DWOS 8 Release Info

May 2018

Overview of DWOS 8

This software update includes an access to the new **DWOS Easy Mode**, which provides users with an alternative option for an even faster and easier design of basic restorations. Based on a decade of CAD systems development for dental laboratories, DWOS Easy Mode builds on the latest innovative technology within an optimized user interface and special design tools to enable technicians to quickly design highly-aesthetic restorations that can be milled instantly. Both implant-borne and tooth-borne crowns and bridges are supported by DWOS Easy Mode. You will find in the following pages an overall guide to the principles of DWOS Easy Mode.

The classic version of DWOS also includes its share of novelties

The DWOS user interface has been re-skinned with new visuals, more tool tips and slightly enhanced contrasts. A new homepage displays links to recent orders, Dental Wings notifications, and more. Also, the presentation capability of DWOS has taken a great step forward with the added ability to display designs on a patient's face scan or picture, as well as the ability to display colors and textures.

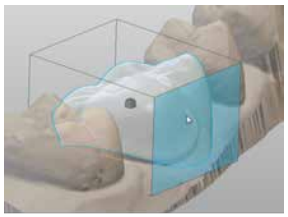
Ongoing improvements can be noted in the Virtual Model Builder station, which aims to create more highly-aesthetic printed models, and the creation of a new stump type through which pin shape is optimized for 3D printing.

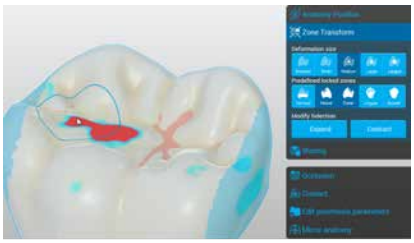
Handy features offer Synergy users more flexibility by allowing a resend of a modified arch scan to coDiagnostiX®, or the conversion of a Synergy abutment into a pontic.

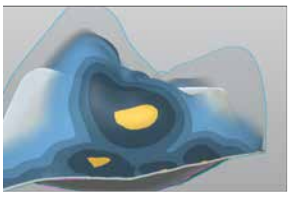
DWOS 8 also includes new minor features designed to assist users in their daily activities.

Continue reading to find out more!

DWOS Easy Mode







NEW FEATURES

DWOS Easy Mode

- A unified user interface with Dental Wings products provides ease of use throughout the scanning and designing workflow.
- Standalone application, 3Series Legacy, iSeries and distributed environment do not support DWOS Easy Mode.
- Design of full crown, bridge, inlay, onlay, veneer, reduced crown, full crown on implant, reduced crown on implant, abutment (mechanical, anatomical, telescopic and telescopic anatomical) and screw-retained bridge.
- Better homothetic reduction.
- Intuitive morphing and waxing tools.
- Better default proposal for abutment cases.

User Interface

- New home screen with direct access to the last edited orders and latest notifications/news on Dental Wings, DWOS products and specific modules
- Support PLY and OBJ texture and color with the possibility. Texture can be enabled/disabled while designing

Crow and Bridge

- Import face scan from 3D files in PLY or OBJ format.
- Import face scan from 2D pictures (PNG, JPG or BMP) which can be automatically transposed into 3D as an option.
- Repositioning of the face scan with the design.

IMPROVEMENTS

Virtual Model Builder

- Enhanced removable gingiva designer: Side wall of the flat bottom gingiva can now be controlled.
- New stump type optimized for Dental Wings 3D printer.
- Improving fitting of existing stump types.
- Implant axis information available in output file.

Crown and Bridge / Implant

- Improved abutment rotation stop to control the depth of the rotation stop.
- Setting controls the deletion of overlapping information while importing additional 3D information.
- Virtual Articulator: transfers arch position to the CAD's Design view.

Synergy workflow

- Possibility to resend Arch scan information to coDiagnostiX in case of virtual tooth extraction or modifications on the emergence profile for example.
- Possibility to convert Synergy abutment to pontic without losing any anatomical information.

Bite Splint

- Display of occlusal contact information to improve the design

User Interface

- Add tooltip to all icons in 3D views of the software.
- Possibility to select favorites implant kits to ease the search and selection in day-to-day activity.
- Possibility to control scaling of attachment kits.
- Slightly rework of the look & feel to enhance the contrast of the user interface.

Others

- Improved stability of the software with maintenance bug fixes from previous version.
- Improved translations for the following languages : French, German, Japanese.

User Interface

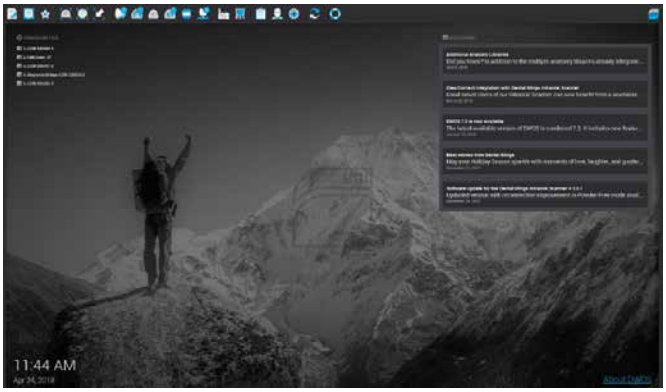
New branding

The splash screen and the login screen visuals were aligned with the new company branding. And the overall look and feel was reworked to accentuate contrasts.

Home screen

The home screen is the background when no station is opened. It now displays some useful content:

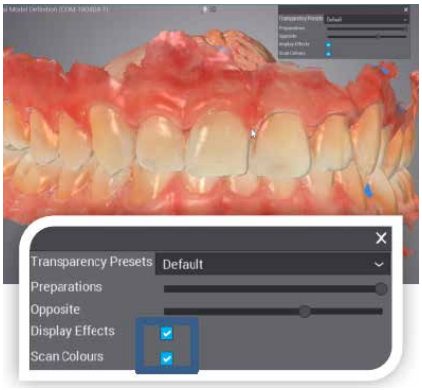
- A link to open the most recent cases.
- A RSS feed of news from Dental Wings.



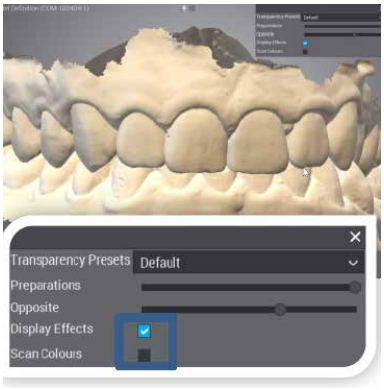
Texture and color display

Imported scans can be displayed with their color and texture information in the CAD station. Color display can be activated and deactivated from the *Transparency Menu* atop the CAD view. Additional lighting effects can be applied on the colors with the *Display Effects* option.

Imported scan with color information



Colors with the display effects



Display effects without the colors

From Intraoral Scanner

The high-contrast information captured with the Dental Wings Intraoral Scanner can be displayed in DWOS for aesthetic purposes as well as margin detection efficiency.

High-contrast scan from Intraoral Scanner

From face scanner

Imported files in the PLY and OBJ format can be displayed with texture information.

Tool tips

All icons in toolbars have tool tips to describe their action.

Easy mode

The DWOS Easy Mode is provided as an alternate method for fast and easy design of basic restorations. Find below an overview of the workflow. Note that additional help is integrated in the software:

1. Select the lifesaver icon to display contextual help.
2. An area is reserved for hints on what should be done in the current step.

Restoration types

- Full and reduced crown
- Full and reduced crown on implant
- Inlay, onlay
- Veneer
- Custom abutment
- Bridge, screw-retained bridge

Launching

The Easy Mode is launched independently from DWOS classic mode. They can not run at the same time. Use the icon on the Dental Desktop.

Step 1: Select a case and click *Open case*

Create a case

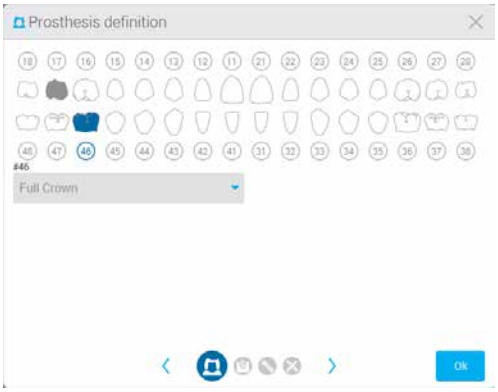
The prescription is defined in a pop-up window where you can navigate through different tabs for:

1. Prosthesis type and tooth number
2. Material
3. (Implant kit)
4. Anatomy kit and basic computing parameters

You can attach scan files at this point. If no files are attached, the case will go through a scan session for data acquisition.

Import a case

A case created on a Dental Wings Intraoral Scanner and dropped in a shared folder automatically appears in the Inbox. The information can be completed in the *Edit case* window.



Order definition window

Order editing interface

Step 2 : Following the workflow bar, scan the required elements.

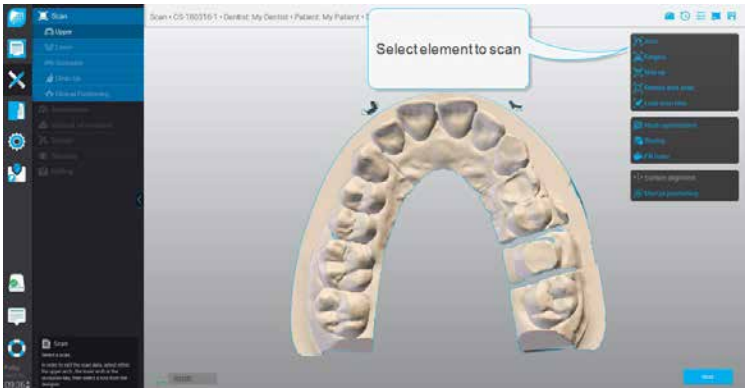
Scan

Model scans can be performed with any 7Series or with a 3Series+.

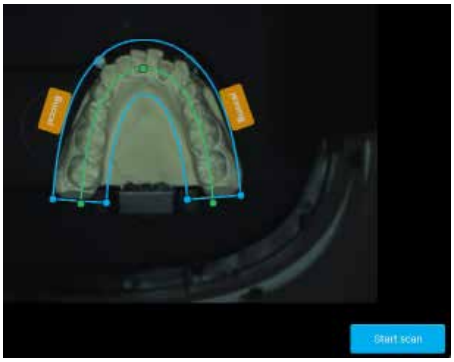
(3Series+ are 3Series scanners with serial number 3S02000 and higher. The scanner serial number can be seen on the product label on the back panel.)

The workflow bar on the left shows the current scanning step (upper or lower arch, occlusion).

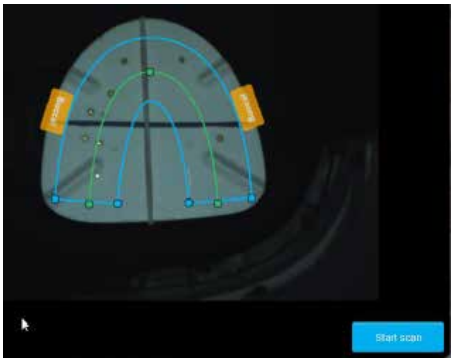
1. Select ***Arch*** from the editor on the right, and a live preview window opens for defining the area of interest.
2. Once the arch scan is done, you can scan other elements of the upper arch: gingiva, wax-up, other area.
3. Once you have scanned all needed elements for the first arch, select ***Next*** at the bottom-right.
4. Select ***Arch*** from the editor on the right. Perform other scans on the lower arch if needed.
5. Once you have scanned all needed elements for the second arch, select ***Next*** at the bottom-right.
6. Place both arches tied together in occlusion position inside the scanner.
7. Define an area for scanning an occlusion key.
8. Once the scan is done, use the options in the ***Surface alignment*** editor to reposition the arches on the occlusion key.
9. Cleaning tools are available if surfaces need to be removed or repaired.



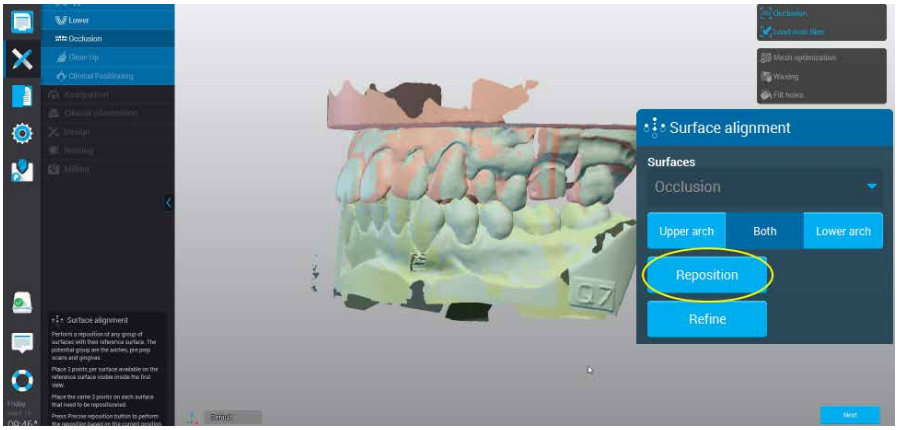
Workflow bar on the left shows scan step; editor on the right show elements to scan.



Area on an arch



Area for an occlusion key



Repositioning options and completed scan session

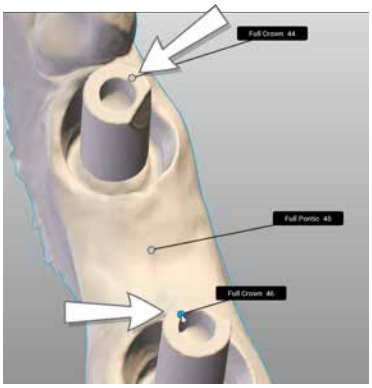
Step 3: Define design parameters

Clinical positioning

In the main view, move and rotate the scan to position it over the shaded arched zone. The viewport provides a 3D reference to help you fit the scan inside the zone in all directions.

1. Drag the scan to position it over the gray area.
2. Use the arrows to rotate the scan.
3. It should roughly fit inside the arch's limits.
4. Click *Next* to validate and launch the next step.

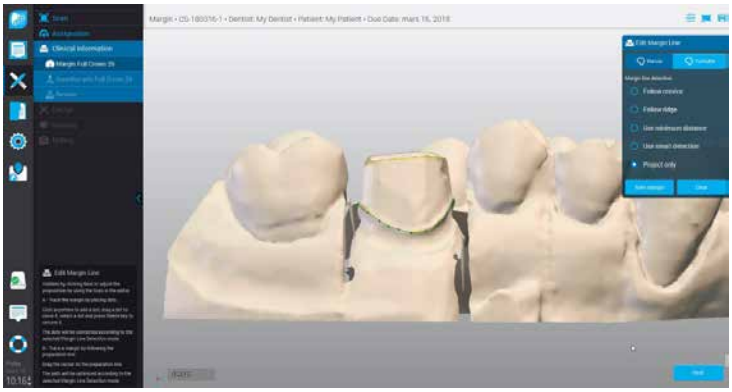
Assignation

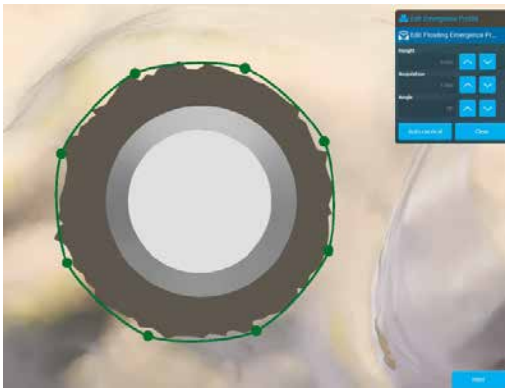


Numbers are attached to the cursor; click on the corresponding tooth of the arch scan. This defines the context for the tooth chain to calculate an automatic proposition that blends in smoothly. Place the dot in the middle of the preparation / implant as it will improve the crown calculation. Adjacents are automatically tagged. Click ***Next***.

Margin

With the manual mode or the turntable mode, trace a line by placing dots on the preparation line. Click ***Next***.





Floating margin tool: to define a margin above the gingiva for implant cases

Insertion axis

The best axis is automatically detected. Click *Next* to the Review screen and *Next* to continue.

Step 4: Touch-up the design

Anatomy Design

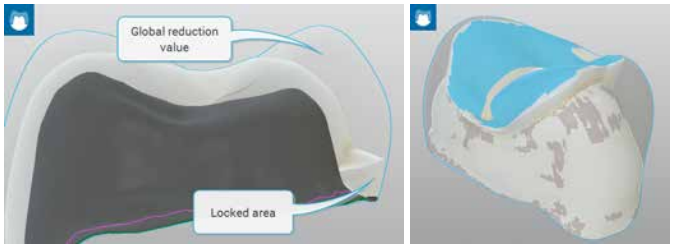
An automated proposition is computed, with contact adjustments made. You can accept it as is or use the selection of shaping tools to modify. Click *Next* when the anatomy design is completed.

Provided tools are:

- Anatomy position: to move rotate and scale
- Zone transform: to morph local areas
- Waxing: the classic Add/remove material
- Contact adjustment (occlusal and interproximal)
- Adapt to wax-up
- Mirror anatomy

Reduction design

Reduced restorations go through a separate step to define a global reduction or create custom reduction areas. Areas to lock are simply "painted" on the anatomy. The reduction is always calculated from the anatomy, this is why the anatomy design is done first on a reduced restoration.



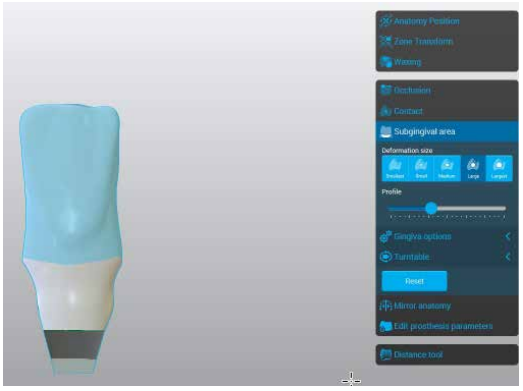
Examples of reduction applied on custom-defined area

Abutment design

Abutment can be of different types:

- Mechanical: computed from parameters only
- Anatomical: computed from parameters and reduced anatomy on the occlusal area
- Telescopic: computed from telescopic parameters only
- Telescopic anatomical: computed from telescopic parameters and reduced anatomy on the occlusal area

Subgingival area (below the emergence line) can be designed independently while the rest of the anatomy is locked.



Subgingival area design editor. Blue area is blocked against modification.

Step 5: Export design

Output

To DWOS classic

Cases can be exported to DWOS classic mode. In ***Case Management***, select the case and choose ***Export to DWOS***.

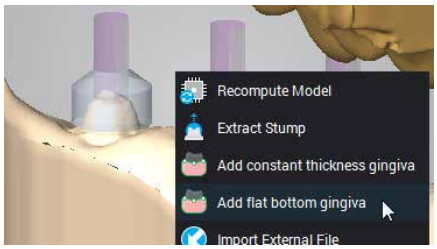
Export STL

Designs can be exported as STL files. In ***Case Management***, select the case and choose ***Export STL***.

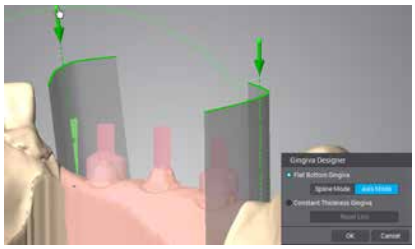
Virtual Model Builder

Soft gingiva

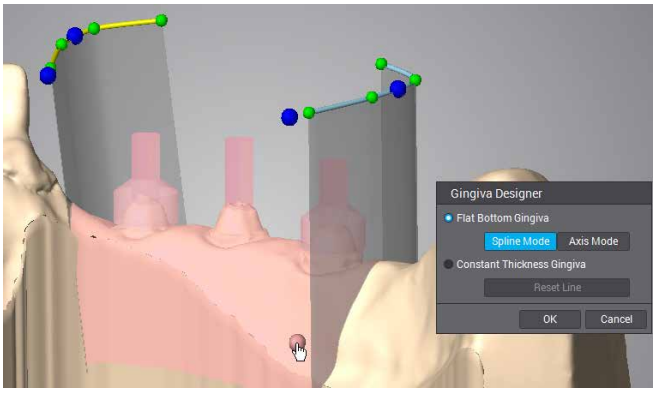
More controls to design a flat-bottom removable gingiva.



Select directly from drop-down menu



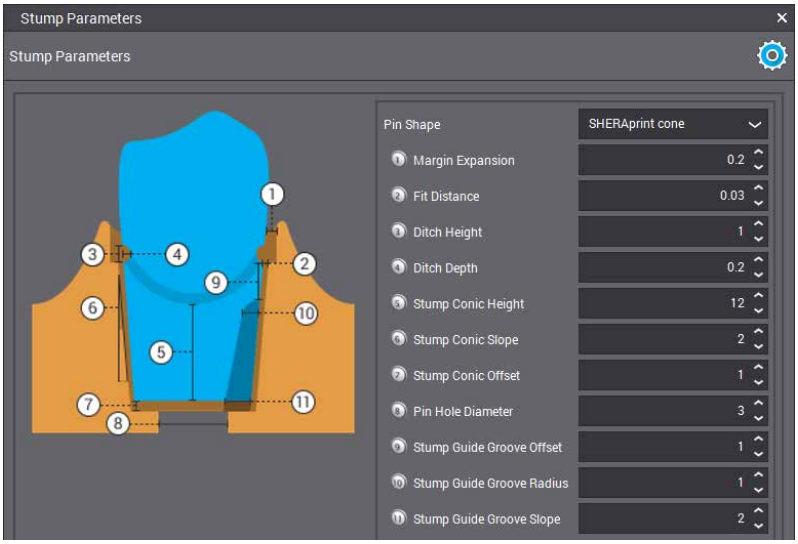
Tilt side walls in Axis Mode

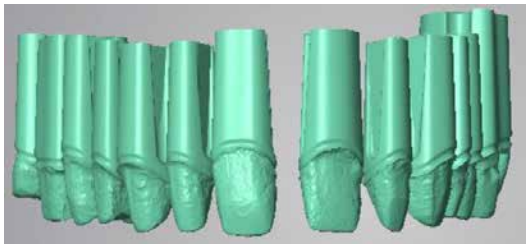


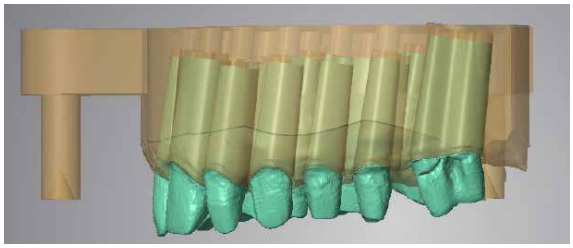
Design side walls and depth with handles in Spline Mode

Stump for printing

The new stump type SheraPrint cone is available in the Stump parameter window. This type was specifically developed to ease the fabrication with a Dental Wings 3D printer. Its default parameters, just as all stumps, are defined per material in the ***Material Management*** station but can be adjusted in Model Builder to a particular case.



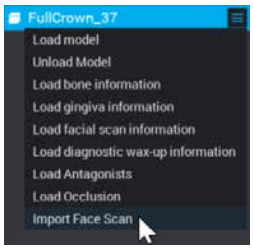


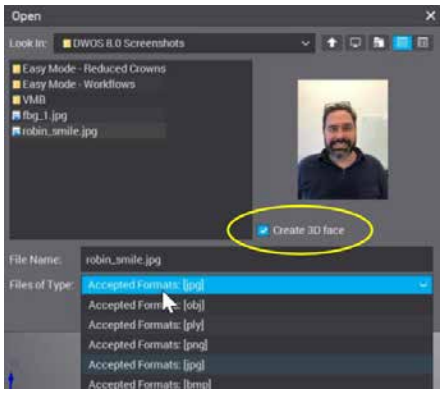


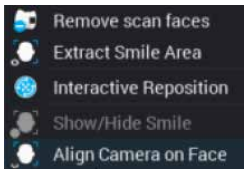
Facial information

With the import of facial information, the prosthesis designs can be displayed on the patient for a realistic rendering. All you need is a picture of the patient and the software creates a 3D face from it. You can also import a 3D face scan. This renders an aesthetic output that can be presented to the patient along with the treatment plan.

1. Import a 2D file (PNG, JPG or BMP formats are accepted) or a 3D file (in OBJ or PLY formats).
2. If you are importing a picture, you can select the option ***Create 3D face*** to convert it into a 3D model.







Using a 2D picture

1. Load the image without selecting ***Create 3D face*** and right-click on it to access the options.
2. Select ***Align Camera on Face*** to position the image at a 90° angle with the design.
3. Use interactive repositioning handles to move and scale the image.
4. Select ***Extract Smile Area*** from the right-click menu a draw a contour around the teeth on the picture.
5. Once the contour is closed (press C), the option ***Show/Hide Smile*** become available.
6. With the help of the transparency slider, you can position correctly the new smile inside the smile area.

Using a picture converted into a 3D

1. Load the image with the option ***Create 3D face*** selected. Right-click on it to access its contextual menu.
2. Use the same method for positioning the face, extracting the smile and using the transparency to align the design with the smile area.

Using a 3D file

1. Choose a 3D file in the ***Face Scan Import*** dialog (OBJ, PLY).
2. Use the interactive controllers to scale and position the face.

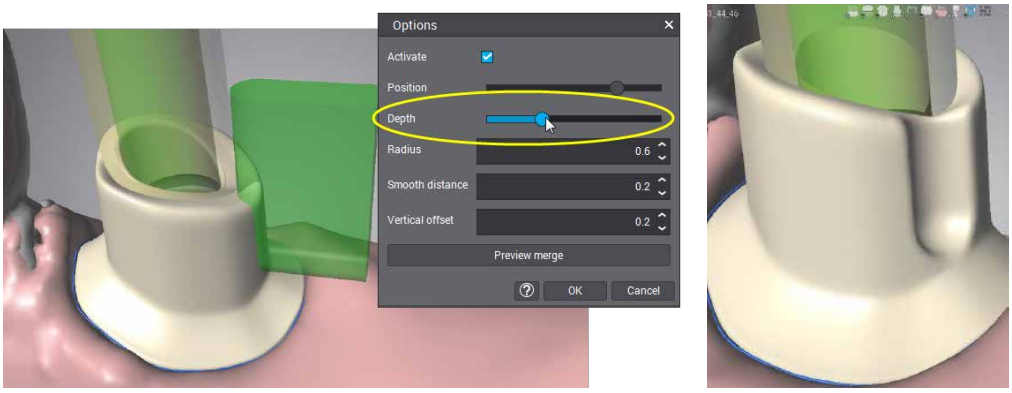
Picture converted into a 3D

Import of a 3D file as aesthetic information

Design tools improvements

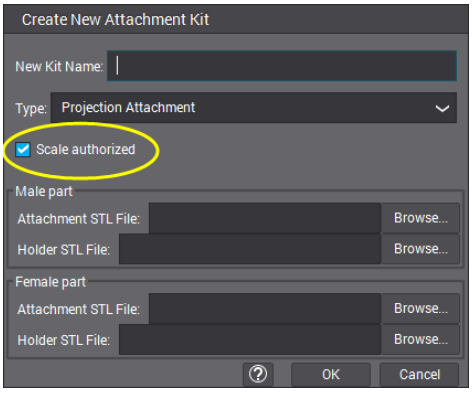
Rotation stop

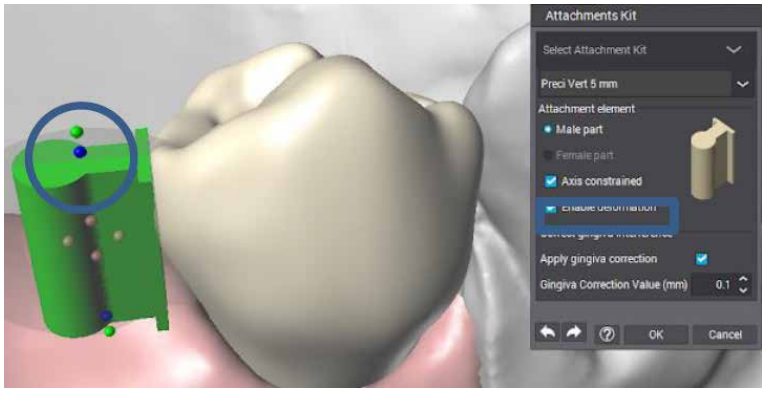
A slider was added to control the depth of a rotation stop on a custom abutment.



Attachment

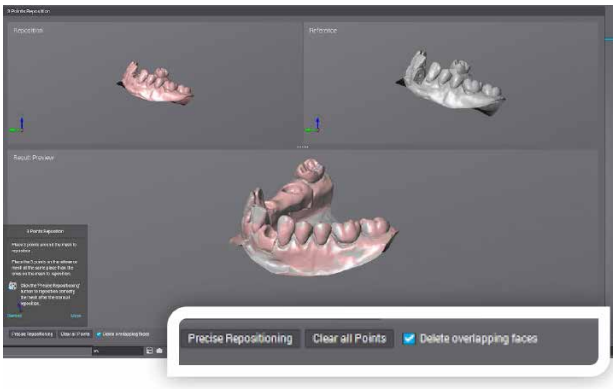
When an attachment kit is created, you can define if it can be scaled or not. The option is provided accordingly when the attachment is added in the CAD station.





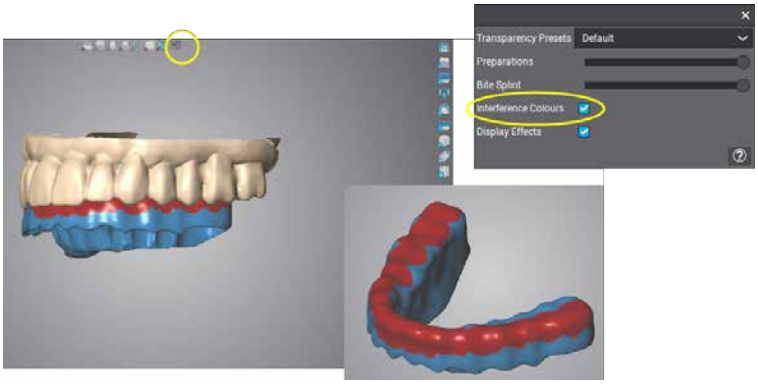
Delete overlapping faces

The option ***Delete overlapping faces*** is available in the CAD station. Keeping overlapping surfaces makes it easier to repositions scans one to another when they are imported into the design environment.



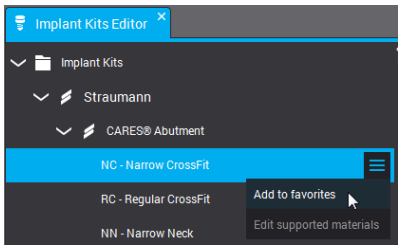
Bite Splint design

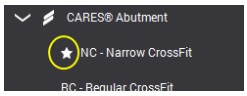
In the bite splint design module, the option to display interference colors can be used to show occlusal contacts and improve the design.

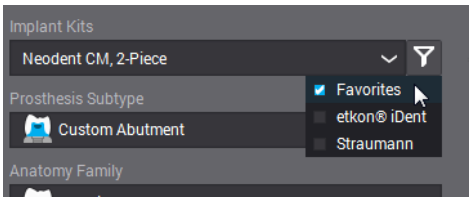


Favorite Implant kits

Tag the implant kits that you use the most as *Favorites*. Then you can filter the implant kit list in *Order Creation* to display only the favorite kits.



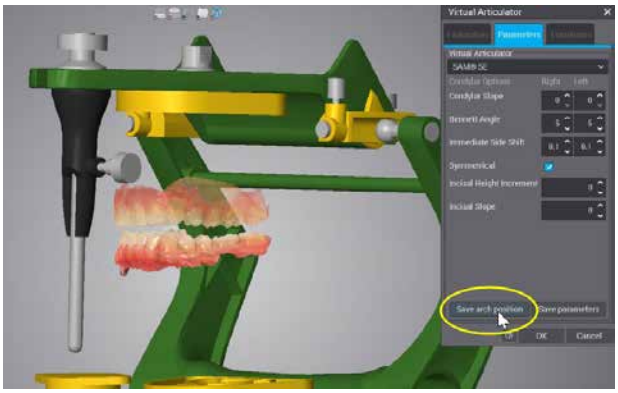




Virtual articulator

Transfer the occlusion position from the Virtual Articulator to the design.

1. Set up the occlusion in the Virtual Articulator editor
2. Select *Save arch position*



Synergy workflow

Resend arch scan

When working in a Synergy session, you can resend the arch scan from DWOS to coDiagnostiX. This enables using the DWOS design tools to modify a scan, then sending the modified scan for the implant planning.

For example, the DWOS user can:

- Use waxing tools (Add/Remove material) to modify the gingiva emergence profile;
- Use cleaning tools (Remove scan faces) to create a virtual tooth extraction.

Convert an abutment to a pontic

For adapting to a change in the treatment plan, it is possible to convert a Synergy™ Abutment into a pontic, while transferring the anatomy design that had been done on the abutment to the pontic.