# What's new in DentalCAD 3.0 Galway

**Release presentation**

12/2020

exocad

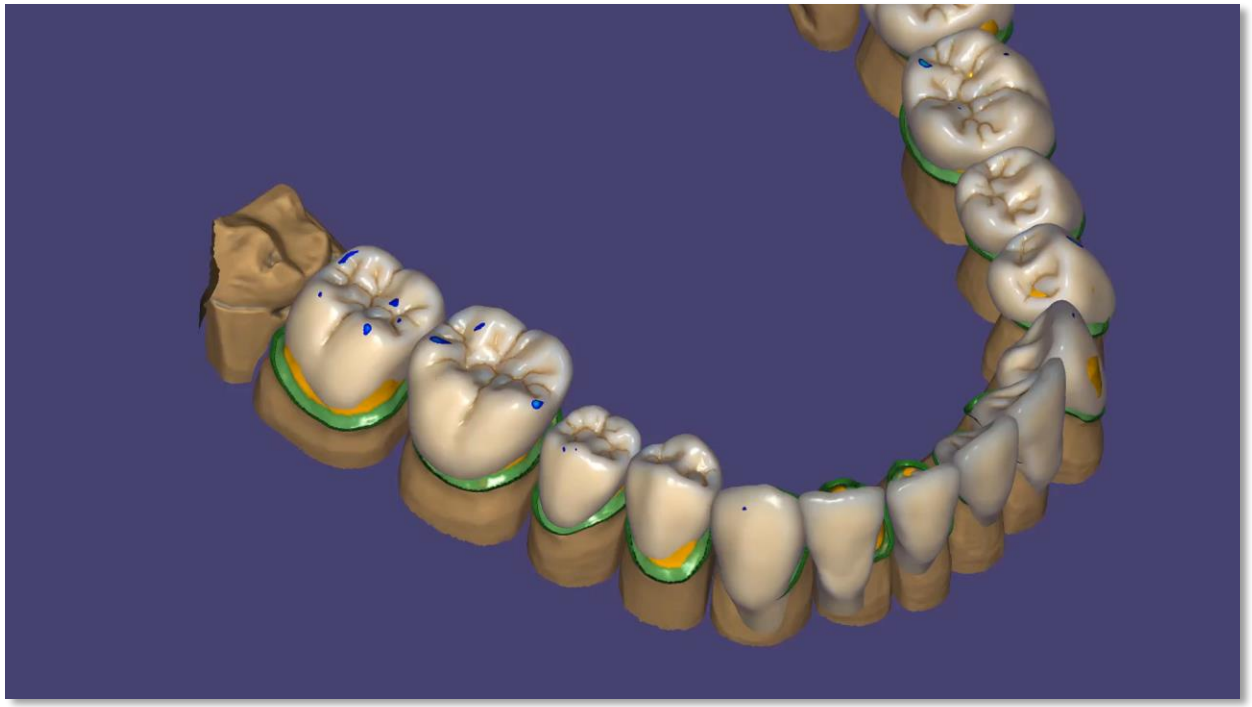
# Highlights for DentalCAD / Dental DB

# Instant Anatomic Morphing

## Intro

We  systematically analyzed the steps dental technicians around the world spend the most time on during restorative design. Based on these insights, we developed a technology that allows users to drastically reduce design time: Instant Anatomic Morphing.

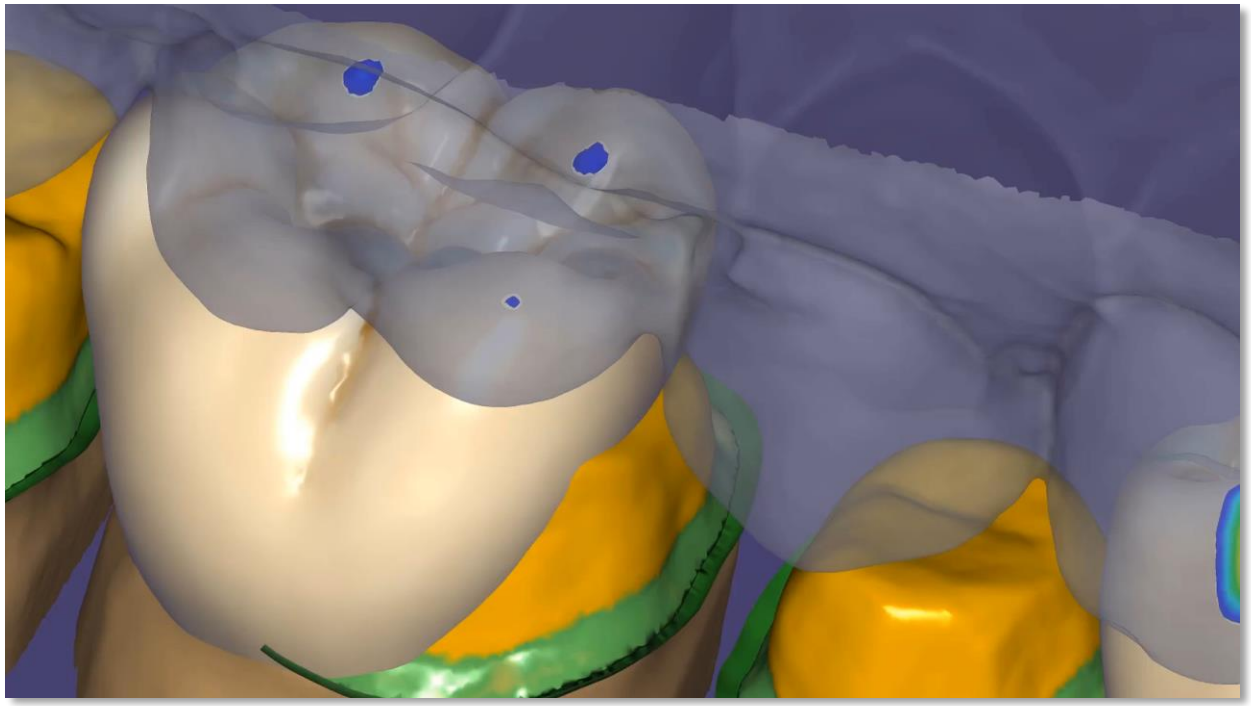
With this revolutionary new software feature, dental technicians need less time to get from the automatic proposal to  their individual design goal. Be it a specific esthetic or purely functional shaping - the user can interactively achieve the desired result much faster than before. The anatomy of the teeth adjusts in real time with each movement, resulting in a significant increase in productivity.



# Instant Anatomic Morphing

## Technical Description

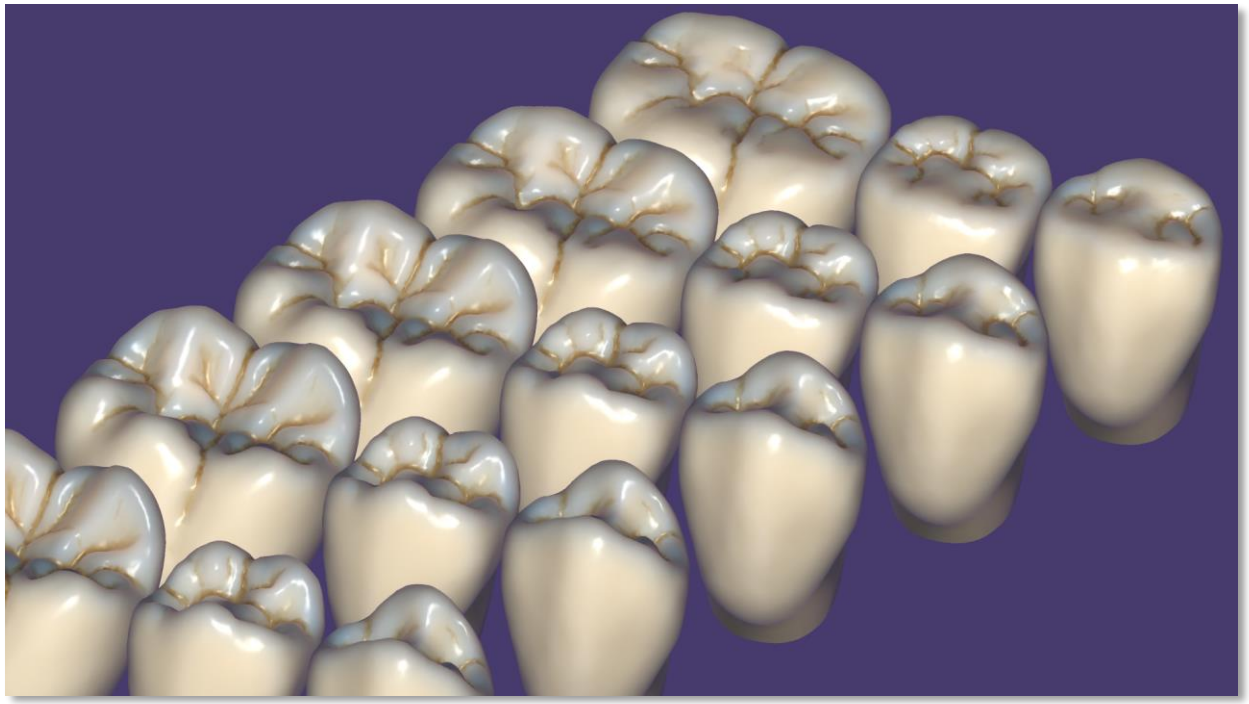
- The new Instant Anatomic Morphing vastly improves the available options for the anatomic tooth placement. This revolutionary feature contains several new tools for a faster and improved placement of the anatomical shapes
- The entire anatomy automatically adjusts to the antagonist, either by cutting off intersections, or by dynamically adjusting the anatomy itself
- Minimum thickness is applied in real time
- Cusps and shapes are interactively adjusted during tooth setup
- New intuitive direction-based scaling modes are available



# Parametric shape adjustment

## Intro

Parametric shape adjustment allows the user to parametrically modify an existing tooth library, in real time: from deep fissures for a younger tooth, to flat fissures and cusps that are more suitable for older patients. This can be done gradually, with a slider, and makes it possible to achieve a perfectly fitting individual result much faster than before.



## Technical Description

- All integrated tooth libraries can be adapted from a younger to an older anatomy, seamlessly applying a natural abrasion to all teeth of choice
- ‘Advanced’ tab in the tooth placement steps contains sliders to adjust the abrasion of the selected tooth library, simulating different ages of the anatomic shapes
- Anterior and posterior teeth can be modified separately

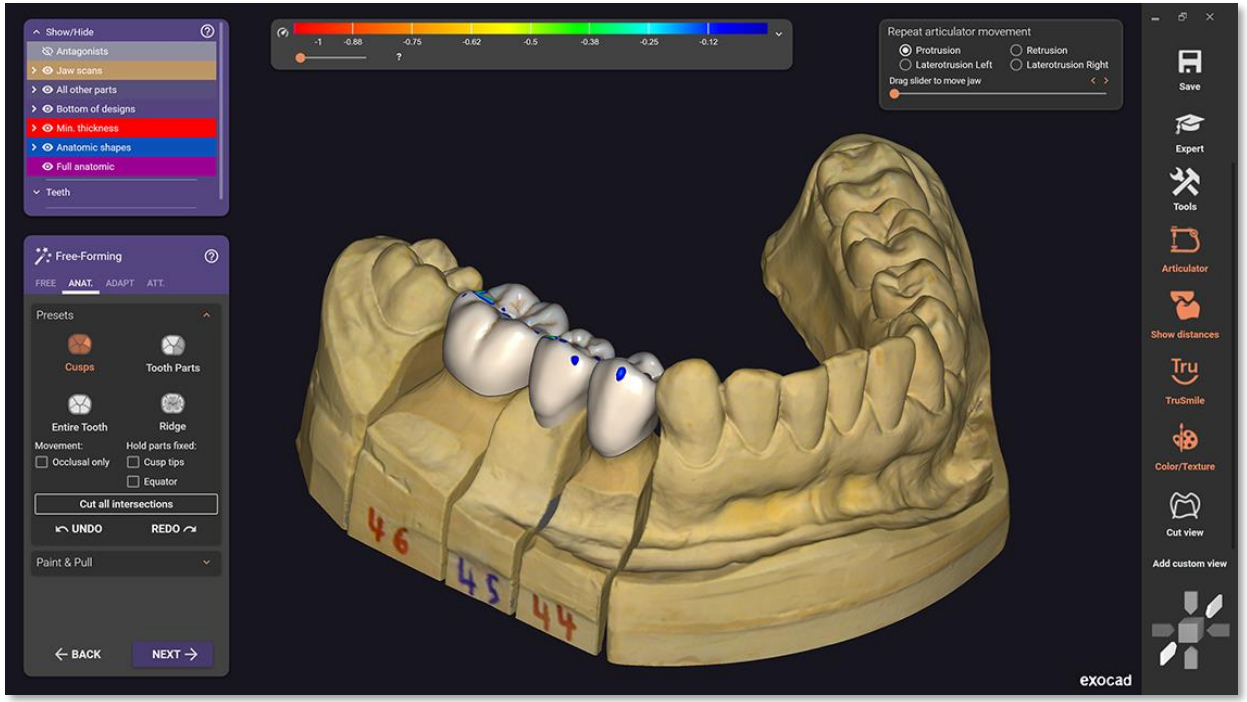
# New UI design

## Intro

The new exocad user interface offers a user-centered design to make digital interaction as simple, fluid, intuitive and efficient as possible.

## Technical description

- Inspired by Google's Material Design*
- Makes the software as easy to use as an app on your smartphone, while experienced exocad users will still feel at home with this release in its new fresh design
- New dark mode available




* Google is a trademark of Google Inc.

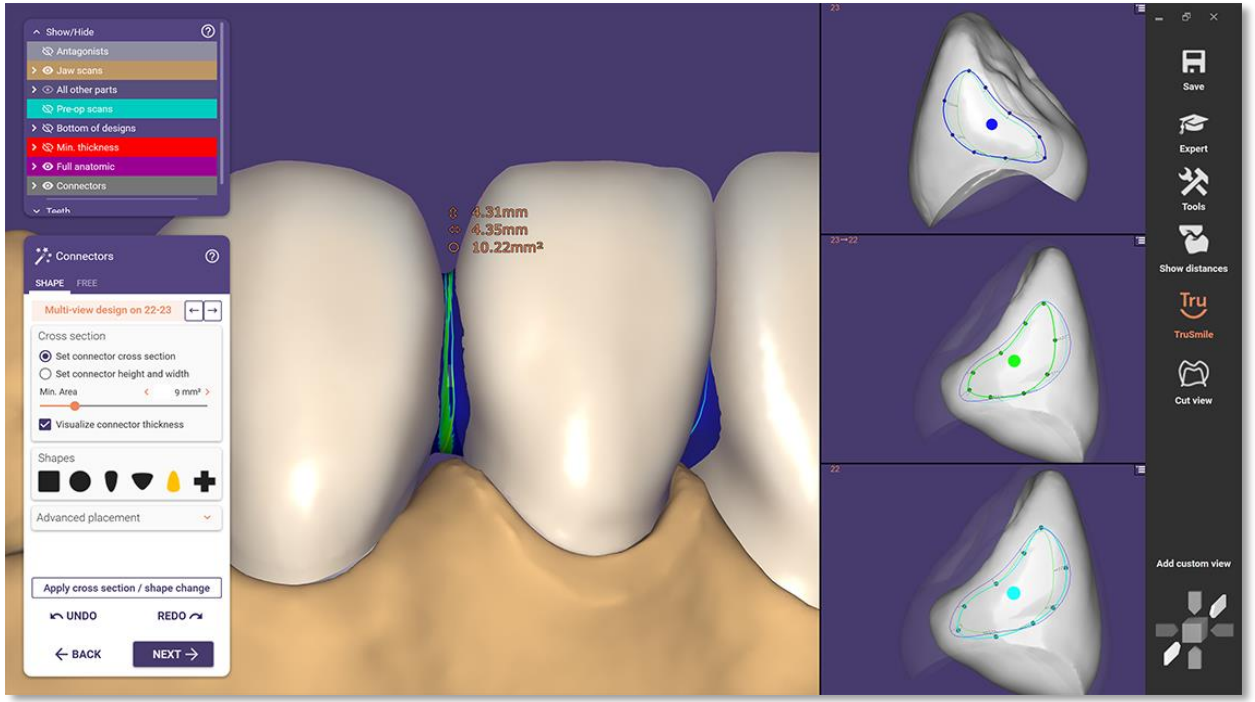
# Advanced bridge connectors editing & viewing tools

## Intro

Improved bridge connector editing with split screen view and tools to change several connectors at once, for a faster workflow in every situation

## Technical Description

- Three additional cut views can be activated in the bridge connector step, giving the user better control over the three control curves of the connector
- Simply copy designed connector shapes to other connectors
- Incorporation of well-known hotkey-combinations help the user individualize the connector shape in a minimal amount of time



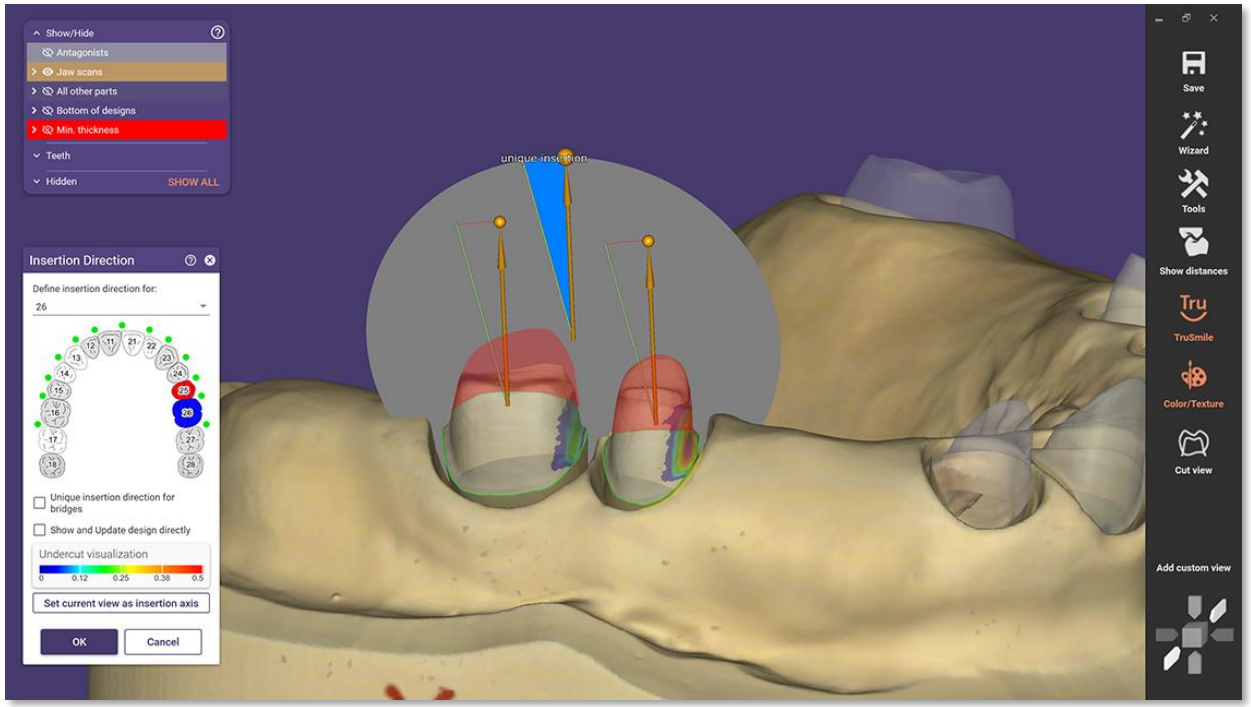
# Vastly improved insertion direction control

## Intro

New tools in the insertion direction dialogue offers easier control over each individual insertion axis.

## Technical Description

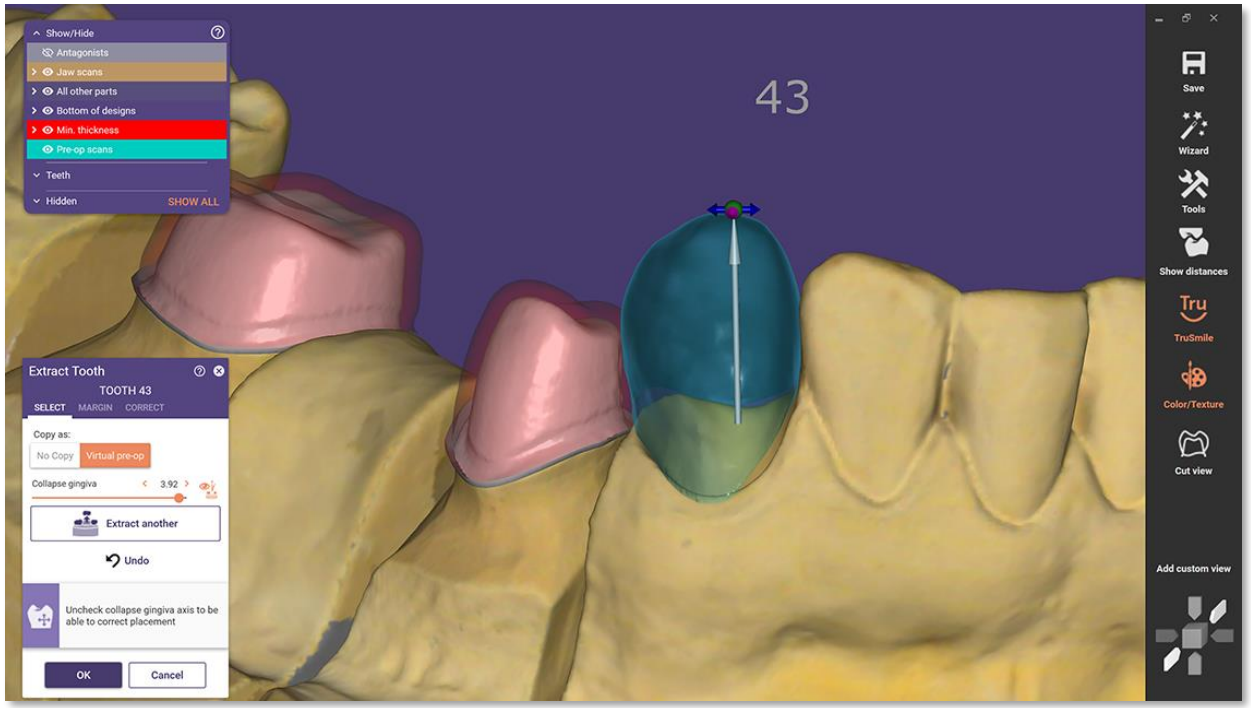
- The insertion direction step now gives the user the option to change the direction with a draggable arrow
- Angle-display disc shows the specific direction
- A second arrow shows the changed insertion direction, making changes readable intuitively



# Virtual tooth extraction on optical scans

## Intro

In certain patient cases, implant planning and surgical guide design takes place before residual dentition is extracted. Now, the residual dentition can be extracted virtually on the optical scan, simulating the subsequent oral situation. This creates the necessary space for designing the surgical guide.




## Technical description

- Quick, easy and robust extraction
- After selection, the tooth is automatically extracted from optical scans
- User-defined adjustment of expected gingiva collapse after extraction. Quickly and easily change the shape of gingiva in the area of the extracted tooth
- Use extracted tooth as pre-op scan or tooth model for later anatomic design

# Highlights for *Smile Creator*

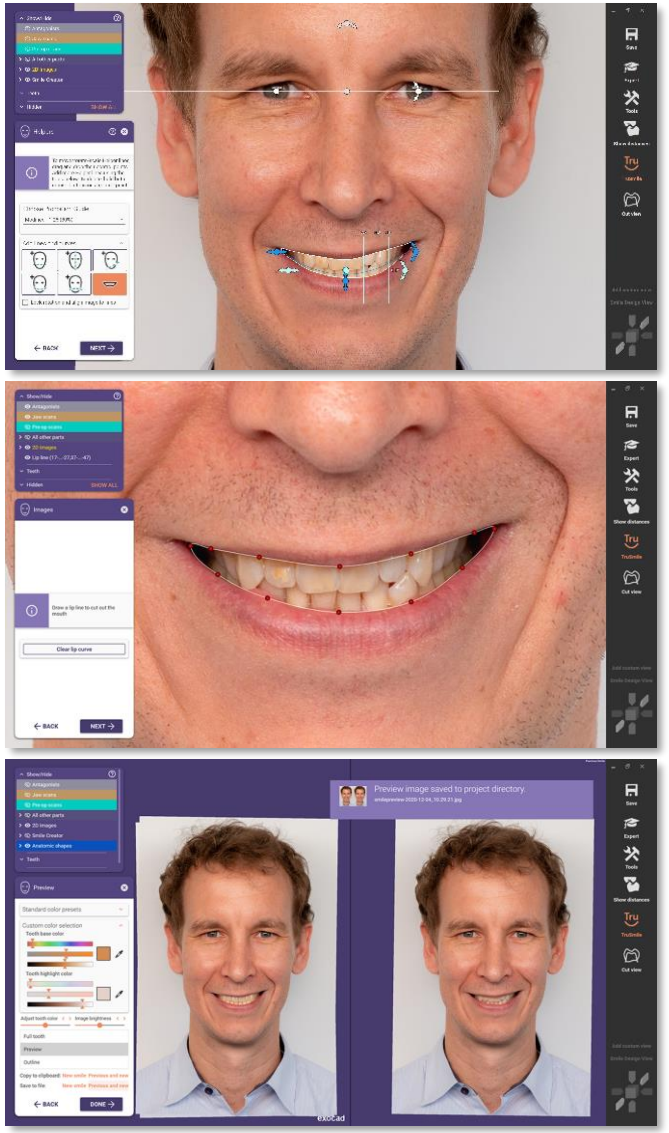
# Detect facial features with AI

## Intro

exocad introduces artificial intelligence-assisted smile design for the *Smile Creator*. Facial features are detected automatically, saving valuable design time. Many other new features provide additional improvements to *Smile Creator*.

## Technical Description

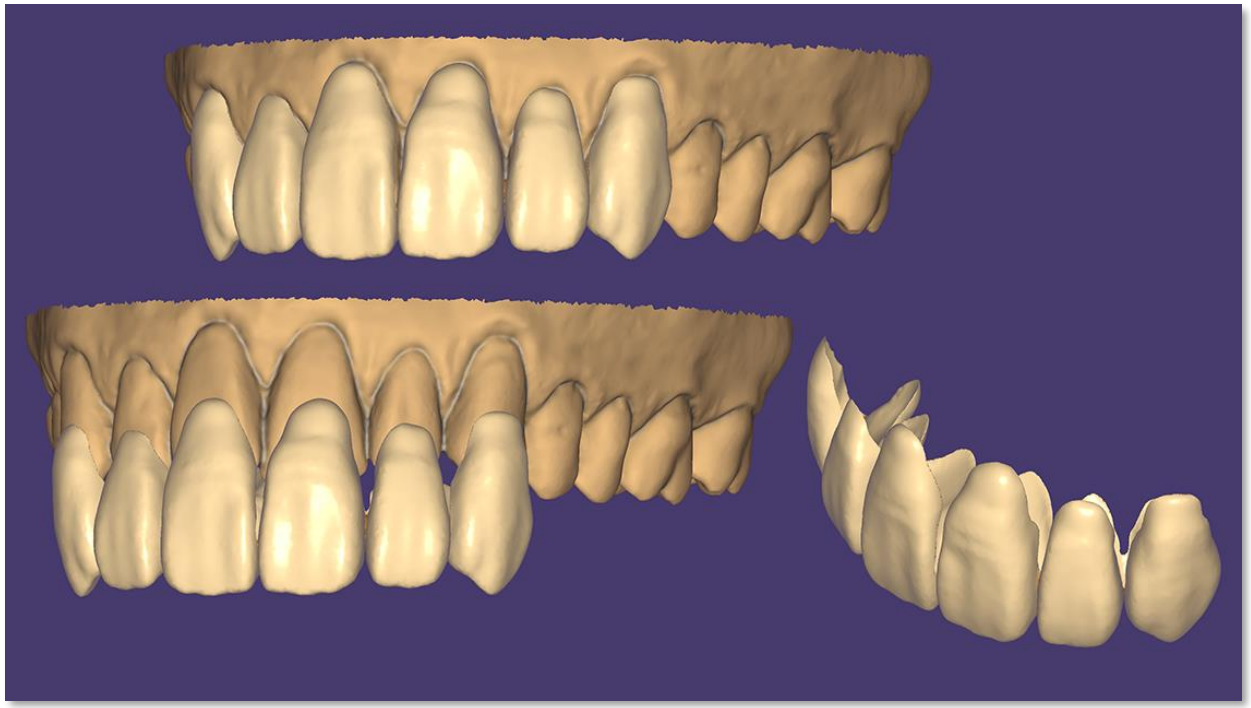
- AI-assisted smile design: Facial features are automatically detected to automate the smile design and create an esthetic proposal faster.
- When loading the smile picture after the retracted picture (or vice versa) the second one is automatically aligned to the first one
- Easier color selection and better brightness control provide an esthetic preview faster
- Save side-by-side comparisons of both pictures with new ‘save image’ tools



# Mockup tooth setups for improved patient communication*

## Intro

Design a mockup tooth setup based on the pre-op model and print the mockup model or the mockup itself to create a clip-on custom try-in. This opens up new possibilities in patient consultation with the *Smile Creator*. Patient can now physically try out the new smile with their try-ins.



## Technical Description

- Create a clip-on mockup of the planned anatomic situation in the workflow for a printable try-in wrapping around the patient's teeth
- Place the finished product on the patient's teeth for an initial fitting of the tooth shapes
- Mockup models can be printed (digital waxup model)

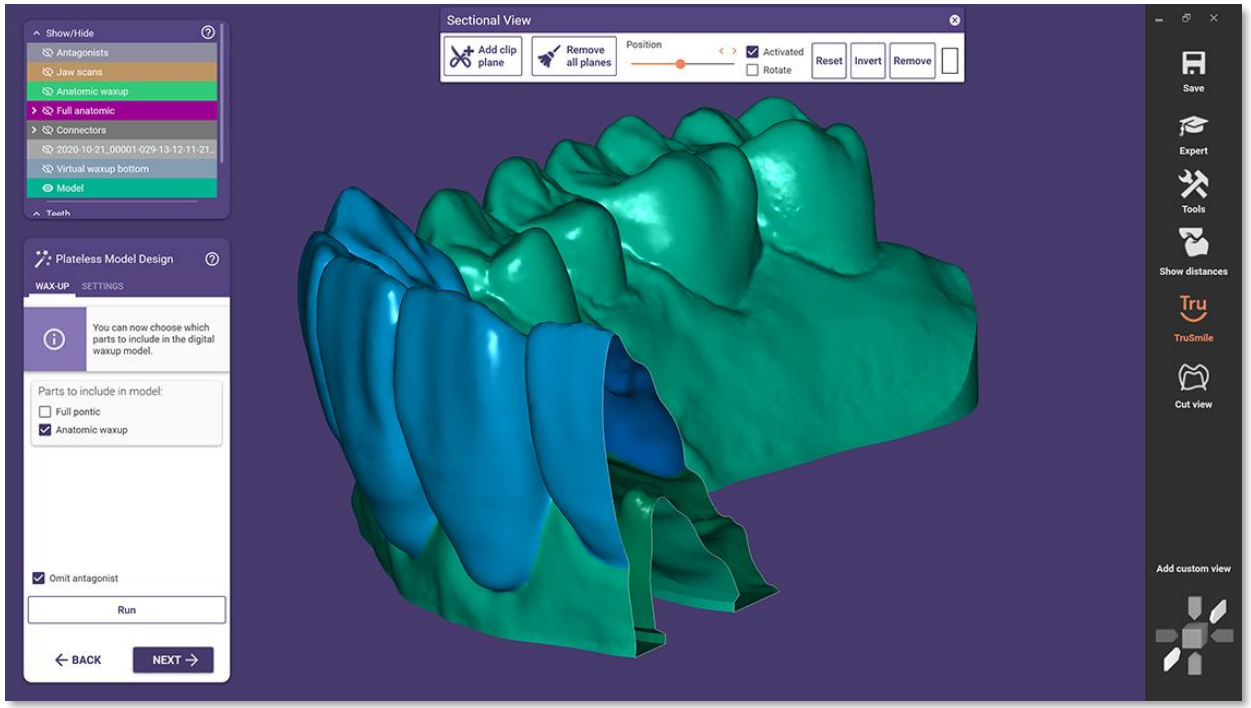
* Please note: This feature does not work with the *Smile Creator* stand-alone module.

# Highlights for *Model Creator*

# Digital Waxup Model

## Intro

Create complete watertight waxup models based on your designs, with no overlapping boundaries, to use in every available 3D printer.




## Technical Description

- New model plate type ‘Digital Waxup Model‘ allows the design of models with designed anatomic shapes or finished designs on top
- In the wizard workflow the user is asked which parts specifically to apply to the model in the new ‘Waxup’ tab in the model creation step
- The final model is completely watertight and free of overlap or intersections

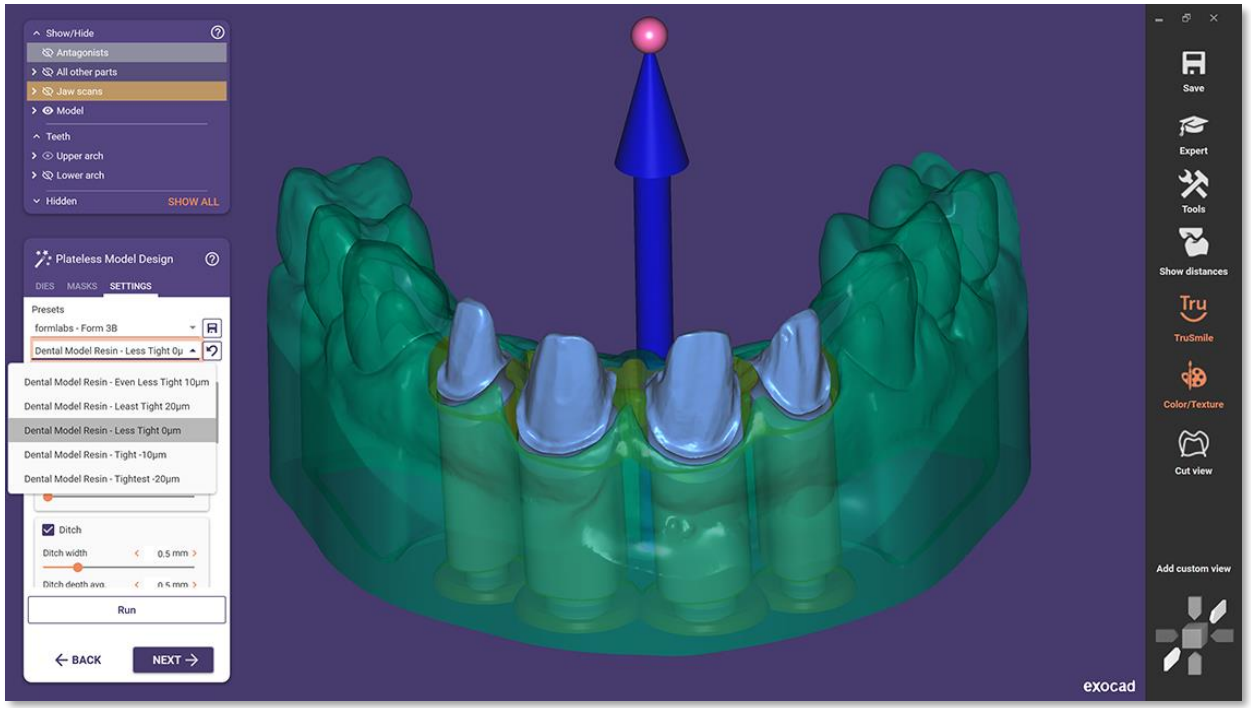
# Customize and save printer presets

## Intro

The new Galway release features printer presets for leading 3D printer manufacturers for users to customize and save as individual printer presets, based on personal experiences and requirements. Select this feature in the model creator workflow.

## Technical Description

- New button available in model design step to save the current setup settings as own printer presets
- Newly saved presets can be selected in future model designs, guaranteeing the same parameters for all designed models



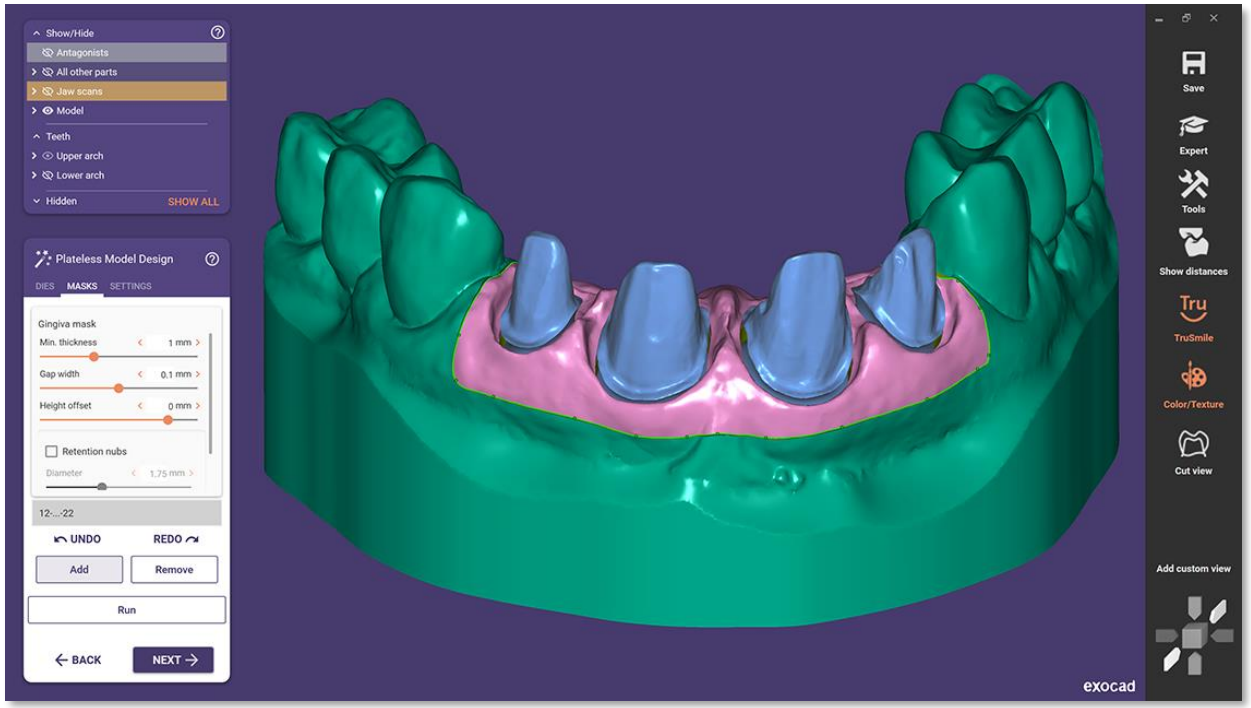
# Gingiva mask around removable dies for plateless models

## Intro

Create soft gingiva masks around prepared dies even without implant analogs, to take esthetic anterior designs to the next level and giving the user full control over the pressure of the bridge pontics on the soft tissue.

## Technical Description

- The tab ‘Masks’ is now available for models without implant analogs providing the option to draw a gingiva mask around prepared dies



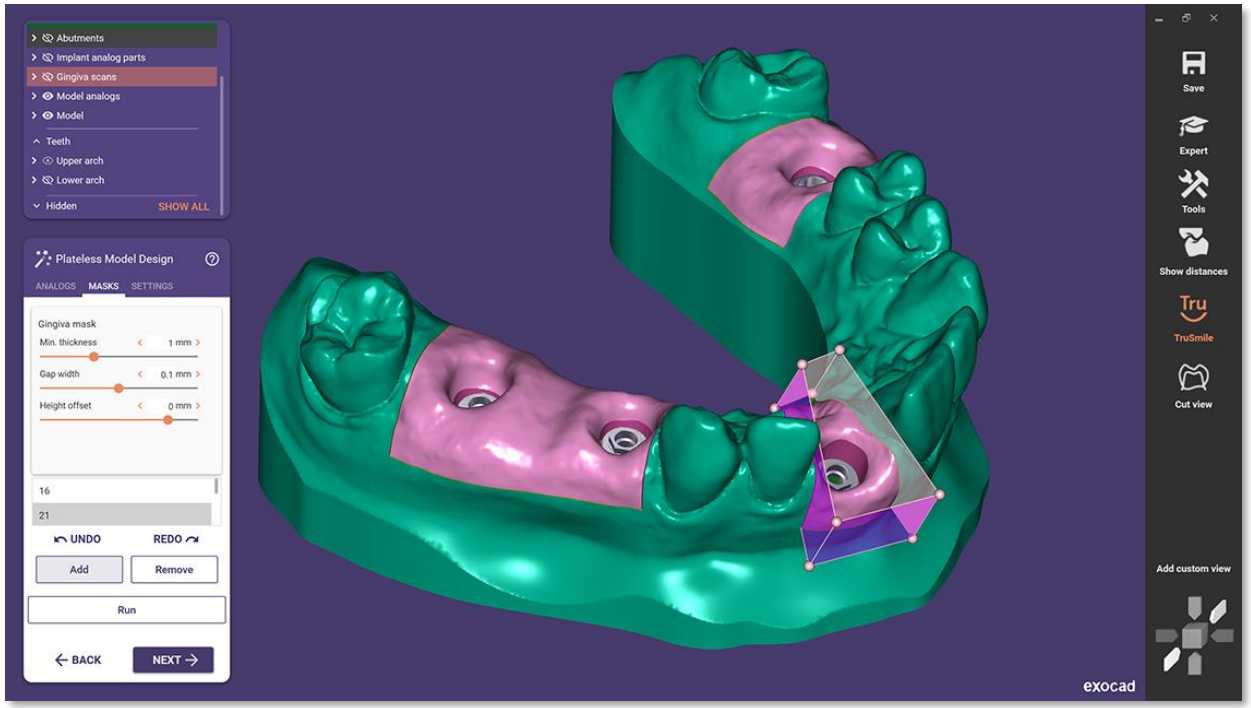
# Flat gingiva mask bottom for plateless models

## Intro

Design 3D-Printer friendly soft gingiva masks with a plane, flat bottom for lab analogs and stumps of any size, with an intuitive and versatile placement-tool.

## Technical Description

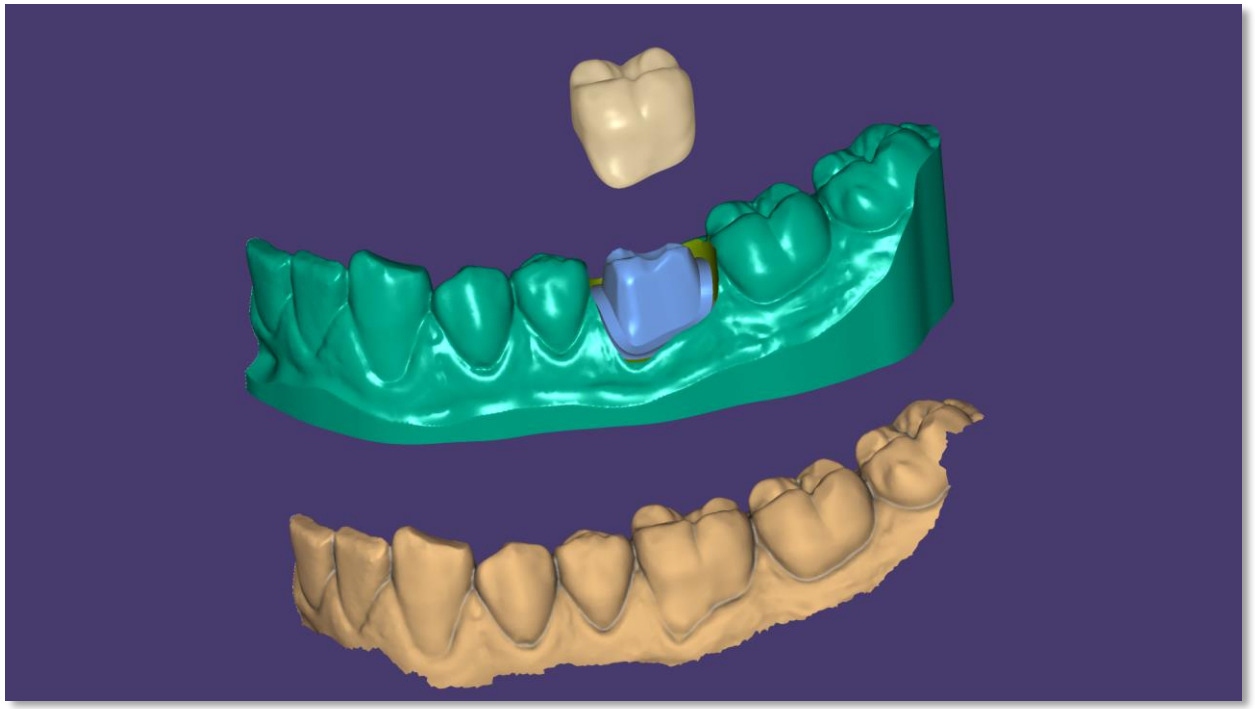
- New model plate type ‘Plateless Model (gingiva masks flat)’ available
- When selecting gingiva masks in the model creation, the user gets a matrix shape which can be deformed with simple control points
- Individualize the gingiva mask shape can be in every way imaginable with additional control points, height differences and angulated surfaces



# Provisional crown stump models

## Intro

Create models with prepared dies on the basis of designed eggshell-provisionals individual for each situation, as a basis for preparation-helpers or as a tool for your manual finishing steps for the crowns.



## Technical Description

- When switching to the *Model Creator* with a finished eggshell provisional design the model design allows for the creation of prepared dies
- Select between the original tooth shape, the tooth with the new provisional on top or a prepared die, based on the provisional crown bottom

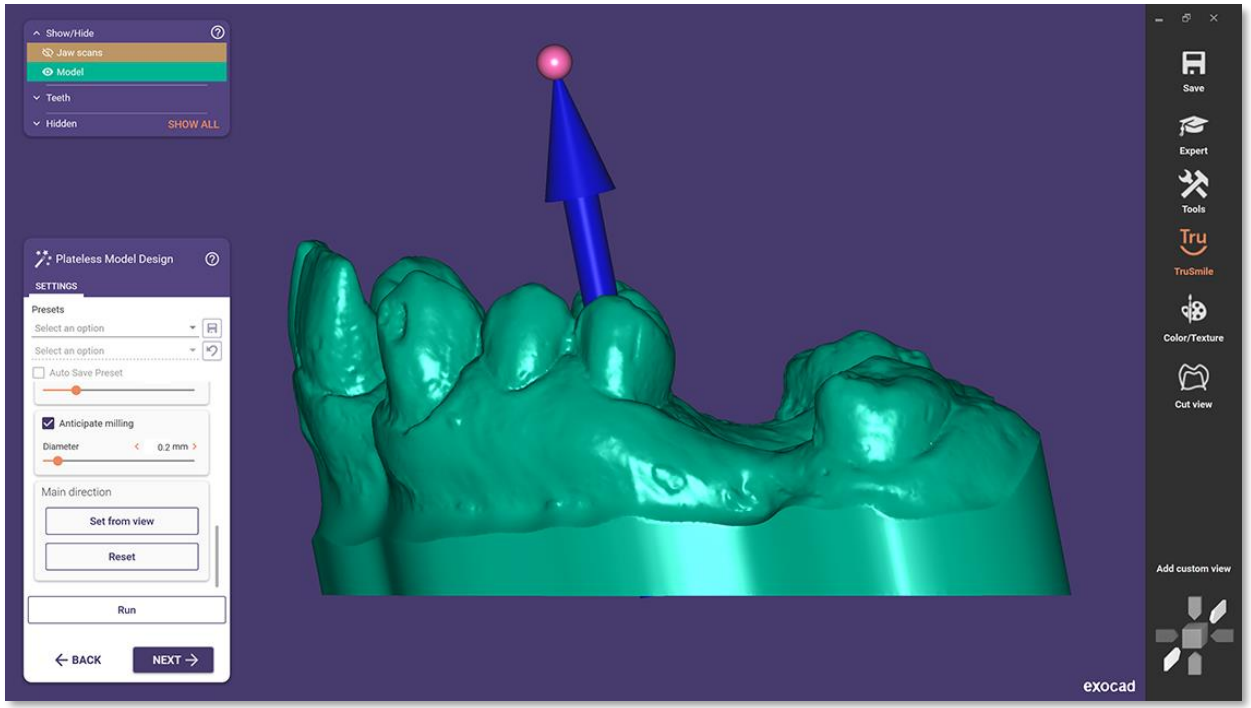
# Set model base direction

## Intro

Set the direction of the model base to a different axis than the actual scan. This allows the compensation of natural tilt, resulting in more practical and beautiful models, while saving material.

## Technical Description

- New option in the model design step gives users the possibility to change the model base direction independent from the general model direction
- Model base direction can be changed by grabbing the central arrow on the model and dragging it around or with the ‚Set from View‘ button at the bottom of the model settings



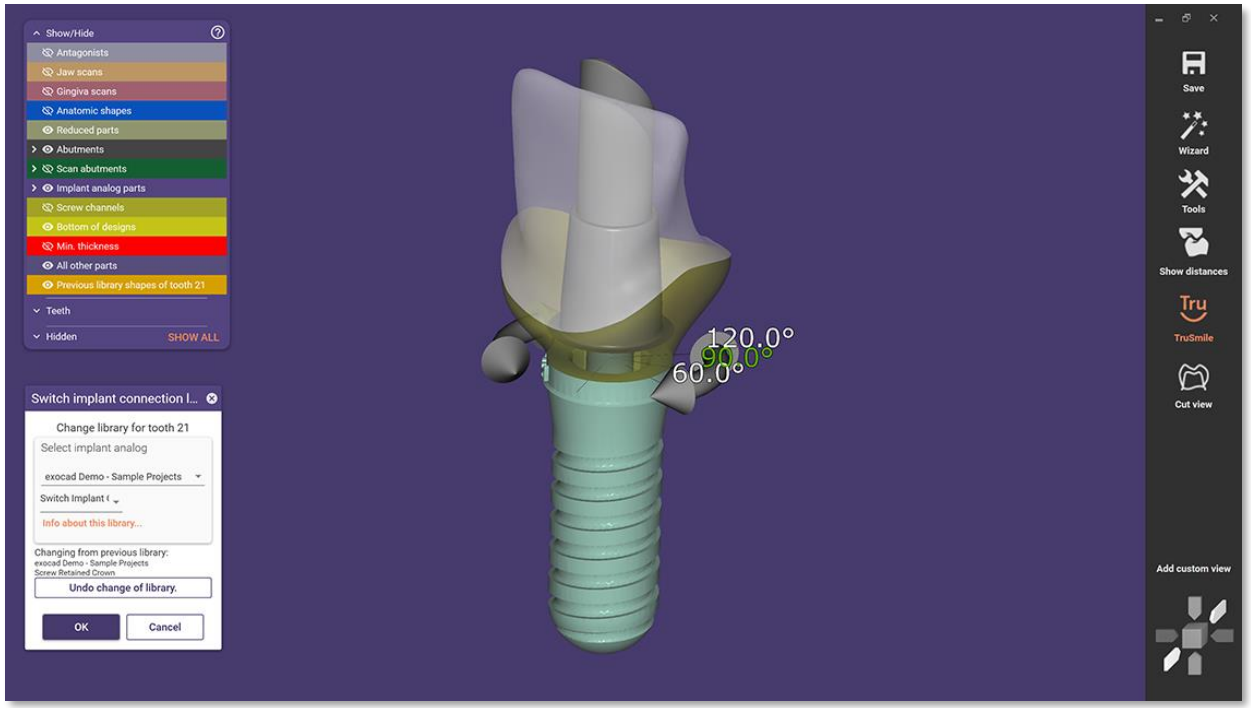
# Highlights for *Implant Module*

# Switch implant connection (previously BETA)

## Intro

The implant connection can be changed within compatible implant libraries even after finishing the design of the abutments.

This helps in cases where the lab wants to use a titanium base or model analogue from a different manufacturer than the scanbody used. Previously, a titanium base from the same company as the scanbody was required, as only this titanium base was linked to the scanbody. With the new feature, the lab can select a different titanium base and the correct position information is transferred.




## Technical Description

- In expert mode the new tool ‘Switch implant connection library’ provides the option to switch between compatible implant libraries
- Additional option to switch implant type between Custom Abutment and Screw Retained is available as well
- No need to restart the design, e.g. if the user wants to switch to a Ti-base as long as it is compatible with the originally selected implant type

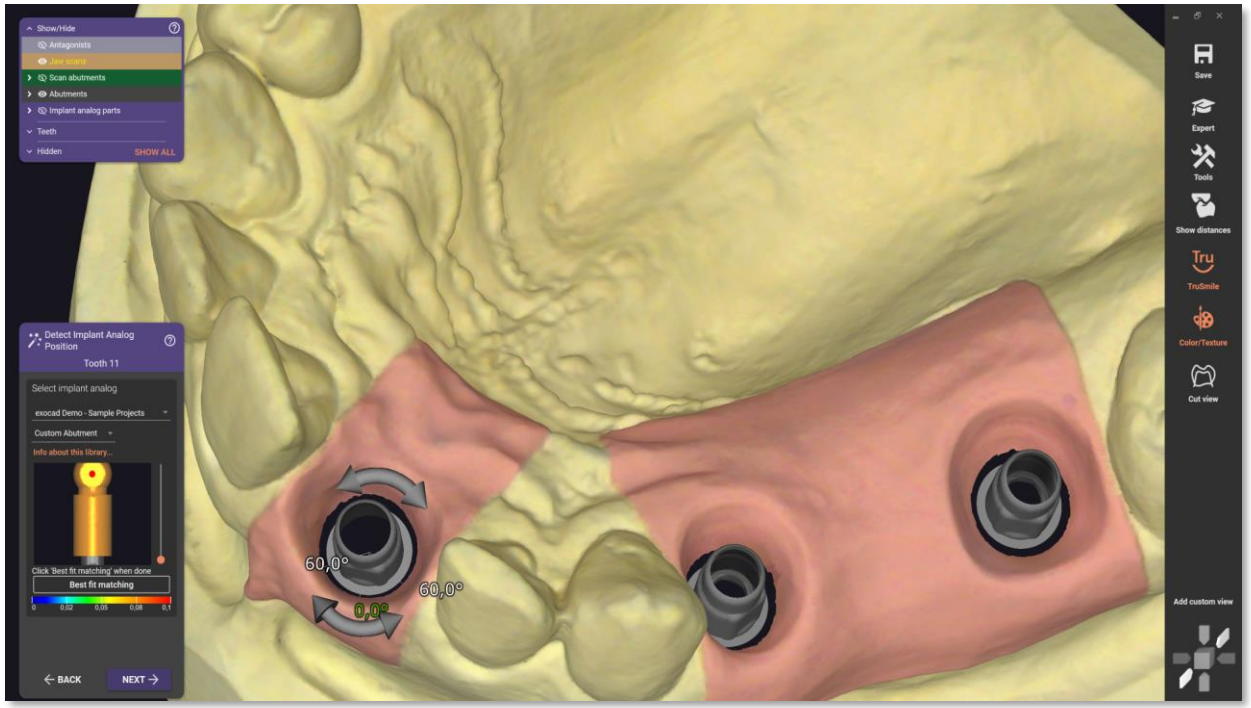
# Improved implant position and rotation

## Intro

Activate the color coding of the implant matching per default. The new feature offers the rotation of the abutment connection based on the used implant library, helping to easily position Ti-bases for an optimal prosthetic result.

## Technical Description

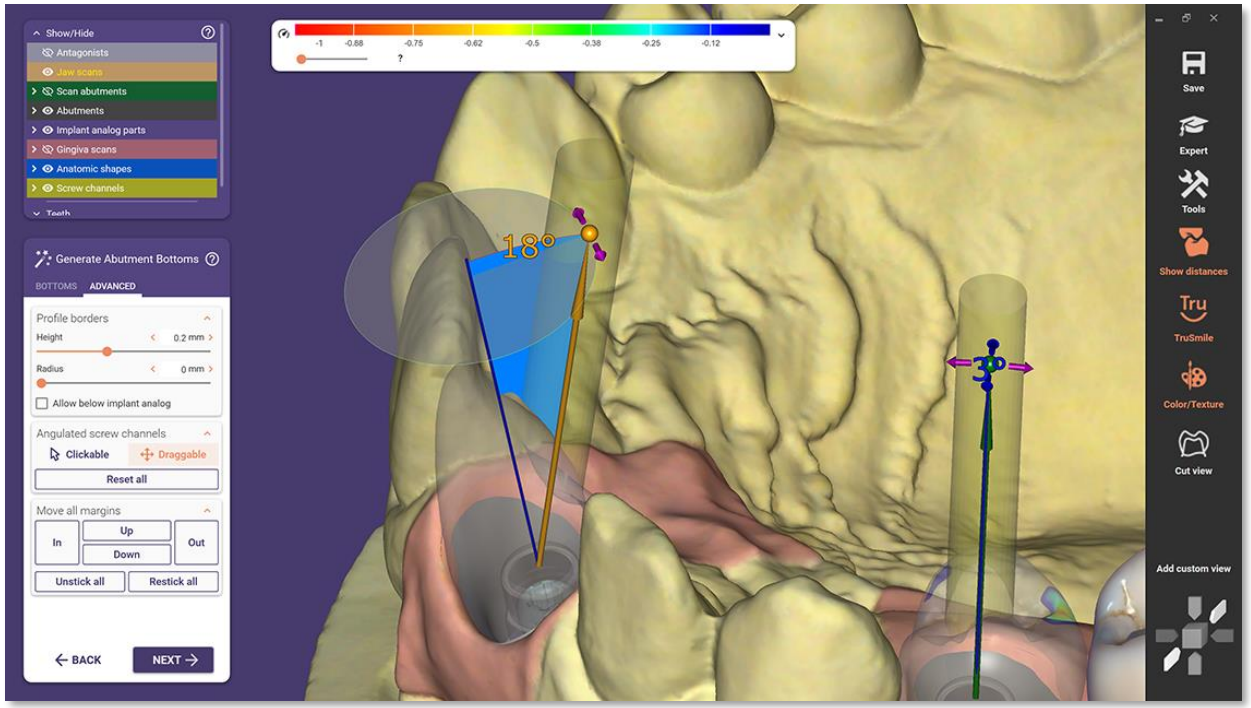
- When activating the user setting, matching a scanbody shows the best-fit color map, immediately displaying information about the accuracy of the matching
- After matching a scanbody, the user can rotate the abutment connection in accordance with rotation angles allowed by the library
- This is useful for angulated abutments or Ti-bases where the rotation lock may induce problems with the design thickness and allows to place scanbodies in the scan based on convenience, independent of the desired rotation of the Ti-base.



# Draggable arrow to set angulation of screw channels

## Intro

Adjust screw channel angulation easier than ever before. The axis of angulated screw channels can now be changed not only by click on your design but also with a draggable arrow, showing you exactly the degrees of angulation and giving you full control of the specific channel direction.




## Technical Description

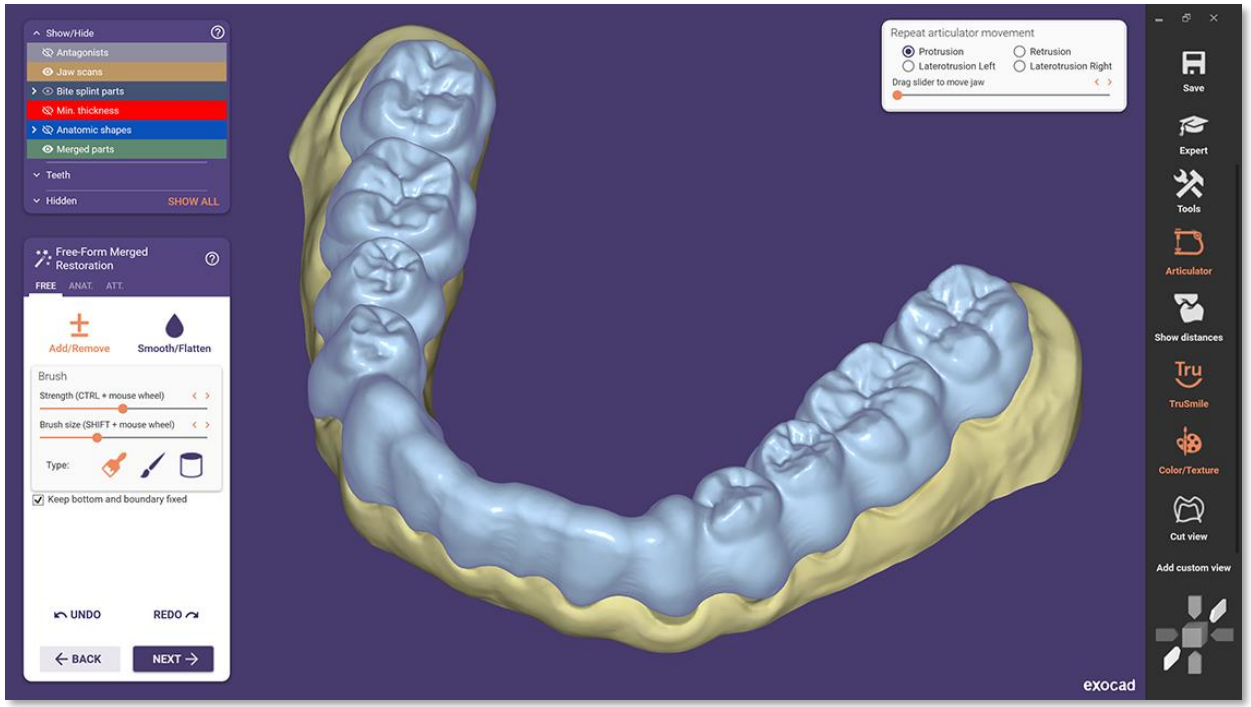
- The option to angulate screw channels now contains the new mode ‘Draggable‘ which lets the user choose the direction of the screw channel with more detailed information
- Dragging the direction arrow shows a 2D disc in the direction of the angulation as well as the degrees of angulation
- Using the arrows at the control point lets the user define the direction and the angulation independently

# Other Highlights

# *Bite Splint*: Include tooth anatomy (Tabletop)

## Intro

Users of the *Bite Splint Module* can now add anatomic shapes directly to the designed bite splints. This new feature helps designing tabletop-structures or anatomic splints supported by the virtual articulator.




## Technical Description

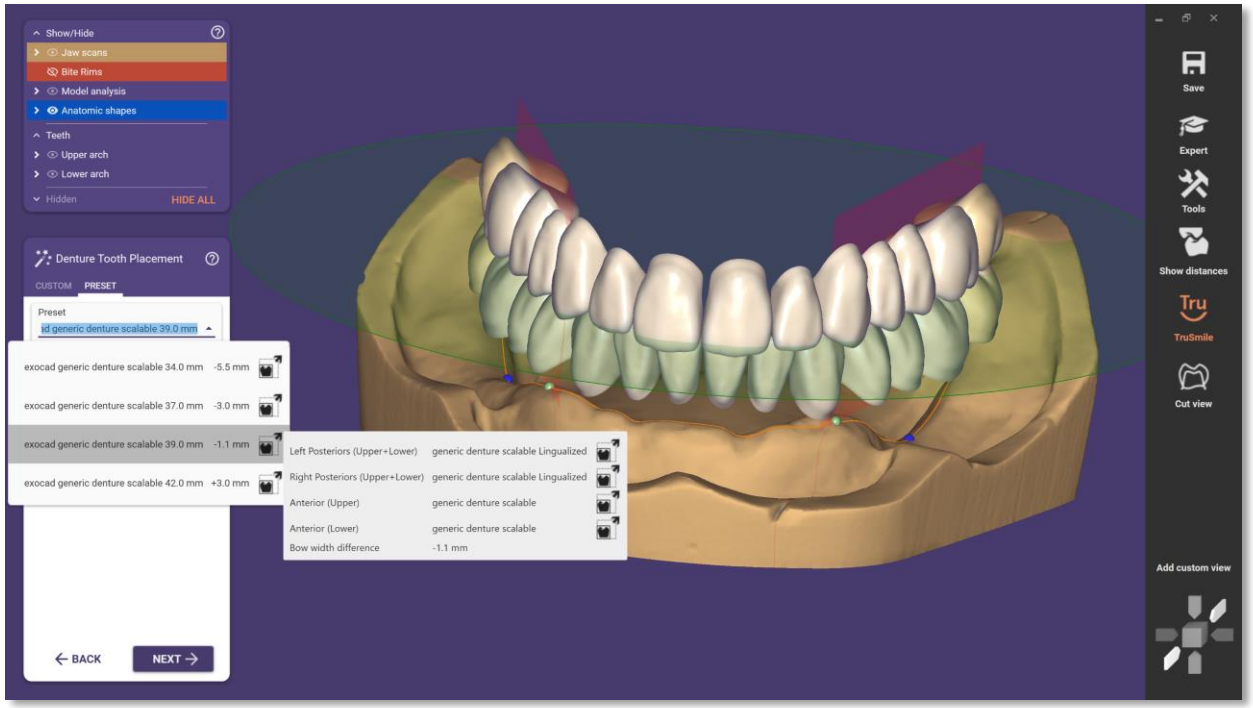
- New bite splint option ‘use anatomy from tooth library’, for Tabletop-style splints, now available
- In the wizard workflow, library teeth can be set up to be added on top of the bite splint, creating an anatomical surface
- Additionally, work type ‘bite splint (missing tooth)’ has been changed to be a selected mode in the default ‘bite splint’ work type to simplify the work type selection

# *FullDenture* setup presets

## Intro

The new *FullDenture* module of the Galway release contains exocad tooth set-up presets from the new generic denture tooth lines. The teeth are optimally positioned in relation to each other in terms of function and esthetics and can be used as a basis for a quick and successful denture set-up.

In addition, the user can generate a custom preset from a case once it has been set up, save it for further cases and apply it accordingly. This is available for all scalable and open tooth libraries, e.g. with the new generic exocad denture teeth. The appropriate open libraries can be preselected in the library filter, allowing the user to save valuable time in the denture setup, by using the respective presets.




## Technical Description

- Significantly less time for optimal denture setups with exocad generic presets or personal presets (applicable only for the setup of both arches)
- Personal presets can be created and saved with all open denture tooth libraries (accessible via the exocad download portal) to use them as basis for new patient cases
- The presets from the open tooth libraries can be scaled in order to adapt the set-up even better to the individual patient situation

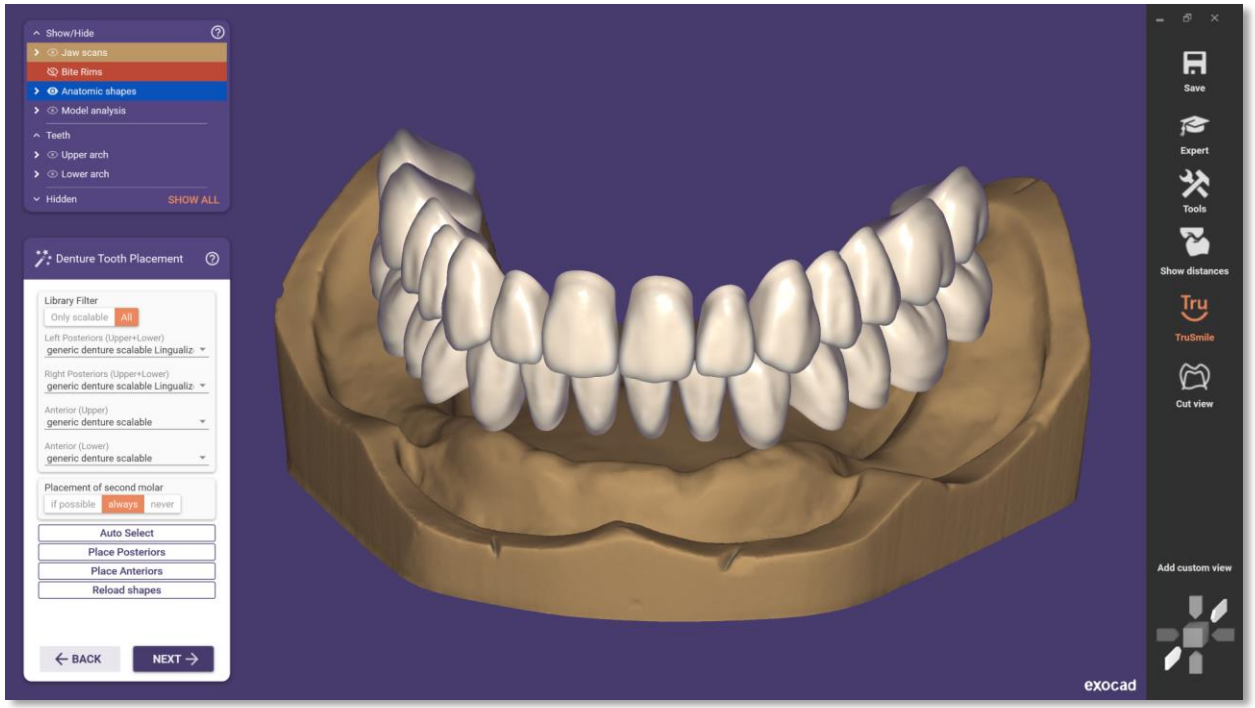
# New generic denture libraries

## Intro

The generic tooth library for full dentures has been completely revised to provide more options and to better meet the specific requirements of full denture designs.

## Technical Description

- The generic tooth libraries for full dentures now follow a lingualized occlusion type, in many cases better suited for full dentures
- All tooth shapes now have a reduced, smoother basal area, for easier insertion into the gingiva base design
- The generic library comes in five different sizes for non-scalable workflows and one additional scalable version

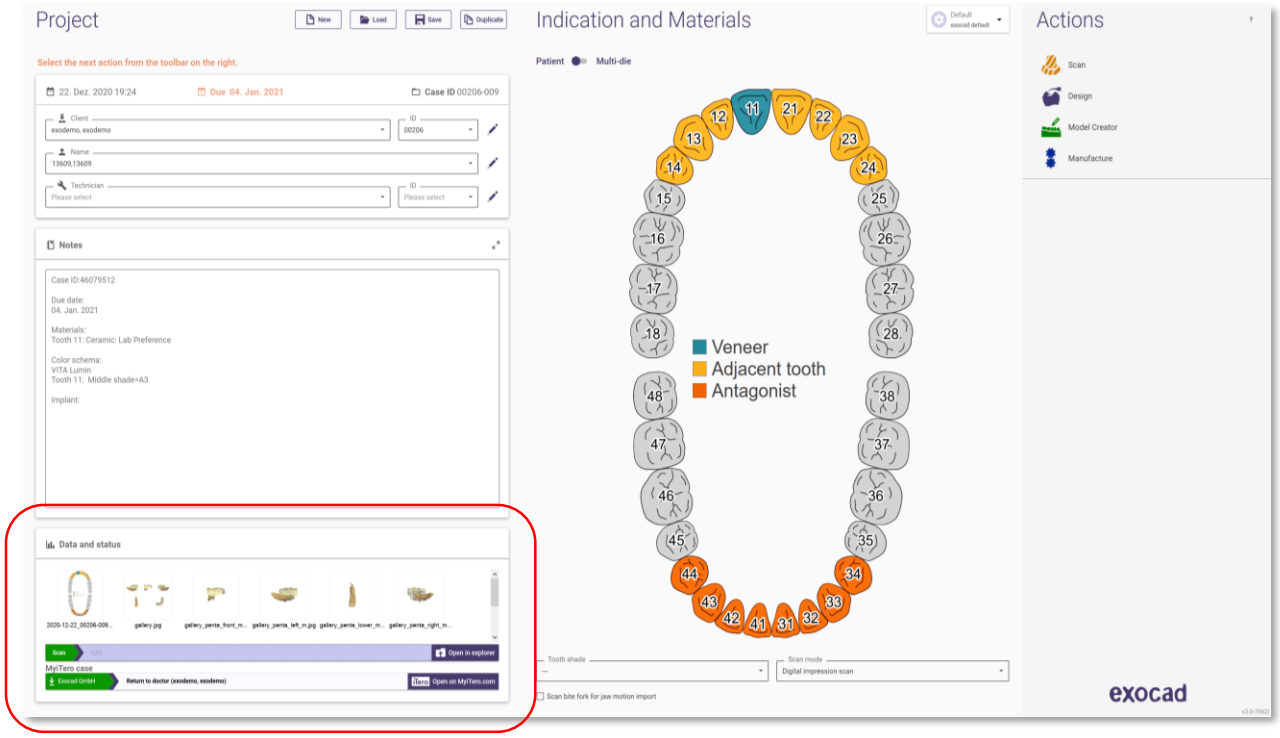


# New MyiTero connector

## Intro

As an exocad user, a MyiTero account gives you an easy and integrated way to directly receive intraoral scan cases from thousands of doctors worldwide. Be ready to design in just 1 click after connecting your lab's MyiTero account and exocad software.[1]

*DentalCAD* users can request MyiTero access using Align's contact form. See https://exocad.com/integration/myitero for further details.




## Technical Description

- Users can save steps with exocad integration by easily connecting their MyiTero account and exocad software
- Automatically import iTero scan and prescription information into exocad's *DentalDB*
- Use the embedded return to doctor function
- Launch MyiTero.com to utilize iTero services

[1] Not available in all countries

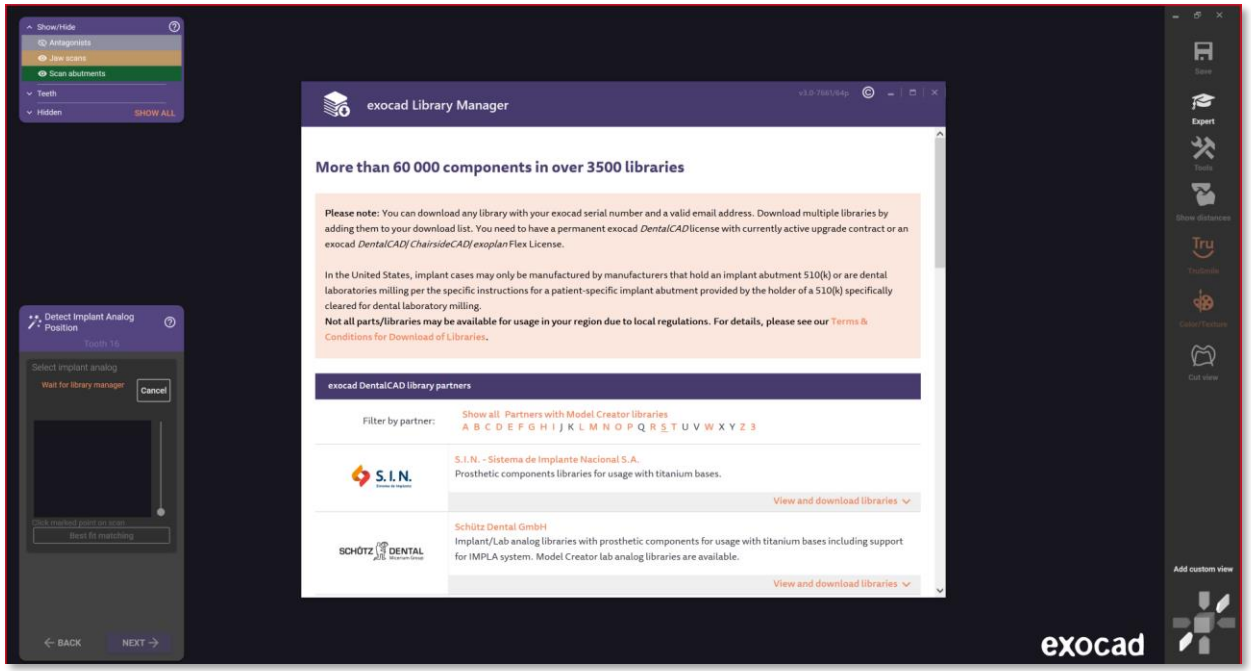
# New Library Manager

## Intro

With the "Library Manager" function, library installation for *DentalCAD* is easier than ever before. You can install or update libraries directly from within the exocad software - no more need to manually download, unpack and install libraries.

## Technical Description

- After starting the Library Manager, the desired libraries are selected directly within CAD
- All selected libraries are automatically downloaded, stored in the corresponding folder and installed
- No manual entry of the license number in the download portal is required




[1] Not available in all countries

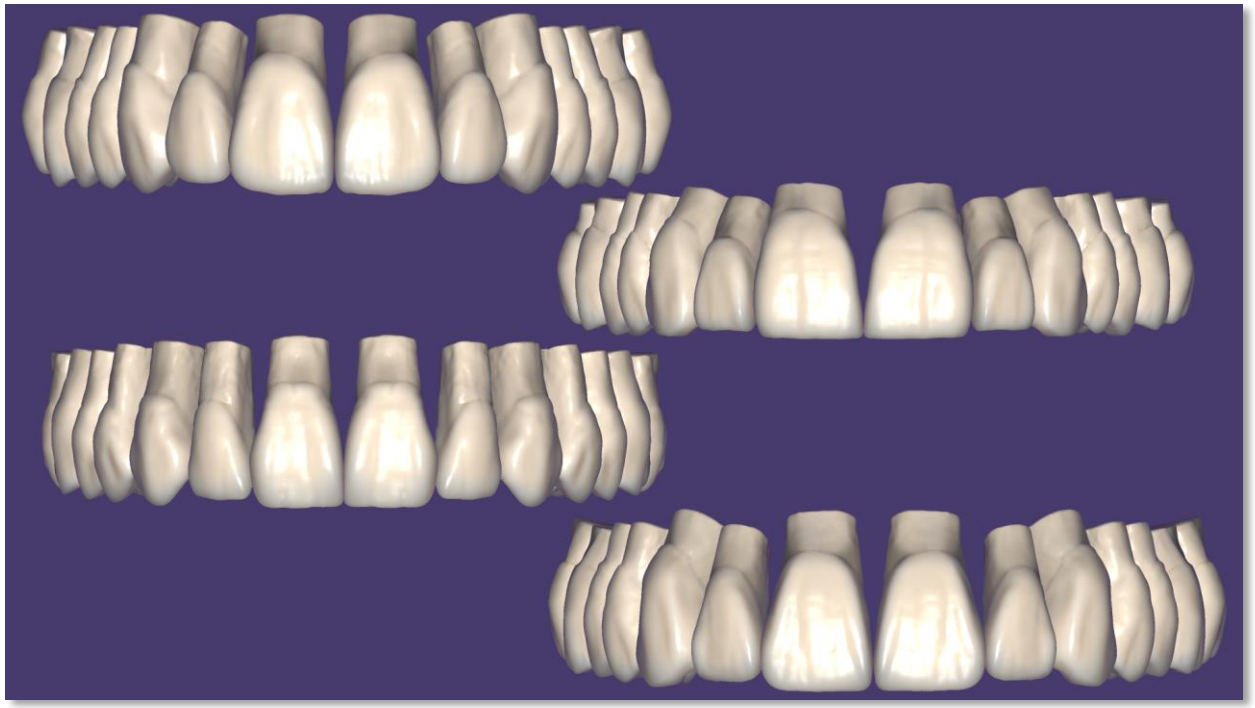
# New tooth libraries

## Intro

Four new additional tooth libraries have been introduced by one of our community members, Anatoly Mishin.

## Technical Description

- New beautiful and functional natural tooth libraries added: Anatoly-oval, Anatoly-square, Anatoly-triangular and Anatoly-unique, each with an individual set of anterior and different posterior shapes



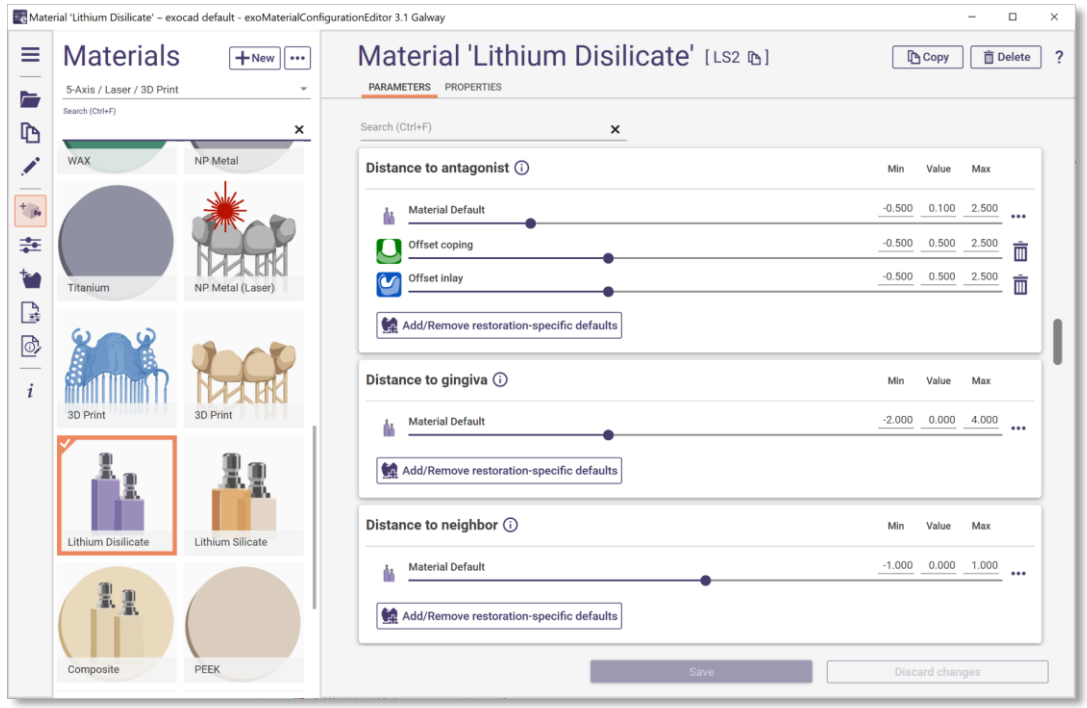
# New WorkParamConfigTool - easier management of materials & parameters

## Intro

The user interface of the work parameter configuration tool has been completely redesigned to be more user-friendly and easier to follow.

## Technical Description

- The WorkParamConfigTool, used by our partners, system integrators and material providers to create custom parameters and materials for *DentalCAD*, has been completely re-designed.
- The new tool is easier to understand and contains an expert mode with more available tools
- Config files can be loaded and saved individually for a more precise and faster workflow when creating your custom parameters



# Improved *ExoViewer 3D*

## Intro

*ExoViewer 3D* now includes a plethora of tools and functionalities for a variety of applications. Many of the tools already known from *DentalCAD* can now also be used here, as well as the option to load complete scenes.

## Technical Description

- Contains the option to load and save scenes
- Many tools to analyze personal scenes added: Measurement tools, cut view option and the magic lantern
- New option to show grid as overlay instead of background
- Option to show surface normal
- New screenshot option

exocad

# Thank You

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