

# *EXOPLAN 3.1 RIJEKA* HIGHLIGHTS

Release presentation  
02/2023

Imagine the **CAD**ABILITIES



# New full surgical protocol with drill sequence

## Intro

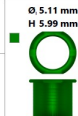
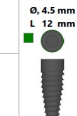
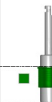
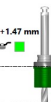
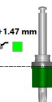
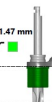
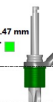
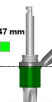

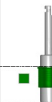
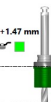
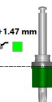
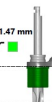
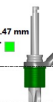
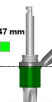

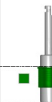
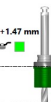
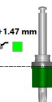
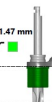
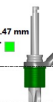
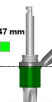

With the new full surgical protocol, all relevant guided surgery steps are listed to provide the dentist step-by-step guidance for the surgery. This supports a clearer overview and better documentation of the treatment.

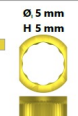




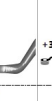





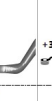





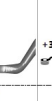


## Benefits

- Implant, sleeve and protocol section on one page for a better overview
- Extended and improved presentation of the surgical protocol with more images
- Improved documentation of the treatment, incl. guided implant insertion

## Technical description

- One-pager, full surgical protocol per implant for supported implant systems. Each step will be listed in surgical protocol with color codes and handles, drills, etc.
- The list of supported systems is constantly being expanded

Tooth 36 (FDI)		Patient: Doe, John Project: 2020-12-01_00001-001 (Lower jaw)		This automatically generated report should only be used as a guideline and therefore must not be considered official manufacturer documentation.		exocad																													
<b>BIOHORIZON</b> 4.6 mm Master Cylinder H6 Article Number: C05-GMC-10 Inner Diameter Ø: 5.11 mm Height H: 5.99 mm Distance from sleeve top: To platform: 10.53 mm to bone level: 10.33 mm		 Ø 5.11 mm H 5.99 mm		<b>BIOHORIZON</b> Mount-free Tapered Internal, Ø 4.6 mm, RBT Surface with Laser-Lok®, 12 mm Article Number: TL34612 Platform Diameter Ø: 4.5 mm Length L: 12 mm Body Diameter: 4.6 mm		 Ø 4.5 mm L 12 mm																													
<b>BIOHORIZON® - Guided Surgery Kit C054000</b>																																			
<table border="1"> <thead> <tr> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> <th>6</th> <th>7</th> </tr> </thead> <tbody> <tr> <td>Ø 4.6 mm</td> <td>Ø 2 mm L 24 mm</td> <td>Ø 2.5 mm L 24 mm</td> <td>Ø 3.2 mm L 24 mm</td> <td>Ø 3.7 mm L 24 mm</td> <td>Ø 4.1 mm L 24 mm</td> <td>Stop Position SP3</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Ø 4.6 mm C05 Tissue Punch (C05-GTP)</td> <td>Ø 2.0 C05 Drill Guide (D4.6 (C05-DG020)) 2.0 x 24mm C05 Pilot Drill (C05-3204)</td> <td>Ø 2.5 C05 Drill Guide (D4.6 (C05-DG025)) 2.5 x 24mm C05 Drill (C05-3204)</td> <td>Ø 3.2 C05 Drill Guide (D4.6 (C05-DG032)) 3.2 x 24mm C05 Drill (C05-3204)</td> <td>Ø 3.7 C05 Drill Guide (D4.6 (C05-DG037)) 3.7 x 24mm C05 Drill (C05-3204)</td> <td>Ø 4.1 C05 Drill Guide (D4.6 (C05-DG041)) 4.1 x 24mm C05 Drill (C05-4104)</td> <td>Ø 4.6 mm C05 Tapered Internal Screw-retained Implant Driver (C05-PGDR)</td> </tr> </tbody> </table>								1	2	3	4	5	6	7	Ø 4.6 mm	Ø 2 mm L 24 mm	Ø 2.5 mm L 24 mm	Ø 3.2 mm L 24 mm	Ø 3.7 mm L 24 mm	Ø 4.1 mm L 24 mm	Stop Position SP3								Ø 4.6 mm C05 Tissue Punch (C05-GTP)	Ø 2.0 C05 Drill Guide (D4.6 (C05-DG020)) 2.0 x 24mm C05 Pilot Drill (C05-3204)	Ø 2.5 C05 Drill Guide (D4.6 (C05-DG025)) 2.5 x 24mm C05 Drill (C05-3204)	Ø 3.2 C05 Drill Guide (D4.6 (C05-DG032)) 3.2 x 24mm C05 Drill (C05-3204)	Ø 3.7 C05 Drill Guide (D4.6 (C05-DG037)) 3.7 x 24mm C05 Drill (C05-3204)	Ø 4.1 C05 Drill Guide (D4.6 (C05-DG041)) 4.1 x 24mm C05 Drill (C05-4104)	Ø 4.6 mm C05 Tapered Internal Screw-retained Implant Driver (C05-PGDR)
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<b>straumanngroup</b> Ø 5.0 mm self locking T-sleeve Article Number: 034.299V4 Inner Diameter Ø: 5 mm Height H: 5 mm Distance from sleeve top: To platform: 6.87 mm to bone level: 7 mm		 Ø 5 mm H 5 mm		<b>straumanngroup</b> BLX, Ø 4.0 mm RB, SLActive® 10 mm, Rowold® Article Number: 061.5310 Platform Diameter Ø: 3.5 mm Length L: 10 mm Body Diameter: 4 mm		 Ø 3.5 mm L 10 mm																									
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# New rapid pre-planning

## Intro

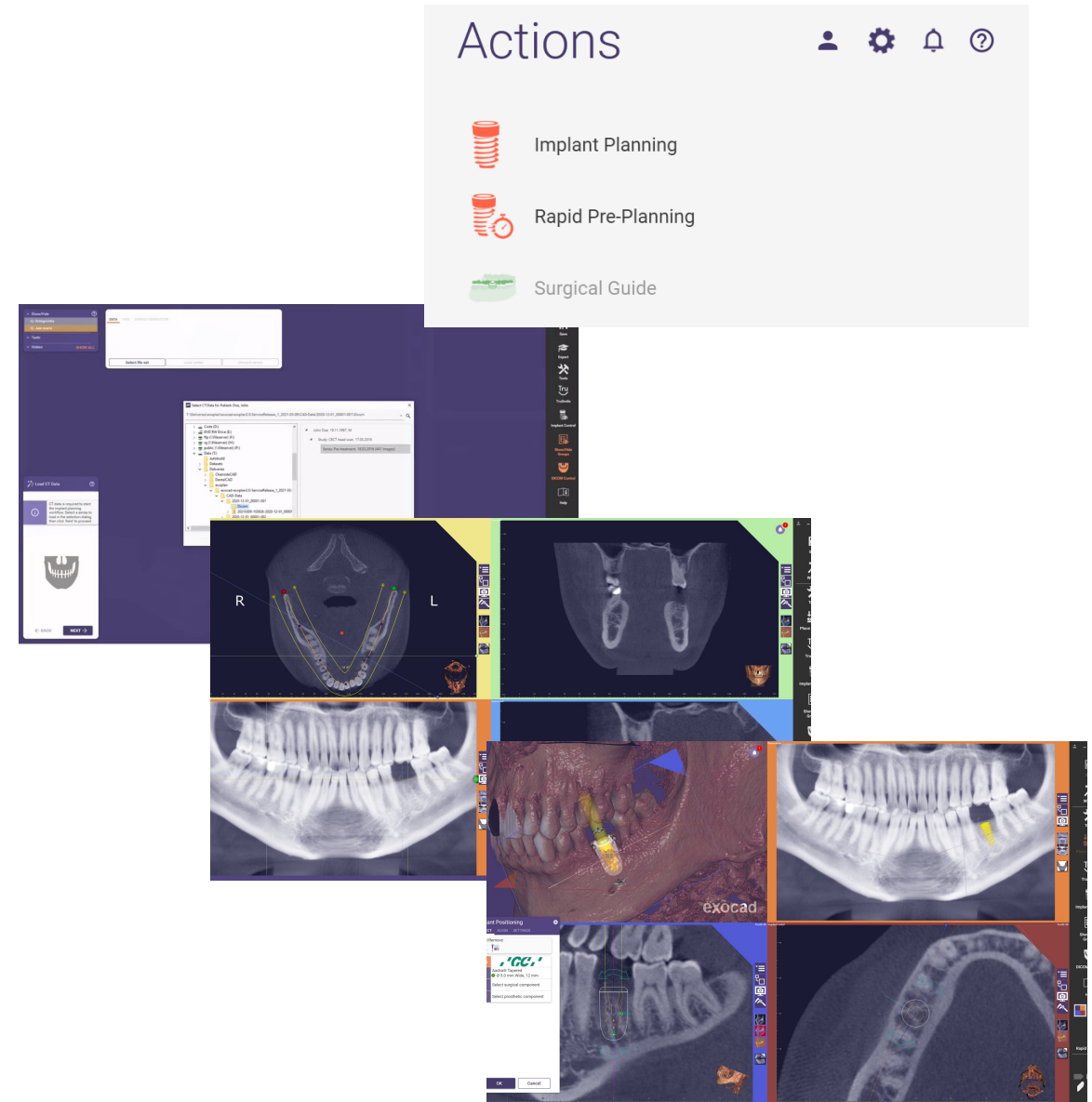
The new "rapid pre-planning" feature allows very quick preliminary planning of implants that can be refined later on. This helps clinicians get a quick overview of possible implants/positions. Rapid pre-planning enables the dentist to discuss the implant-planning step with the patient more easily by focusing only on the anatomical situation, including optional implant placement.

## Benefits

- Analyzing the anatomical situation of the patient before starting the detailed planning process
- Improved communication between dentist and patient
- Final steps (precise implant positions, planning of restorative elements, etc.) can be completed later in a separate session or by a third-party service provider

## Technical description

- Option to skip all detailed planning steps (CT alignment, nerve definition, tooth placement) by choosing "rapid pre-planning" in the DB



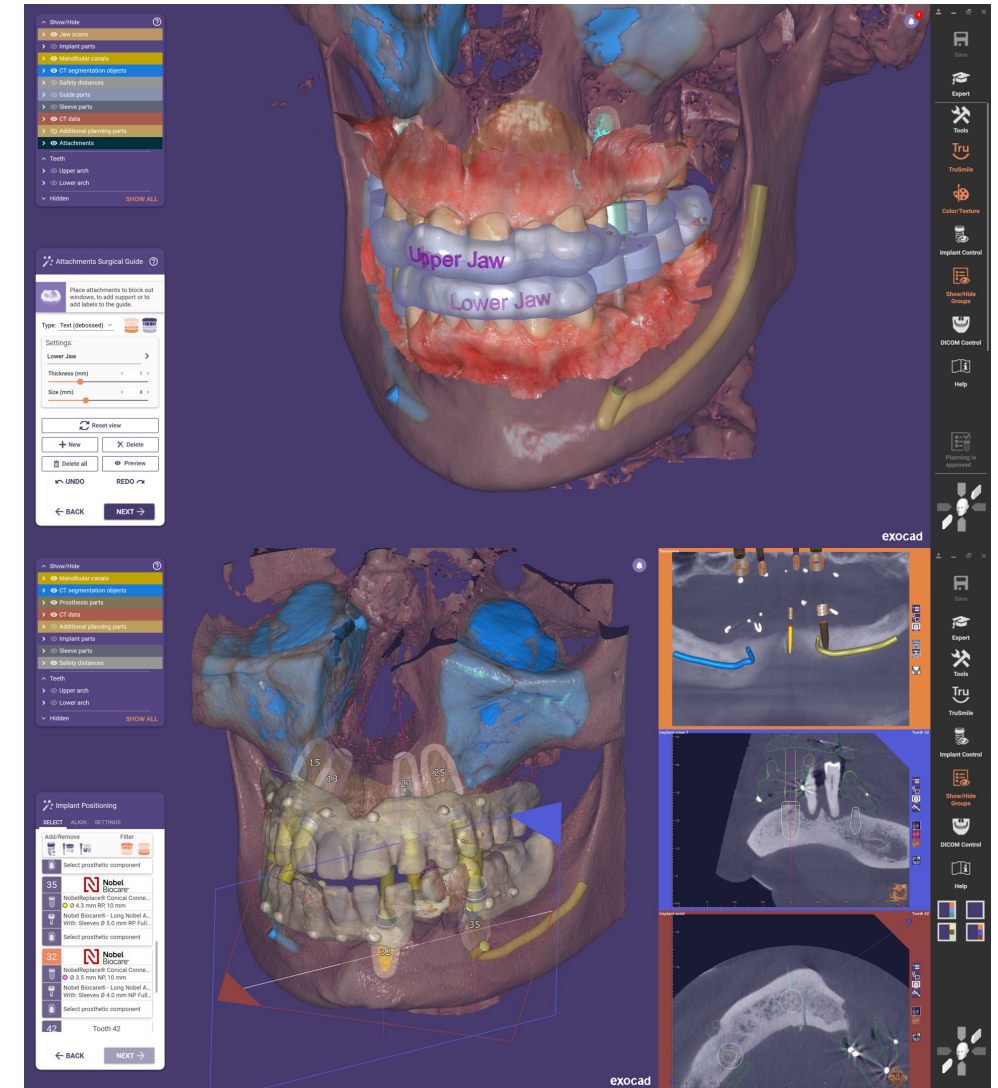
# Simultaneous planning and guide design in both arches (1/2)

## Intro

Often implants need to be planned in both arches in one session. Especially in the area of backward planning, it is beneficial to implement both arches in one planning case and to set up the teeth in occlusion to each other. With the new version, it is possible to realize implant planning as well as the surgical guide design for both arches in one planning case.

## Benefits

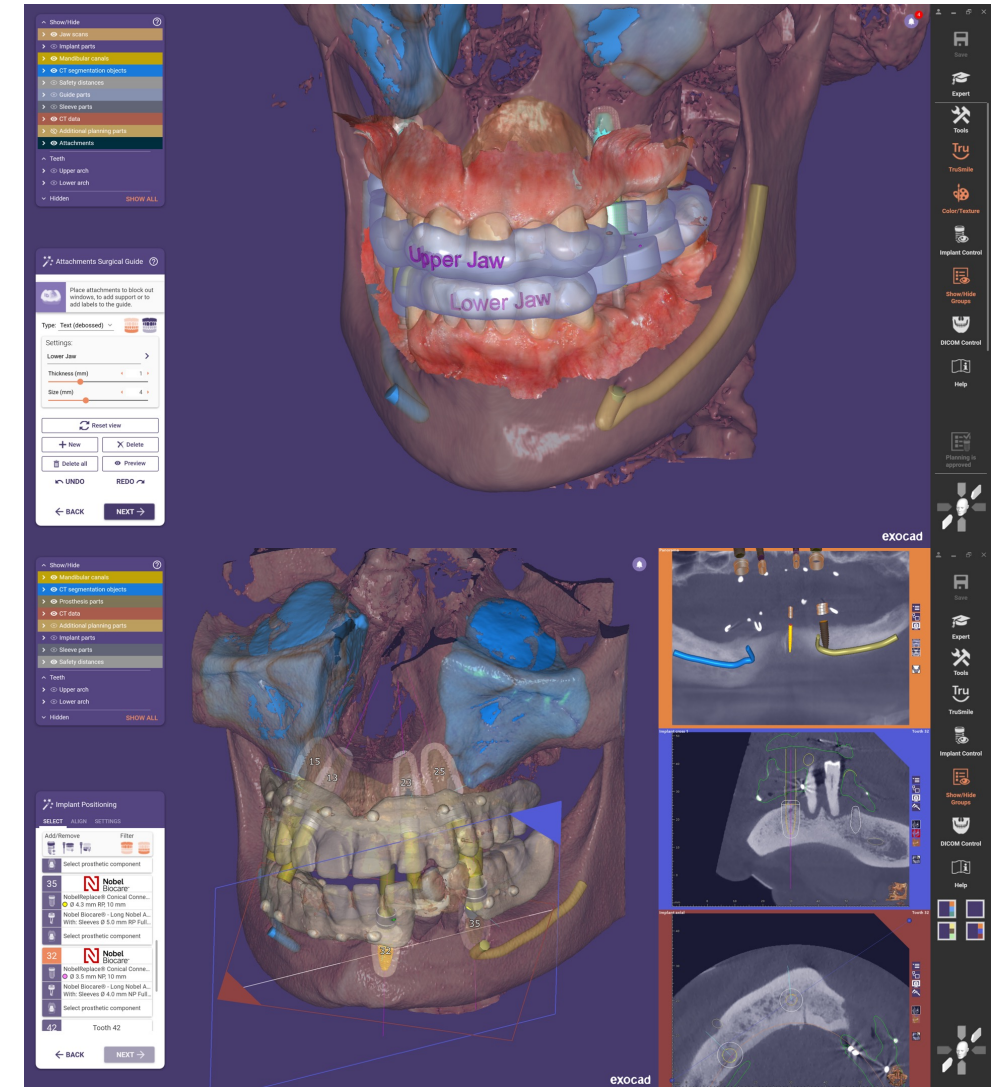
- Improved backward planning in both arches due to complete tooth setup prior to actual implant planning
- Save clicks and avoid duplicate selections by planning in parallel in one project



# Simultaneous planning and guide design in both arches (2/2)

## Technical description

- CT-alignment selection is separate for each arch (CT-to-mesh / CT-to-CT)
- Parallel guide design steps in upper and lower jaw possible (bottom generation, top part, etc.)



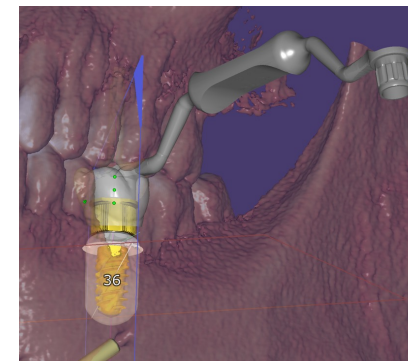
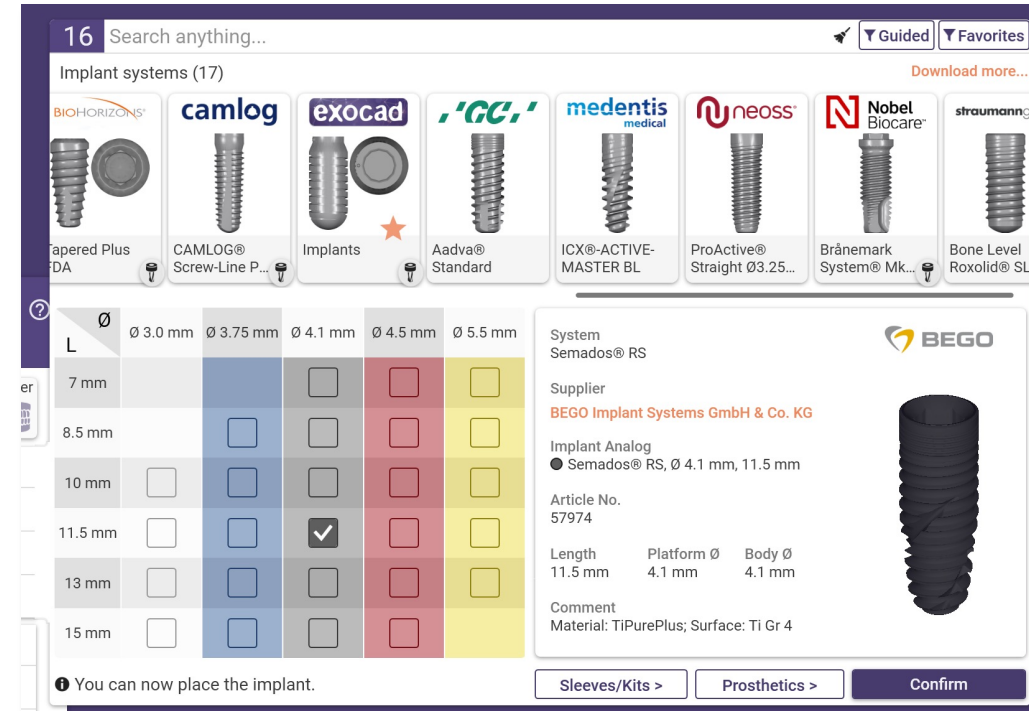
# New implant and component selection (1/2)

## Intro

The new release extends the flexibility and improves the overview by combining three individual wizard steps into one: implant positioning and prosthetics, sleeves, and anchor pins. This gives the user a much better experience and improved usability. Vastly improved implant selection with easy filtering by manufacturer, find-as-you-type search, and a clear color-coded diameter/length selection matrix.

## Benefit

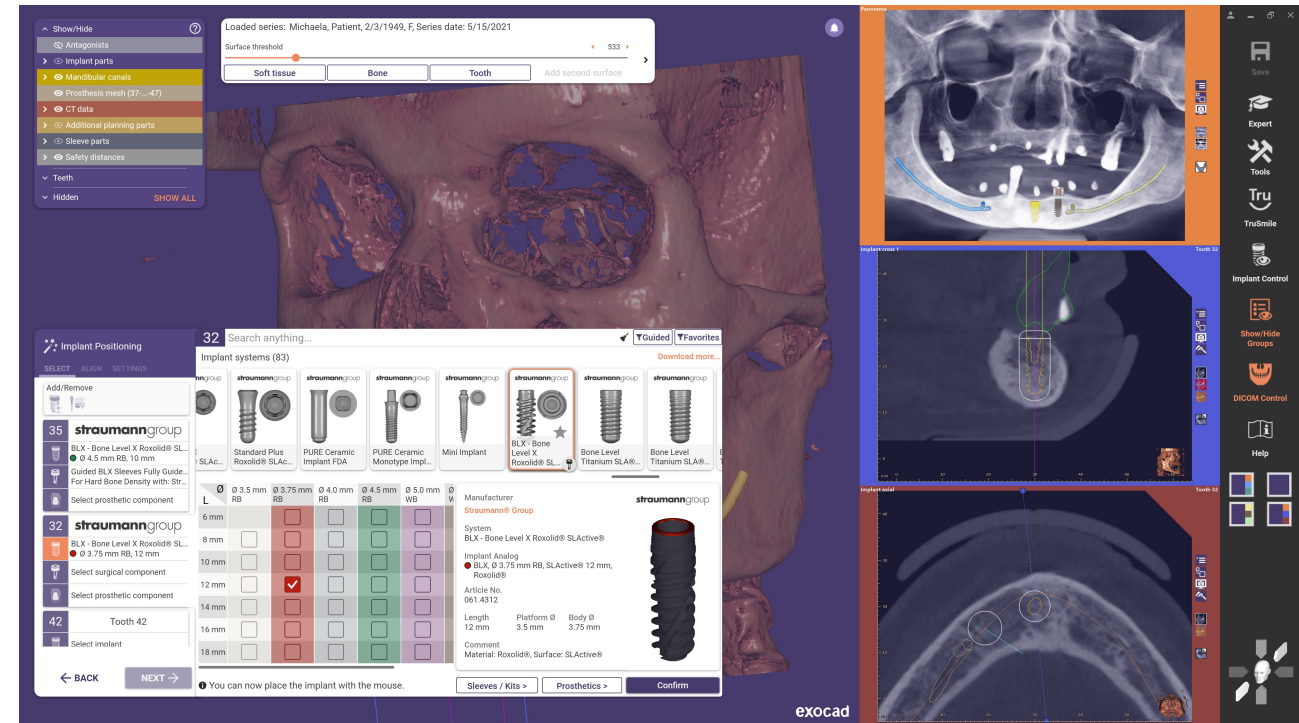
- Quickly find the desired implant even when many libraries are installed. Start the workflow by selecting your desired sleeve, drill kit, or prosthetics (e.g., titanium base) first and continue with prefiltered, compatible implants
- Visualization of implants/drills/tools/handles in the selection window and the software
- The selection is now clarified and reorganized to avoid conflicts in the selection of individual components. Implant, sleeve, prosthetic, and anchor pin placements are combined into one step
- Quickly switch from implant to component selection in one wizard step to mix and match compatible parts with smart filters. Only compatible components are shown - no possibility to mix incompatible components
- Additional option to start the implant positioning with the selection of a sleeve (or drill kit), then go to the drilling protocol



# New implant and component selection (2/2)

## Technical description

- The selection options are presented tooth by tooth with extended information about sleeves and prosthetics
- After selecting an implant, only the compatible sleeves and the drills for this implant appear and vice versa
- Implant positioning changes (if required) are also possible during anchor pin / sleeve placement
- Possibility to select desired surgical protocol based on e.g., patients bone density
- New guided filter shows only implants that have compatible fully or partially guided surgical workflows
- New filter options: Use type-ahead-find or filter buttons



# Improved reports with custom screenshots

## Intro

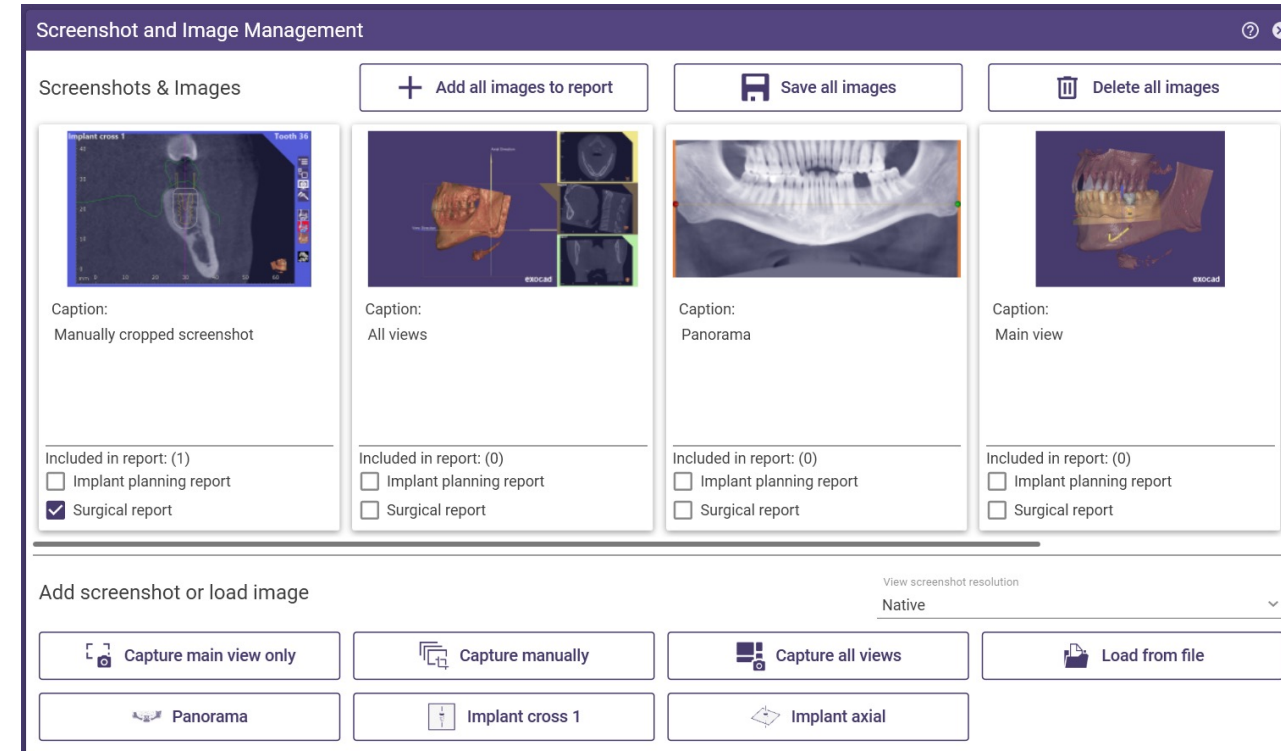
The new release offers a new built-in screenshot management with tools for collecting and editing screenshots to improve communication and documentation. The collected information is automatically saved within the scene.

## Benefit

- Ability to arrange, edit and comment on screenshots, and to save the collection in the scene file, the implant planning report and/or the surgical guide protocol
- This allows users to better document patient cases, request changes and communicate with the involved parties

## Technical description

- Option to edit (paint/mark) the screenshots at any point during the design by hovering over the image/screenshot
- The screenshots and images are automatically saved within the scene



# Improved structure of the planning report

## Intro

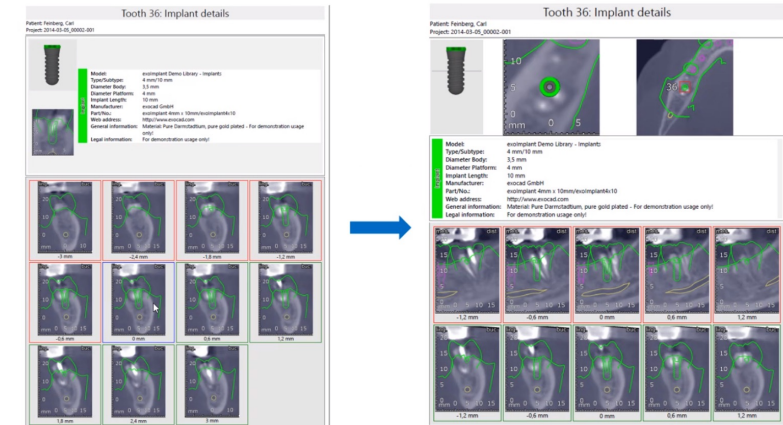
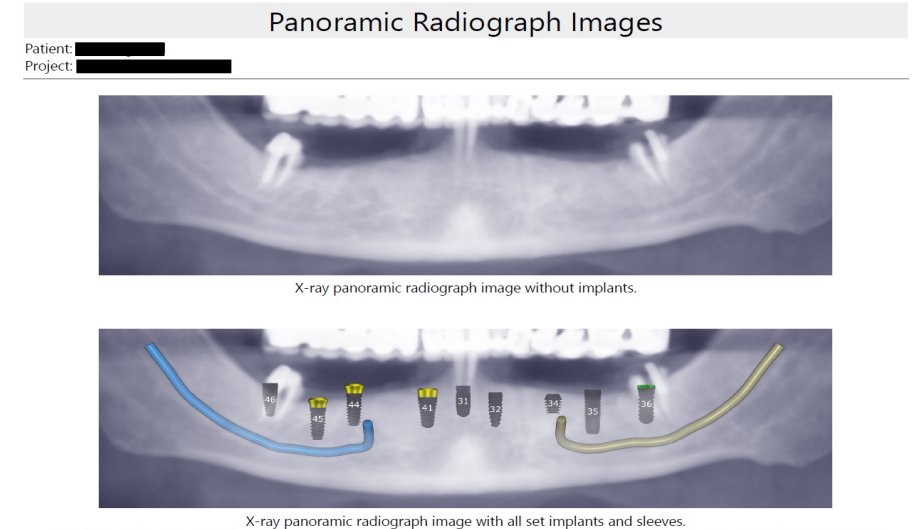
In this release, we've responded to user feedback by further optimizing the arrangement and selection of the cross-sectional views. For an improved overview, the panoramic X-ray image pages are now combined into one page with the corresponding tooth numbers. In addition, the implant detail views have been rearranged.

## Benefit

- The improved overview in the planning report simplifies the implementation and documentation of the planning

## Technical description

- Overview image and improved cross-section views (mesial/distal; buccal/lingual) are added to the detail page
- Angles between implants are shown in two sections when planning dual arch cases – one for each arch



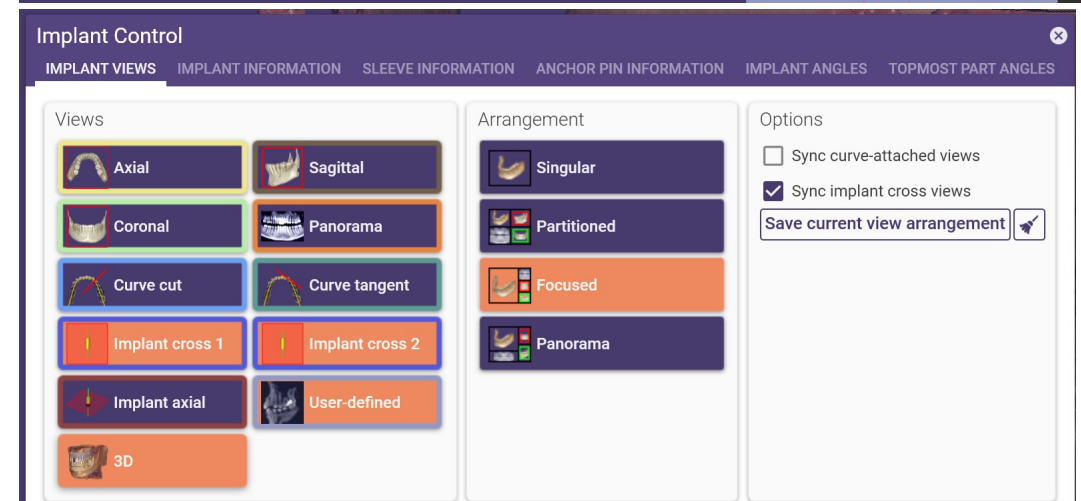
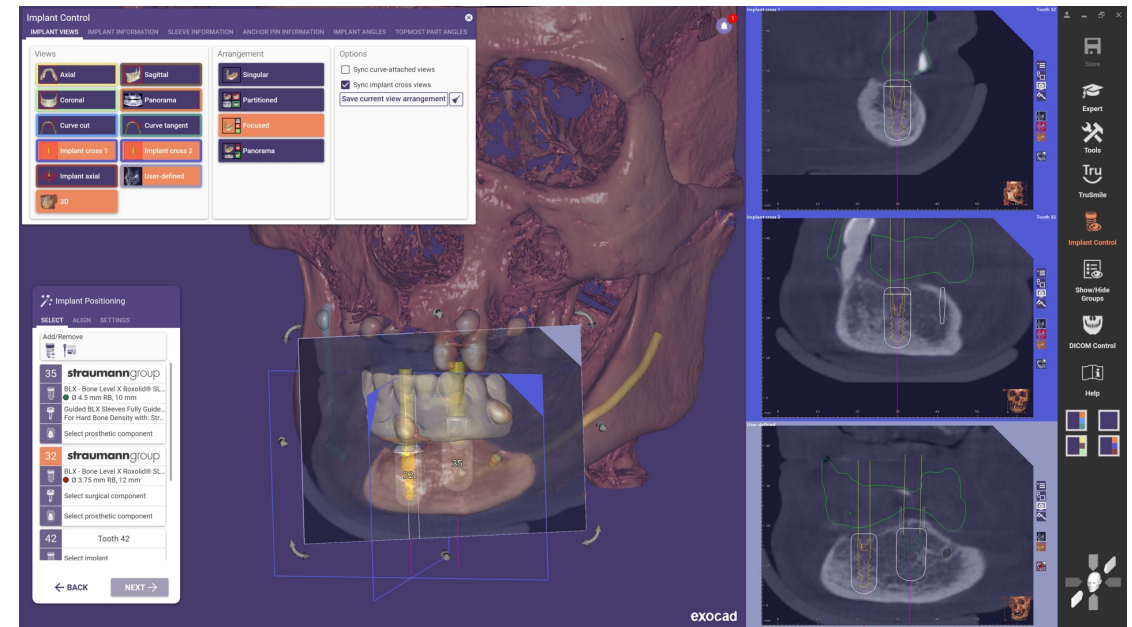
# Improved customization of views (1/2)

## Intro

In the new release, users can now define the arrangement of the views individually. These arrangements are retained for subsequent planning after being selected once. Furthermore, two additional views are introduced: one user-defined view with no restrictions to the patient axis and one implant cross-section view. The implant cross-section view enables another individually adjustable viewing axis in implant planning for more safety during the planning process due to a simplified all-around view.

## Benefit

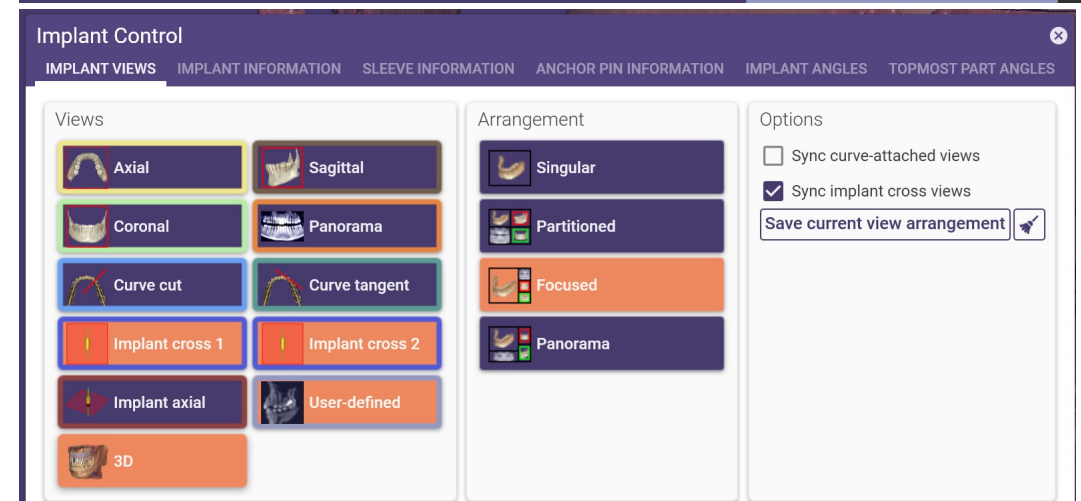
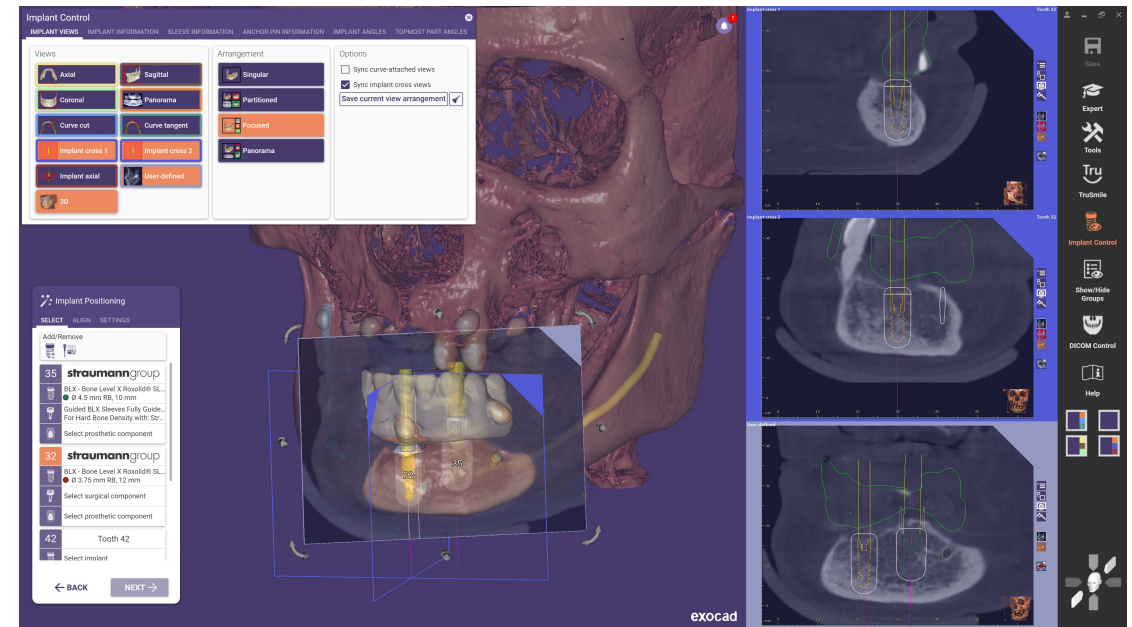
- Individualization of the view arrangements according to the users' wishes and habits
- Better overview of anatomical situation and implant through new cross-section view
- Improved adaption to the users' preferences and habits with a new user-defined view with no restriction to any patient axis



# Improved customization of views (2/2)

## Technical description

- Different views per individual step can be selected and arranged via the "implant control" function
- Second implant cross-section view is per default the orthogonal to the first cross-section view and can be adjusted
- Possibility to deactivate or sync the cross-sectional views individually (mesial/distal) for a better control



# Improved editing of scan data

## Intro

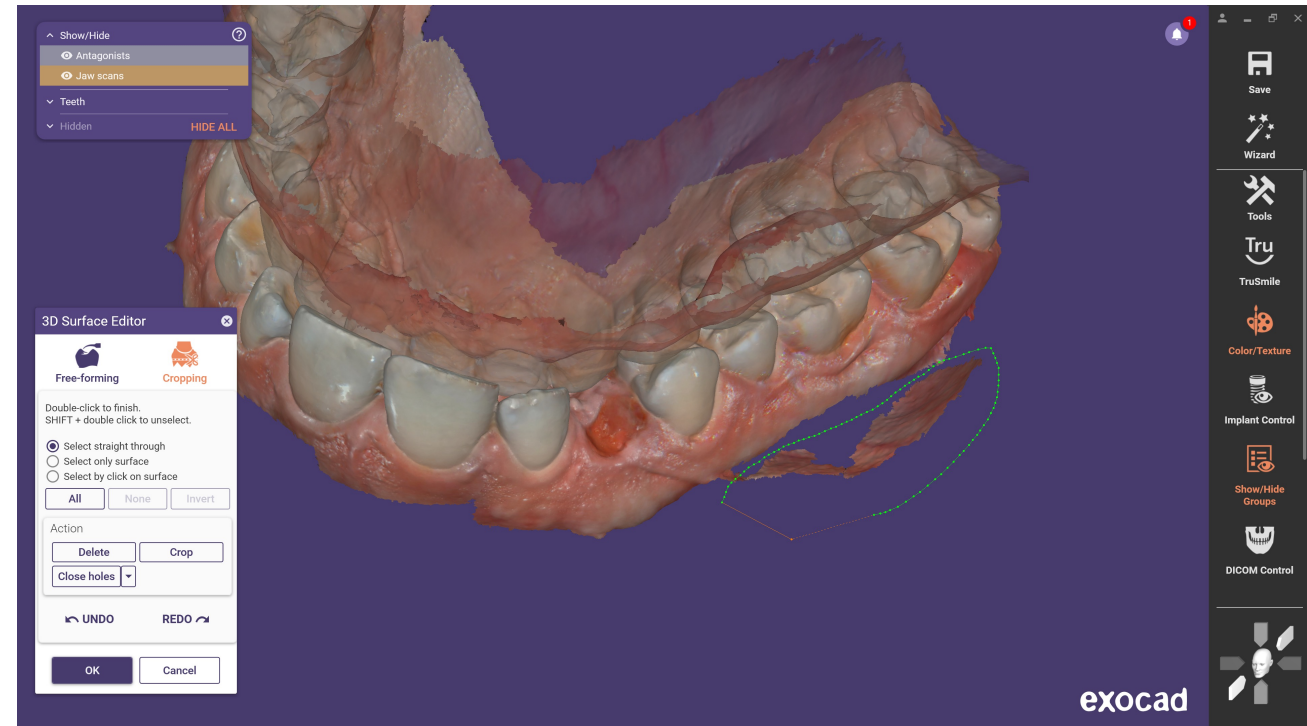
The new scan data editor gives the user the option to use the free-forming and cropping functions in one step. This combination improves the ease of use and leads to a smoother workflow when editing the optical scan files/mesh.

## Benefits

- Crop or smooth artifacts or other elements that may negatively affect the fit of your guide directly in *exoplan*
- Possible to do a fine adjustment after gingiva collapse resulting from tooth extraction

## Technical description

- 3D surface editor for closing holes and smoothing optical scans or mesh data
- Includes a safety warning and a note in the planning protocol when you touch a CT alignment object
- Available in expert mode



# New measurement in secondary views

## Intro

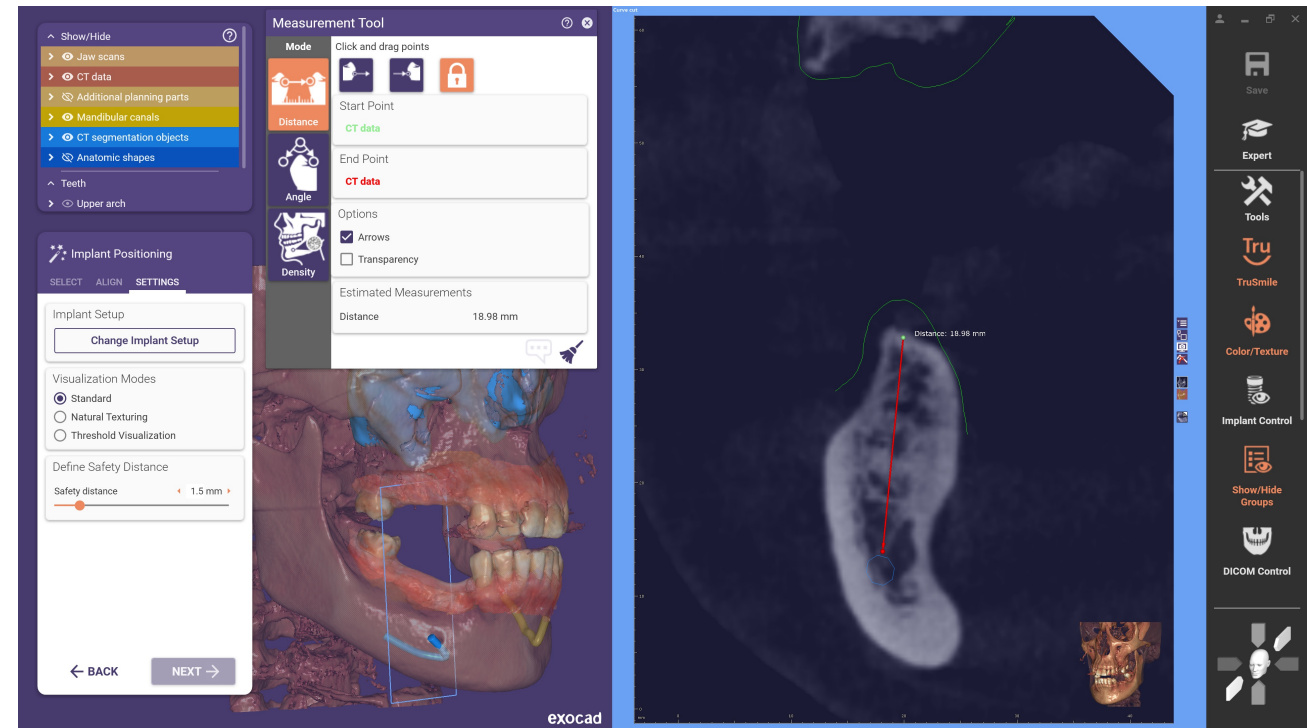
In the new version, we have responded to user requests and included an additional measurement function. The possibility to measure distances, angles, and gray values is given in every secondary view.

## Benefits

- Simplified communication and documentation through measurement in the secondary view and related documentation in the planning protocol

## Technical descriptions

- Improved measurement by showing the measured value (distance, density, angle) in the 2D secondary view
- Option to save a screenshot, including measured value



# Notification history leads to a better notification overview

## Intro

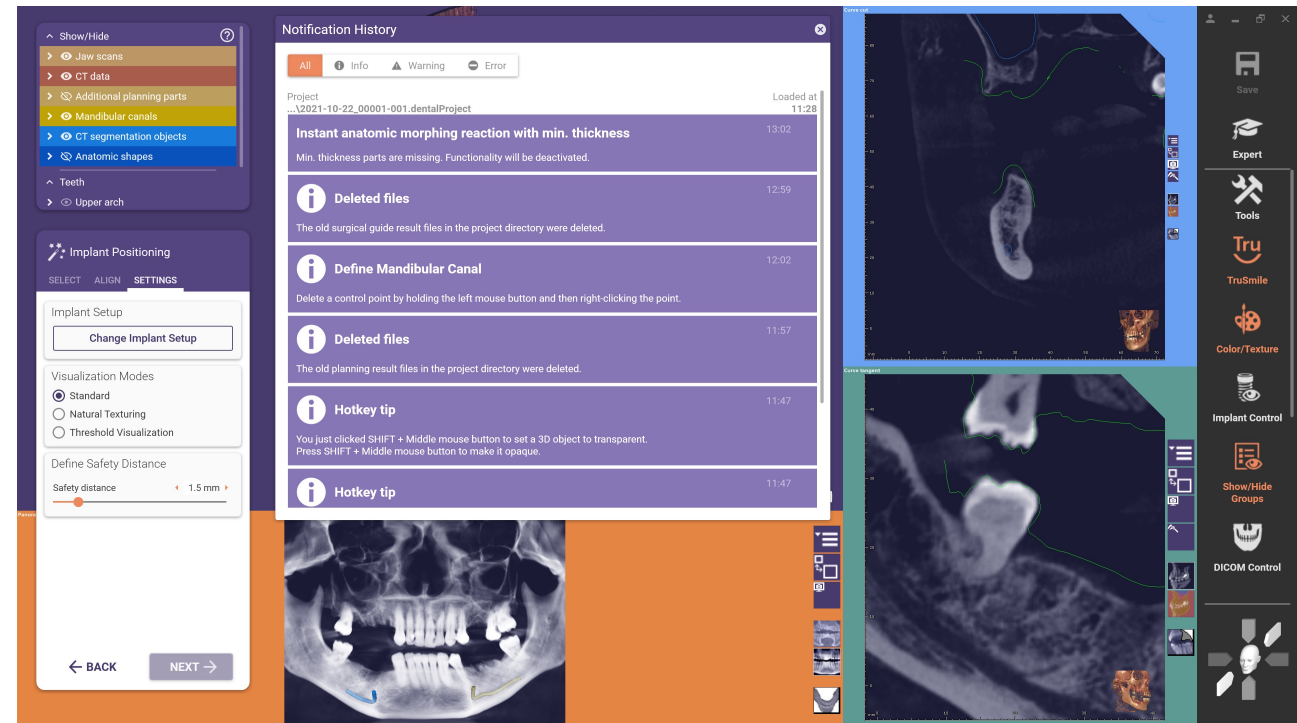
Easy access to all notes, warnings, and error messages can be retrieved in a notification history.

## Benefit

- Possible to review and check all notifications in the planning process at any time

## Technical description

- A small bell on the right top of the screen indicates the number of notifications during the current planning and guide design process



# New incognito mode to easily hide patient information

## Intro

The new incognito mode hides/blurs patient information in the software, enabling compliance with privacy regulations for presentations and in training sessions.

## Benefit

- Allows users to automatically comply with data protection regulations in support cases, trainings or presentations

## Technical description

- Incognito mode is deactivated per default and can be activated in settings

Loaded series: F, Series date: 5/15/2021

DATA

VIEW

SURFACE GENERATION

Modality: CT

Description: Patient with markers in both jaws

No. of images: 407

Image type: AXIAL

Series date: 5/15/2021

Study: Dual-Scan-Protocol, Example

Series: Patient with markers in both jaws (407 Images)

Select file set

Load series

Discard series



## Approval of Planning

The implant planning is now completed. You are now kindly asked to approve your planning and confirm the items below before the implant planning report and data files are generated.

Patient Information		
	Project	DICOM
Name		
Birth date		

- I agree to study the implant planning report before commencing surgery and verify the provided information with regard to the surgery.
- I confirm that I have performed the planning with due care and that I am satisfied with the medical and clinical results of the planning. I chose the most appropriate implant solution and observed safety margins to any existing dentition, existing and intended dental restorations, and anatomical structures.

# Improved usability in panoramic curve step

## Intro

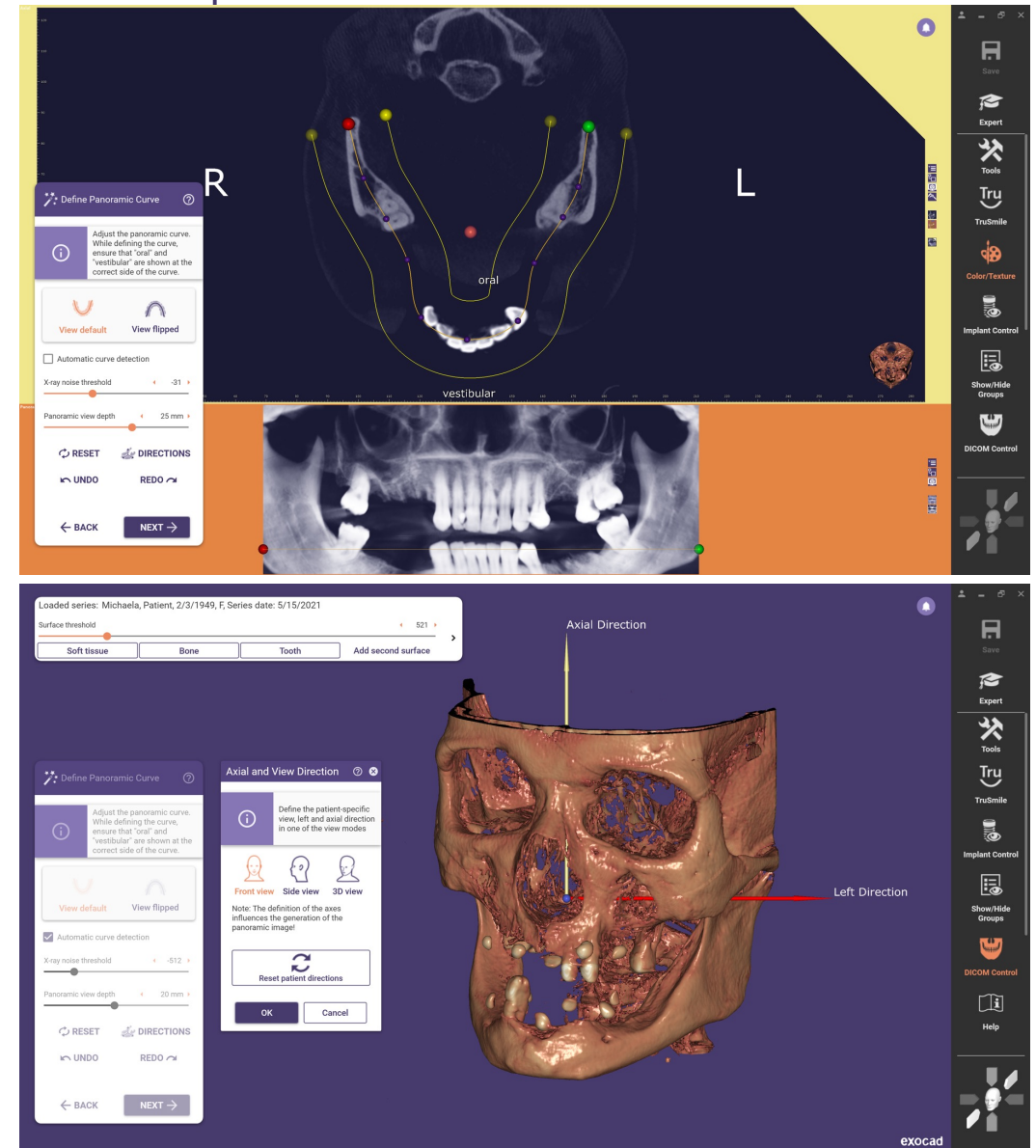
In generated panoramic view of the jaw, sometimes unneeded parts may interfere with visualizing the relevant areas. In order to minimize these factors, the new release makes it possible to define the anatomical region around the panoramic curve per slider or widget. Additionally, the "axial and view direction" window to adjust the directions can be opened directly from the panoramic curve step.

## Benefit

- More control over what is visible in panoramic view, making it easier to focus on relevant anatomical regions
- Adjustable axial view slice by moving the widgets up and down in the panoramic view
- Option to adjust patient directions while the "define panoramic curve step is open

## Technical description

- The default value for fading out disturbing factors can be customized, for example, in the define panoramic curve step



# Improved manual CT data alignment

## Intro

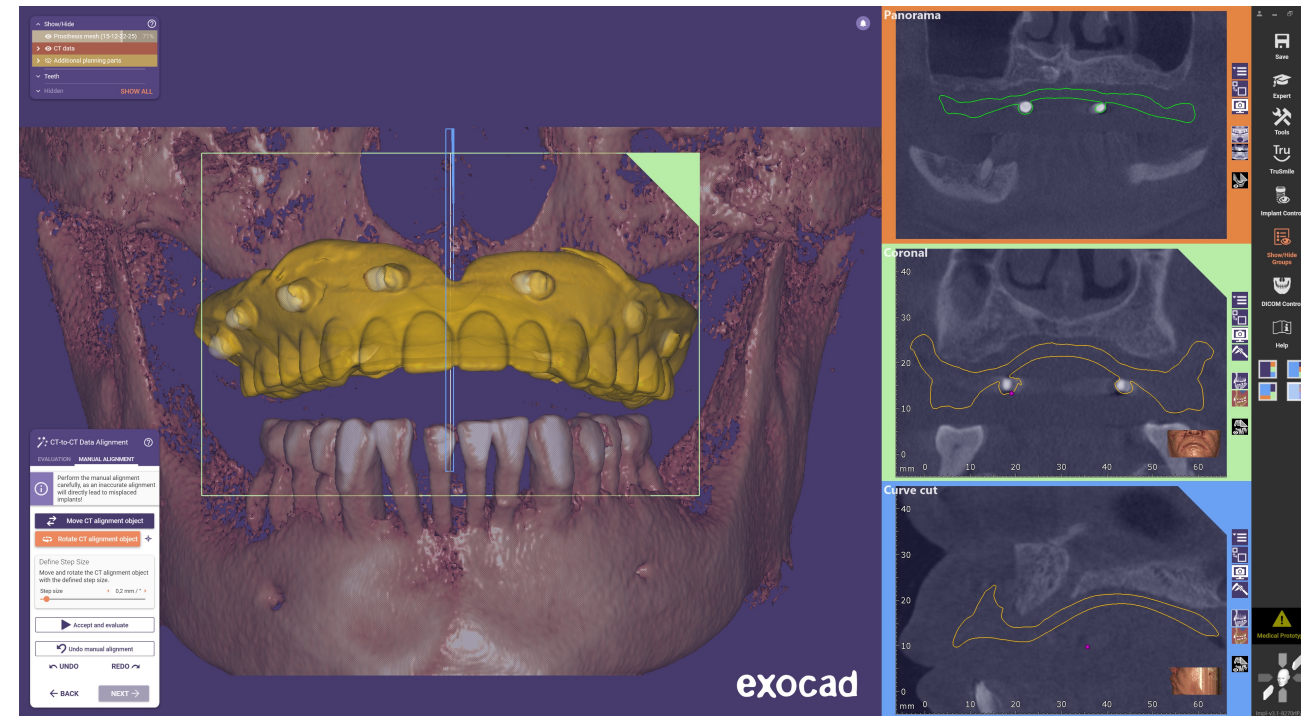
For manual CT alignment, the center of the CT data alignment object was previously used as a fixed center of rotation. In the new version, it is possible to define an individual rotation point in your preferred view. This makes the manual alignment of the data sets easier and faster.

## Benefit

- Simple and intuitive manual alignment of CT data

## Technical description

- Set an individual rotation point for an easier manual CT data alignment in your preferred view



# Improved usability of nerve canal definition

## Intro

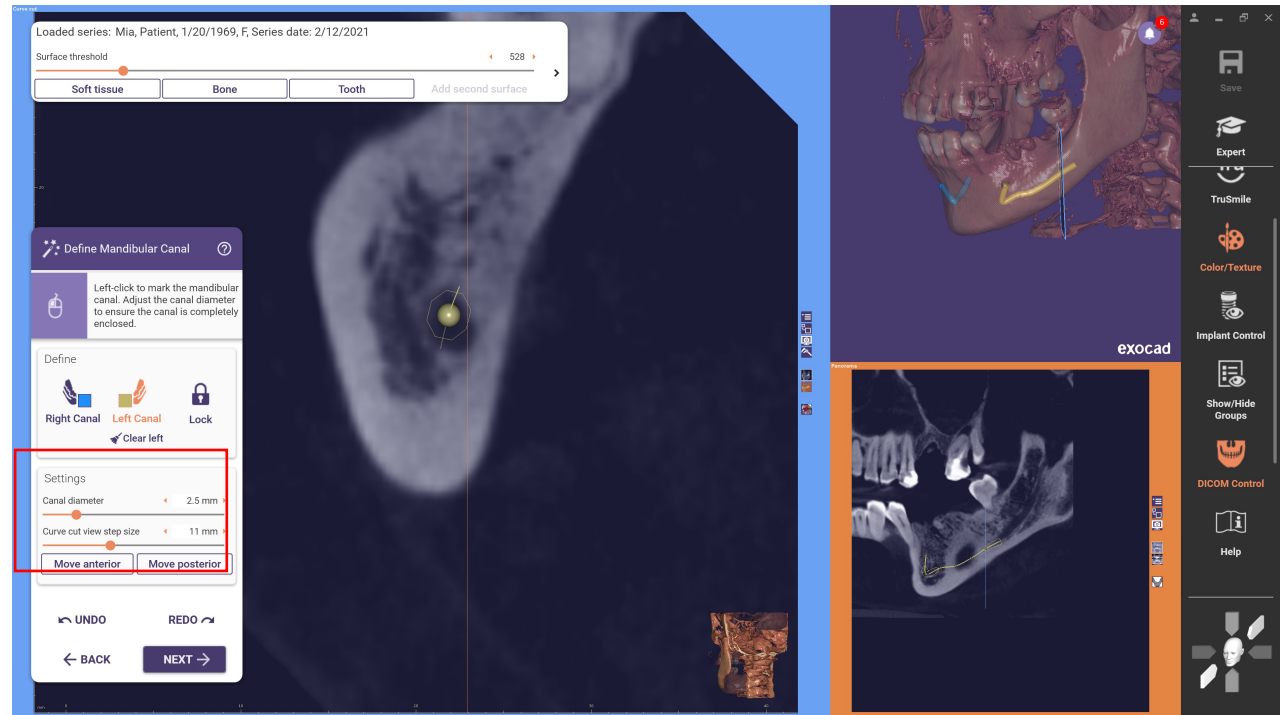
For users who prefer to work with the mouse instead of using hotkeys, it is now possible to solve the definition of the nerve canal via individually adjustable steps to anterior or posterior using buttons in the definition step.

## Benefits

- Use buttons instead of hotkeys to move the curve-cut view to the anterior or posterior direction
- Individual adjustment of the step size is possible via slider

## Technical description

- Use anterior and posterior buttons in "define mandibular canal" step to move the curve-cut view in the desired direction
- Cut view step size can be adjusted via slider
- Option to skip the definition of the nerve canal



# Faster tooth setup customization with Instant Anatomic Morphing

## Intro

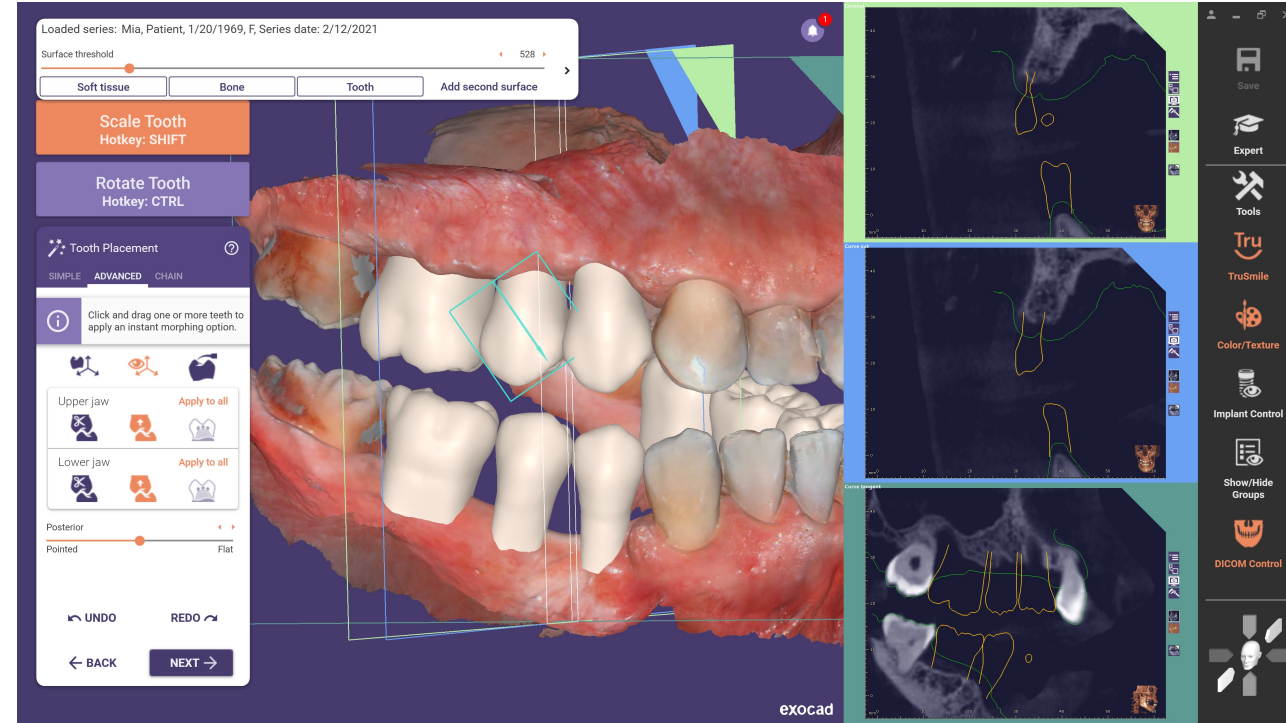
Instant Anatomic Morphing in the tooth placement step vastly improves the available options for anatomic tooth placement.

## Benefits

- Significant simplification of tooth placement for backward planning

## Technical description

- The anatomy of the teeth adjusts in real-time with each movement, resulting in a significant increase in productivity



# Improved usability of axial and view direction

## Intro

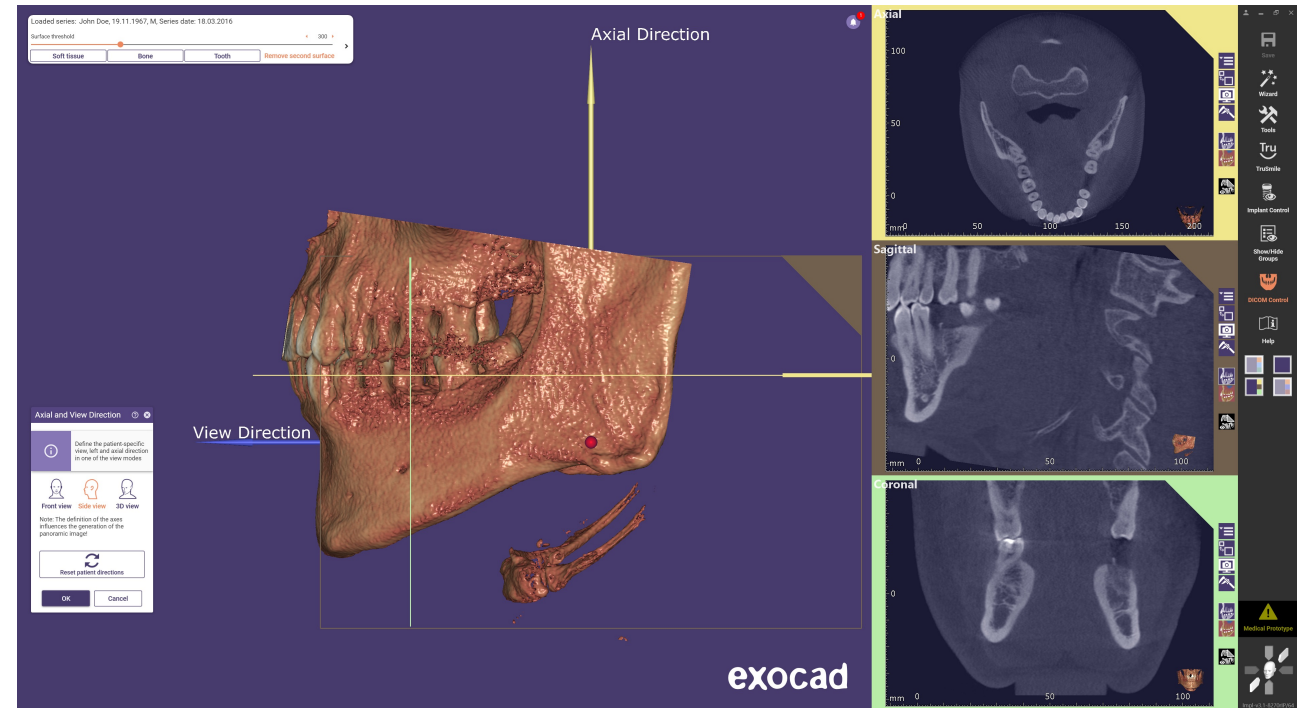
The alignment of the CT data can now be corrected more easily with the additional front view and side view options. The CT data set is adjusted by moving the CT data in the selected view.

## Benefit

- Fast and intuitive alignment of the patient-specific axial and view direction

## Technical description

- Visual axes/patient axes are oriented by aligning the view to a fixed coordinate system
- The axes are displayed as arrows in different colors. Adjust the view to set the patient axes



# Guide Creator. Select base mesh for guide design

## Intro

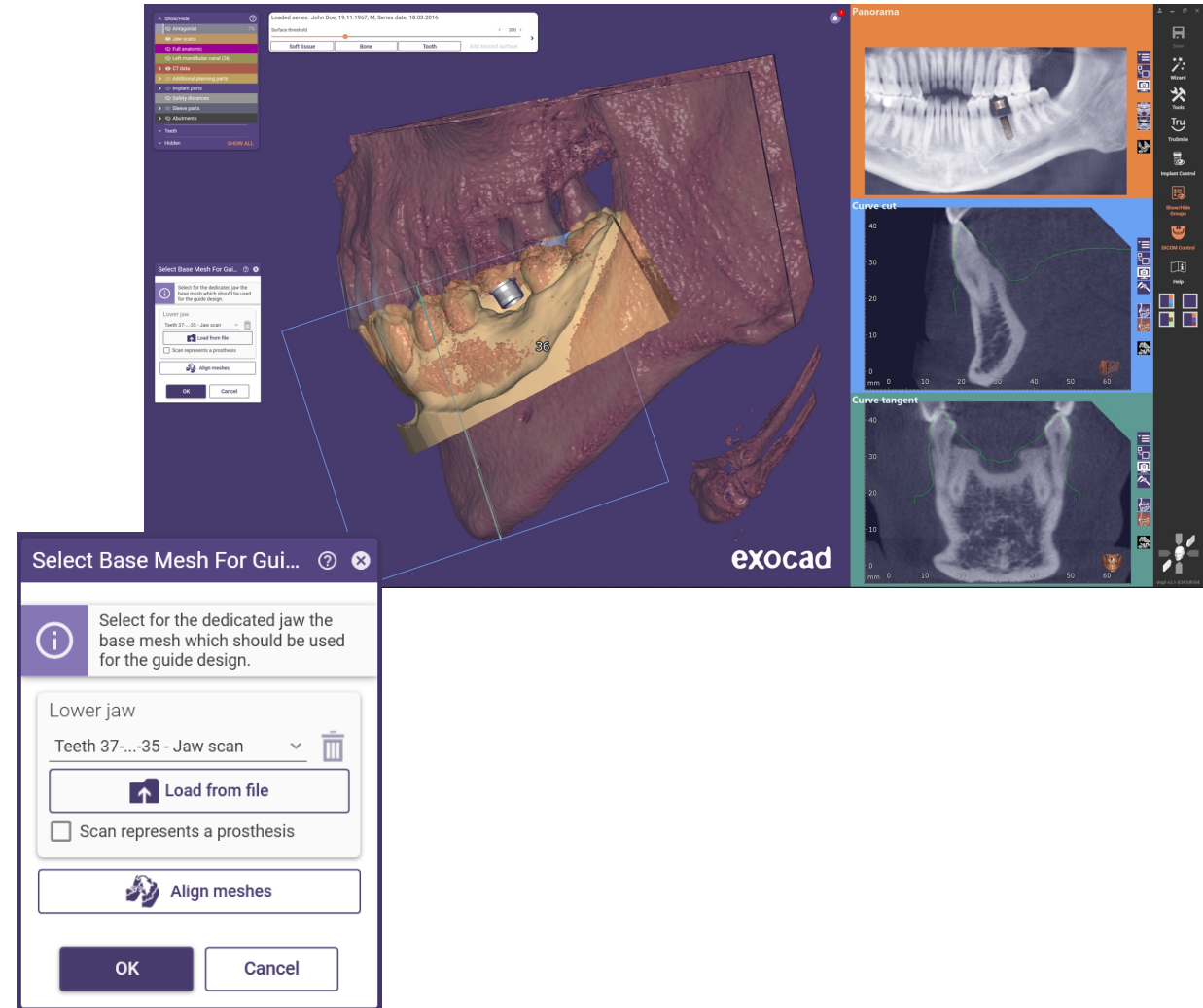
To simplify the design of surgical guides, it is now possible to select the file on which the surgical guide should be designed. Additional meshes can also be loaded and aligned.

## Benefit

- By selecting the file, the user can use the best possible data as the basis for the surgical guide

## Technical description

- The "select base mesh for guide design" window opens automatically before the guide design starts
- "Scan represents a prosthesis" gives the option to design a tissue-supported guide for an edentulous case



# Ease of use

- Hotkeys from the order form in **DentalDB** are now also available in **exoplan**. No need to define each single connection type manually (custom abutment or other)
- TiBase/Multiunit/Stock abutment is rotatable without moving the implant in the implant placement step – this is important when there is a rotation lock with a recommended position
- Nerve channel definition can be skipped if desired but will be noted in the planning report
- In the implant positioning, the bone level of the implant is also displayed to provide more help and an overview during positioning
- Selection of fixation guide creation is done more easily
- Toggle between upper and lower jaw in attachment placement step for better overview in dual jaw case
- New: Implants with angulated platform for supported systems

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