Medit iScan v1.2.0.0

Feb 2019

Contents

1   New Features

1.1   Provides "Pre-Operation" scan stage

New scan stage for "Pre-Operation Model" is added.
The data in this stage is usually acquired for pre-operation condition of maxilla or mandible.
The data in Pre-Operation Model stage will be used for the reference of the maxilla or mandible.

If you set "Pre-Operation" for maxilla or mandible in the form registration page in the Medit Link,

You can see the additional scan stage for "Pre-Operation" in Medit iScan (Data acquisition software).

Acquire the data for Pre-Operation, then move to "Maxilla" or "Mandible" stage, "Pre-Operation" will be copied into "Maxilla" or "Mandible".
The Pre-Operation and copied model are located on the exact same location through whole process.

1.2   Provides "High Resolution Scanning" for partial area

In the new version, "High Resolution Scanning" function is added in the scan stage.

"High Resolution Scanning" function provides acquiring the data with high resolution for entire or partial area.

When the high resolution and standard resolution area are mixed, result will be merged smoothly during post-processing.
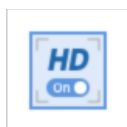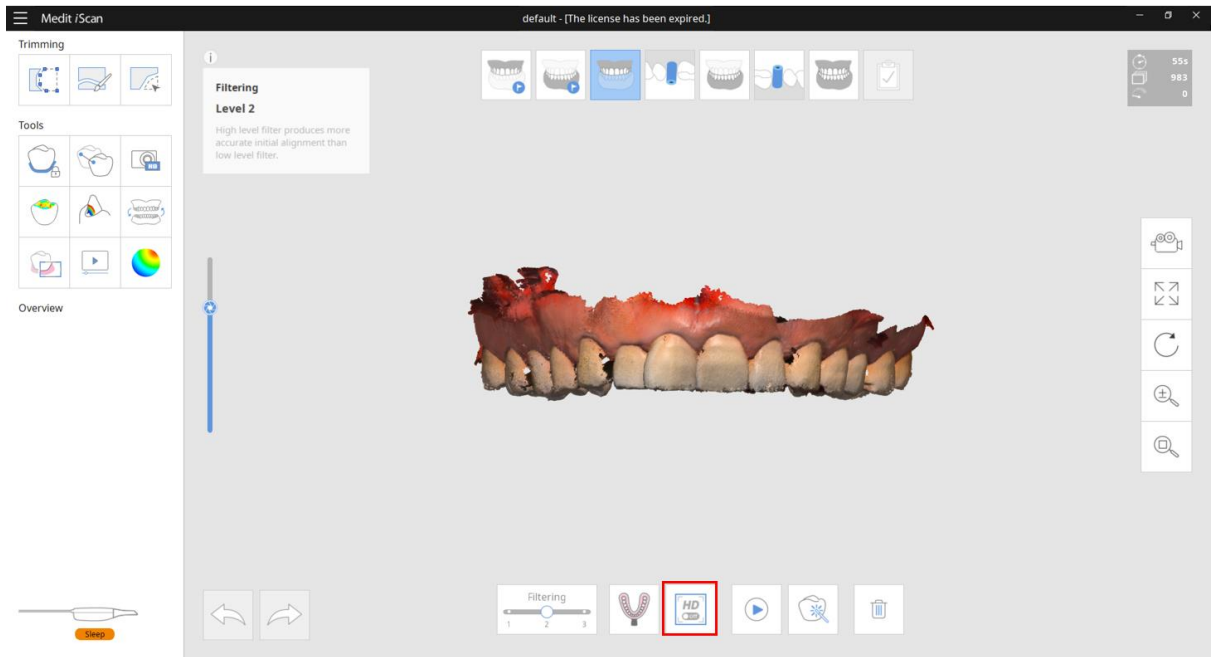
When the model display mode is "Texture Off", high resolution and standard resolution area shows with different material color.

When high resolution scanning is used, whole processing time will be longer than using standard resolution only, but you can get more detailed data on high resolution area.
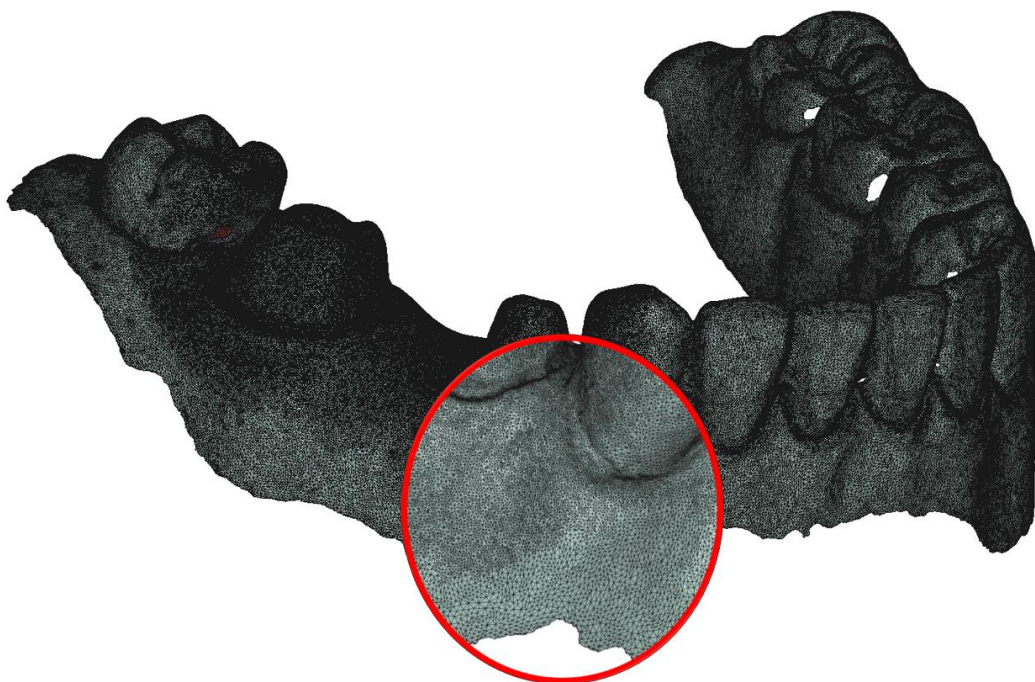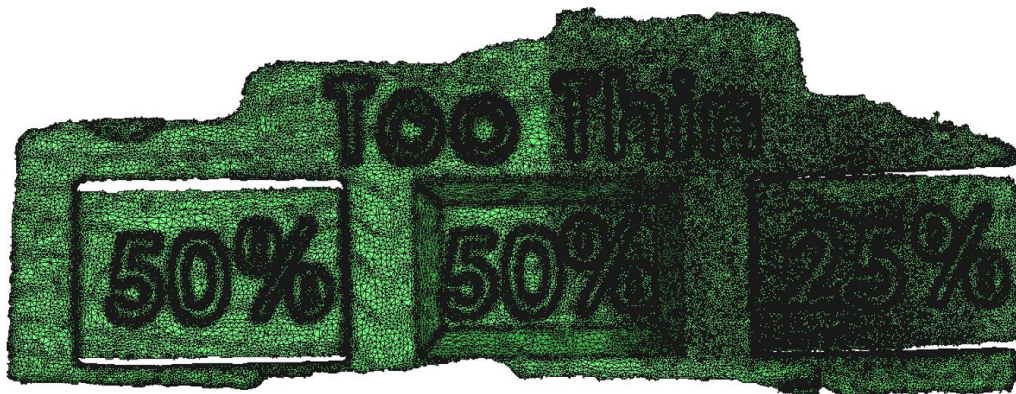
Standard Resolution Area

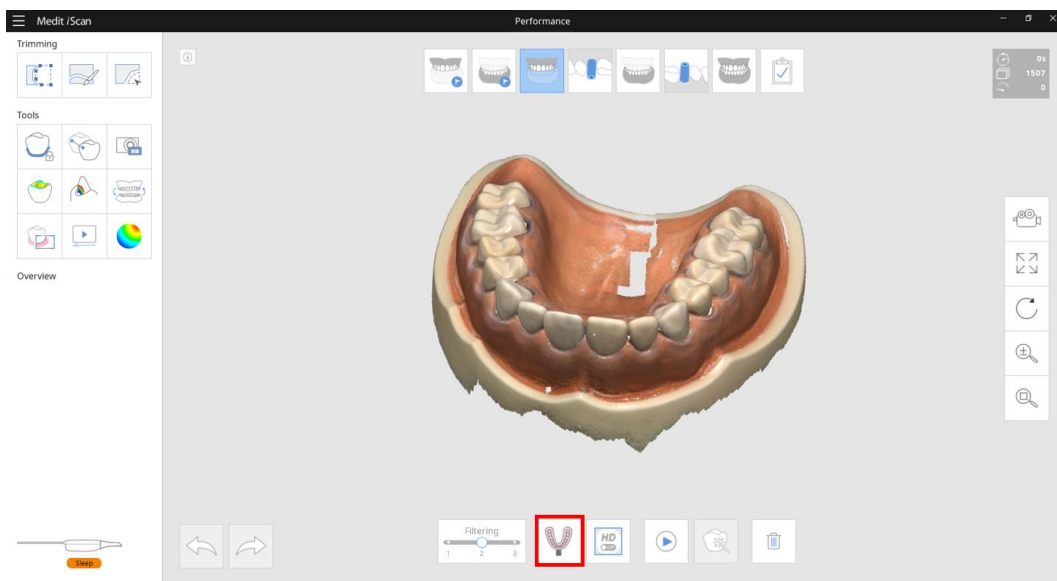High Resolution Area

Standard Resolution Area

High Resolution Area

1.3 Provides "Impression Scan"

"Impression Scan" provides the seamless scanning process to combine the intraoral (Positive) and impression (Negative) scan data.

You can easily merge the intraoral and impression scan data with integrated scanning process.


How to use

➢ Acquire the intraoral scan data

➢ Turn on "Impression Scan"

➢ Mark the area to replace the intraoral data by the impression data.
Marking function is useful to limit the area which should be replaced.
You can skip "Marking" process. If you are not using marking area, the intraoral data will be replaced by all impression data.
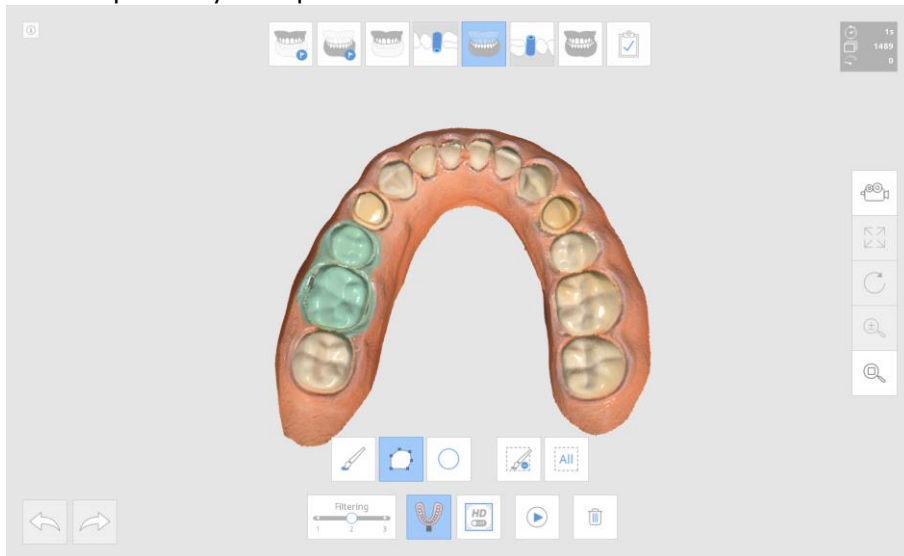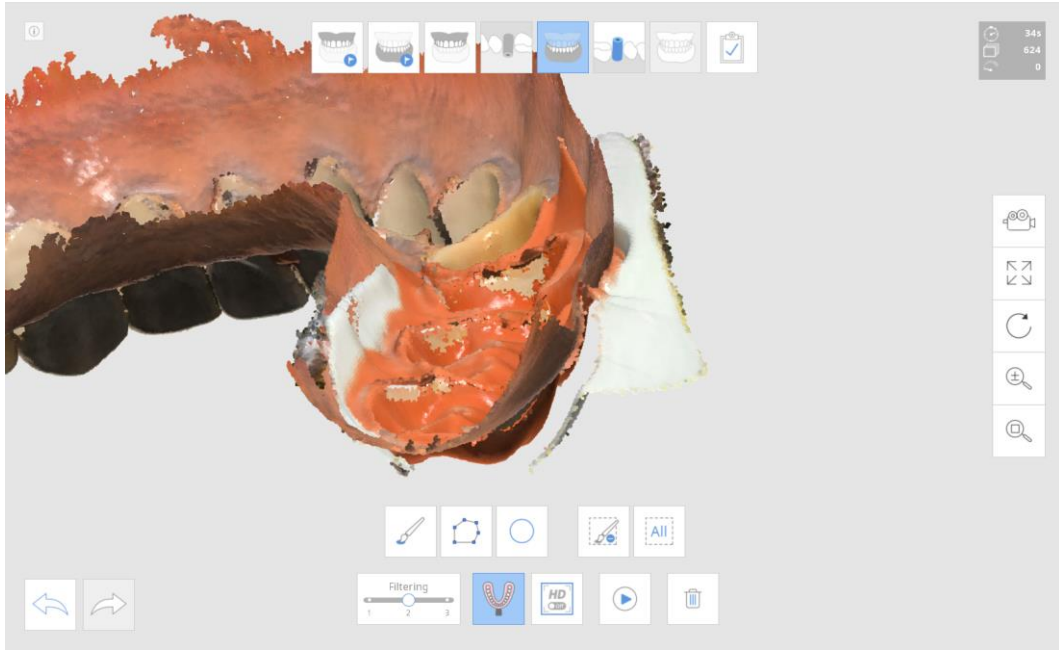

➢ Scan the impression model for marked area. The impression data is aligned to the intraoral data automatically.
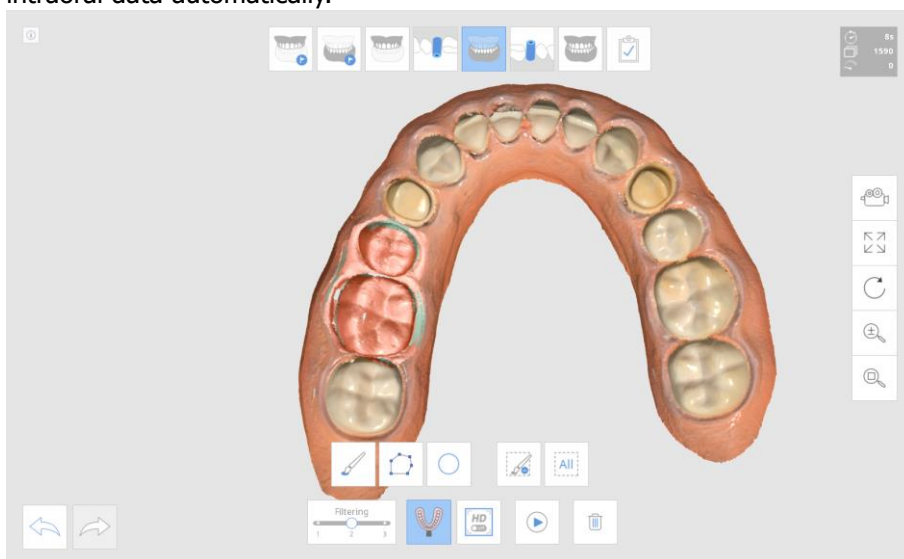

How to edit impression data

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

For example, if the impression data is acquired like below image, some data from the impression scanning should be removed.
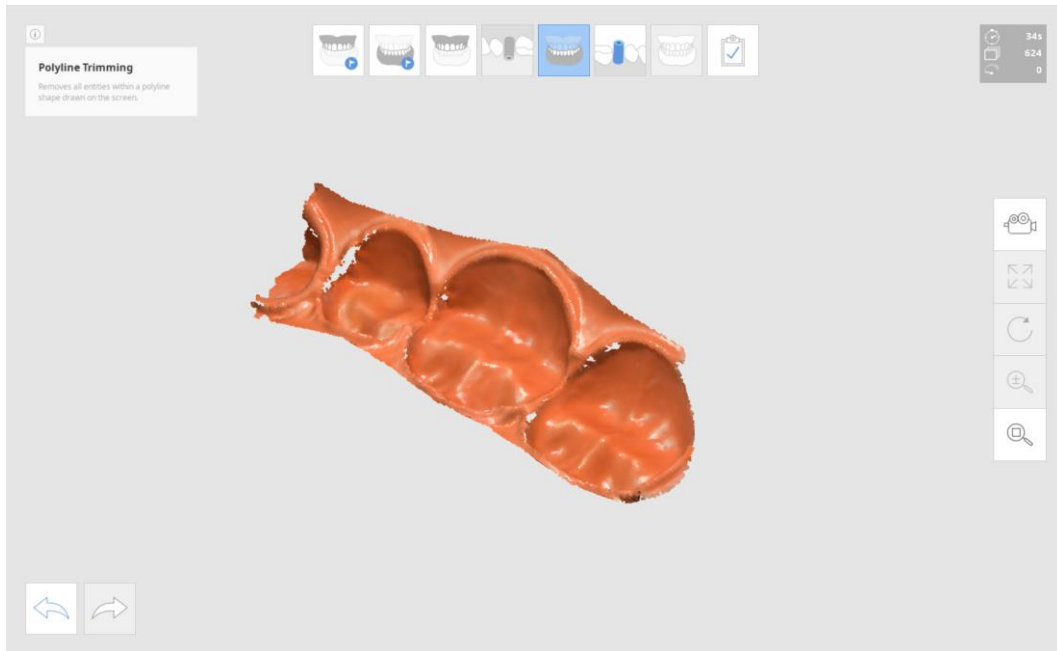
If the trimming function is run in impression scan mode, the impression data is shown in the Model View Screen.
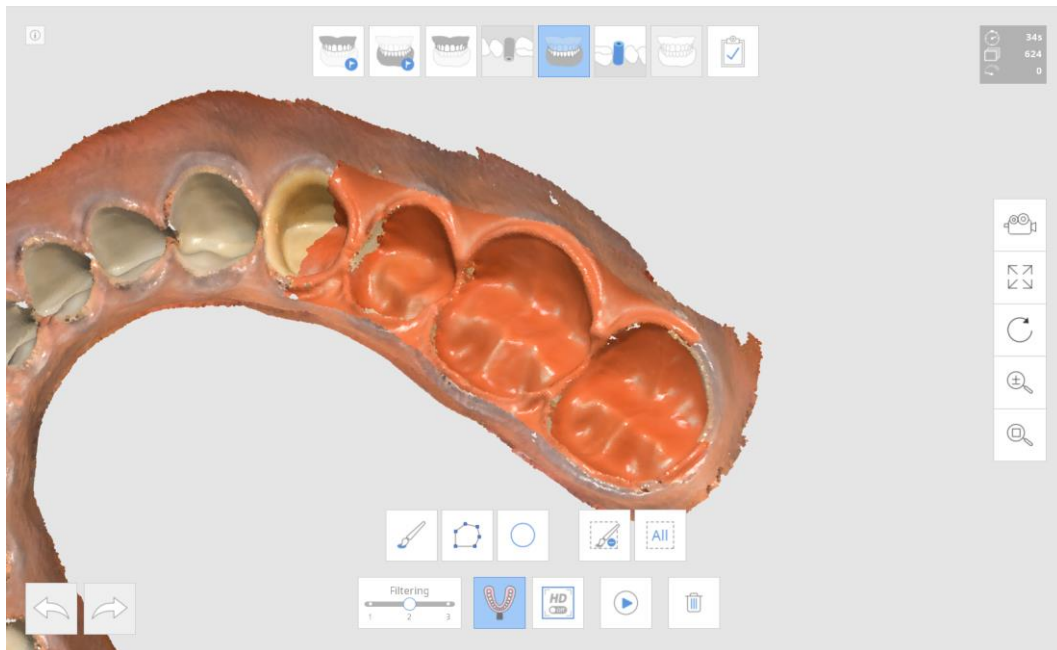
And you can edit the impression data only.
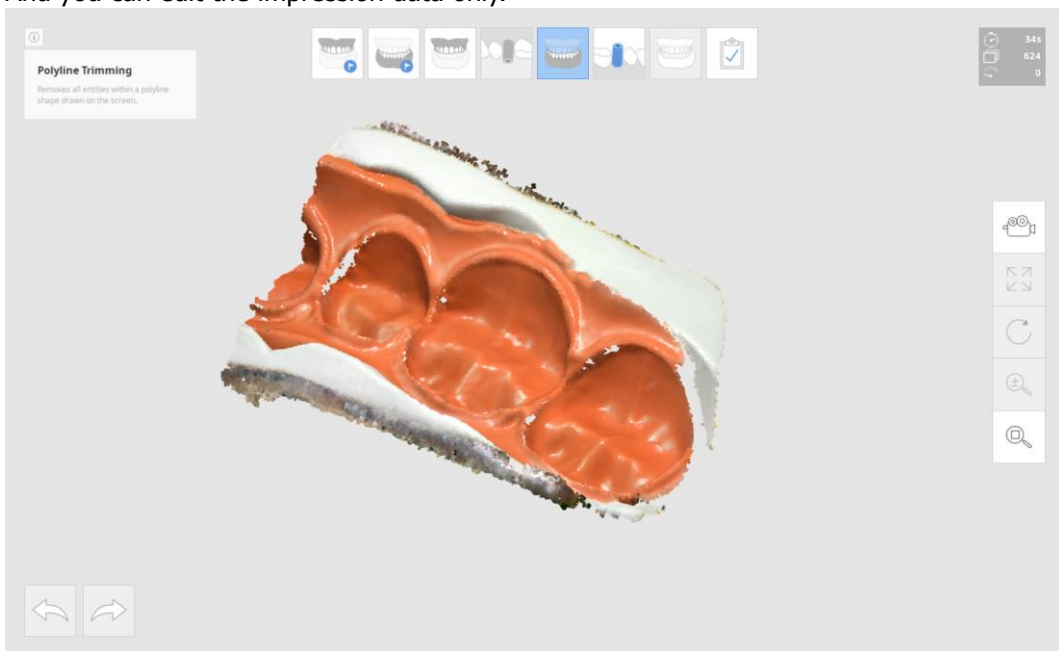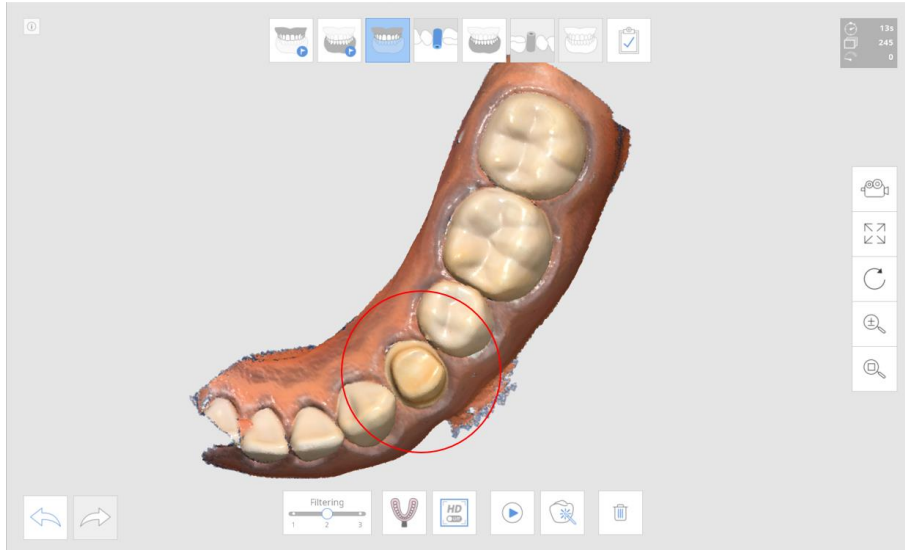
Delete unnecessary area in the impression data.

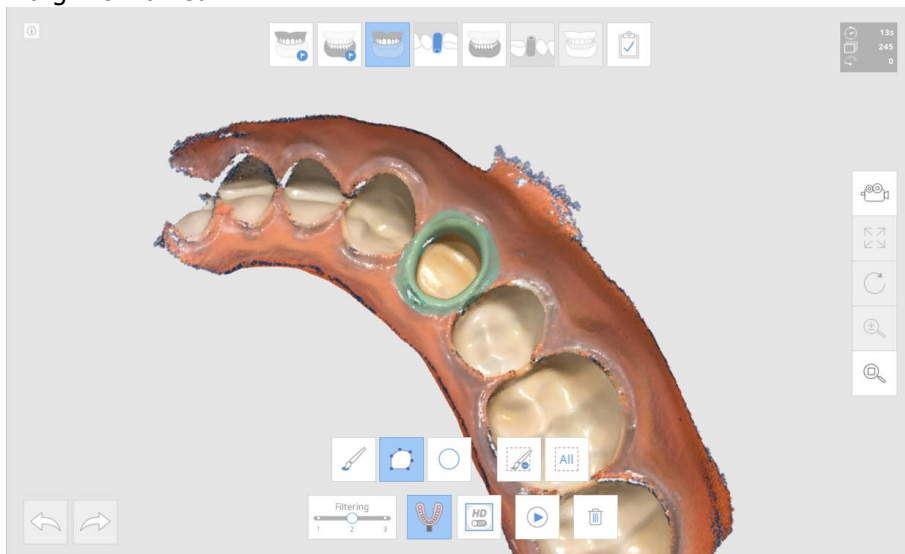You can get below result after trimming.

"Impression Scan" is useful for below case

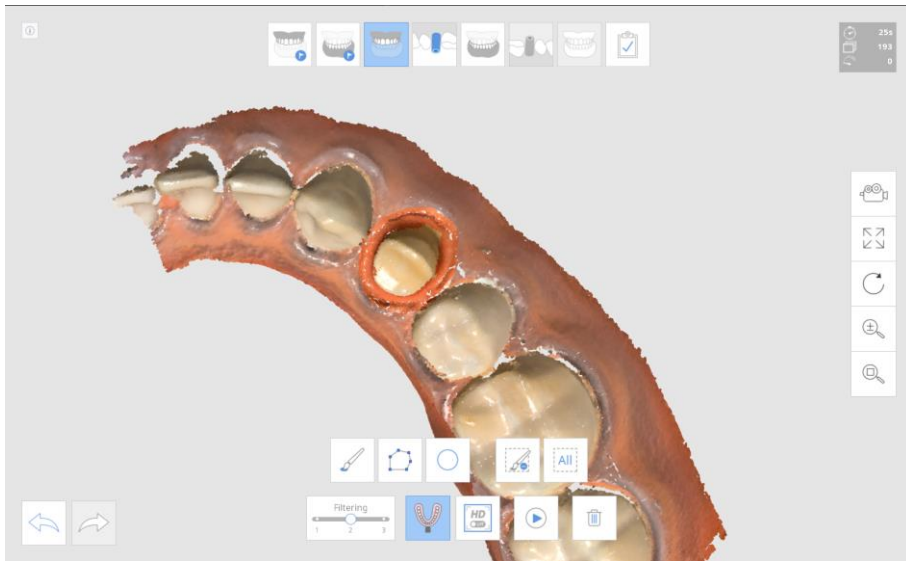**Replace the limited area in a poor oral environment**.

➢ Scan base model.

➢ Turn on "Impression Scan" then mark interesting area. In this case, the area for margin is marked.

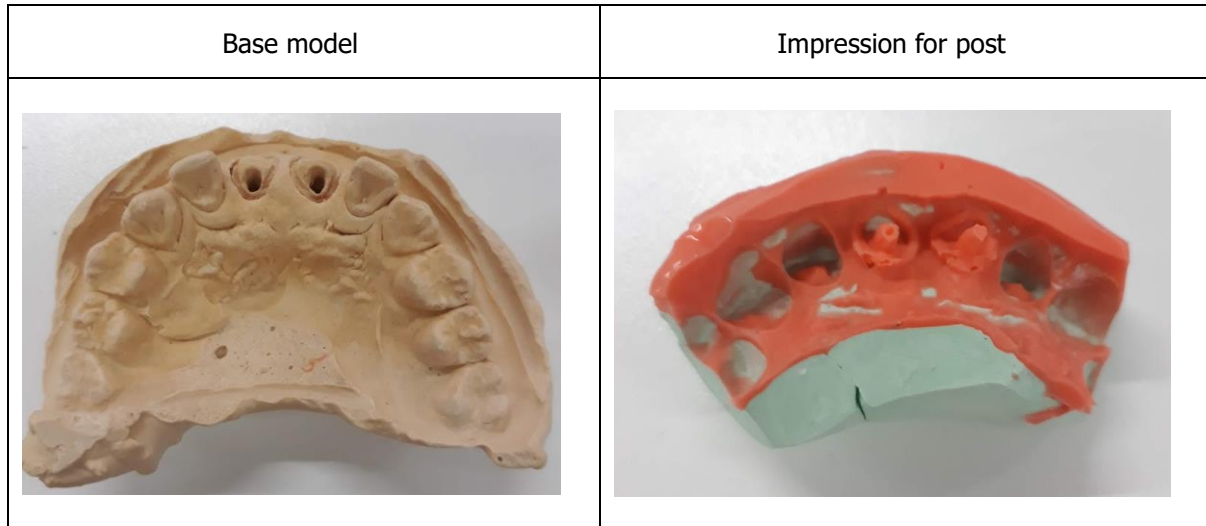
➢ Acquire the impression data.
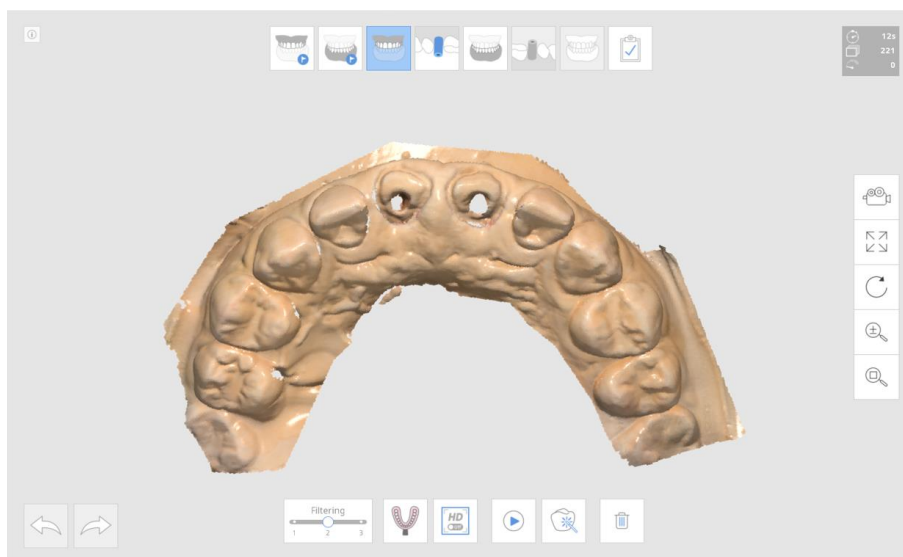
➢ Result

Post & Core case

In some case of Post & Core, it is very difficult to take the data for post area due to the area is very deep and hard to scan.
Impression scan is useful for this case also.

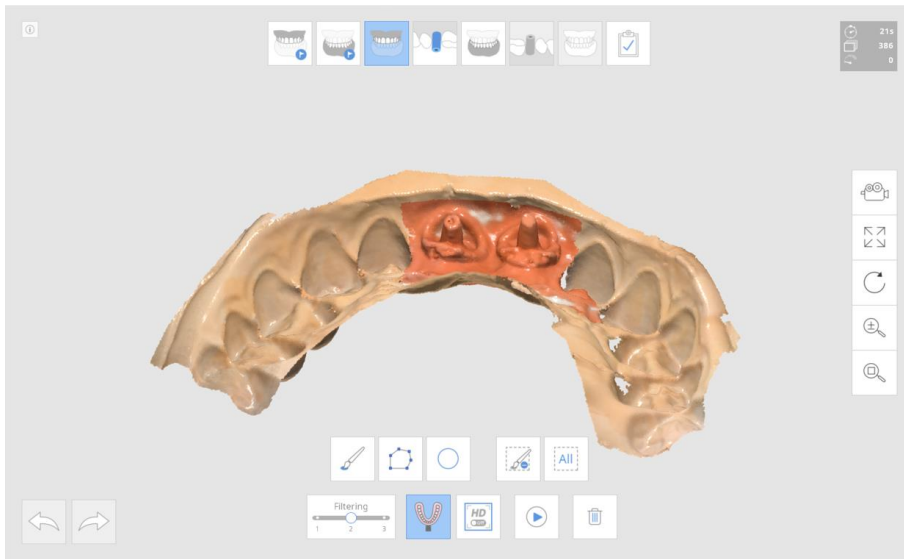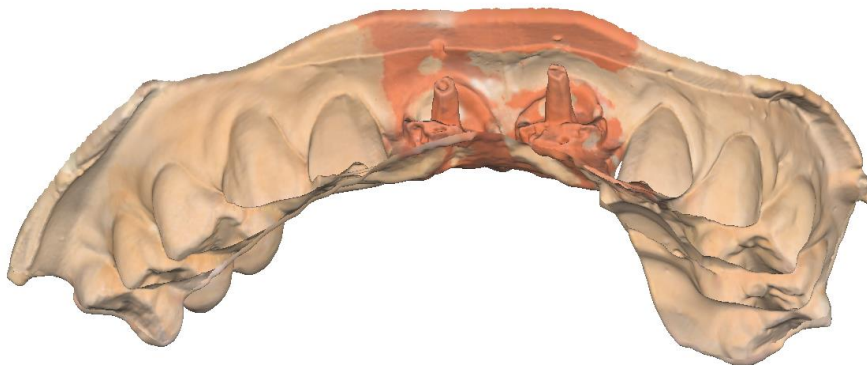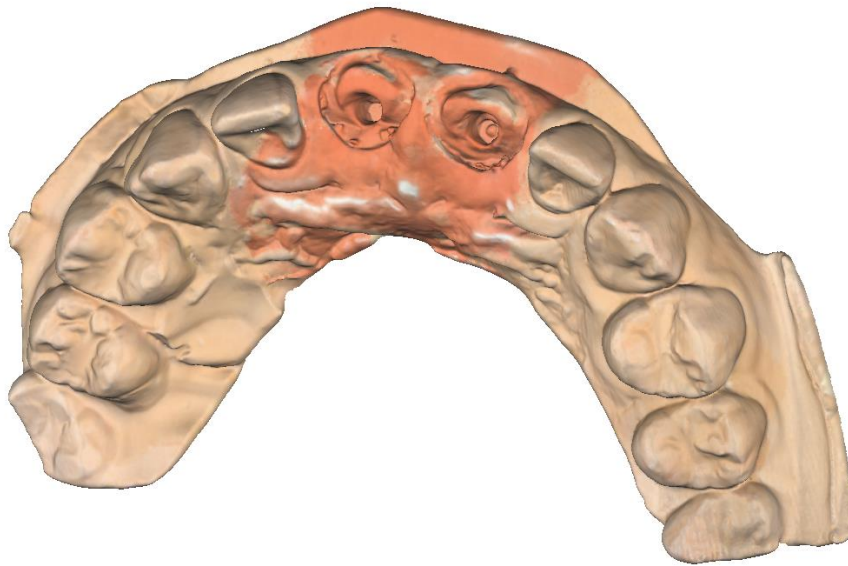| Base model	Impression for post

How to use

➢ Scan base model.

➢ Turn on "Impression Scan" then scan impression model.
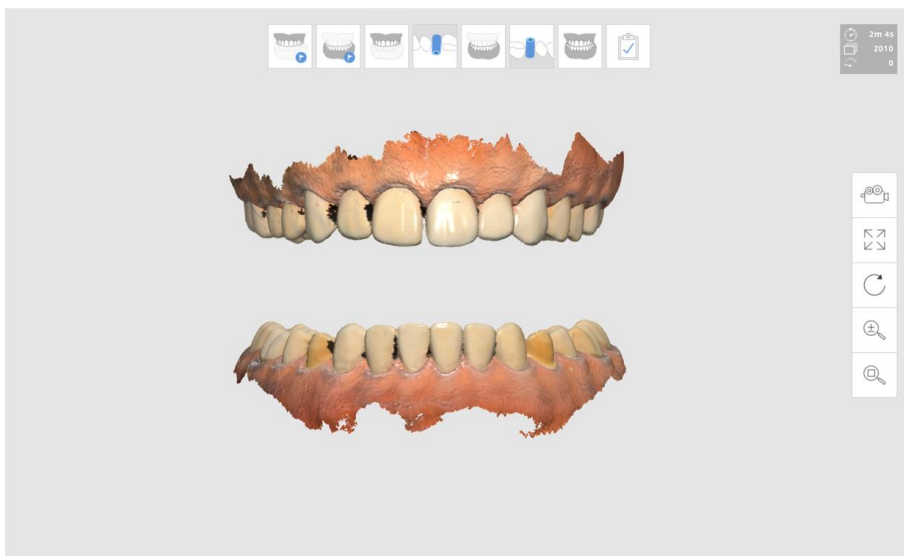

➢ Result

Occlusion case

You can use "Impression Scan" for the occlusion alignment.
In this case, you need to take the impression model 360 degrees for each bite.

How to use

➢ Scan Maxilla and Mandible.

➢ Scan occlusion data with impression scan.

➢ Result
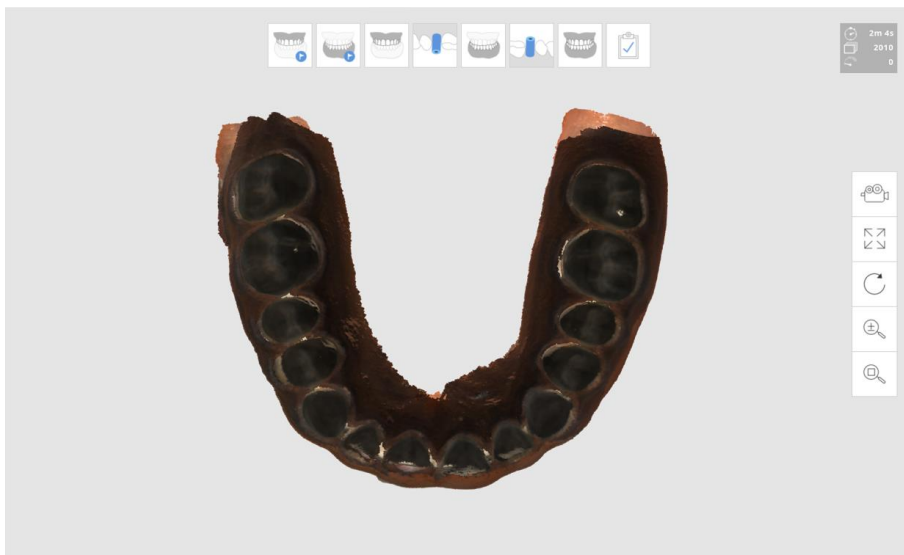
1.4 Provides "Filtering"

Filtering function is added in the scan stage. User can select the data filtering level.

High level filter has strong filtering, more accurate initial alignment than low level filter.

Scanning with low level filtering acquires more amount of data than high level filtering.
On the other hand, noisy data such as tongue, small cluster on the teeth is acquired also.

Scanning with high level filtering acquires less amount of data than low level filtering.
You need more time to complete the scanning of whole model, but the final scan data will be
noise-free than the scan data with low level filtering.
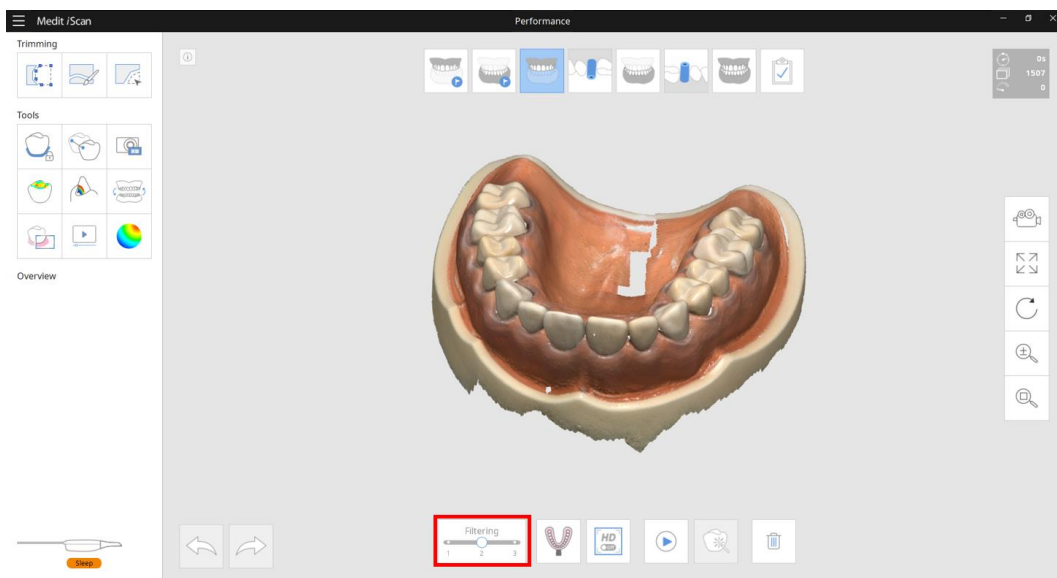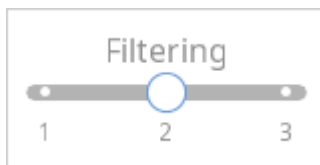
1.5 Scan Replay

It plays the scanning process of existing model.
The scanner tip and scanning area is shown virtually during the replaying. User can check the scanning condition such as scanning environment, habit, etc.
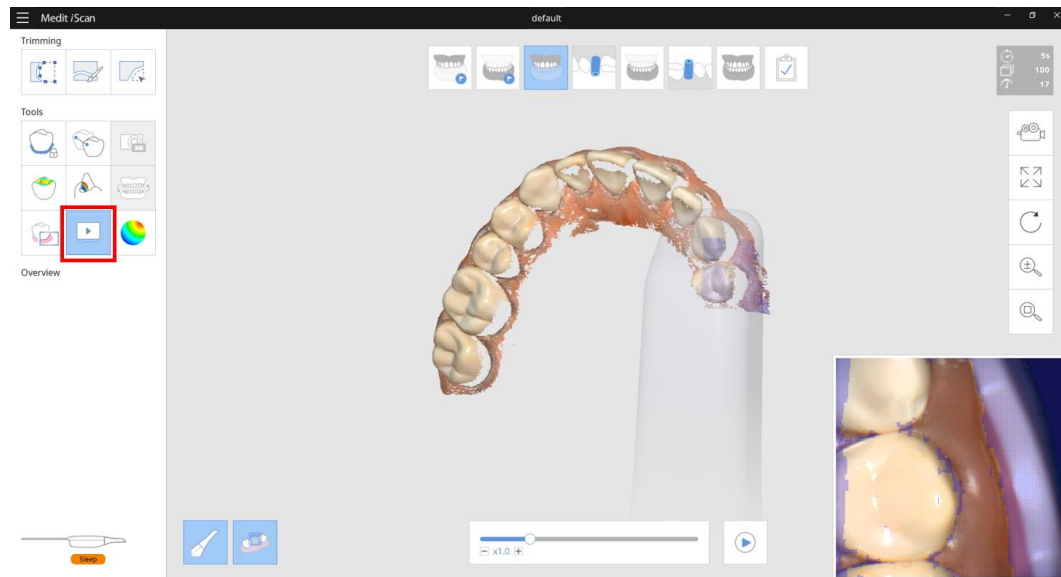
1.6 Option to control the view direction during scanning

New function is added to control the viewing direction during scanning.

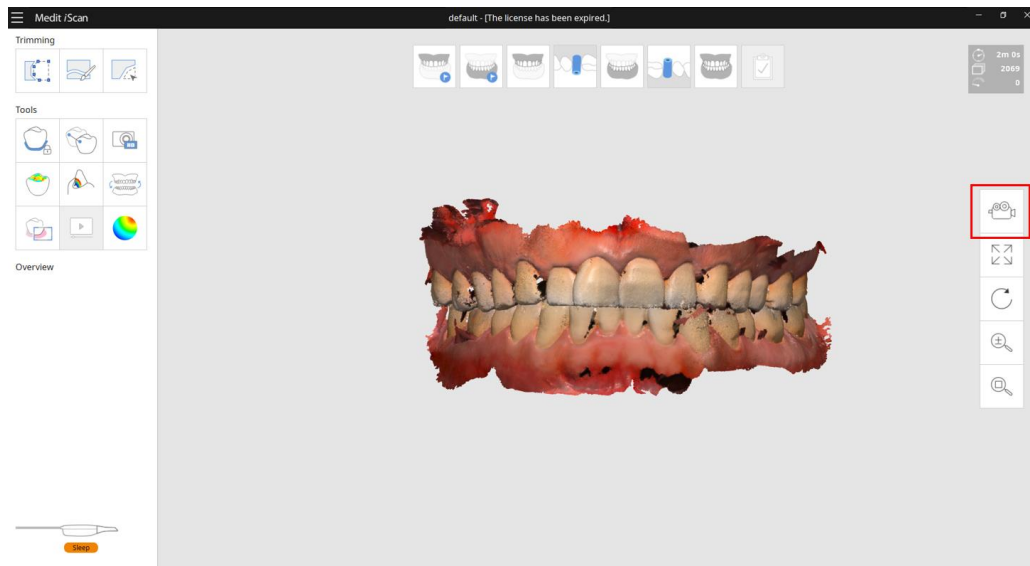|		
	Dynamic View	Changes the movement of model dynamically by system.
	Fixed View	Fix the movement of scan data. User can change the viewing direction and position manually.

1.7 Provides the option to control "Scan Depth"

Allow to control the scan depth from 12~21mm.
The more deeper scan depth is useful in general. The shallow scan depth is useful to filter the data which is far away from the tip end.
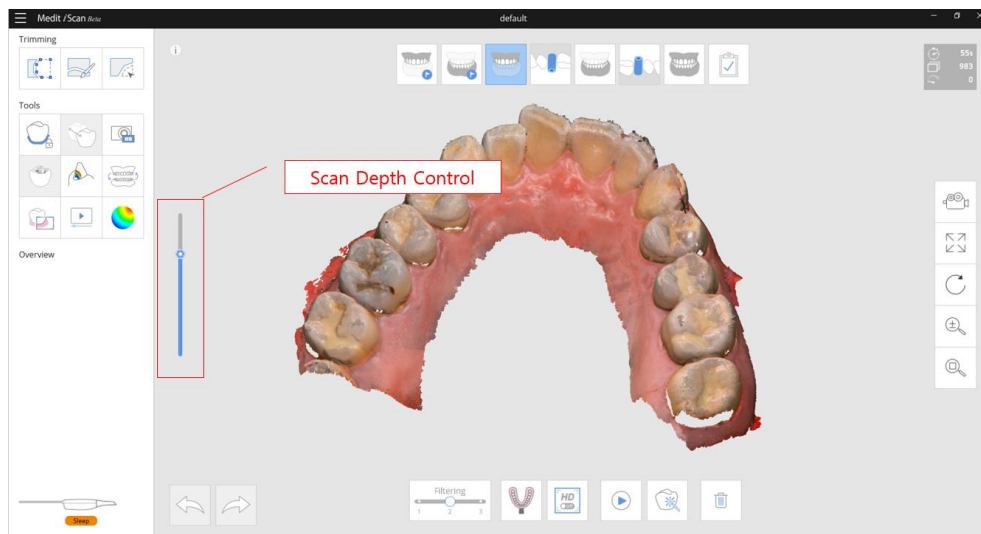
1.8 New Model Display Mode – Reliability Map

Allows to see the trend of reliability of scan data using new rendering method.
The model shows as green and orange color.
The data with green color means "Reliable Area", the data with orange color means "Unreliable Area".
You can reduce the unreliable area by add scanning.
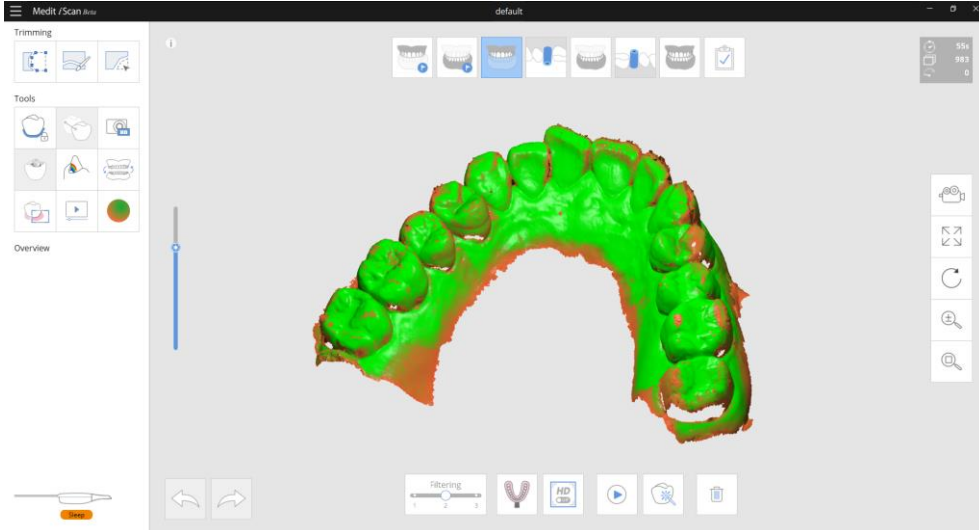
1.9 Provides the option to fill the hole

Provides new option to fill the hole for the result data.
You can see below three option when you click "Complete" button.
The result data will be processed according to the option you select.
- Needs to be tuning the result

Scan Data

Do Not Fill Holes and Exclude Unreliable Data

Fill Major Holes

Fill All Holes and Create Watertight Model

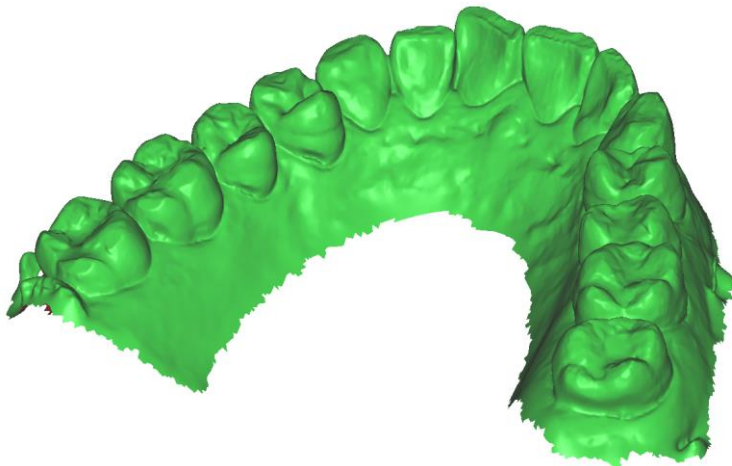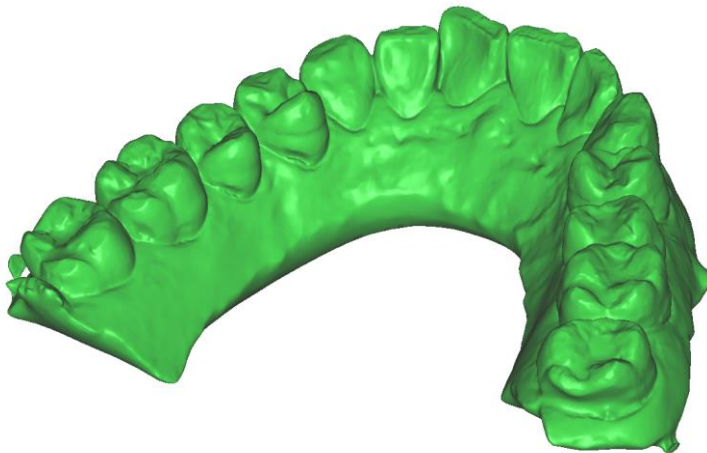## 1.10   Change Scan Light Color (Beta)

Provides two kind of light color for scanning.
The blue light is generally applied to most cases.
If the case has a lot of red series color such as blood, white light can help to acquire the data.
You can change the scan light color from the setting menu.
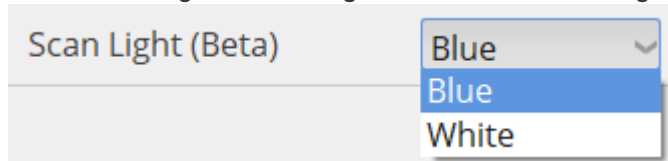
1.11   GPU Processing (Beta)

Improves overall computing performance using the GPU of a graphics card.
Currently, only NVIDIA graphics cards with more than 4GB of dedicated graphics memory are supported.
You can turn on the GPU processing from setting menu.
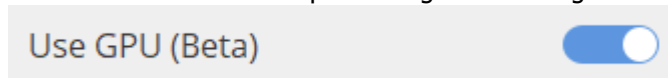
Performance comparison

Test System : i7 -8750h, 16GB, Geforce GTX 1060(6GB)

	Official Version	Beta 2 GPU off	Beta 2 GPU on
Full Arch – Dentiform(SD Only) Maxilla 984 Mandible 1012 First Occlusion 138 Second Occlusion 138	4m 37s	3m 43s	3m 31s
Full Arch – Real case(SD Only) Maxilla 3101 Mandible 1561 First Occlusion 104 Second Occlusion 242	6m 44s	4m 28s	3m 54s

1.12 Scanner Button Double-Click (Beta)

Provide to define the command to use by double click of function button of scanner.
You can select the linked-function from setting menu.

* Firmware update is needed.

Scanner Button Double-Click (Beta)

Optimize

Disable
Change Scan Resolution(SD/HD)
Change Scan Depth(12/15/18)
Change Model Display Mode
Filtering
Optimize
Undo
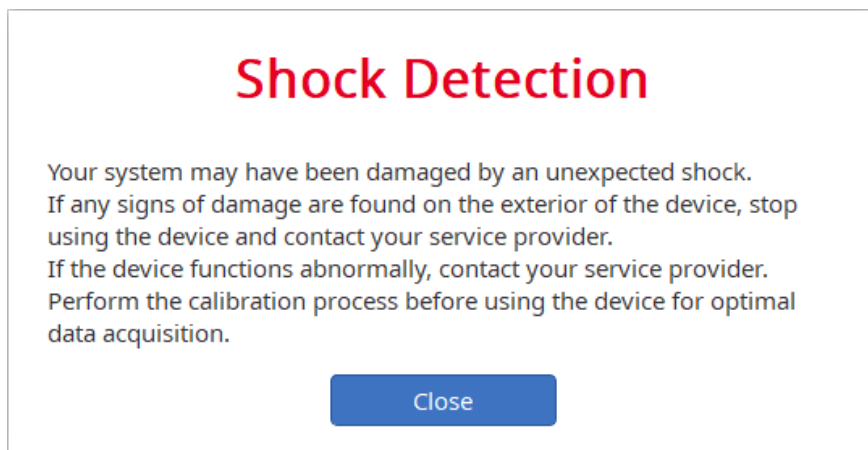Change Camera View Mode
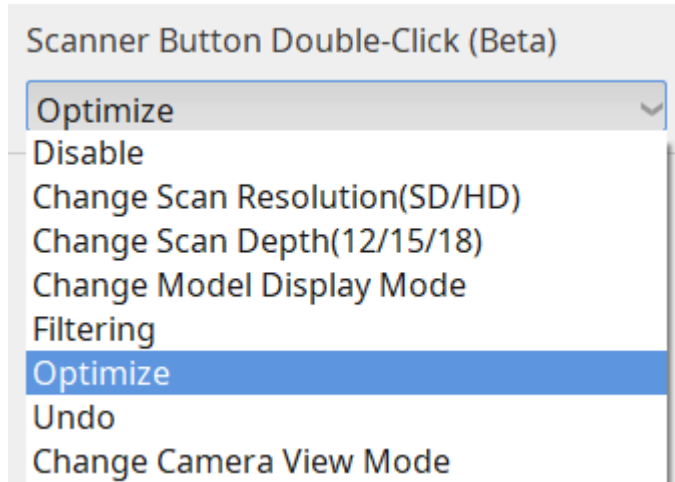
1.13 Shock Detection

The program will notify you when an impact is applied to the device.

*Firmware update is needed.

Shock Detection

Your system may have been damaged by an unexpected shock.
If any signs of damage are found on the exterior of the device, stop
using the device and contact your service provider.
If the device functions abnormally, contact your service provider.
Perform the calibration process before using the device for optimal
data acquisition.

Close

1.14 Firmware Update

New firmware is for i500 is available.
When the Medit iScan is executed, system check the firmware version then performs the updating
process automatically.
* This will be available in the official release.

2 Improvement

2.1 Improve real-time scanning algorithm

Real-time scanning algorithm is improved. Especially, the stability of align against noisy data is improved.

You can experience smoother and faster scanning experience.

2.2 Enhanced optimize process in occlusion alignment

The "Optimize" function of the occlusal scan step has been improved to produce more precise occlusal alignment results.

2.3 Improve model rendering

Current Version	New Version