What’s new in Dental System™ 2014
Many call it “the most powerful CAD/CAM solution in the world”. Others prefer to speak of its efficient workflows, many tools, ease of use, and complete range of indications. No matter how you describe it, 3Shape’s Dental System™ continues to maintain its long-standing leadership as the world’s most innovative and sold lab system for Dental CAD/CAM. 3Shape’s Dental System™ 2014 brings labs new opportunities for expanding their business, increasing their productivity and growing their customer base.

We bring you

This 2014 release introduces new dental indications, optimized workflows for TRIOS® digital impressions, and a new modernized user-interface. Furthermore, we have added more automation, faster workflows, and powerful validation tools. Finally, we have also boosted scan speeds and improved the integration with CAM software.

A part of your LABcare™ package

3Shape believes that a dynamic and continuously up-to-date system is a natural trait of any CAD/CAM solution for labs and that is why we include unlimited upgrading as an integral part of our LABcare™ package to regularly empower your system with the latest technologies. Now we give you yet another release, to ensure that your system represents a future-secure investment – stays alive for years to come, and grows stronger and more competitive every year.

Many powerful new features

Each of the new major additions is described in this document. Please refer to the online User Manual for detailed descriptions of each feature. We hope you will enjoy exploring the creative power of this new release and trust that it will add true value to your daily business!
New intuitive 3D Order Form

The new 3D Order Form makes it even more intuitive to create your orders in Dental System™. The various restorative indications are directly selected and visualized on a full-jaw 3D model – and when working with indications in multiple layers, each layer is shown clearly by applying the transparency effect on the top layers. New options allow you to create orders for splints & customized impression trays and Implant Planning & Surgical Guides directly from Dental Manager. Users who prefer working with the original Order Form can do so easily by switching between the two Order Form options.

Optimized CAD design workflow and user-interface

Dental System™ 2014 provides a whole new user experience through optimized workflows, a redesigned user-interface, and enhanced user friendliness – especially targeted beginners and first-time users. The “Workflow Bar” at the top of the screen together with the remodeled “Design Steps” on the left, intuitively guide you through the entire design process step by step. From now on, the “Next” button will always bring you to the next design step, and the new “Preview” button allows you to see the implications of your design decisions before you apply them.

Click on any step in the Workflow Bar to quickly navigate between the different design phases. The updated “Order Overview” in the corner of the screen clearly indicates the active tooth that is currently being designed. We have applied a modern touch in our redesign of the Tools and Parameter menus, making it easier and more intuitive to choose between the different tools and options.
Choose between “Basic” and “Expert” modes
A new option lets you choose between “Basic” and “Expert” design modes directly in the CAD Design window, allowing you to adjust the complexity of workflows and tools according to needs, software skills and experience. When selecting “Basic” mode, advanced tools and options are automatically hidden in all design steps, making it easier and faster to complete any design workflow – especially for new and inexperienced users. To improve the speed and software simplicity further, you can disable selected workflow steps in the Control Panel. When creating a new order, Dental System™ automatically selects “Basic” or “Expert” mode depending on the preference you indicated in the previous case.

True 64-bit application
Dental System™ 2014 is a new true 64-bit application, allowing Windows to allocate significantly more memory to Dental System™ during scanning and design. This new power smoothens the workflow and prevents out-of-memory issues for even sizable and advanced cases such as very large multi-layer bridge cases. A separate 32-bit Dental System™ 2014 application will still be available for 32-bit operating systems.

Integrated Training Center – get the most out of your Dental System™
The new integrated Training Center gives users access to a wide range of training and support tools – directly from Dental System™. Available materials include Dental System™ Online Help manuals, “What’s New” documents, Videos, Webinars, Training cases and many other educational tools helping users to get the most out of their Dental System™. The Training Center is a part of 3Shape’s LABcare™ commitment and is available to all Dental System™ subscribers.

Improved scanning user-interface and flexibility
A new workflow progress bar carefully guides you through each scanning step. Quickly jump between different scanning steps (e.g. to rescan individual dies) by clicking in the workflow bar directly, avoiding time-consuming post-processing of scan data in each step.
Enhanced speed and accuracy

The software has been improved to provide scans that are even more accurate. Particularly, the alignment algorithms used by all scanners have been improved to ensure accuracy and successful alignment such as “1-point alignment” of dies and scan flags. When scanning in “Optimized for speed” mode on D800 and D900 desktop scanners users can enjoy significant speed improvements accelerated by optimized and intelligent 2D image processing algorithms. Enable the “Optimized for speed” option in the scanning software’s scan settings.

Increase productivity with new Auto-Crown & Bridge functionality

Design full anatomical crowns that are automatically positioned and shaped to fit the neighboring teeth and antagonist precisely without having to set the contact points manually. By using virtual articulators and Smile Composer™, only minimal manual modifications are needed in order to achieve optimal occlusion, contact points and the marginal transition area.

New 3D viewer with no dongle requirement

3Shape’s 3D Viewer has been significantly improved with a new and modern user-interface and support for color and texture scans. Multiple 3D models can now be visualized in the same application window with one slider per model. The viewer supports a wide range of different file formats including STL, DCM/HPS, WRL, ASC, and PTS files. The 3D viewer does not require a 3Shape dongle and can be used by any lab employee or persons who have the need to view 3D dental models and CAD designs. The 3D viewer is automatically installed with Dental System™ and can also be downloaded as a free standalone version on www.3shapedental.com.

Undo/Redo for line editing tools and connectors

In Dental System™ 2014, the “Undo” and “Redo” buttons are also available during framework connector design and for most of the line editing tools including margin lines, gingiva boundary lines, major and minor connector for the RPD workflow and more. It is easy to adjust your design and correct mistakes using the Undo/Redo buttons, the mouse right-click option, or by using the standard Undo/Redo keyboard shortcuts (CTRL + Z and CTRL + Y).
Ensure quality with advanced design validation tools

Dental System™ 2014 introduces new design validation tools that allow technicians to ensure that their designs are validated and suitable for production before sending them for manufacturing – either in-house or to an external manufacturing center. The new validation tools include a “minimum margin thickness” functionality to ensure adequate thickness of the coping edge at the margin line.

Helpful design guidance and error messaging

Dental System™ 2014 introduces new and improved “error messaging” – providing clearer descriptions, images and error codes that make it easier to identify the exact type of error in question. The new error messaging enables technicians to better understand and correct design issues, and easily communicate issues to customer support.

Optimally place your designs in CAD Blocks

Full anatomical monolithic restorations are increasingly playing a major role in the future of the dental industry, and CAD Blocks are key drivers for this development. A new integrated tool in Dental System™ 2014 allows lab technicians to virtually position their designs inside one or more CAD blocks before manufacturing. Users gain full control over placement of the sprue and avoid improper placement in critical areas that can ruin esthetics and contacts. Technicians that wish to readapt the design according to the block size or cut bridges into multiple blocks can easily do so during the design process.

The minimum parameters for each material are setup in the Control Panel. In addition, a new option allows the technician to configure minimum connector thicknesses for each connector depending on the connector’s corresponding tooth position and the number of pontics. Validation results for all restorations are shown in the “Validation Column” in Dental Manager™ and they are also visible in the Manufacturing Inbox.
Easy align multilayer blocks across an array of teeth

With multilayer blocks, the lab can easily align block layers across multiple teeth in order to achieve optimal esthetics - matching color transitions to both the existing and designed neighboring teeth. This new feature supports both multilayer CAD blocks and multilayer blanks.

Design frameworks with realistic mamelon structures

You can now include sophisticated mamelon structures in your designs and achieve lifelike esthetics for your anterior cases. Start by designing the anatomy layer, and then apply the integrated mamelon library to automatically create the anterior framework design with realistic looking mamelon structures.

Add gingiva to all major indications

Dental System™ 2014 allows users to add gingiva to all major design indications – from Crown & Bridge restorations and to any kind of implant-supported restoration. Use the Gingiva Tool to draw a line defining the outer boundary of the denture directly on the scanned model. Using the cut-back functionality, it is also possible to design anatomically reduced gingiva with room for hand veneering on top.

Stronger design tools for multilayer cases

The multilayer design workflow has been improved with an option to add “Extra Liner Space” between the coping and the anatomy layer when designing over-pressed and multi-layer crowns and bridges. This allows the technician to obtain better fit and esthetics near the margin area while keeping sufficient cement space on the remaining coping surface. Additionally, it is now possible to set individual insertion directions for both the anatomy layer and the frame layer.
WHAT'S NEW IN DENTAL SYSTEM™ 2014

- **RealView™ Engine now with 2D design guidelines**
  
  A completely new feature allows technicians to add design guidelines directly on the 2D image of the patient’s face, such as the center line, eye line, occlusal line, and more. These design guidelines help technicians achieve sublime esthetics when designing full anterior cases. Users start by marking the eye pupils to set the eye line, and continue by setting perpendicular and parallel lines. The software lets you rotate the 2D image accordingly for perfect alignment. The new feature replaces a manual process by digitally integrating guidelines setting with restoration design workflow.

- **RealView™ Engine with lifelike teeth texture**
  
  The RealView Engine™ has been greatly improved to provide a close to photo-realistic teeth texture that is optimized for either gypsum models or digital impressions. Now your design looks even more realistic when superimposing the patient’s actual face images using 2D image overlays within the design process.

- **New articulator and support for incisal plate**
  
  Dental System™’s range of Dynamic Virtual Articulators has been updated with new “Incisal Plate” functionality to effectively guide the technician when designing large anterior cases. The Incisal Plate for the individual articulators can be enabled or disabled in the Articulator tool box window during design. In addition, the new release of Dental System™ now includes full support for the Ivoclar® Stratos 300 articulator.

- **Easily determine the margin line using TRIOS® HD photo**
  
  In Dental System™ 2014 users can view highly detailed images captured by the new TRIOS® HD photo feature. The improved visualization enables technicians to set the margin line more accurately and study important details about the clinical situation. An improved margin line tool also equips technicians with a new option to “snap” the line to a clear edge on the 3D model, in order to quickly and precisely set and adjust the margin line as they design.
WHAT’S NEW IN DENTAL SYSTEM™ 2014

- **Optimized workflow for TRIOS® digital impressions**

The 2014 release of Dental System™ introduces a new and optimized workflow for working with TRIOS® scans and 3rd party digital impressions. Now, a user always starts by modeling the crown before moving on to designing the lab model in Model Builder™ – if needed. The “Prepare Scan” step is fully integrated within the CAD design workflow and Model Builder™ is only opened if you need to design a digital lab model. With these new improvements, it is now only necessary to define the margin line once during the entire workflow, and the digital model is now automatically cut to fit the CAD design of the corresponding restoration, e.g. the crown or abutment design.

- **Create implant models with soft tissue**

The new Model Builder™ introduces the option to create digital lab models with soft tissue for both Crown & Bridge models and Implant Models. Users freely select the “Soft tissue” during the design workflow. The software automatically suggests areas for cutting out soft tissue and the user can adjust the width, length and depth of the suggested soft tissue areas if needed.

- **Optimal Post and Core designs based on the final crown**

The Post and Core design tools in Dental System™ 2014 has been greatly improved. An enhanced initial suggestion of the Post and Core design makes it even easier to model Post and Core restorations based on the shape of the final crown. In addition, new design tools allows the technician to move all shoulder control points grouped together using “Shift” buttons and to easily adjust the overall Post and Core height using a single control point.
WHAT'S NEW IN DENTAL SYSTEM™ 2014

- **New abutment bevel and easy Scan alignment**

A new CAD design feature gives technicians the opportunity to add a bevel on the abutment design to improve restoration support on top of the abutment. The abutment bevel can be enabled during abutment design using a global angle and height and locally adjusted using standard control points. New alignment tools enable the use of predefined alignment points on the scan flag for faster and better alignment results. In addition, the final alignment is now automatically performed when the last alignment point is placed.

- **Implant Bridges with anatomically reduced gingiva**

The unique gingiva design tool makes it easy to define the gingiva's boundary, and the software automatically suggests an initial gingiva design that can be refined using the "Sculpt Toolkit". As a new function, technicians can now cut back selected areas of teeth and gingiva to prepare space for hand veneering and an acrylic layer.

- **Implant Studio™ for implant planning and surgical guides**

3Shape’s new Implant Studio™ solution brings together implant planning, prosthetics, and surgical guide design for local manufacturing to provide a cost-efficient solution that improves turn-around time and creates new business opportunities for both dentists and labs. Use the “Virtual Crown” functionality for optimal implant placement with respect to both the clinical and the aesthetical aspects. Your lab can provide dentists with complete treatment package services including drill guides and restorative components. Implant Studio™ is a fully open system that supports kits, sleeves, CT/CBCT scans (DICOM), manufacturing solutions, and implant systems (libraries) from major implant manufacturers. Implant Studio™ will be available as a fully integrated add-on module for Dental System™ and in various stand-alone configurations.

Please note: Implant Studio™ is not yet available in all countries. For more information about availability in your country, please contact 3Shape or your local 3Shape representative.
WHAT’S NEW IN DENTAL SYSTEM™ 2014

New business opportunities with Splint Designer™

Splint Designer™ lets you expand your digital offerings with Splints, Night Guards, Protectors and similar dental appliances. Splints and other appliances can be ordered directly through the Dental System™ Order Form, and a unique workflow will carefully guide you through each of the design steps: open the bite in the virtual articulator, create a shell or a bar profile or a combination of both, and adapt the resulting design to the antagonist (in the virtual articulators). The software also includes an option to engrave ID tags in the appliance for easy patient identification or branding of your lab. The Splint Designer™ is included free of charge for all Dental System™ Premium subscribers.

Design full dentures with Smile Libraries in occlusion

The 2014 release of Dental System’s™ Full Denture module gives technicians access to Smile Libraries with denture teeth from major brands. New Smile Libraries provide complete smiles that exist in perfect occlusion. Technicians can freely combine different smile libraries and anatomy libraries to design a denture and teeth setup that is perfectly matched to the clinical case. An improved Smile Composer™ makes it easy to quickly set all teeth and adjust upper and lower as well as left and right sides simultaneously. Use unique tools to preserve occlusion and apply the virtual occlusal plate to modify and fine-tune.

Produce customized impression trays in a few steps

The Dental System™ 2014 release offers technicians a unique workflow for designing customized impression trays formed to ensure optimal impression quality in e.g. full denture and implant cases. Design customized impression trays in a few easy steps: Block-out undercuts, draw the boundary of the tray, and add a handle using new Impression Tray attachments. Customized impression trays can be created from both TRIOS® scans and impression scans. By applying the newest manufacturing technology, it is possible to produce cost-efficient impression trays on a range of 3D printers. The customized tray design is included free of charge for all Dental System™ Premium subscribers.
Extended toolbox for Removable Partial Denture design

The 2014 version of 3Shape’s Removable Partial Denture workflow allows technicians to perform simultaneous modeling of RPD frames for upper and lower jaws. The RPD workflow now supports a new “Lattice Mesh” retentive grid as well as Dental System™’s dynamic virtual articulators - allowing users to automatically adjust the RPD frame design up against the antagonist. New flexible tools for designing support bars and casting reservoirs make it now possible to reduce material shrinkage during manufacturing.

Control your CAM software directly from Dental System™

The 2014 release includes an improved integration to CAM-bridge and selected 3rd party CAM software packages. As a part of the manufacturing output, the order and material information is now automatically transferred from Dental System™ to the CAM software for automated selection of materials and corresponding milling templates. When enabled in the Control Panel, a new option allows the user to automatically launch 3rd party CAM software directly from Dental Manager™. The new release also includes the possibility to initiate a “hand-shake” between Dental Manager™ and the CAM software in order to automatically communicate successful milling-strategy calculations and order-status updates (available for selected CAM software packages). For simple manufacturing types, e.g. CAD blocks, the CAM calculations are performed automatically in the background.

Install Dental System™ and implant libraries in one go

As users install Dental System™, they can now choose which implant libraries they wish to download and install directly on their system. After the Dental System™ installation is completed, the implant libraries are ready for use and no further actions are required. The new feature is available when carrying out both “Standard Upgrade” and “Custom Upgrade”. Furthermore, the availability of specific implant libraries is controlled by the dongle options enabled with the individual system configuration. Libraries, materials and software upgrades can also be downloaded directly from the updated Download Center in Dental System™.

Improved 3Shape Communicate™ platform and iOS app

The 3Shape Communicate™ platform has been streamlined for more stability and user-friendliness. In both the web interface and the iOS app, visualization of color scans is now supported. In addition, the margin line can be shown for technicians and dentists to review and discuss the margin line. The Communicate™ Cloud has been boosted with more stability for handling large amounts of case data and traffic.
Wieland Dental sets the standards in dental technology and stands for innovation and quality. As a medium-sized enterprise with over 140 years’ experience we are one of the world’s leading suppliers in the field of dental technology. Future-ready integrated technologies and materials are the hallmarks of our expertise and prowess. Wieland Dental opens up the way to progress in dental technology. www.wieland-dental.de