available options for the texture using the drop-down menu.



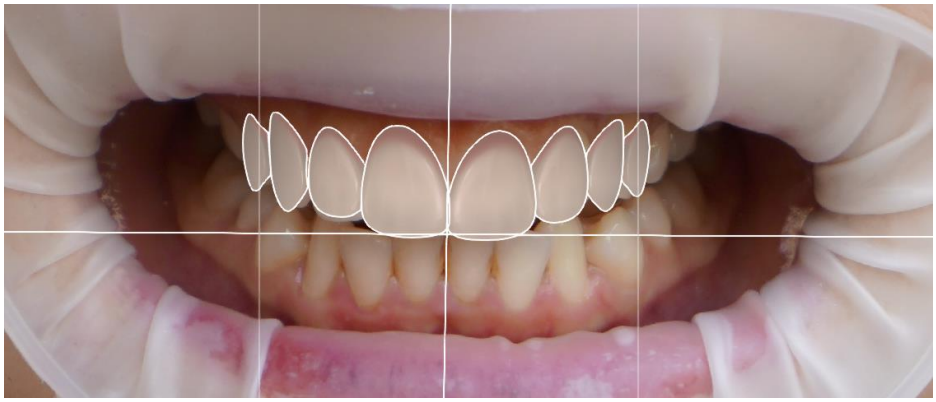
This is how different texture types will look:

Default Texture	
Natural Texture	
Texture Library	

Using the Default Template and Modifying its Color

① Select the “Default” texture.

② Modify the shade by adjusting the sliders for saturation, highlights, brightness, shadow, and transparency.



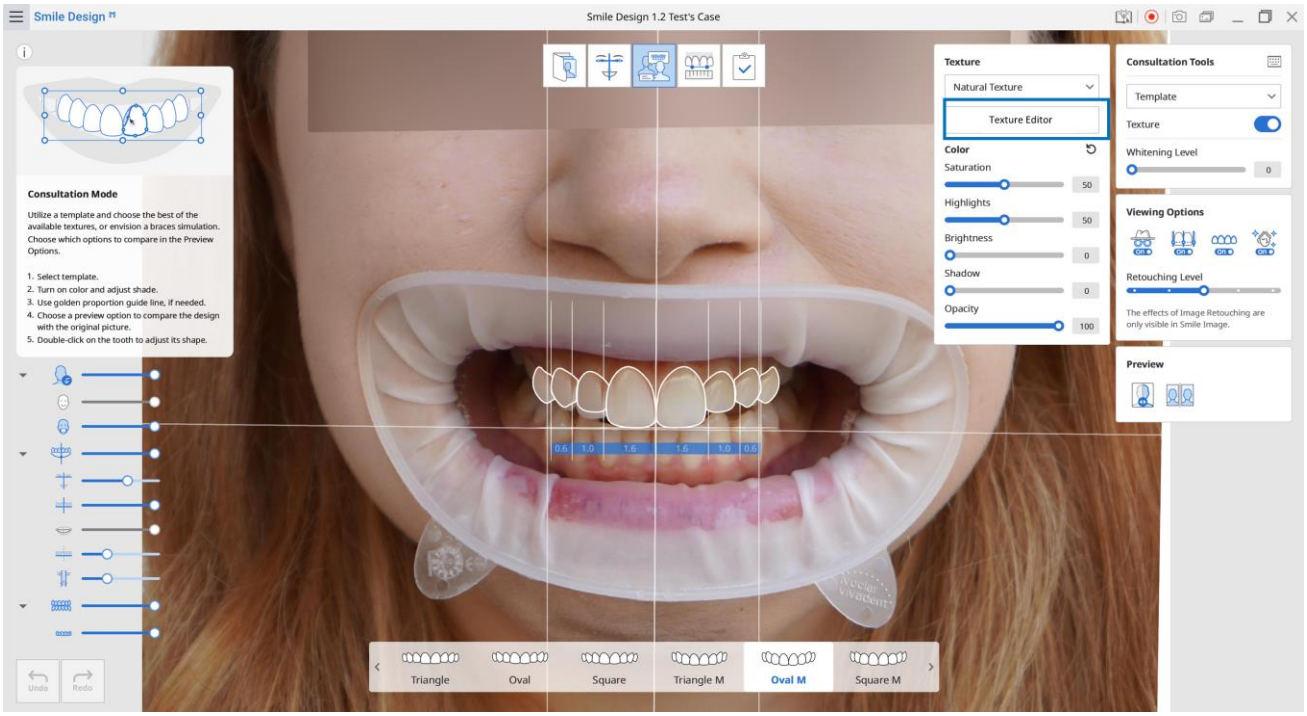
After adjusting the shade, you can still modify the shape of each tooth.

How to Get the Full Benefit of Natural Texture

Natural Texture helps achieve the closest possible shade and texture of the the image.

① Adjust the texture by using the five “Color” sliders in the toolbox.

② If there is a mistake in detecting the texture of the teeth, you can manually re-adjust by clicking “Texture Editor.”



③ You will see detection results for each tooth. Use your mouse to add, delete, or adjust the points to ensure the border of each tooth is well-drawn on the image.

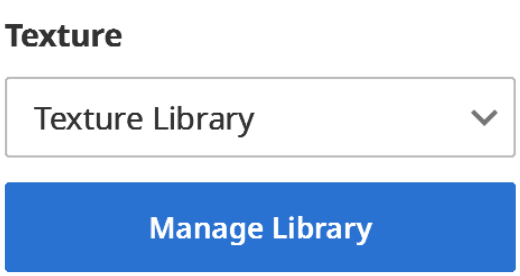
④ Click “Confirm.” The changes will be applied straightaway.

How to Get the Full Benefit of Texture Library

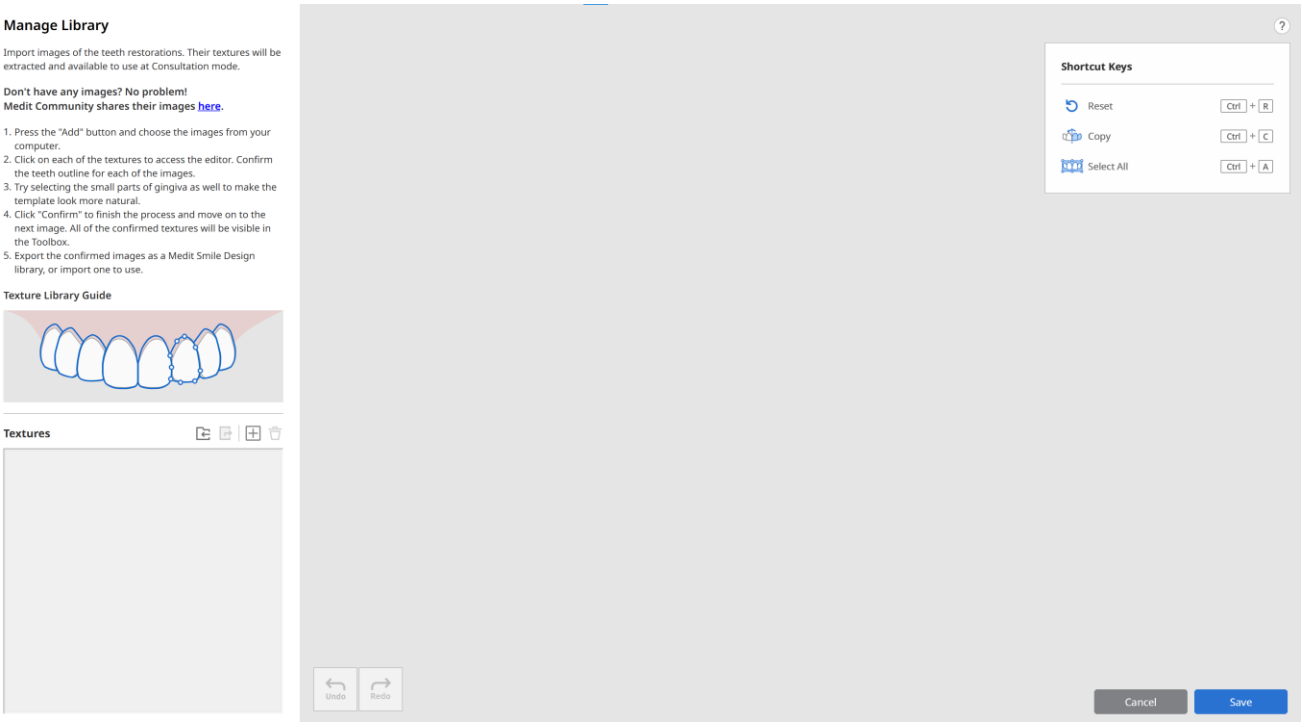
Texture Library allows you to import images of teeth restorations you collect for the program to extract their textures and make them available for you to use during **Consultation Mode**.

① Open the Texture Library Manager.

- You can either go to Settings > Texture Library Manager
- Or choose the “Texture Library” option in the Texture drop-down menu in the toolbox (must be working on the “Template” simulation option.)



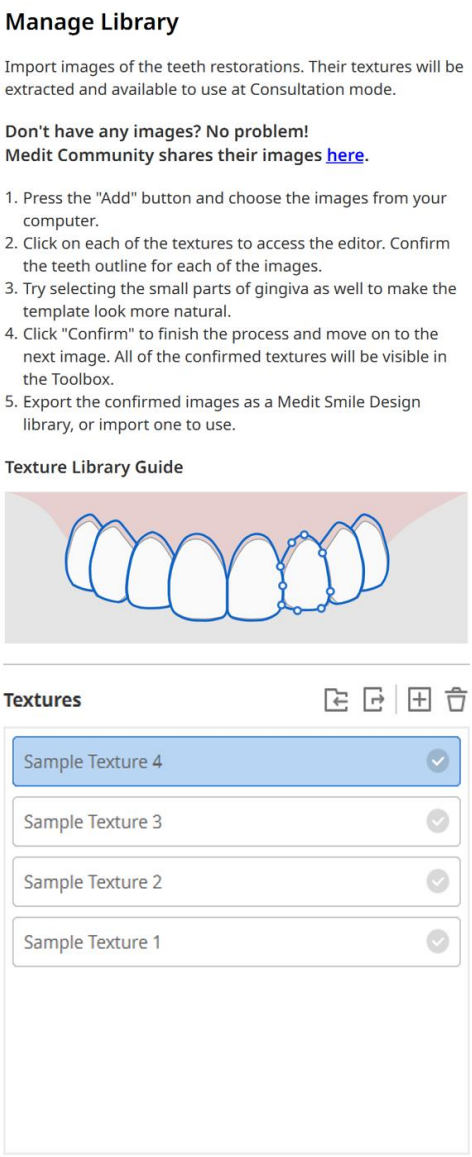
② Click the ⊞ button to import the images from your computer. There is no limit on how many images you can import.



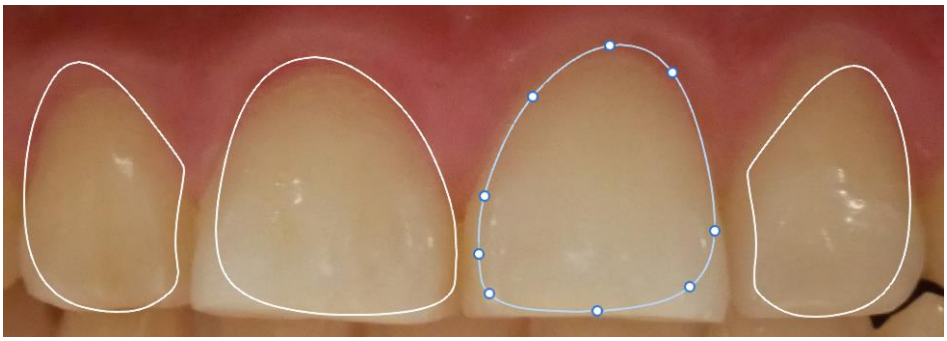
If you do not have any images, you can access the Medit Community Texture Library. It is a common place for Medit users to freely share their restoration libraries, upload and download images, and utilize images in Medit Smile Design.

Please note: Medit takes no responsibility for the content shared in the Medit Community Texture Library. We encourage users to only share images which comply with local and international legislation.

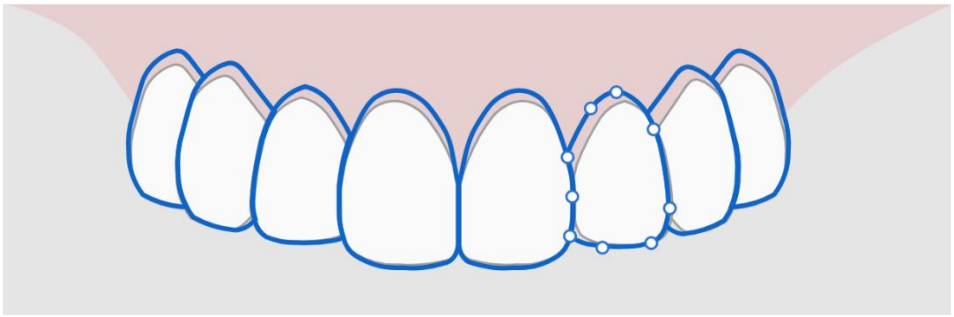
③ Once the images are imported, you will see the available list on the left.



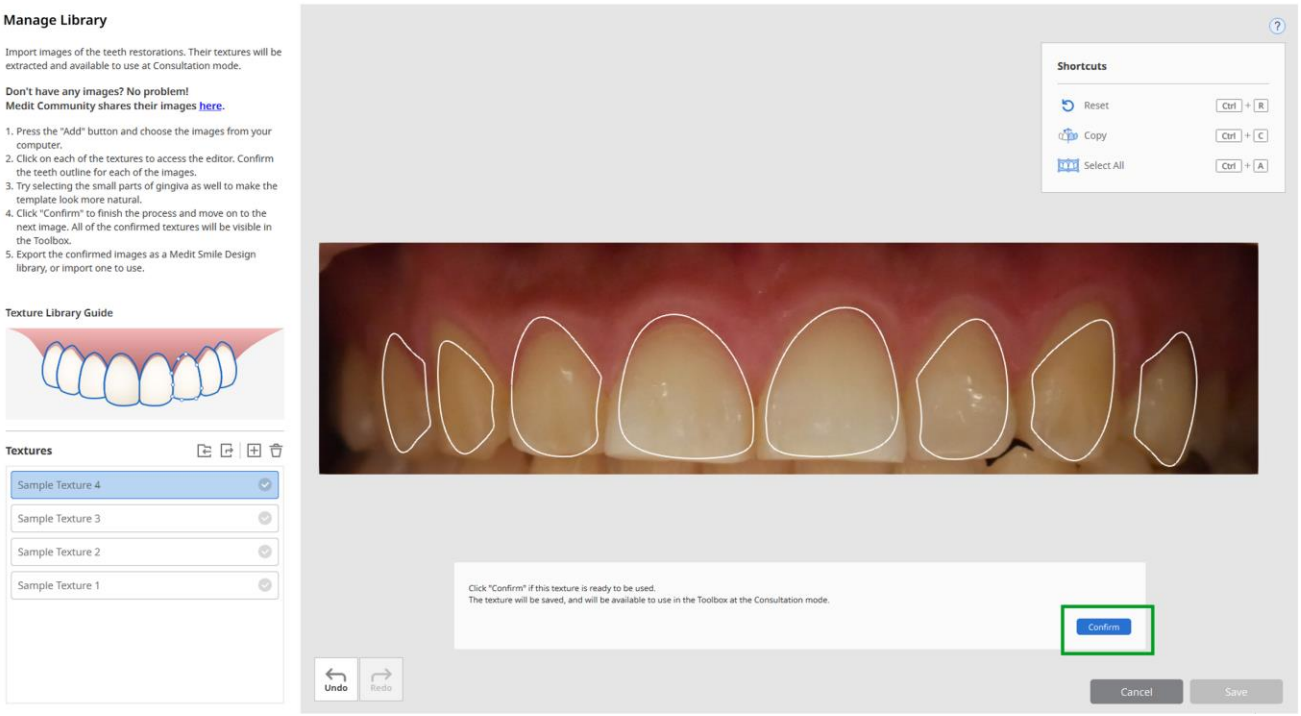
④ Select the first texture from the list to preview. Move the outline or double-click to edit the points.



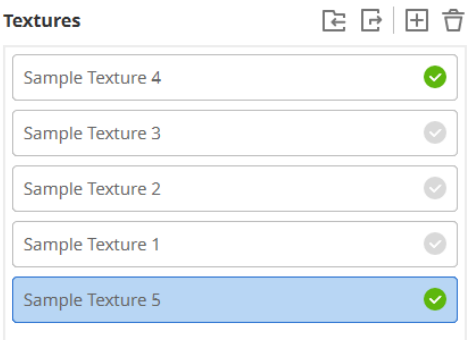
We recommend making the outline look similar to the image below. Including small parts of the gingiva in the extracted texture will make the template look more natural.



⑤ Click “Confirm” when the editing is finished. Repeat this process as necessary.



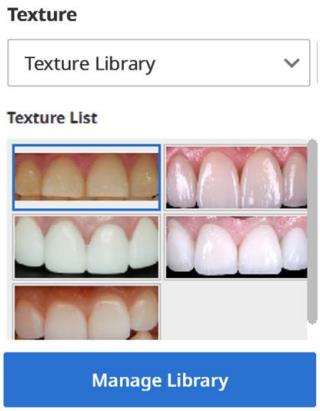
⑥ The textures selected will be displayed with a green check mark.



- Only the textures you have selected will appear at the toolbox in **Consultation mode**.

⑦ Once the editing is complete, click “Save” to finish the import process.

⑧ You will see the textures in the toolbox when you select the “Texture Library” option in the drop-down menu.



⑨ Adjust the texture by using the five **“Color”** sliders in the toolbox.

You can export and import the Texture Library files. This is especially useful when you work under the same Medit Link account from different PCs.

⑩ Import a library.

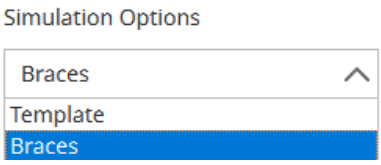
- Press the button located on top of the texture list. Select the .meditSmileLibrary file from your computer.
- Click “Save” to finish the process and to make the textures available at the toolbox at the **Consultation Mode**.

⑪ Export the library.

- Press the button located on top of the texture list. All the confirmed textures will be exported.
- Select the save path for the file.

4.3.3 Braces Options

① Choose the braces option from the toolbox.



② Another drop-down menu will appear on the toolbox. Choose between the ceramic or metal braces.

Metal

Ceramic

③ You can move and scale each bracket one by one or several of them together at the same time.

④ There are various band colors to choose from to personalize the braces.

Metal (No Color)

Metal (Blue Elastics)

⑤ You can compare metal and ceramic braces simulations in “Preview Options.”

4.3.4 Preview Options

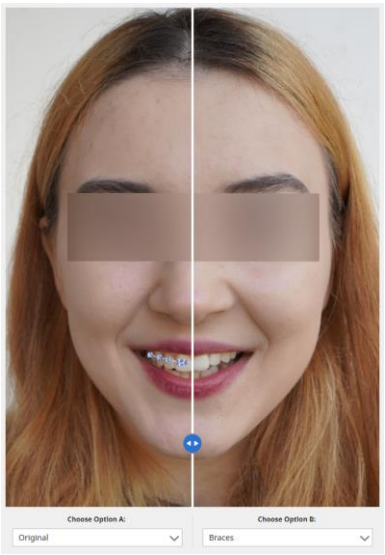
After Consultation Mode, you can choose one of the preview options:

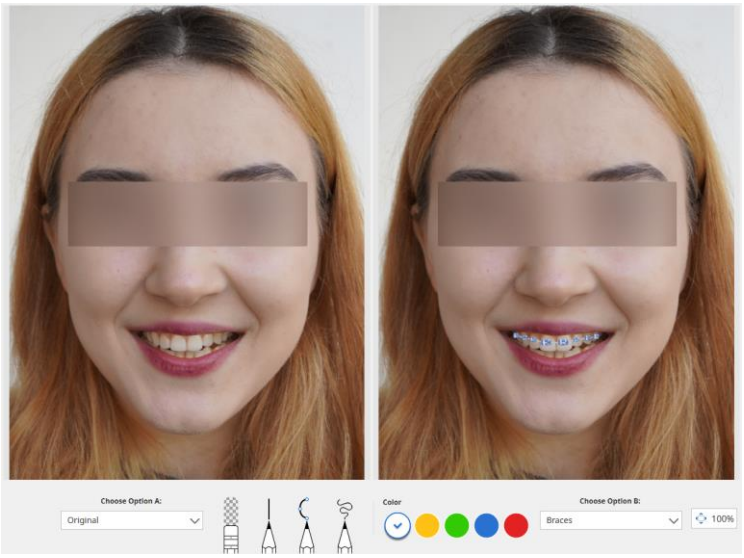
Use the handle to easily see the before and after.

Compare simulation options side by side and use the drawing tools if needed (straight line, curved line, pencil, and eraser).

A curved line is drawn by adding points on the image.

Adjust the size of each image using the mouse scroller.





Any changes you make will be reflected in both preview options.

① Choose what simulation you would like to see as options A and B from the drop-down menu.

- All simulations you worked with will be available at this stage.

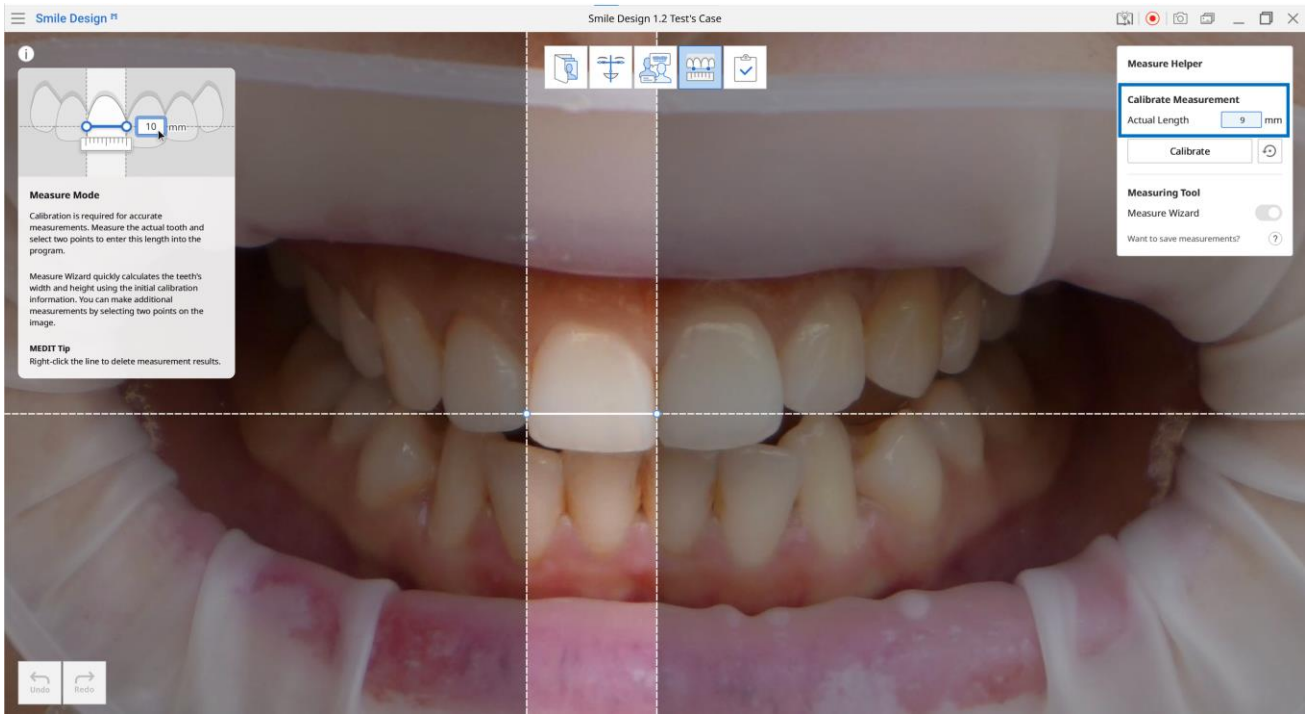
4.4 Measure Mode

Calculate teeth measurements in Measure Mode to easily deliver measurement results to the lab. Use Measure Wizard to get quick auto measurements of the teeth. If you need to make additional measurements, make manual measurements by selecting two points along the image.

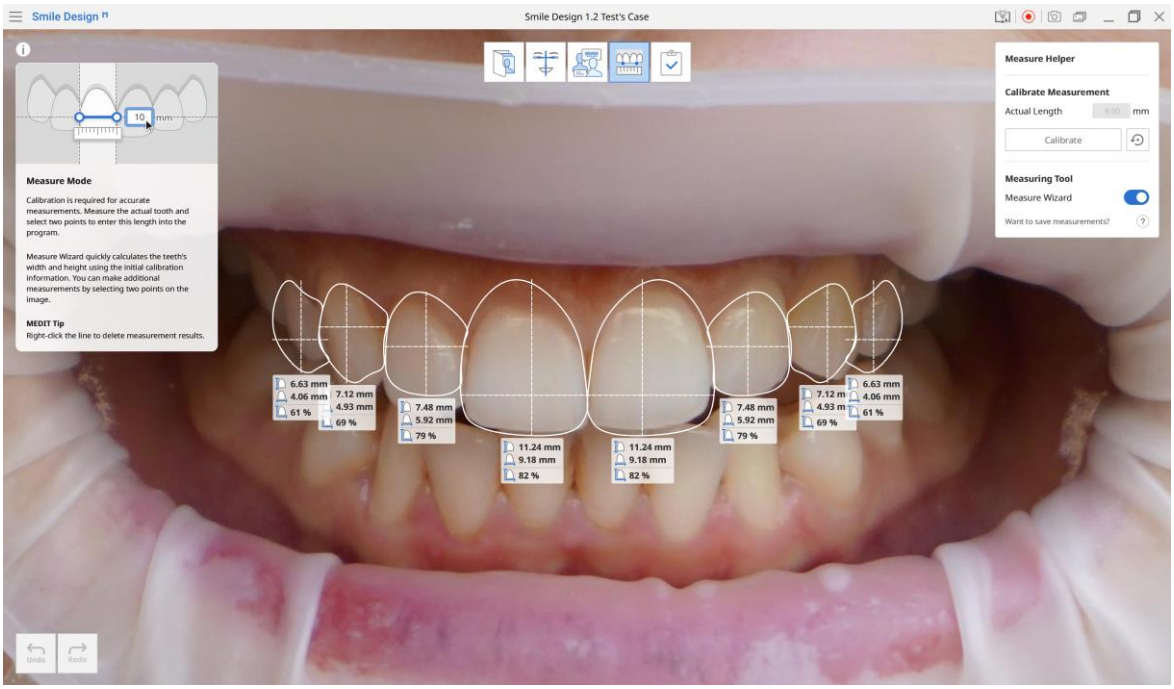
4.4.1 Measure Helper

You must calibrate first for the Measure Wizard to provide accurate measurements.

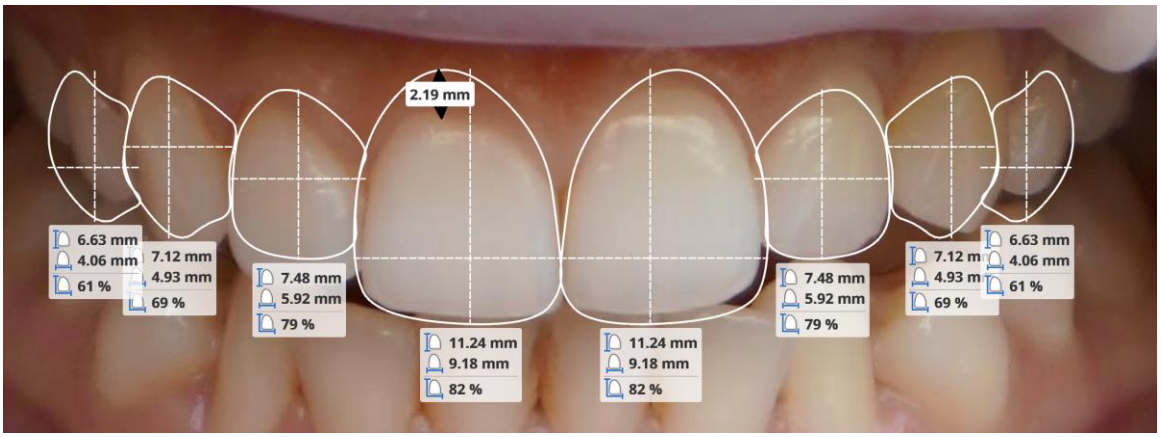
1. Select two points on the tooth in the image that corresponds to the tooth in real life.
2. Measure the actual tooth and enter this length (mm) next to “Actual Length” in “Calibrate Measurement.” If you made a mistake or want to remeasure, click “Recalibrate” .



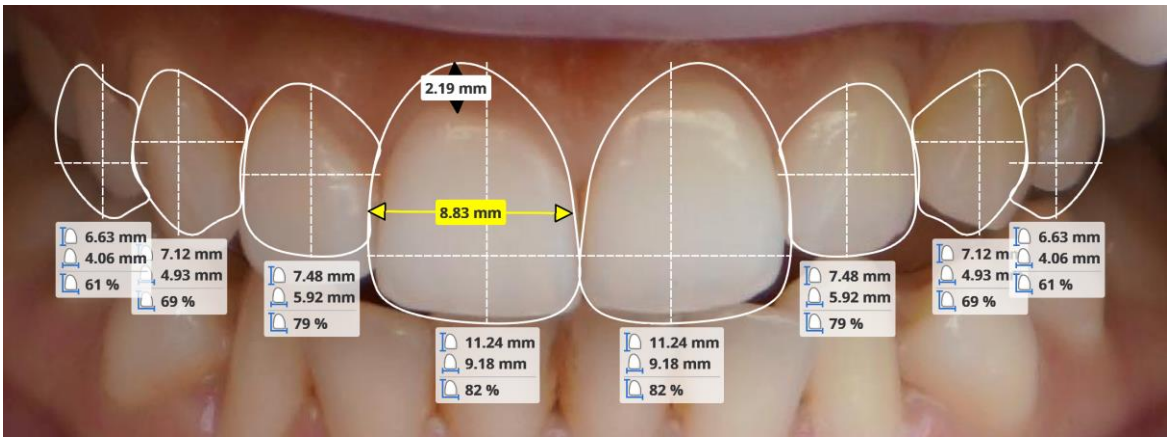
3. Click “Calibrate” to receive your measurements.



Select two points along the image you'd like to measure to make manual measurements.



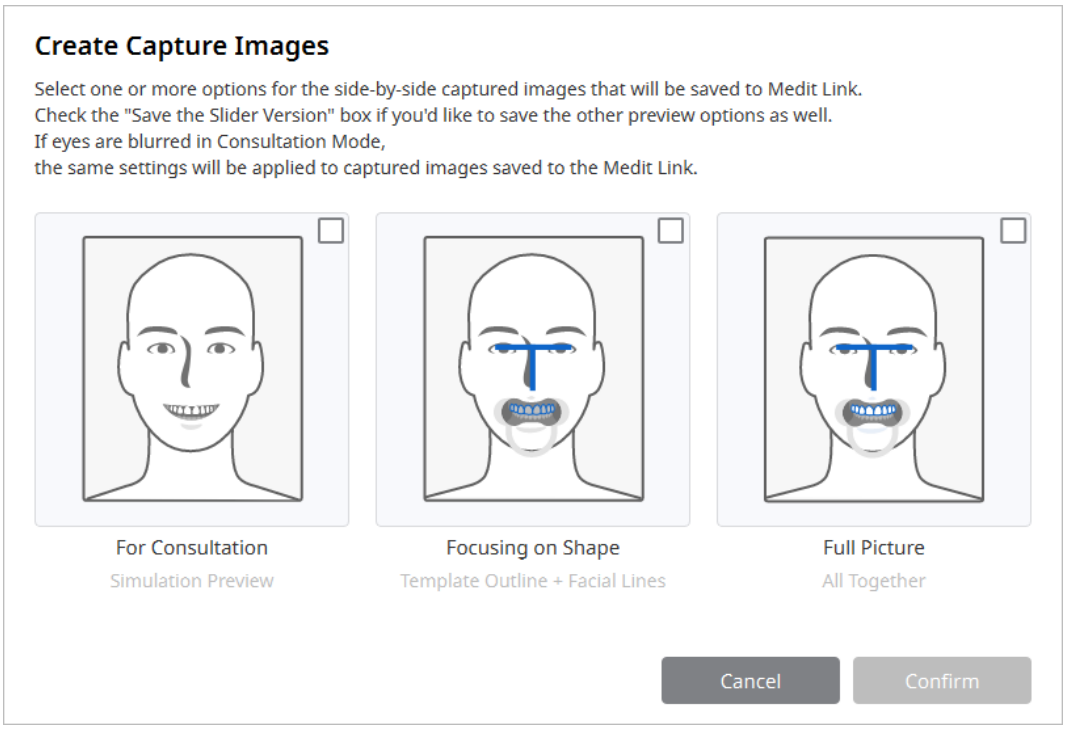
Hovering over the manual measurement line will highlight it in yellow. Right-click the line to delete the measurement results.



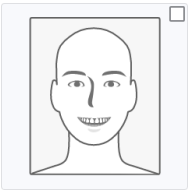
Turning Measure Wizard off will hide template measurement results. To save the measurement results, click the camera icon to save your measurements as a screenshot. This screenshot will be automatically saved into your Medit Link case as an attachment.

4.5 Complete

Click “Complete” to save the Portrait as captured images. Select one or more Portrait types to save to Medit Link.



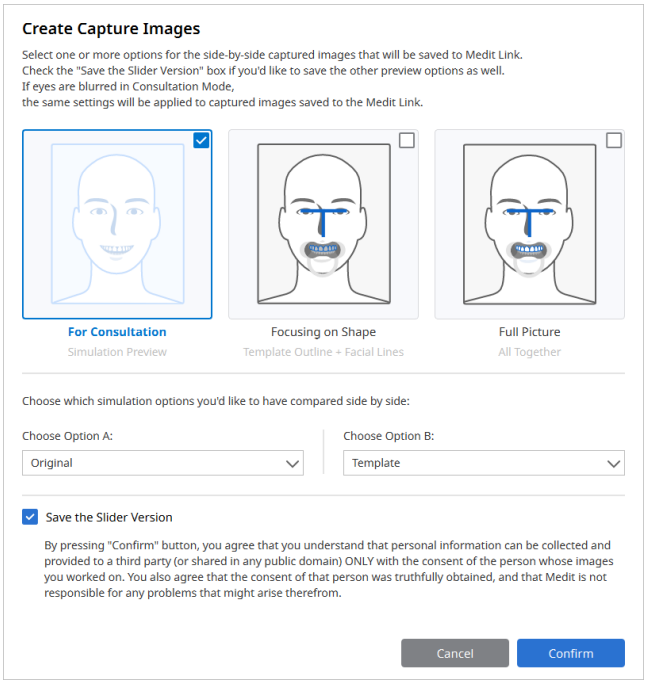
Consultation Portrait



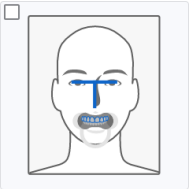
Save simulations and/or smile design previews.

To save capture images using this version, you will be asked to choose simulations in the same way you did in **Preview**.

Check the “Save the Slider Version” box if you would like the slider preview option for the selected simulations to be saved to Medit Link.



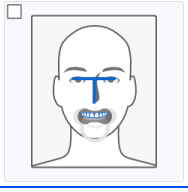
Template Portrait



Save the before and after images (retracted picture). Only template outline and facial guidelines are displayed. The template texture is not displayed.

Slider version for this option is not supported.

Full Portrait

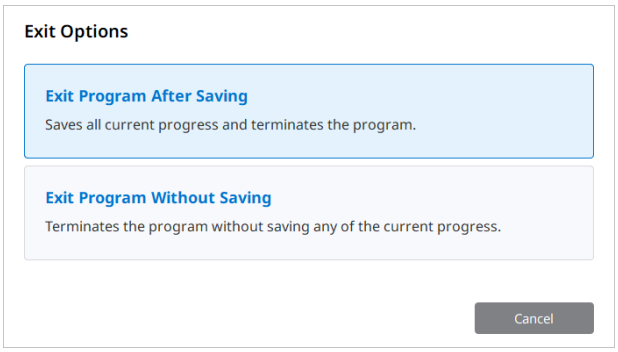
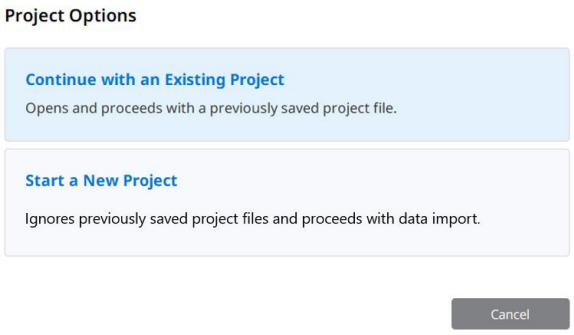


Save the before and after images (retracted picture). Template outline, facial guidelines are displayed together with the template texture that you last worked on.

Slider version for this option is not supported.

If you blurred the eyes on the image during the smile design process, the same settings will be applied to the capture images saved to Medit Link.

- The Smile Design Project file will be saved to the Medit Link when completed alongside the smile design capture images.
- If you exit the program before the design process is finished, you will have two options:
  - Exit the program after saving
  - Exit the program without saving



- If you choose the first option, you can continue working on the project later by running the application from the same case.
- You will be asked if you would like to start a new project or continue working on the existing one when running the application again from Medit Link.