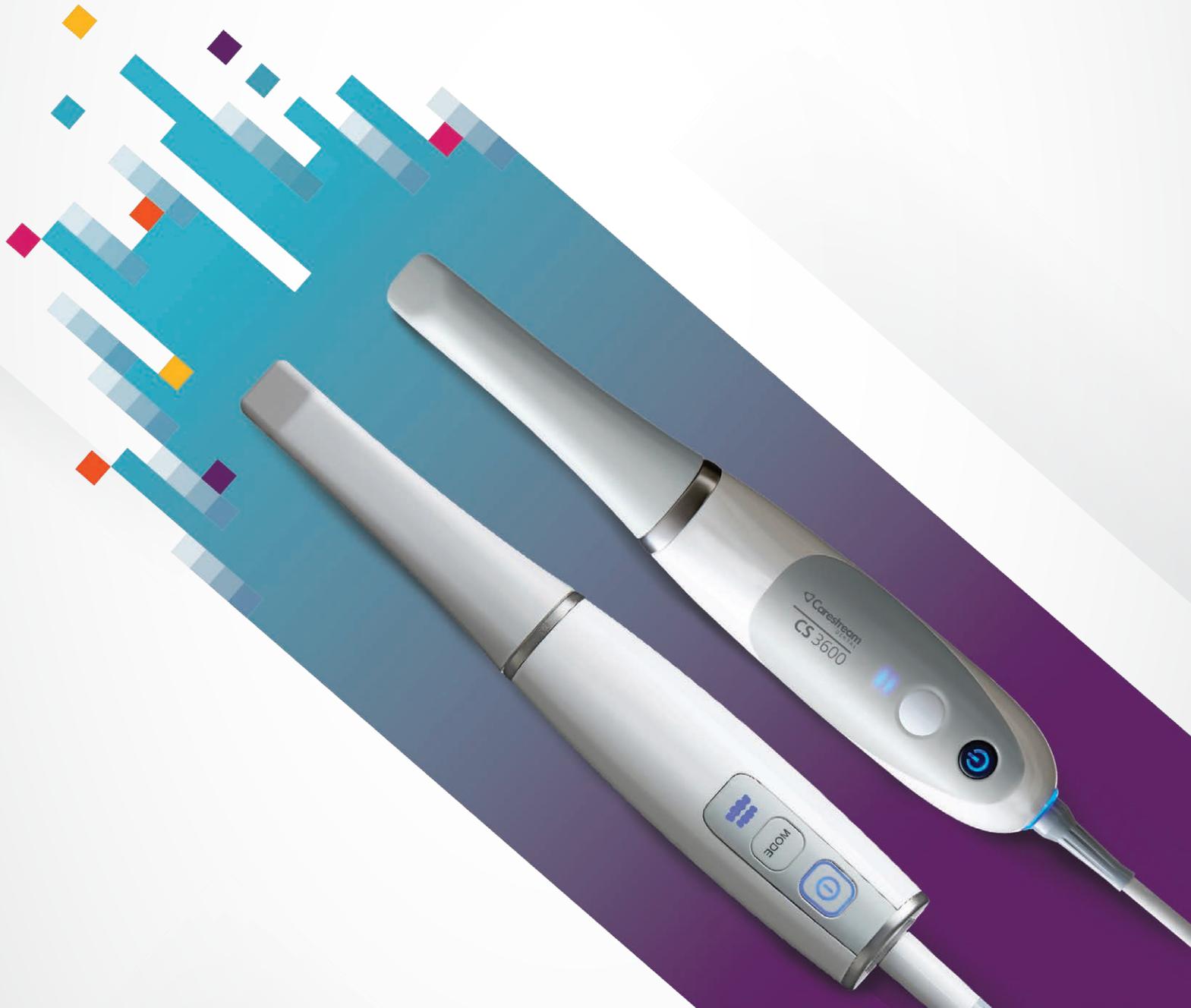




# Consistently Accurate. Innovatively Simple.

INTRAORAL SCANNER FAMILY



# Raising the Bar For Intraoral Scanning

Say hello to a new level of innovation with Carestream Dental's latest portfolio of intraoral scanners. In addition to accuracy, trueness and precision, these systems offer more options for creating greater efficiency in your workflow. Simply open the software and start scanning. Smart-shade matching technology\* saves time by taking the guesswork out of restorative color selection.

**Enhanced image quality better reflect reality and improve patient and lab communications. And new touch screen capabilities make digital impression creation easier than ever.**

“CAD/CAM has been proven to provide increased accuracy, higher quality fabrications and more predictable results when it comes to restorations and models.”

**Joseph D. Mazzola, D.D.S.**



# CS 3600 With CS Scanflow

## Intuitive, Accurate Scanning

The CS 3600 is your choice for clinical excellence. Thanks to intuitive and accurate scanning, you have the power to create vibrant full HD 3D images—helping you achieve outstanding clinical results.

Since the launch in 2016, the CS 3600 family has been consistently confirmed by international third-party clinical research in oral implantology and finish line distinctness, making it your choice for clinical excellence.



“It’s faster and makes image capture quite easy. We’re totally blown away.”

**Dr. Richard Steinberg,**  
North River Dental,  
Ellenton, FL

# Awards and Recognition

CLINICIANS REPORT—"Excellent" in Rapid Acquisition and Margin Detail Capture; "Good-Excellent" in Ease-of-Use and Intraoral Access



## ACCURACY AT YOUR FINGERTIPS

The CS 3600 family consistently surpasses leading competitors in trueness and precision and was most recently found to have the highest accuracy in a study of 5 intraoral scanners.<sup>1</sup>



## NO FIXED DISTANCE

With a broad focal length, you can hover around, above or rest the scanner on a tooth, allowing you to choose how you scan.



## LESS PATIENT CHAIR TIME

Continuous high-speed scanning means your patients spend less time in the chair.



## SPEEDY AND SIMPLE DUAL ARCH SCANNING

Scan the full arch in one continuous motion, with no painful arm movements and a more comfortable experience for your patient.



## THE RIGHT TONE

An intuitive mesh color adjustment tool allows the user to adjust the tone as needed to suit different purposes, clinical settings and personal preferences.



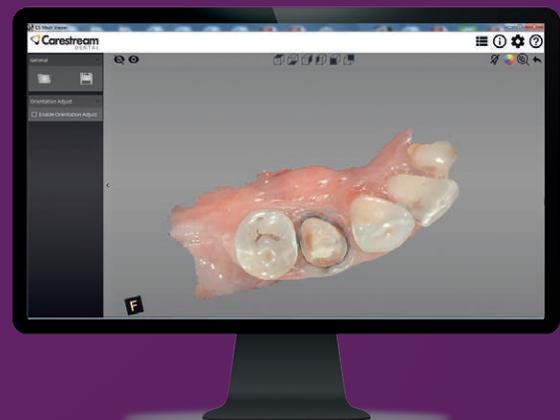
## YOUR WORLD IN STUNNING FULL HD 3D

Enhanced image quality and vibrant color better reflect reality and help you communicate with your patients, labs.



## THE RIGHT TIP FOR THE JOB

Interchangeable tips come in three styles—including the shortest autoclavable tip height in the industry—to optimize ergonomics. The tips can be autoclaved up to 60 times, reducing consumable costs and ensuring proper sterilization.<sup>2</sup>



# CS 3700

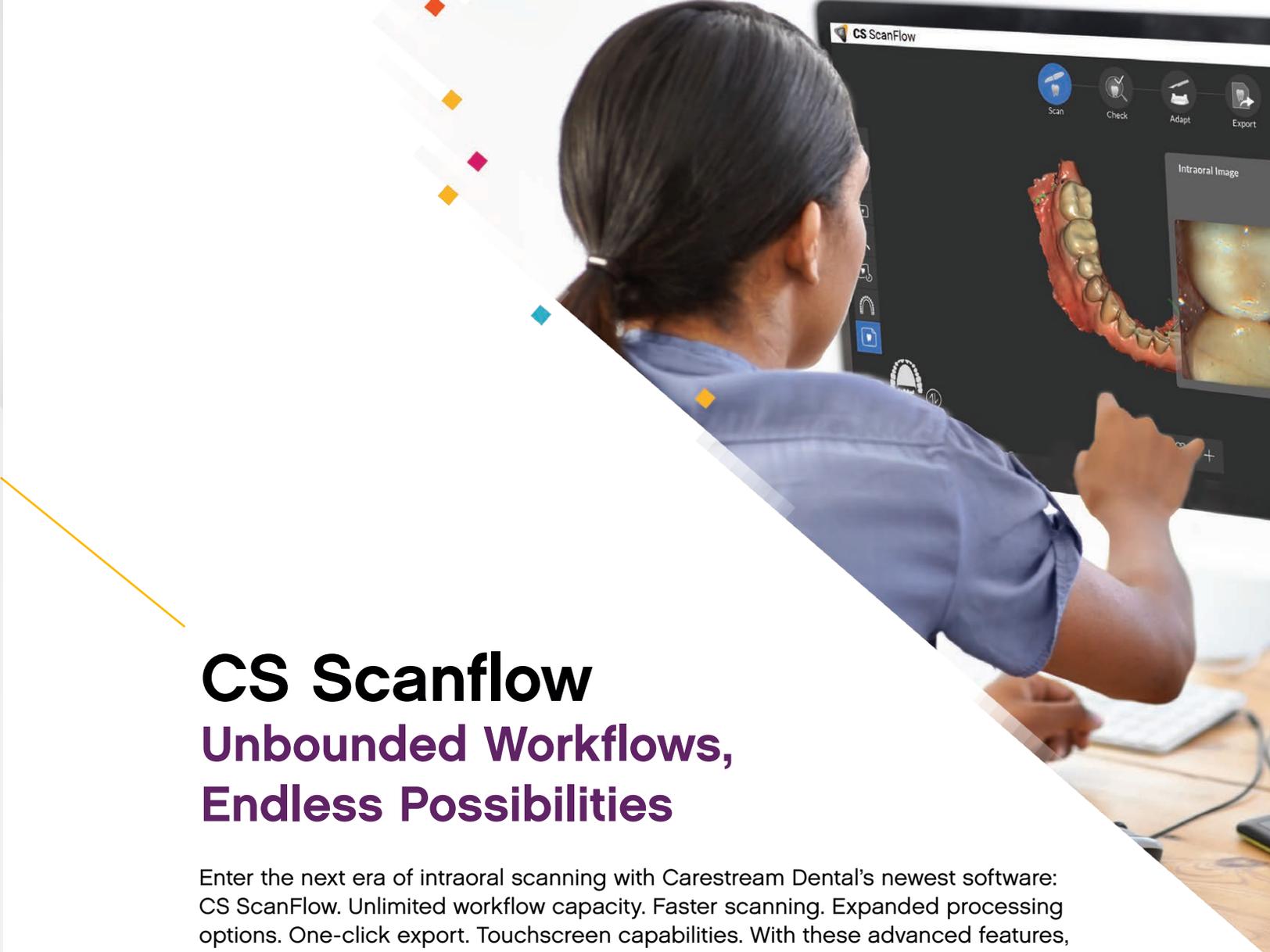
## Scanning Uncompromised

Prestigiously designed in collaboration with Studio F. A. Porsche, the CS 3700 offers the same proven accuracy of the CS 3600 family combined with the ergonomic design, turbo scan speed and sleek style you would expect of a high-performance intraoral scanner.

The CS 3700's smart-shade technology facilitates the design of remarkably beautiful aesthetic restorations by capturing the color from the physical properties of the tooth material rather than the digital impression, providing more true-to-life color matching. This patented technology utilizes bidirectional reflectance distribution function (BRDF) to capture the true shade, factoring in the light scattering from the optically smooth enamel surface of the tooth from several views, considering all angles of the scanner.







# CS Scanflow

## Unbounded Workflows, Endless Possibilities

Enter the next era of intraoral scanning with Carestream Dental's newest software: CS ScanFlow. Unlimited workflow capacity. Faster scanning. Expanded processing options. One-click export. Touchscreen capabilities. With these advanced features, the possibilities are endless.

Getting started is as easy as opening the software and beginning your scan. Once you have a base scan, you can pursue any workflow you desire; allowing you to switch to different clinical indications or treatments on your patient. A simple four-step process keeps you on track, guiding you from beginning to end.

### **CS ScanFlow Software:**

- Puts control at your fingertips with touchscreen capabilities
- Processes datasets quickly and accurately
- Simplifies data export and exchange
- Is compatible with Carestream Dental's CS 3600 Family and CS 3700 intraoral scanners

# Get In Touch With Your Scanning

Our scanning process is straightforward and intuitive. A simplified user interface specifically designed for touch screen navigation allows you to enjoy more direct and intuitive interaction with the software.



## Scan

Begin scanning the patient and choose the evolutionary workflow based on your personal preferences or your patient's clinical needs.

- There's no need to select a workflow or application
- You can scan the patient and determine the next steps along the way
- Experience the flexibility to scan impressions, post-treatment progress, scanbodies, and any additional detail that your case requires, all from the common scan.



## Check

Once the scanning is complete, select the refinement option and review the scan.

- Select from low, standard and high-resolution processing options once the scan is confirmed
- Check for undercuts, ensure gingiva is captured, check the occlusion pressure, make measurements and indicate the margin line



## Adapt

Modify or trim the scanned dataset based on your case requirements and create a digital model with a base.

- Mesh Cleaning enables you to manually refine the final mesh
- Plane Cut allows you to trim the digital model, helping to reduce the amount of material needed for printing
- Model allows you to add a base to your digital impression for model printing



## Export

Export or transfer your files immediately after processing—with no need to exit the software.

- Save allows you to select the export format and the target directory for your saved files.
- Simplifies the transfer of open STL and PLY files, as well as DICOM files to your preferred lab or manufacturer
- Datasets can be sent directly to one of our integrated partners or to labs via the CS Connect portal.<sup>1</sup>

# Infinite Combinations Unending Potential

CS ScanFlow gives you the freedom to scan what you want, when you want and how you want. Whether your patient needs a restoration, implant or orthodontic treatment, you'll benefit from completely unrestricted workflows.

Choose from any of our existing scanning formats, like implant, bite registration, and pre- and post-scan. You can also enjoy the freedom to add any extra scan of your choice or additional information that you want to share with your lab, such as emergence profile details, a scan body or preparation.

Carestream Dental's open file format further expands your range of possibilities—work with your preferred CAD design software, lab or manufacturer, and choose from a wide range of third-party validations by selected partners to power your case planning and treatment.





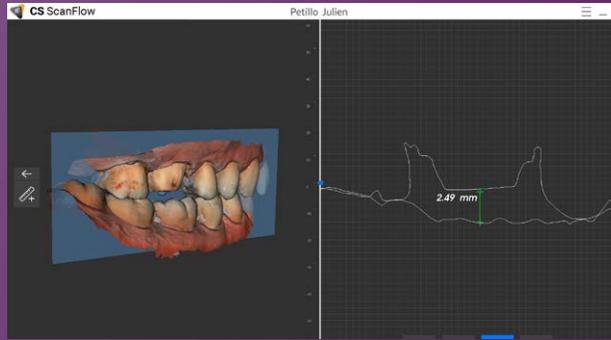
Be alerted of holes or gaps in the scan with live scan feedback



Automatically identify the margin line and adjust as needed during the acquisition process



Increase or decrease the size of the live scanning view window as desired



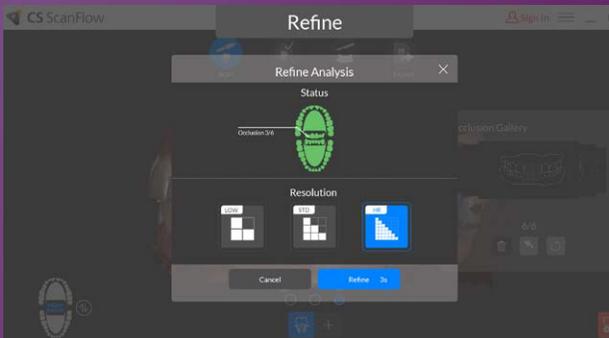
Verify that there is adequate space between the preparation and the opposing dentition via the measurement tool



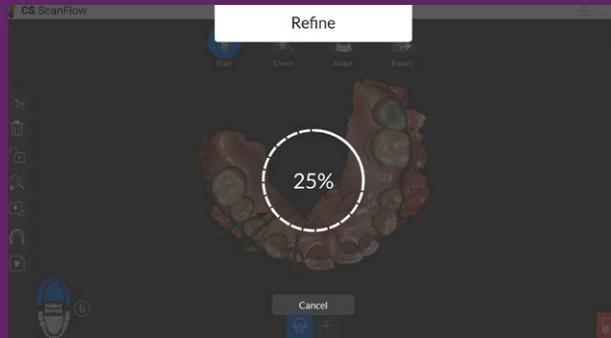
Merge the digital scan with a conventional impression scan into a single file using Hybrid Scanning workflow



After capturing the bite registration, check the occlusion pressure and make adjustments



Choose from low, standard and high-resolution data refinement modes



Enjoy an average of 60% faster processing compared to current processing times<sup>2</sup>

# Restore Like Never Before

Capture all the details you need for custom-fit functional restorations to perform beautiful aesthetic work in minutes. The CS 3600 and CS 3700 intraoral scanners allow you to mark the margin line directly from the acquisition software and adjust as needed. All files can be easily shared with the lab and viewed with the CS MeshViewer, optimizing communication. Scans are always saved in open formats for easy transfer among programs and lab partners. You can mill restorations chairside or send your scans to the lab—the choice is yours.

**A recent study** “Finish Line Distinctness and Accuracy in 7 Intraoral Scanners versus Conventional Impression: An In-vitro Descriptive Comparison,” recognized the CS 3600 intraoral scanner for its outstanding performance in finish line accuracy.<sup>6</sup>

The study defines finish line distinctness as “the degree of visual clarity and identifiability in the reproduction of the finish line compared to a reference scan,” and finish line accuracy (FLA) as “the ability of a measurement to match the actual value of a reference scan in the immediate proximity to the finish line.” In this case, a model with a screw retained crown and a preparation for a cemented crown was scanned with a highly accurate industrial scanner to act as the reference scan.

One traditional impression was taken of the base model while each of the seven scanners captured 10 digital impressions each on the model; the tenth scan from each scanner was used to evaluate finish line distinctness and accuracy.

Based on “color deviation evaluation and distribution of deviations in histogram,” the CS 3600 shared the top rank among the scanners for highest finish line accuracy, with a deviation below  $\pm 25 \mu\text{m}$ . The study also stated the CS 3600 showed a clear and distinct color rendering, which the researchers purposed may “assist in identifying the finish line compared to the monochromatic STL files.”

”The images are so fast and clear, which is the biggest thing for me—whether it’s a single crown or quadrant or dual arch.”

**Stephen D. Poss, D.D.S.**



Obtain precise HD 3D digital impressions for fast and accurate treatment planning.



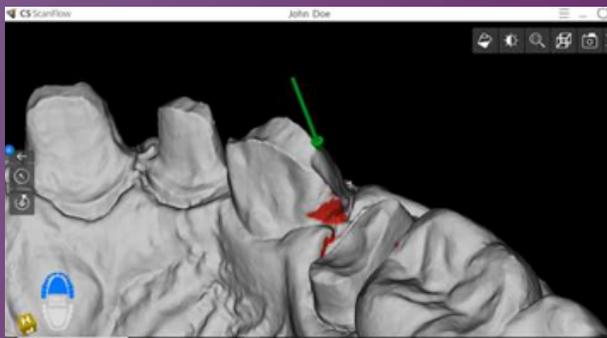
Automatically identify the margin line or mark it manually.



Make modifications to the marked margin line as needed.



Lock and preserve the scanned retracted gingival tissue immediately after acquisition, as the tissue may collapse and impact the scan.



Automatically detect undercuts based on the selected area to help ensure your digital impression is optimal for the restoration.



Merge the pre- and post- preparation scan to perform distance measurements to verify that the preparation meets material requirements.

# Digitize Design

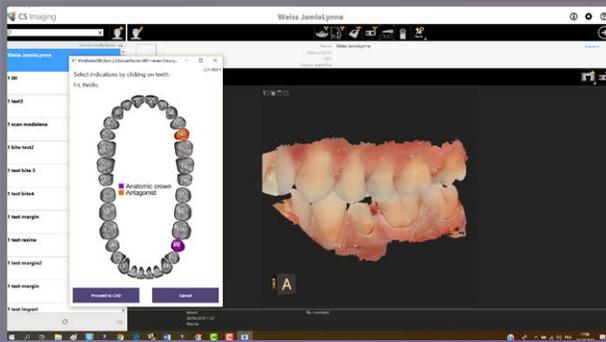
## exocad Chairside CAD



Access state-of-the-art intuitive restorative design capabilities via exocad ChairsideCAD software, which is completely integrated into the CS Solutions platform. exocad's proven and trusted technology offers more automation with a simplified user interface for the optimal chairside experience.

- Offers a wide range of compatible materials and production systems
- Optimizes the design of chairside restorations
- Supports the design of dental restorations that can be produced chairside, including inlays, onlays, crowns, veneers, overlays and four-unit bridges
- Allows you to design the restoration and mill chairside

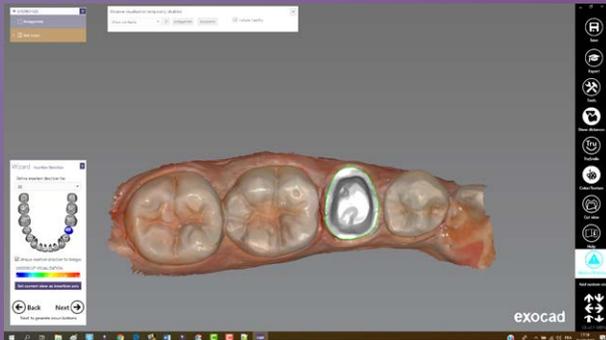




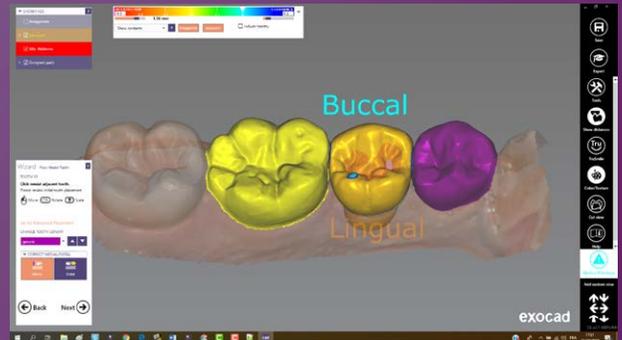
Launch exocad ChairsideCAD software and select the tooth/teeth to be restored



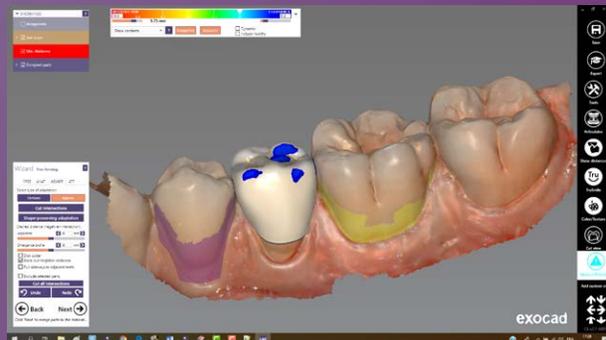
Draw the margin line



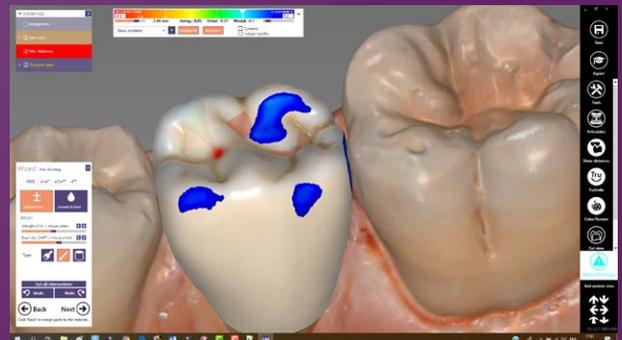
Set the insertion direction



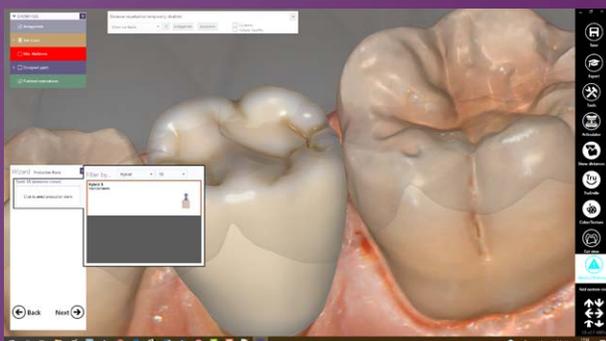
Adjust the crown



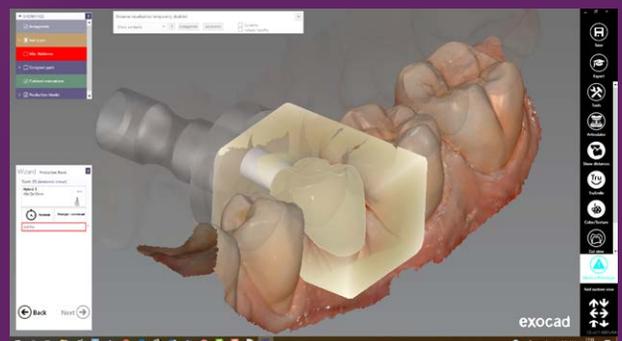
Adjust the contacts



Refine with free-form adjustment



Select the restorative material



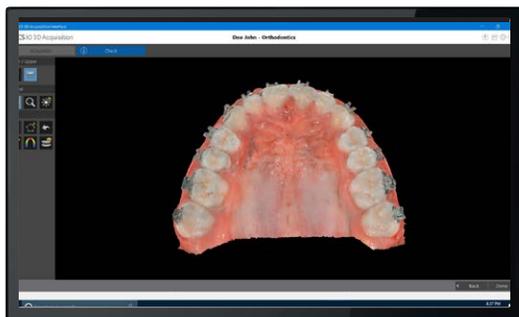
Nest the production blank

# Reinvent Your Orthodontics

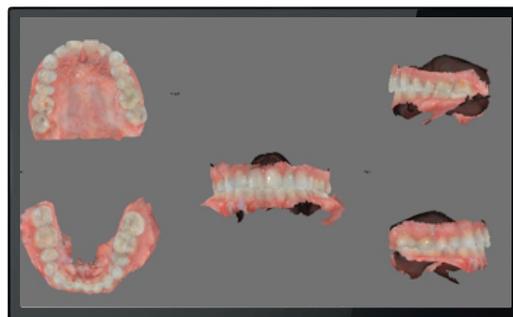
Simplify your acquisition process for digital or orthodontic models with our intuitive software. Carestream Dental intraoral scanners provide a fast, continuous scanning experience that increases patient comfort while producing accurate digital impressions. Stunning, highly accurate full HD 3D images improve your communication with patients, practices and labs.

## Discover a better way to impress your patients

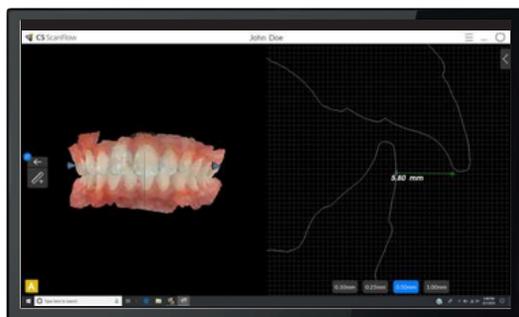
- Scan both arches and capture bite registration quickly and easily
- Capture a digital impression in a fraction of the time required for a traditional method
- Save time, money and space, as digital models eliminate the need for physical storage
- View models from every angle for improved diagnostics, consultation and case acceptance



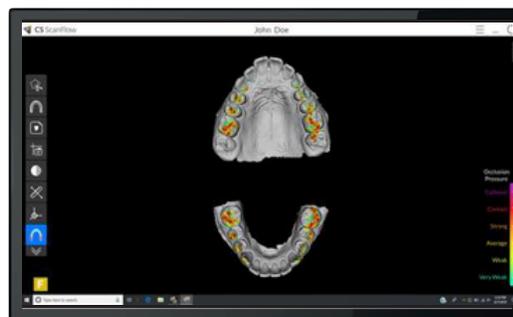
Obtain dual arch full palatal scans quickly and easily for the creation of digital study models, orthodontic appliances and retainers.



Automatically extract up to 5 2D intraoral images from the scanned data set and eliminate the need to acquire intraoral photos.



Spot check OP/OJ by performing distance measurements in both the scan and check steps.



Get the details you need to analyze your patient's bite with automatic occlusion pressure mapping.

“Precision is key when fabricating those types of appliances since distortions will have adverse affects, and they can’t be adjusted like an expander or Hawley retainer. Occasionally the 3D printer will misprint, but the scanner is ALWAYS precise!”

**Robin H. Vaughn, Digital Orthodontics Consultant/Clinical Trainer**

## Optional modules **CS MODEL and CS MODEL+**



### **ORTHODONTICS—CS MODEL**

Eliminate the cost and hassle of plaster models with CS Model. Thanks to realistic and accurate 3D models, you can create more engaging treatment plans while boosting case acceptance.



### **ORTHODONTICS—CS MODEL+**

Use CS Model+ to evaluate your digital models and simulate treatment plans within minutes. CS Model+ helps patients understand their treatment needs and visualize possible treatment outcomes.

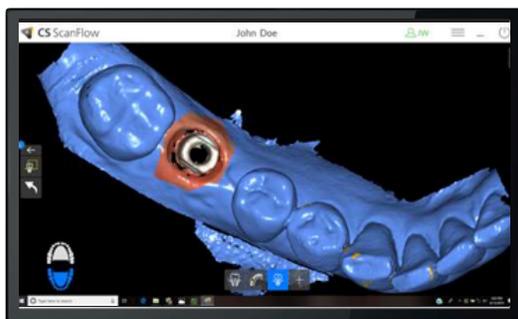
# Plan Implants with Confidence

When you incorporate a Carestream Dental intraoral scanner into your workflow, you can create your treatment plan virtually and execute it with more proficiency. Your labs can fabricate surgical guides, which can help eliminate guesswork and enable you to place implants with greater precision.

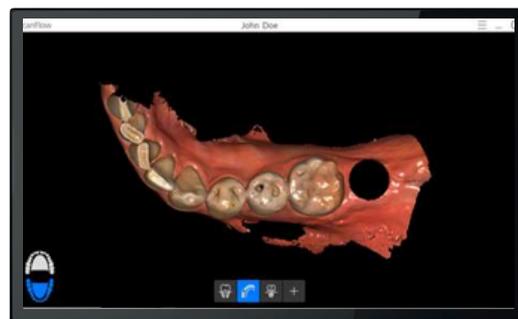
Once the implants are in place, the digital workflow continues: you can place and scan standard abutments or perform digital fixture level impressions and fabricate custom abutments. You can collaborate with your referring dentist on a comprehensive treatment plan, from the placement of the implant to the final restoration.

The dedicated scanning workflow for implant-borne restorations takes you to a new level of efficiency:

- You enjoy a highly accurate scan for truly precise implant planning and restorations
- Intuitive software guides you through the process as you scan abutments or scanbodies
- Smart technology allows you to scan the patient's arch, cut the region and then place the scanbody—rescanning only that specific area
- Split-screen viewing allows you to conduct comparisons of the digital impressions with and without in place
- Filters including full HD 3D color, highlight on, or monochromatic, accommodate your workflow needs



An innovative scanbody area selection tool helps to prevent image mismatches that can occur when using multiple scanbodies on a single case.

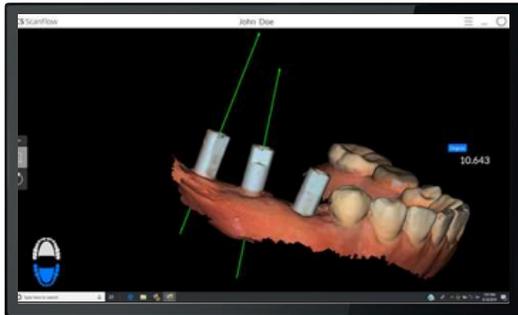


Smart technology allows you to scan the patient's arch, cut the region, place the scanbody, and rescan the area.

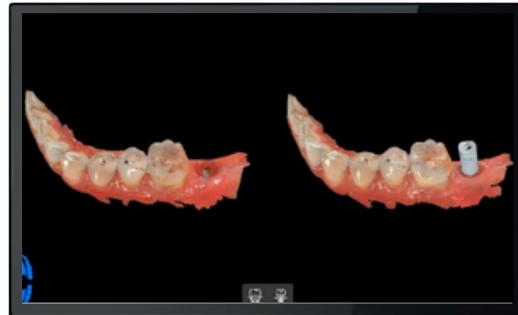
“The prosthetic-driven approach to implant placement enables you to start at the end of your plan and work backward, eliminating all guesswork from the process.”

**Dr. Lawrence H. Marks, Advanced Smile Solutions**

**When it comes to placing implants accuracy matters.** A recent study highlighted how the integration of the CS 3600 intraoral scanner with facial scans allowed clinicians to successfully restore 15 fully edentulous maxillary patients with overdentures supported by 4 implants and a CAD/CAM PEEK bar.<sup>7</sup>



A convenient parallelism check tool allows you to compare the insertion angles of neighboring implants.



Dual scan mode allows you to scan the same implant region of interest twice—once with the scanbody in place and once without—to capture more precise data.

## Optional modules

### Prosthetic-Driven Implant Planning

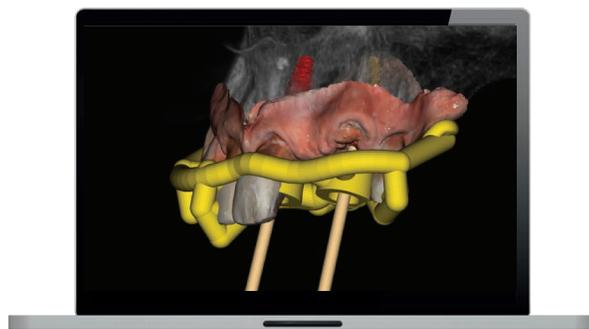
Plan implants with greater precision thanks to CS 3D Imaging software's new Prosthetic-Driven Implant Planning module. The software allows you to combine Carestream Dental's CBCT and intraoral scanner digital impression data and add virtual crowns and implants to create a more comprehensive treatment plan using an integrated digital workflow.



## Optional modules

### Swissmeda SMOP Surgical Guides

The Swissmeda SMOP guided surgery solution helps deliver more predictable and accurate outcomes—drastically reducing the possibility of errors and distortions and improving customer satisfaction. Easy to use, the guide design software works with most implant manufacturers.



# Streamline Your Sleep Medicine Workflow

Eliminating conventional impressions from your workflow is a comfort in itself—for both you and your patients. There's no longer a need to fill patient's mouths with uncomfortable conventional impression materials or wait for stone models to set. The entire process is digital. Your patients will benefit from a more comfortable scanning process, and you'll appreciate the improved accuracy, time savings and open and flexible workflows.



## Scan

Digital impression and multiple bites are acquired in a single dataset.



## Send

Digital impression, including multiple bites, is sent as an open STL file via CS Connect.

A simpler way to fabricate sleep apnea devices

- Provides improved accuracy of the impression
- Covers a wide range of indications
- Reduces cost of materials, time and shipping
- Increases efficiency and facilitates a faster turnaround for appliances
- Reduces the amount of time needed for replacement sleep devices
- Improves patient satisfaction by delivering a more comfortable experience

### **Sleep-specific tools for accurate bite acquisition**

CS ScanFlow software includes features specifically designed for sleep medicine, such as the Multiple Bite Capture option. Clinicians can easily capture and view up to three different bite registrations, such as normal, open and protruded, which can be sent to their preferred lab or manufacturer for the fabrication of mandibular positioning devices.



## **Manufacture**

Sleep device is manufactured and shipped to practice.



## **Deliver**

Final sleep device is delivered to the patient.<sup>8</sup>

“The completely digital workflow helps me achieve patient satisfaction and streamline treatment at the same time. Patients love that they have access to a state-of-the-art treatment option, and this helps to build patient-practitioner trust.”

**Paul Reaney, BDS (EDIN), MFGDP(UK), DPDS(BRIST),  
DIP PCORTH RCS (ENG)**

# CS Connect

## —Cohesive Collaboration

CS Connect is Carestream Dental's online portal for sending digital impressions to the lab quickly and securely.<sup>4</sup> It allows you to transmit case and ordering information to your preferred laboratory in a single click. It also improves collaboration with your lab by saving time and transport costs and enabling real-time case follow-up and online case history.



Doctor scans patient

Practice uploads scan to CS Connect with lab order and lab receives email notification

Lab downloads scan data and manufactures the requested order

Lab completes the order and sends to the doctor

Doctor places final restoration or appliance

All you need is the lab's email address to invite them to access data and integrate it with the design software of their choice.

- Ensures your lab receives all the necessary details to begin work on a case, including important details like margin line, texture and indication
- Allows you to check the status of the case in real time
- Provides worry-free file exchange, thanks to data encryption
- Transfers DICOM and open STL and PLY 3D impression files as well as advanced CAD format to the lab

# CS Meshviewer

## —View Details in Color

With the HD 3D Color images generated by the CS 3600 and CS 3700 intraoral scanners and the advanced export capabilities offered in the CS MeshViewer, practitioners and labs can easily collaborate on data sets and improve outcomes.



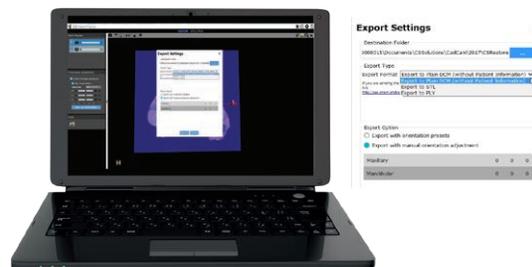
View the data sets in full HD 3D color, or monochromatic as desired



Review the exact placement of the marked margin line when provided by the doctor



Reorient data set as needed—prior to exporting—based on the requirements of your lab's CAD software



Choose between open STL (monochromatic), PLY (includes color information) and full DICOM without patient information export formats<sup>9</sup>

# Selecting the Right System

## PORTFOLIO COMPARISON

	CS 3600	CS 3700
Highly accurate datasets	✓	✓
Touchscreen capable	✓	✓
Fast scan/refinement	✓	✓
Comprehensive open workflows	✓	✓
Tips in 3 styles	✓	✓
Open STL and PLY file export	✓	✓
Hybrid workflow	✓	✓
HD 3D Color	✓	✓
Shade matching		✓
Turbo high-speed scanning		✓
Improved grip channel		✓
Design by Studio F. A. Porsche		✓
Wrist strap		✓
Direct access to CS Connect <sup>4</sup>	✓	✓
3rd party integration	✓	✓
CS Advantage	✓	✓

## SUITABILITY BY CLINICAL APPLICATION

	CS 3600	CS 3700
Restorative	••	•••
Orthodontic	••	•••
Implant	•••	•••
Implant-borne restorative	••	•••
Sleep	•••	•••

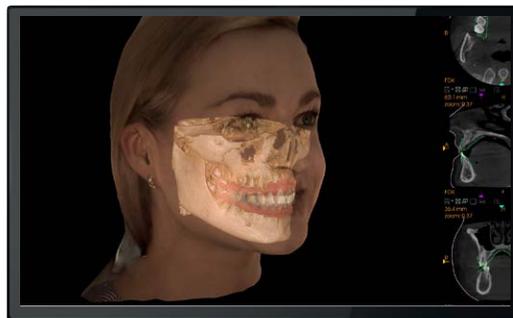
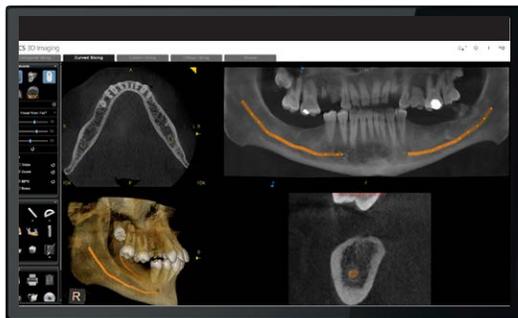
• Good •• Better ••• Best



# Experience the Power of Integration

## CS 9600: SO SMART, YET SO SIMPLE

The CS 9600 5-in-1 CBCT scanner features our broadest range of fields of view and breakthrough innovations to ensure correct patient positioning and highly accurate scanning. You'll benefit from best-in-class image quality, flexible fields of view and at a low dose. Fields of view: 4 cm x 4 cm to 16 cm x 17 cm



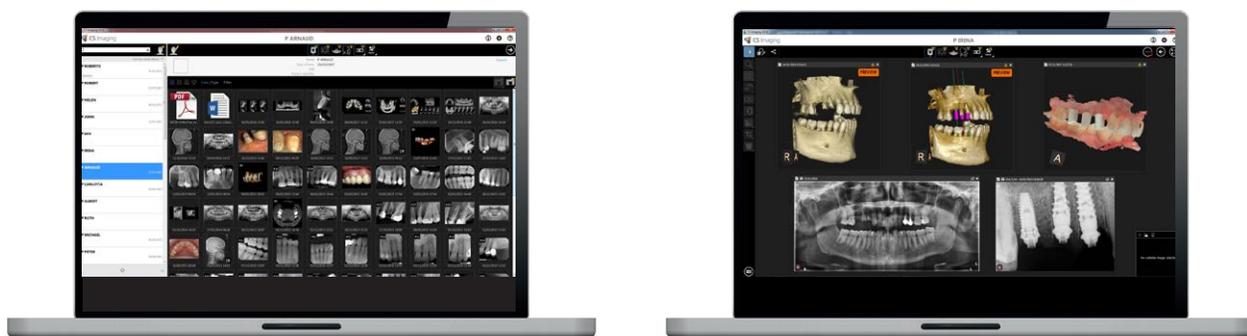
## CS 8100 3D: POWERFUL 3D IMAGING IN A COMPACT DESIGN

The CS 8100 3D blends award-winning 2D with powerful CBCT imaging, ease-of-use and high-resolution to cover virtually all of your everyday imaging needs. Fields of view: 5 cm x 5 cm to 8 cm x 9 cm



## CS IMAGING VERSION 8

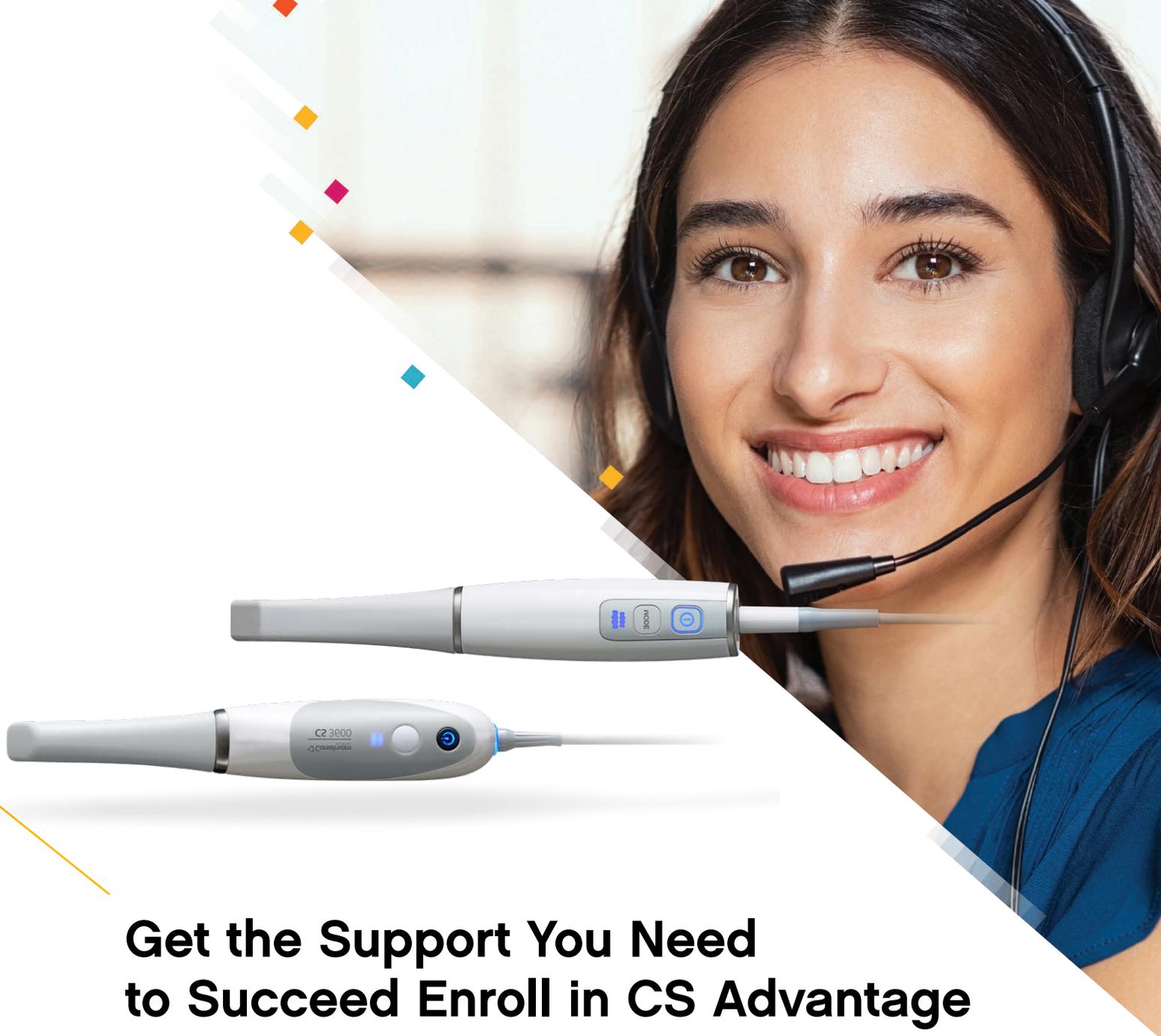
Discover a new generation of dental imaging software with CS Imaging version 8—the platform that provides one-stop access to all your 2D images, 3D images and CAD/CAM data.



## CS 3100 MILLING SYSTEM

Expand your chairside restorative treatment options and deliver aesthetic, accurate and durable restorations for patients.





## Get the Support You Need to Succeed Enroll in CS Advantage

The industry's leading manufacturer of integrated imaging and technology solutions is offering a variety of valuable services to facilitate superior product usage, generate peace of mind and promote success. Carestream Dental is proud to present CS Advantage, a comprehensive support and services program that is fine-tuned to meet the needs of any practice.

Learn more about Carestream Dental products and services: [carestreamdental.com](https://www.carestreamdental.com)

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<sup>1</sup>Mangano F, Logozzo S, Hauschild U, Veronesi G, Imburgia M, Mangano C, Admakin O. June 6, 2019. Trueness and precision of 5 intraoral scanners in the impressions of single and multiple implants: a comparative in vitro study. BMC Oral Health. 19(101): DOI 10.1186/s12903-019-0792-7

<sup>2</sup>Tips can be autoclaved up to 60 times if the exposure is limited to 134 °C at no more than 4 minutes and if gauze is used, as outlined in the CS 3600 Family Safety, Regulatory, and Technical Specifications User Guide (9J8269)

<sup>3</sup>In vitro test performed on a stone model.

<sup>4</sup>Requires enrollment in a services and support package

<sup>5</sup>With GPU (graphics processing unit) merging and improved texture mapping, the average time saving for refinement is approximately 60% on computers with 4GB video memory

<sup>6</sup>Nedelcu R et al. Finish Line Distinctness and Accuracy in 7 Intraoral Scanners versus Conventional Impression: An In-vitro Descriptive Comparison. BMC Oral Health.18(27): DOI 10.1186/s12903-018-0489-3.

<sup>7</sup>Francesco Mangano, Carlo Mangano, Bidzina Margiani, and Oleg Admakin, "Combining Intraoral and Face Scans for the Design and Fabrication of Computer-Assisted Design/Computer-Assisted Manufacturing (CAD/CAM) Polyether-Ether-Ketone (PEEK) Implant-Supported Bars for Maxillary Overdentures," Scanning, vol. 2019, Article ID 4274715, 14 pages, 2019.

<sup>8</sup>Image courtesy of ResMed Narval, available in some countries.

<sup>9</sup>Certain design software, including exocad, can support the use of the PLY format, thus enabling color viewing the lab