

May 2013

dental lab products

INNOVATIONS ADVANCING PRODUCTIVITY, PROFICIENCY, AND PROFITABILITY

Vol. 38 No. 05

dlpmagazine.com

FIND OUT ABOUT SOFTWARE SOLUTIONS

Check out this month's cover story on how today's software options can help you and your customers.

IMPRESSIVE MILLING

An inside look at Zubler USA's Vario DC5 wet and dry mill.

ESTHETICS MADE SIMPLE

GC America's GC Initial Porcelain helped one patient take back his youth.

WHAT'S YOUR SEO STRATEGY?

SEO and Social Media are complementary Internet marketing tools that can help grow your business. Here's how to make them work for your lab.

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Can't get enough of our Step-by-Step articles? Check out our new e-newsletter to get your fix.



DELIVERS RESULTS FOR A VARIETY OF MATERIALS
Shofu Dental's Cerarezin Bond offers reliable bonding.
More on p.4...



A SINTERING WORKHORSE

The EOSINT M 270 direct metal laser-sintering system from EOS of North America creates up to 450 dental units per day.

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ADHESIVE ADVANCEMENTS
The next generation Multilink Automix System from Ivoclar Vivadent delivers efficiency.
More on p.4...



MORE OPTIONS

Straumann's ZrO₂ abutment blanks now come in sizes with increased heights and diameters.
More on p.4...



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IMPLANT BLANKS

a Larger blank sizes

ZrO₂ abutment blanks are now available with increased height and diameter for CARES 8.0 and CARES 6.2 for Windows customers. The company has also lowered the emergence level for bone level implant blanks to enhance design flexibility. Software updates are available to customers using CARES 8.0 and 6.2 for Windows.

Straumann

800-448-8168 | straumann.us

CIRCLE RS NO. 2



a

CEMENTS

b Upgraded adhesive cement

Designed for adhesive cementation techniques, the next generation **Multilink Automix System** offers an enhanced adhesive formula that allows for simpler clean-up of excess material using a quarter light-curing technique. Building off the system's ability to deliver high bond strength, Multilink Automix reportedly offers a 99 percent adhesive survival rate in nine studies examining more than 291 restorations. Additional features include a new shade, try-in pastes and room temperature storage. The cement is recommended for IPS e.max users.

Ivoclar Vivadent Inc.

800-533-6825 | ivoclarvivadent.com

CIRCLE RS NO. 3



b



c

BONDING SYSTEMS

c Porcelain and resin bonding system

Specifically designed to repair ceramic, porcelain, acrylic and C&B materials, **Ceraresin Bond** is said to reliably bond various restorative materials, including Ceramagic® light-cured laboratory composite or Beautifil® Flow Plus light-cured resin composite. The material is said to be moisture and thermal strain resistant for a long lasting, durable bond. Kits of Ceraresin Bond also boast a three-year shelf life.

Shofu Dental Corp.

800-827-4638 | shofu.com

CIRCLE RS NO. 4



d

SINTERING

d A new laser sintering system

Unlike traditional casting processes, which produce about 20 dental frames per day, the **EOSINT M 270** direct metal laser-sintering (DMLS) system creates up to 450 dental units per day using CAD data. The EOSINT M 270 system also makes removable partial dentures that are stronger than a conventional model cast and have a lower clamp-breakage risk. Additionally, the increased level of detail allows for the reproduction of pitted structures, plus the finished products meet relevant EN 1641 and EN ISO 22674 standards.

EOS of North America Inc.

248-306-0143 | eos.info

CIRCLE RS NO. 5

COVER PRODUCTS are chosen because of their innovation or perceived impact on productivity and bench artistry.

I2+ new products

A new dental lab app, a bridge solution, a controlled price alloy **and more.**

BALANCES

Precise balancing

The Alliance/OHAUS® Pioneer Series Analytical™ Balance from Alliance Scale Inc. can be adjusted to compensate for vibrations and features an easy-to-clean draftshield.

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BRIDGES

A new bridge solution

The new AurumTek Multiple Implant Solution (A.M.I.S.™) bridge from Aurum Ceramic is getting a lot of attention.

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SOFTWARE

Updated CAD Software

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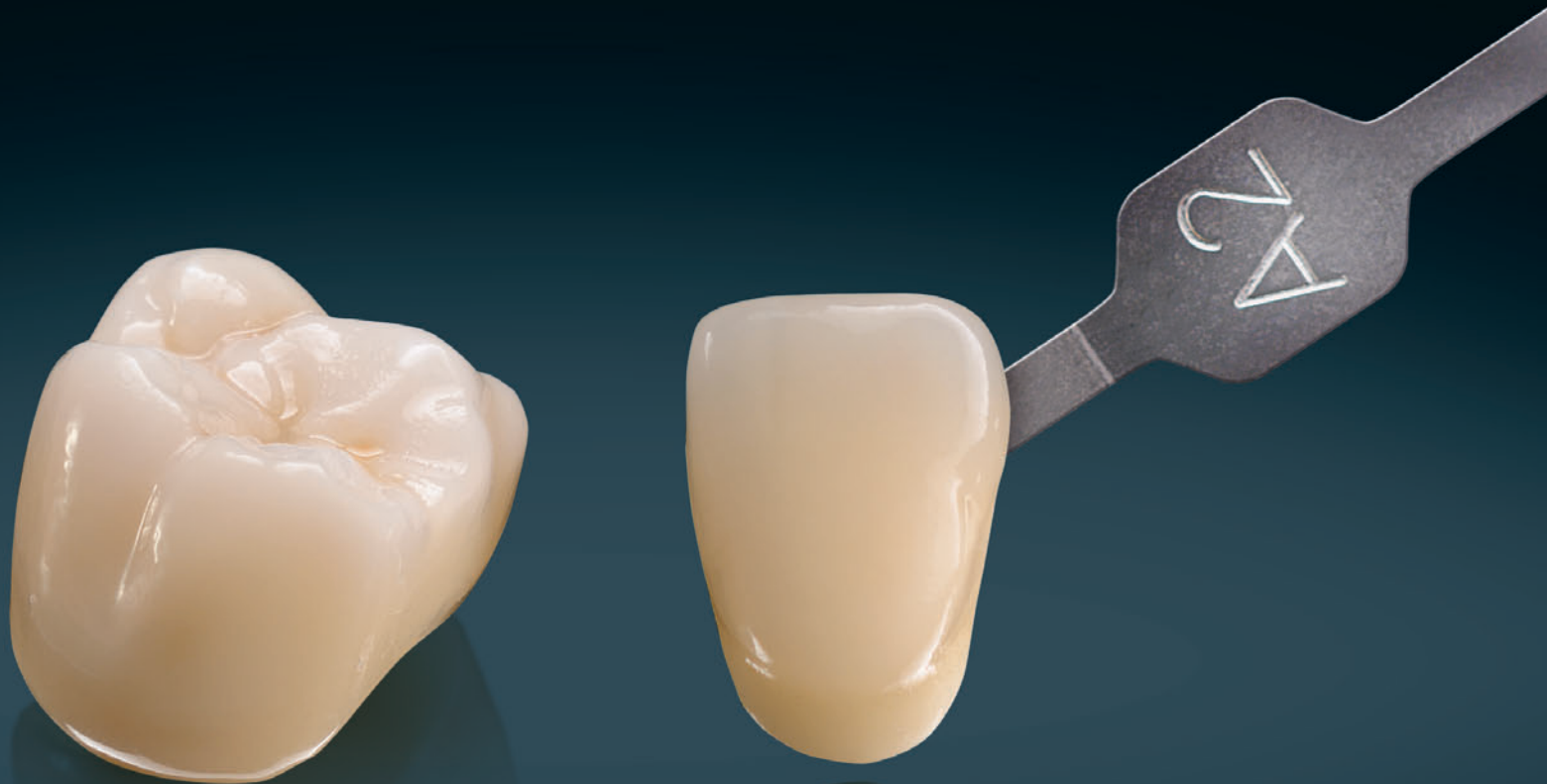
NOBEL ALLOYS

Controlled price nobel alloy

Callisto® CPG, a new controlled price nobel alloy from Ivoclar Vivadent, is a cobalt-chrome-based ceramic alloy.

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Imagine the esthetics of a layered restoration from all-zirconia.

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3M ESPE

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How GC America's Initial Porcelain and a team effort from the dentist and lab helped one patient achieve the youthful look he desired.

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Ivoclar Vivadent's efficient and cost effective Programat S1 furnace features new, versatile software.

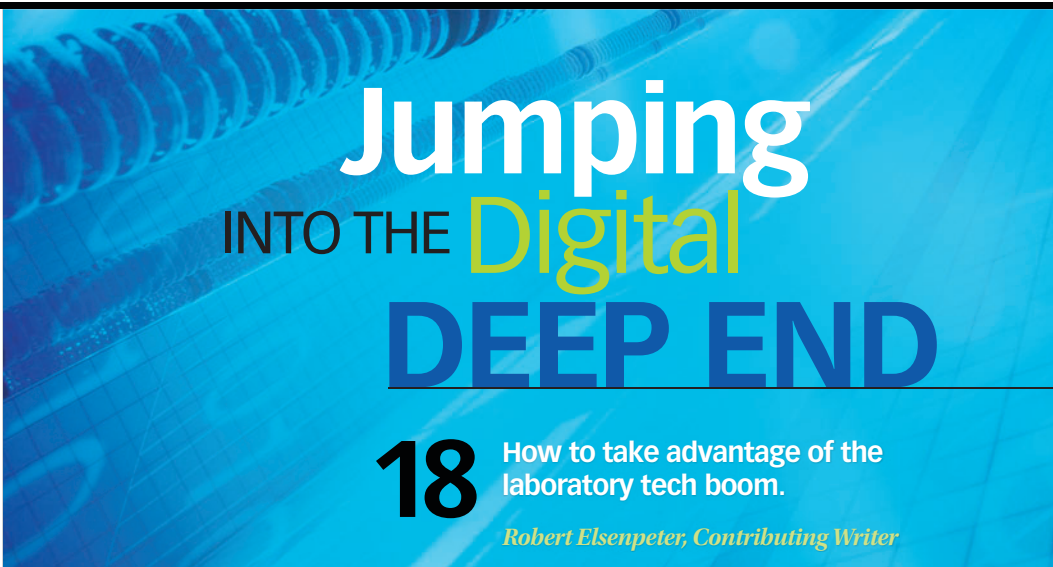
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What we loved at Lab Day West

Miss this month's big meeting? No worries. DLP Managing Editor Ryan Hamm was there, and has put together all the latest updates and product news from the show.



3 most-read articles online

01 Carestream Dental debuts CS Solutions for CAD/CAM restorations at IDS

by DLP Editorial Team

02 Larry Bodony explains the ease of exocad® CAD systems [VIDEO]

by DLP Editorial Team

03 Amann Girrbach looks to continue meeting, surpassing lab demands in 2013

by DLP Editorial Team



3 most-viewed products

01 Ceramill Motion 2 milling unit Amann Girrbach

02 exocad CAD Systems exocad

03 Callisto® CPG Ivoclar Vivadent

CLICKS AND PICKS

What lab owners and technicians were searching for and savoring in March @ **dipmagazine.com**

PHOTO: SIMONE BECCHETTI/GETTY IMAGES



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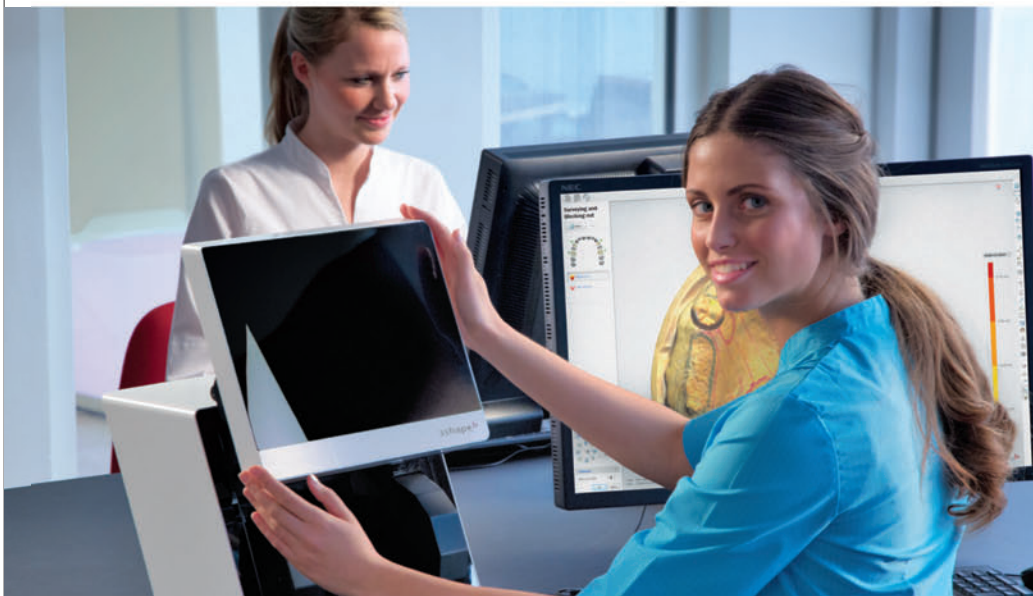
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1 United States. Census Bureau. Population Estimates and Projections, 2010. Web.

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theLIST

QUICK BITES FOR PERSONAL DEVELOPMENT AND OVERALL LAB SUCCESS

NEXT MONTH: TOP 5 REASONS TO REVISIT REMOVABLES

Top 5 TRENDS IN THE METALS MARKET>>



01 Lower precious metal prices mean greater flexibility

When gold continued to climb in value, it priced many labs out of precious metal. But now that precious metal prices are stabilizing (and, in some cases, falling), precious metal alloys might be increasingly a more accessible option for patients and for labs of all sizes.

02 Outsourcing

"A major positive trend for the metals industry is the availability for laboratories to digitally outsource all metal substructures to a centralized manufacturing center," said Anton Woolf, CEO of Argen Corporation, a major producer of metal alloys. "We feel there will be a trend back toward precious metals because they can get them more economically and efficiently."

03 Developing metal substructures through a digital workflow

Like most current lab work, digital workflow is changing the landscape of the metals market. There is a major trend developing metal substructures through a digital workflow, meaning PFM restorations can happen much faster and more efficiently than ever before.

04 Flat-priced noble solutions

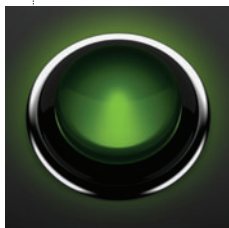
Considering the volatile nature of the precious metals market, many labs are looking for a more stable recourse. Some laboratories have begun to use flat-priced noble solutions, like Argen's NobleBond.

05 Digital Captek

If technology has changed the general lab landscape, Captek technology is no different. Many laboratories are using digital Captek solutions, which allow them to get Captek restorations through the digital workflow. ●

Trends 2-5 contain information provided by Argen Corporation.

PHOTO: JO UNRUH /GETTY IMAGES



Activate the Magazine

As the go-to product resource for the dental lab industry, the team at *Dental Lab Products* wants to make it as easy as possible for you to get the information you need about new products.

Starting with the February 2013 issue, you'll find the reader service card with numbers that correspond to advertisements. In this issue you'll find numbers with each of the products that appear as editorial in this issue of DLP.

You'll also find opportunities to go directly to landing pages that allow you to fill in your information to receive new product materials, QR tags that get you there directly from your phone, and in some cases, text (or SMS) codes that provide yet another way to get the information you want.

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CV3

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Hoover And Strong
hooverandstrong.com/refining

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Ivoclar Vivadent Inc.
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Kerr Corp./Div. of Sybron Dental
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CV4

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rolanddga.com

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Stratasys
stratasys.com

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Whip Mix Corp.
whipmix.com

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RYAN HAMM
rhamm@advanstar.com

A new beginning

You're not imagining things.

There is, indeed, a new face to the left. My name is Ryan Hamm, and I'm excited to be the new managing editor of Dental Lab Products! Under the terrific editorial leadership of Thais Carter, it's an honor to join a team of so many creative and forward-thinking people.

As I've started to learn more and more about the dental lab industry, I've discovered two important things. First: Dental lab workers are really nice! Everyone has been very welcoming and understanding when I explain my background is in journalism, not lab work, and that I'm there to learn. Second: I am amazed at what each of you does. I recently got the opportunity to tour

Keating Dental Arts, and was floored at the amount of knowledge and artistry that goes into lab work, no matter the size of the lab or the number of employees. What you do, and the tools you use to do it, are remarkable, even to someone who's still learning.

As part of that education, I'd love to hear your thoughts. What are the products that you want to read about in DLP? What products have you the most excited? What products do you feel like you want to learn how to use, but you just haven't had the time or the money? Email me any time at rhamm@advanstar.com and I'll do my best to see how we can best serve you and your lab in the future. **lab**

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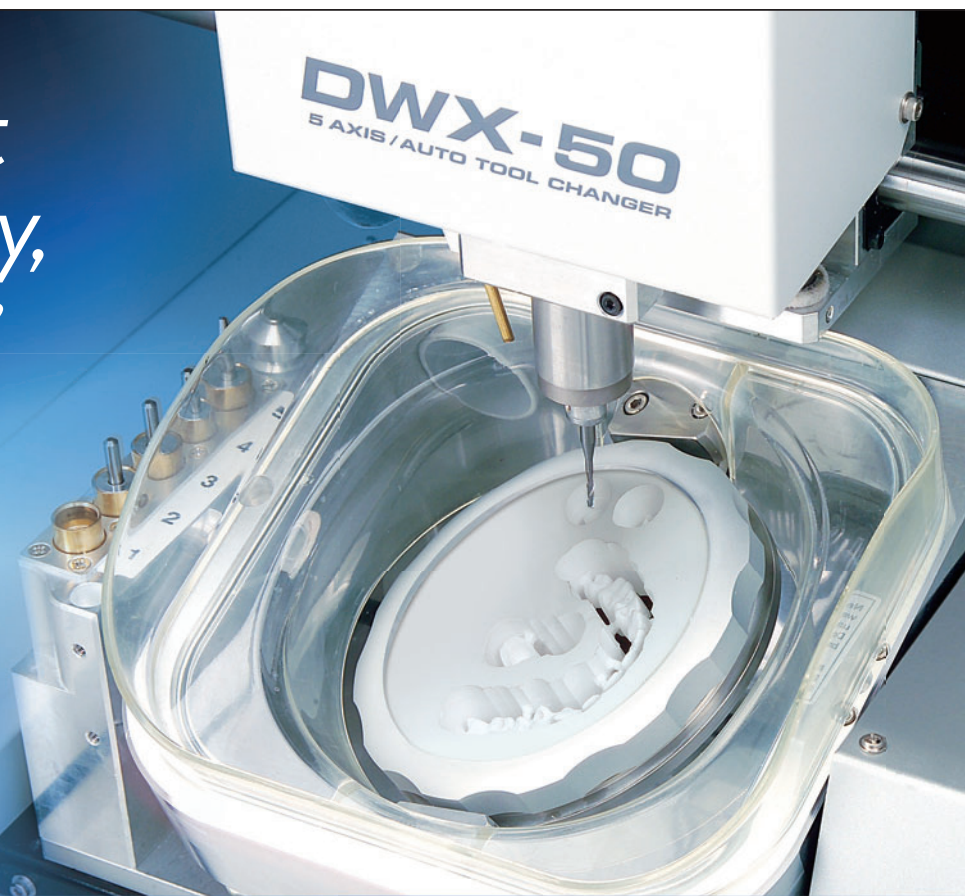
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recommend that all of my colleagues use GC Initial."

- Luke S. Kahng, CDT



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- Easy to handle and extremely stable
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- Six ceramics in one system; works for all substructures

REACHING NEW HEIGHTS IN DENTAL AESTHETICS



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A bridge solution

The **AurumTek Multiple Implant Solution (A.M.I.S.™) Bridge** offers a custom, precision-milled zirconia, chrome cobalt or full metal understructure. It is described as the optimal answer for screw-retained solutions up to 12 units. Said to be compatible with a wide range of implant platforms, A.M.I.S. bridges also come with the required abutments, plus the related components and screws.

Aurum Ceramic

800-661-1169

aurumgroup.com

CIRCLE RS NO. 11



New shade options

The improved **zerion®** shades are said to be slightly brighter and more translucent than those previously available. Requiring no additional action, the new shades simply replace the existing zerion shades and are available to customers using the CARES® Visual platforms from 5.IO to the new System 8.0. Additionally, the new zerion crowns and bridges do not require a change in processing procedures or additional software updates.

Straumann

800-448-8168 | straumann.us

CIRCLE RS NO. 13



Zirconium abutments

Composed of pure zirconium on a titanium adaptor that engages the implant, **HI-TEC Implants Hybrid Zirconium Abutments** are used for creating direct crowns by bonding porcelain or as an abutment for cemented restorations. They are said to be fracture free and the implant does not experience wear near the zirconium. Additionally, the economical adaptors fit most well-known implant systems, including internal hex, tri-lobe, and morse taper and hexagon.

HI-TEC Implants Ltd

800-452-0582 | hitec-implants.com

CIRCLE RS NO. 12



Updated CAD software

exocad GmbH recently unveiled add-ons and improvements to the **OEM-branded software**. The new add-on modules offer several benefits, including fully integrated 3D implant planning, rapid temporary crown and bridge creation capabilities, as well as the ability to create physical models from digital scans and full digital design of dentures. A new user-friendly interface provides secure communication with exocad GmbH's dentalshare® service, plus tablet PC and multi-touch support. The enhanced software offers a 3D PDF generator that allows users to send interactive 3D previews at any time during the design process.

exocad GmbH

855-EXO-4CAD | exocad.com

CIRCLE RS NO. 14

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CIRCLE RS NO. 16



A safe, effective disinfectant

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Southland Distribution & Sales

800-880-0240
sdssouthland.com

CIRCLE RS NO. 18



Dental lab app

The **D&S Dental Lab app** is now available for free download on both the iTunes App Store and Google Play for Android. The application makes D&S information and services readily available. The home page offers eight options to begin exploring. Clients may attach photographs, choose a convenient date for the case to be returned and receive ready-to-use shipping labels. The Crown Selector functions by posing a series of questions to immediately prescribe the appropriate all-ceramic restorative indication.

D&S Dental Laboratory Inc.

800-236-3859 | dnsdental.com

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Simple system with high process reliability

Here's an inside look at the VARIO DC5 wet and dry mill from Zubler USA.

Compiled by Ryan Hamm

As dental labs of all sizes are beginning to invest in their own mills—and the CAM software that goes with it—it's become a crowded field of often confusing and compelling offerings. The options have become so extensive, with so many types of mills designed for specific needs, that it can be difficult for the average lab owner to make a decision. Should she buy a mill that does one thing well and dependably? Should he buy several lower cost machines to offer the widest range of materials to dental customers? Should the lab just wait for the market to settle down and continue outsourcing milling work to larger options? Is there any way for an average lab owner to make such a complicated decision?

Zubler USA hopes it has the answer to all of those questions in the new DC5 milling machine. Zubler has designed the DC5 specifically for dental applications, and it will aid the lab in the milling, grinding, drilling and cutting of all current materials.

Because the milling unit and the CAM software were developed in conjunction with one another by the same team, Zubler touts that the DC5 milling machine features “perfectly defined interfaces between the components, high process reliability and a simple and intuitive system.”

The DC5 features two separate coolant and filtration systems specifically designed for wet machining of metals, or composites and lithium disilicate. The unit also benefits from Zubler's built in V7000 suction unit for dry milling of ZrO₂, AlO₂, Wax, PMMA, Composite,

Splint Resins and any standard model materials.

The drives of the DC5's five axes are run with servo motors and ensure simultaneous operation; the fourth axis uses a precision gear with up to +/- 32° swivel. To avoid vibration when milling, a high-resolution feedback encoder sends 160,000 pulses per revolution to exclude step losses and the high quality ball screws allow a repeat accuracy of up to 0.01 mm.

Additionally, although only 40-50 types of tools are needed to manufacture all current available materials, the DC5 is equipped with a tool changer system for up to 100 tools and a digital tool measuring system.

A MACHINE BUILT TO PROVIDE OPTIONS

Matt Barrett, owner of AXIS Dental Milling in La Grange, Ga., said the DC5 milling machine has become a key part of his lab, precisely because it offers so many options. “I knew the DC5 was going to be an impressive mill, but when I started using it in production it far surpassed my expectations,” Barrett said. “In a rapidly changing industry, the ability to offer a variety of materials on an open architecture platform is key. The DC5 can mill wax, zirconia, PMMA, titanium, CrCo and countless options in block materials. It covers the whole spectrum. [Additionally,] what Zubler has been able to achieve with the size is amazing. Basically, the DC5 has the capabilities of a large industrial machine with a significantly smaller footprint.”

Kurt Zubler, owner of Zubler Gerätebau GmbH (Zubler USA's parent company), said there were three main requests from customers that led to the creation of the DC5 Milling Machine: fast and precise machining; the need for a wet and dry combination machine; and dust control. “Customers wanted faster results with the precision of a high end industrial machine, and a machine that will cut all materials available without compromising the mechanical integrity of the machine,” Zubler said. “With the DC5 you can easily switch from wet to dry in five minutes or less. [And] I think everyone can identify with the challenge of dust control. With the custom designed internal suction system, the DC5 is the epitome of dust control. Not to mention the health benefits to the users of the machine—this is accomplished by designing the suction to be right at the milling area, resulting in a much cleaner internal surface of the machine.”

A NEW OPTION FOR LAB OWNERS

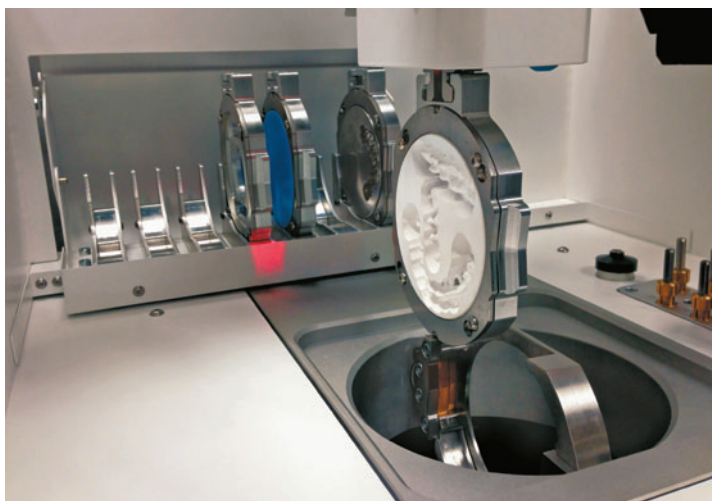
Ryan McEachern, Zubler USA's director of CAD/CAM services, said the feedback from labs has been overwhelmingly positive. “There is one milling center that is milling up to 120 units per day on their DC5, ranging from Chrome Cobalt, to full-contour zirconia,” he said. “The labs have also liked the fact that our DS CAM software will operate most of their existing machines. The benefit of this is that this does not require labs to have to run multiple CAM stations for each different machine. Each license of CAM



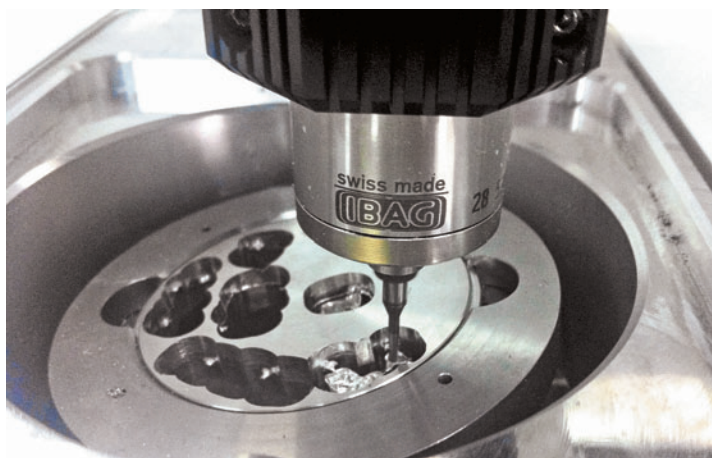
Zubler USA's VARIO DC5 wet and dry mill.

software has the ability to run four different machines of the customer's choice.”

One frequent concern lab owners express about entering into the milling and CAM market is the often high initial cost for technology that may become obsolete after only a few years. So how is Zubler USA working to allay those fears?



The VARIO DC5 mill shown here in action, with optional seven-disc changer.



The 5-axis mill can complete custom abutments, bars and full arch bridge work in all materials.

"The engineers at Zubler are constantly providing significant updates for the CAM software and the machining efficiency of the DC5," Barrett said. "The DC5's five-axis milling capability and industrial-grade hardware are going to allow you to take on any new material that comes to market, whether it requires wet or dry milling."

It's clear the DC5 represents an exciting option for lab owners looking to explore in-house milling options. And for Zubler, it's gratifying to know their machine can help lab technicians at all levels. "A complex machine with such ease of use makes the DC5 very important to the dental lab industry," Zubler and McEachern said. "You do not need to be an industrial machinist to operate the DC5. With this goal in mind, Zubler

has presented a very robust and practical machine and has given the user abilities that most lab techs have never experienced."

Barrett echoes this sentiment. "Laboratories want consistent results with fast turnaround times," he said. "Zubler developed the DC5 to have the hardware, speed and ingenuity that allows me to meet my laboratory clients' needs." **lab**

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Jumping INTO

PHOTOS: STÍGUR KARLSSON; IMAGEWERKS/GETTYIMAGES

It's no secret that computers are integral to nearly every industry, and dental labs are certainly no exception. But computers aren't just used by office staff to keep track of patient charts or payroll—they are critical to lab functions and operations. Laboratories use specialized computer software for everything from case management to implant treatment planning to CAD/CAM.

Depending on your lab's needs, the software solution you select may be a one-size-fits-all affair or it might be very specific—it really depends on your lab, and what company you select for your software solution.

"Our software solutions are comprised of several components including scanning, designing, manufacturing and inspection," said Sheila Cullers, Dental Business Manager at Delcam, maker of DentCAD and DentMILL.

CAD/CAM

CAD/CAM software, itself, continues to grow and evolve—and software makers only see further advancement of the tools.

"Digital technology has evolved quite rapidly since its early beginnings," said Steve Sheehan, Vice President of North American Lab Business at Straumann, maker of the Straumann CARES® system. "The evolution has resulted in better efficiency in developing, importing and exporting CAD/CAM designs."

The best first step toward selecting the right software solution is to speak with your software system's representative. "Whether a lab is new to CAD/CAM and looking for a complete package, or just looking to replace old or obsolete software or is looking to increase the performance of their existing system we can help," Cullers said.

Interoperability is a feature that may appeal to many labs. While some labs use heterogeneous systems from a single supplier, others might find it best to use individual pieces culled from several different vendors.

"The open CAD/CAM systems today allow the lab owner to use tooling and material of

their choosing," Cullers said. "In addition to the CAD and CAM products, we also have a library of translators, which allows our customers to import files from other systems. Our products are modular in nature, and most of our customers will use our products in conjunction with those of our competitors."

CASE MANAGEMENT

Case management is a key function from which effective software can streamline and remove bureaucratic headaches. "At SafeLink, we see how software reduces paperwork," said Mary A. Borg, President and Senior Compliance Advisor at SafeLink Consulting, maker of UQ System. Solutions like the UQ System are used to track compliance, correspondence with doctors, follow-ups and remakes.

"It helps [dental labs] ensure that they're not duplicating information and for FDA compliance," Borg said.

The software is an important part of internal and external operations—which equates to more money for the lab's bottom line. "It can be used for internal and external remakes," Borg

THE Digital DEEP END

Joining the laboratory tech boom can be daunting, but it doesn't need to be. Here's how to get started, and what you should know along the way.

by Robert Elsenpeter, Contributing Writer

said. "It is useful if the work doesn't pass internal [quality checks], or if the work gets to the dentist and it gets sent back because it has been made improperly."

KEEPING IT IN THE CLOUD

Like many other software solutions, UQ System is cloud-based. That means the software is physically maintained at SafeLink, and SafeLink maintains all lab documents and files generated for the system. This reduces overhead and duplication of efforts over traditional systems.

"There's unlimited space by storing documents in the cloud," Borg said. "You don't have binders and books lying around everywhere."

Cloud computing also helps labs keep current on regulatory issues. SafeLink has about 30 client labs, and when the government makes a regulatory change, SafeLink can send that change to all of its subscribers and ensure each office is aware of the changes.

"If OSHA makes a change, we make that change and send it out to all our labs right away," Borg said. "With the old system, we may see a lab once or so a year and talk to them about the change then. Now, that change goes out instantly and we can see which labs have seen the change and which ones need a reminder that the change has been made."

Auditing is another area in which cloud computing helps labs stay productive and efficient.

"When the FDA conducts an audit, the lab can send read-only access to the files," Borg said. "The FDA can read the files before they even come to the facility, and that's really beneficial."

“There’s unlimited space by storing documents in the cloud. You don’t have binders and books lying around everywhere.”

— Mary Borg, President and Senior Compliance Advisor at SafeLink Consulting

PLENTY OF CHOICES OUT THERE

There are a variety of software solutions available to laboratory owners and managers today.

Do your homework to determine what is the best fit for your lab and your workflow. Lab technicians in attendance at the 2013 Chicago Midwinter Meeting as well as Lab Day had plenty of opportunities to see, try out and learn a lot about some of today's top systems.

Zahn Dental, for instance, had a ballroom filled with a variety of its software and technology offerings. Lecture topics included Dental Wings scanners, the Custom Milling Center and a course titled "The Total Lab Solution" that addressed decisions to make about positioning technology, scanners, milling and outsourcing options.

The company's DDX is a solution designed for the new age of digital dentistry. Designed to provide more effective communication, efficient digital file management, and doctor/lab case design collaboration, it can all be integrated into the practice management and lab-management software that you rely on every day, or run through a standard Internet browser.

According to the Henry Schein website, you can turn your lab management software into a Web-enabled application that will empower your accounts and answer routine questions from the dental practice and free your staff for more important tasks.

DDX features include:

- Receive digital photos and other files attached directly to the case
- Provide your doctors instant case return dates that are actually based off your product schedule
- Access account balance and payments
- Access month-to-date invoices and the most recent statement
- Immediately secure payment authorization
- Receive pick-up requests electronically
- Allow dentists to track their own courier shipments online
- Customize login text to advertise new products and services

STAY CURRENT

Software is a moving target and always changing. Consider the operating system installed on your lab's computers. If you still used Windows 3.0 from 1990, sure, you would have saved thousands of dollars in computer upgrades, but you wouldn't be performing nearly as effective of a job. The same holds true for your mission critical software.

"We continuously develop new products that are designed to automate many of the processes that you are involved with, reducing time and improving product quality, so we offer a maintenance program," Cullers said.

Maintenance agreements—usually part of your licensing agreements—are critical to keeping your software current.

"With maintenance, you are entering a partnership designed to provide increasing benefit to you with regular



CAD/CAM software is integral in developing the precision devices needed for such appliances as implants with bridges. (Photo courtesy Delcam)

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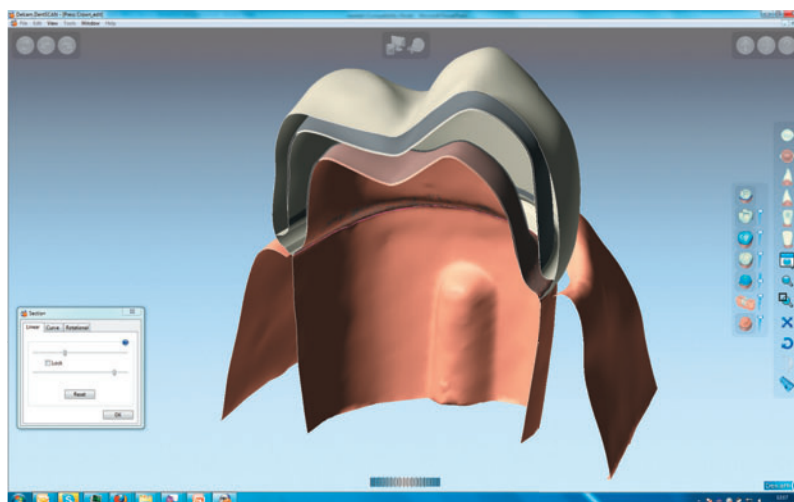
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Delcam's Dental CAD/CAM Suite provides a cohesive work environment, containing everything from scanning through to modeling and machining into a single suite. This means you can create without having to pass files between different software packages. (Photo courtesy of Delcam)

updates and support on the software," Cullers said. "Users on maintenance always have the latest release and so are able to keep on top of the latest functionality rather than having to take time out when large product upgrades occur."

For instance, Straumann's system sales include annual software licensing

agreements that allow for access to the latest updates.

"It gives customers the ability to upgrade their software for new product capabilities right from the PC," Sheehan said. "Our field sales reps also help to ensure the latest updates have been downloaded while conducting their routine sales

calls. If a lab doesn't have a licensing agreement, they can still access Straumann's external workflow in creating CAD/CAM designs for third party milling."

CONTINUING EDUCATION

But even the most up-to-date, modern software is useless unless your staff knows how to use it, and software manufacturers offer different means of keeping your staff educated. It might be through simple online videos, or the topic might be more complex, requiring in-depth training.

"When we have more significant upgrades, we often provide videos and webinars to help the users transition to the new version," Cullers said.

"Training is worked into the system, rather than having to rely on hard copies of manuals," Borg said. "When it's in the binder, they're out in the office somewhere and they might be hard to find. Being in the system, they are right at hand."

Sheehan said Straumann provides customer education through online resources, in addition to having three field trainers that visit customer sites to provide updated training. "We'll either

WHAT MAKES A SYSTEM STAND OUT

Editor's Note: Some of this information was featured in an earlier DLP Technology Cover Story but applies to this software solutions article and can help you determine what may be best for you as you consider adding software solutions and technology to your business.

At Ziemek Aesthetic Dental Lab, technology has become a big part of the workflow and an integral aspect of the business' operations. Lab manager Jamie Stover, CDT, said evaluating new systems to see what fits with the lab is critical to the lab's success.

At its core, the lab is simply looking for ways to do what it does faster, with fewer costs and with improved outcomes. A lot goes into evaluating a system before it is adopted by Ziemek, and Stover said the company behind the product is a big factor in their decision, because you are entering into a partnership that needs to be a lasting one.

New companies may have breakthrough technologies, but Stover said the customer support and training is often better when working with companies with a proven track record in the dental industry, and he's seen

the advantages of investing in the 3rd or 4th generation of a technology rather than jumping into something that's brand new. A company that has been working with dental labs for a long time is often Ziemek's first choice, but he also takes into account experience in other industries. Stover cites 3Shape's scanner, and how the company moved into the dental lab industry after revolutionizing the manufacture of hearing aids.

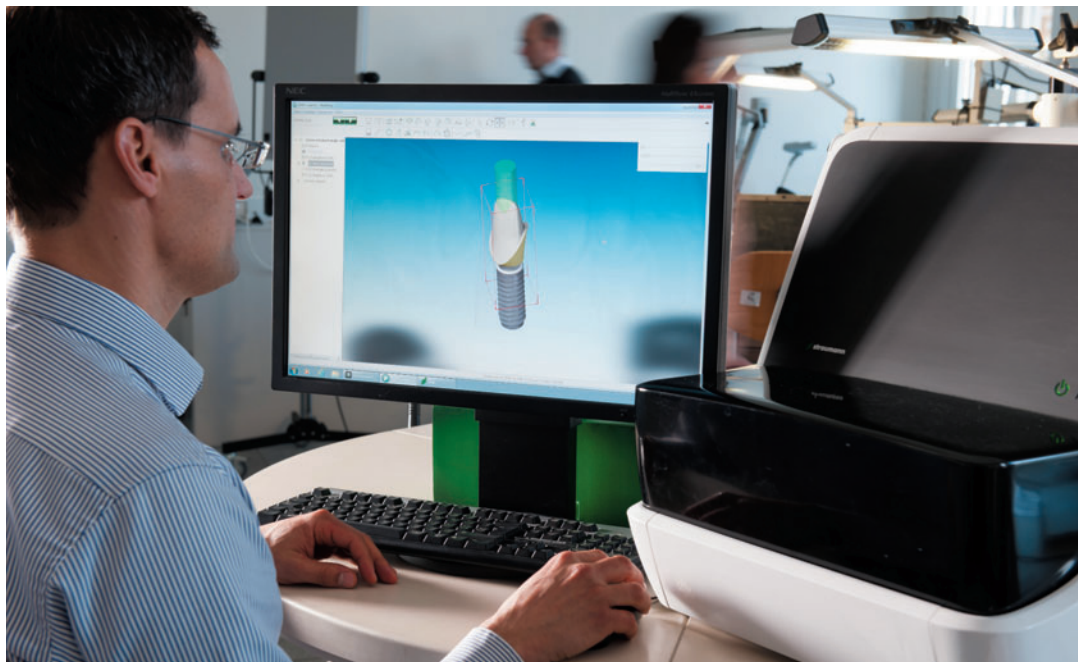
Often, established companies are prepared to allow a dental lab a trial period with a new technology prior to completing a purchase. But when that isn't possible, Stover likes to be in touch with other labs using those systems to get a sense of how they work in real world situations. Those evaluations can be difficult because all labs are different, so a system that works great in one business might not be the perfect fit for his lab. Still, talking with other labs can be helpful when trying to assess the value of the customer support a company provides to labs using its systems.

Another key factor to the evaluation process Stover uses is whether a system is a closed or open technology platform. Open systems are

more attractive to him because they allow a lab more freedom in how the system will be used. The trend of companies even partially opening their systems has been good for the industry.

As an example, Stover cited the Straumann CARES Scan CS2 scanner that works with the open Dental Wings software. This means the scanner can be used for Straumann cases as well as everything Dental Wings can do, making it more valuable than a scanner that could only be used for cases involving Straumann implants. Another example is the way Sirona selectively opened the CEREC system. Ziemek was then able to accept digital impressions from CEREC AC users and design the cases in the lab's existing 3Shape software. The lab didn't need a new scanner at the time, but wound up purchasing a MCXL Mill to produce the restorations.

"Sirona sold a mill to a lab that may not have purchased one prior, because their (formerly) closed architecture business model was not attractive to us," he said. "Labs need to invest wisely to get the best ROI while being able to provide a myriad of restorative options to their dentists."



Straumann CARES is part of a complete CAD/CAM system. Additionally, Straumann also recently released larger blank sizes for its CARES 8.0 system, which they suggest will allow for more versatile restoration options. See page 4 for more details. (Photo courtesy of Straumann USA)

“Digital technology has evolved quite rapidly since starting. The evolution has resulted in better efficiency in developing, importing and exporting CAD/CAM designs.”

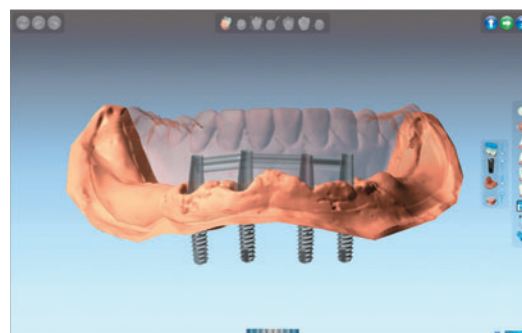
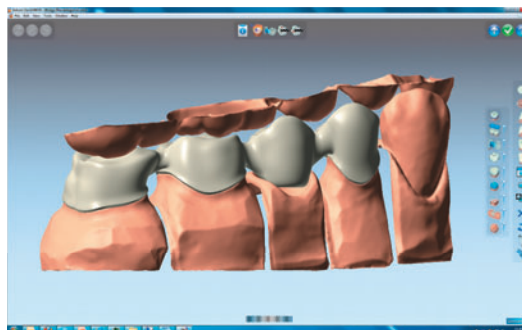
— **Steve Sheehan**, Vice President of North American Lab Business at Straumann

conduct a course or provide one-on-one training to help keep the lab staff current,” he said. “We also have webinars so lab personnel can access the training materials at their convenience.”

According to the 2011 DLP Tech Census, most labs already own CAD/CAM and lab management software (43 and 49 percent, respectively). Only 19 percent of labs had no interest in purchasing CAD/CAM software and 15 percent had no interest in purchasing lab management software. It seems that most labs see the importance in software solutions.

“Digital workflow is here to stay,” Sheehan said.

Individual labs need to learn what will work best for their lab in terms of training, software upgrades and learning what products are out on the market. And from that initial step, they’ll have joined the technological revolution. **lab**



Top photo: As dental solutions become more complex, dental software evolves to make the workflow easier, more efficient and of better quality.

Bottom photo: Delcam’s DentCAD software enables the lab to accurately capture tooth position and orientation. (Photos courtesy of Delcam)



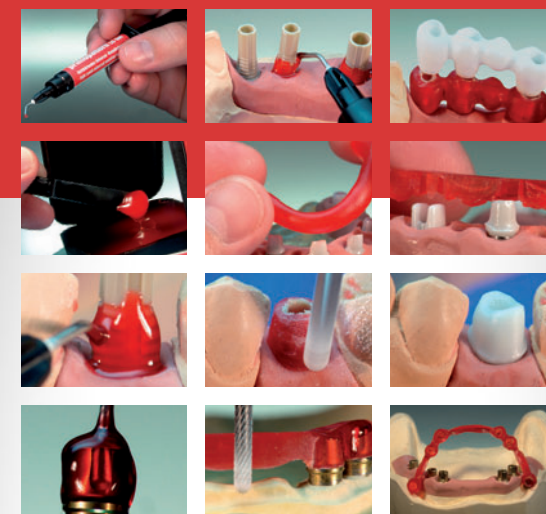
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Luke S. Kahng, CDT

One color porcelain with esthetics

Incorporating new strategies to create the most esthetically pleasing restorations.

By Luke Kahng, CDT, LSK121 Oral Prosthetics

All dental technicians know technology is developing at a faster speed than most of us can keep up with. But most of the advances allow us to cut down on the time we need to accomplish our work.

In this case study, I will review the two centrals that were restored, with a dark underlying stump shade that was a sensitive issue when it came to choosing the correct color. The concern was matching the adjacent teeth

while masking the dark color underneath, with special attention paid to the necessary lifelike color and esthetics.

Often technicians are not sure how to begin a process like this because they think they must approach any esthetic work with a time-consuming and specialized multi-layering technique, but we can try different approaches. We simply have to realize and incorporate new strategies in our method of creating the restorations.

CASE STUDY

01 In **Figs. 1 and 2** we see the custom shade-taking process as I check the opacity of the patient's dentition. The body area is 50 percent opacity with enamel and the base is A1 mixed together. The incisal 1/3 is a little more difficult to determine, as it is lighter in color with a translucency and halo effect. There is also subtle white calcification between the teeth, creating three different components to check while using

A SIMPLE METHOD WITH AN ESTHETIC RESULT



Fig. 1 Custom shade taking.



Fig. 2 Check gingival area opacity and halo effect.

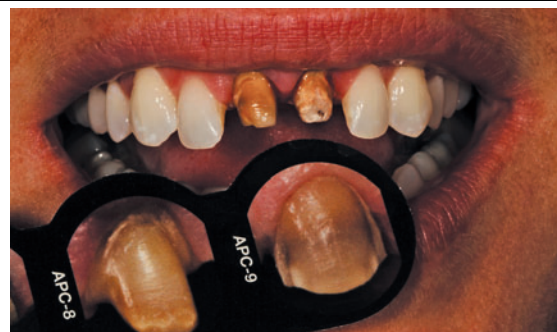


Fig. 3 Check stump shade.



Fig. 4 Made by Amann Girrbach Motion Mill 2.



Fig. 5 GC IQ Opaque liner used.



Fig. 6 Start to build up one color makes for simple esthetic application.



Fig. 7 Create lobe design.



Fig. 8 GC Lustre Paste application.



Fig. 9 Mirrored image with applied L3 lustre paste.



Fig. 10 Final restoration with Renfert gold die spacer.



Fig. 11 Solid cast, upside down.



Fig. 12 Try No. 8 in the mouth.



Fig. 13 Final smile image.



Fig. 14 Similar dehydration and opacity.



Fig. 15 Texture similar to adjacent teeth.

custom made shade tabs during the patient's appointed time.

02 The stump shade is noted (**Fig. 3**) as being severely dark, which will cause difficulty with masking if we are not careful with the technique. The shade tabs helped to determine his charting path.

03 An Amann Girrbach Milling Machine mills and cuts the zirconia copings with rubber before the pre-shading and pre-sintering stage. The work has not yet been done in this image (**Fig. 4**).

04 To create deep dentin color, I used opaque liner by GC, then fired completely at 810°C (**Fig. 5**).

05 After baking, the liner was applied in a simple manner, in A color (**Fig. 6**). The 50 percent dentin and 50 percent enamel were already pre-mixed so one color could be applied as a group. With one color application, esthetics is simple. One powder porcelain application is all that is required and after application the restoration can be baked (**Fig. 7**).

06 I then concentrated on line angulations and three dimensional contouring.

07 Artistry was called into action as I worked with GC

Lustre Paste applications in brown-orange coloring to fabricate the gingival area in a slightly darker color and the incisal 1/3 with more depth and translucency (**Fig. 8**).

08 In the mirrored image, after first and second bakes, Lustre Paste was applied for the second time (**Fig. 9**).

09 After baking, the restorations were placed on the model with Renfert Gold Die Spacer painted on to the model for a more textured surface (**Fig. 10**). Back on the cast model, I examined the restorations in an upside down position (**Fig. 11**).

10 No. 8 was tried in the mouth and checked for contact, how the teeth lined up and their incisal edge position (**Fig. 12**). In the final smile images, as the restorations were tried in the mouth (**Figs. 13, 14, 15**) we can see the results are similar with or without hydration. Opacity, translucency and texture were all created and esthetically correct when I examined the effect in the mouth.

CONCLUSION

As you can see, various components were used within this custom shade matching session and restoration fabrication. Opacity and translucency were a heavy consideration and can sometimes cause a technician dif-

ficulty as he or she works to match the adjacent dentition. But with the pre-mixed powder I have demonstrated, it can be easy to duplicate the adjacent teeth's appearance and bake appropriately to create a life-like appearance within the restoration. This method will save you time and money—two things we can all use more of!

Custom shading will provide the best esthetic results for the patient. But there is an immense amount of time involved when we work with the patient, and later when we actually fabricate the restoration. It can be difficult to train a technician about the many nuances involved with custom shade matching and how to achieve the best possible results. With multi-layering, the process can involve as many as 10 steps to fabricate a life-like restoration. The process outlined in this article will cut five steps from this process and help the technician concentrate his or her efforts on the final esthetics. All the steps that take focus and concentration away from the final results are eliminated, leading to a pleasing, natural looking restoration that the dentist, patient and technician can all be proud of. **lab**

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Tom Zaleske

Low cost, high value

Two cost-effective solutions from Dental Creations can provide terrific value for your lab.

The theme of many of my articles involves projecting quality and value in the dental restorations we fabricate. In many instances, obvious ways to enhance the value in our work can come from very low-labor and low-cost enhancements. Dental Creations out of Texas offers low cost products that allow for obvious but neglected ways to enhance the value of our restorations.

In many dental laboratories, model work is one of the most neglected procedures in regard

to value projection. What many owners don't realize is the value of our work—even at the most rudimentary level—begins to establish the way in which our businesses are perceived in comparison to our competitors by our dental clients. Simple things like model polish; neatness of the mounting; and condition of the models in regard to abrasions, bubbles and strength set a bar that others must conform to if they want to remain equal in comparison.

Dental Creations offers several products

that not only provide better model accuracy, but also provide a higher level of presentation quality without costing an arm and a leg.

Wondergloss and Wonderadmix are two products that I have found help project a higher quality in my work, and also enhance the workability of the models used in the case fabrication.

In my laboratory, Wondergloss (Fig. 1) is a model glossing agent that I paint onto opposing models, or master models that are used to fit

●●● MAKING MODELS FASTER AND MORE COST EFFECTIVELY



Fig. 1 Use Wondergloss straight from the bottle and do not shake before using. Ideally, proportionate a smaller amount into a container and add when needed from main bottle. This will limit air exposure of the larger amount. Thin coats work better than sloppy dripping ones.

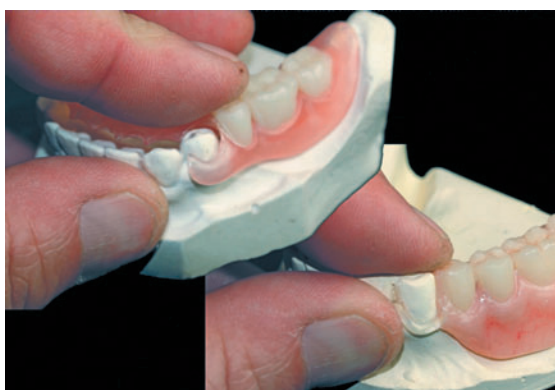


Fig. 2 Used in conjunction with Wondergloss, Wonderadmix provides a smooth, abrasion and chip resistant surface ideal for repeated fit adjustments over abutments on master models. Using Wonderadmix alone for reinforcing models used in processing flexible resin partials provides a stronger, smoother, working model.

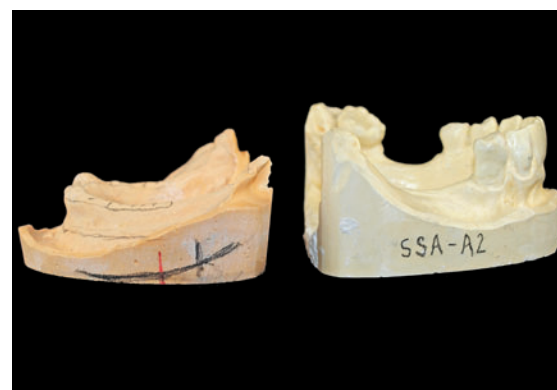


Fig. 3 A quick wipe of Wondergloss over names, tooth mold numbers, and landmarks such as ridge tracings, provides an economic, neat and smudge-free way to preserve reference information needed at your fingertips.



Fig. 4 Once Wondergloss is dry, the coating provides a water resistant sealing of information penciled on the model surface.



Fig. 5a A drying box constructed from a dollar store box and a hair dryer shortens the drying time of models and the coatings of Wondergloss to 10-15 minutes. Holes cut on sides allow for air flow through and also prevents the dryer's thermal sensor from overheating.



Fig. 5b A food dehydrator also is an easy, economic way to speed up model and Wondergloss drying. It also comes in handy for drying separator coated denture flask molds.



Fig. 6 Wonderadmix is supplied in the syringe. The bottle is empty but holds the correct amount of water when filled for the correct ratio for the syringe amount. It also means the shipping charges do not reflect a gallon of liquid in weight but rather a syringe and an empty bottle. Shake well each time before measuring out liquid to make a model.



Fig. 8 Bolted injection flask necessitating a capping pour made through a hole in the top. Because you cannot see inside the flask, it is critical that the pour is smooth, flowing and bubble-free to provide a complete and accurate fill.



Fig. 9 The value projection for every case starts with boxed, smooth, clean and accurate models. It doesn't take a fortune in products, just the correct products.



Figs. 7 and 7b Measurements for an average model are 150gr of stone to 50 mL of Wonderadmix. Consistency of stone when mixed for models or capping is smooth, creamy, and easy flowing. Slight vibration immediately causes it to flow.



finish provisional and flexible partials on. The application of the product provides not only a glossy surface, but also fortifies and provides a smooth surface on models that I will repeatedly fit and remove frames from (**Fig. 2**). Additionally, brushing Wondergloss over identification numbers, names or model base markings—such as alveolar ridge tracings (**Fig. 3**)—provides a smudge-free, water-resistant, low-cost way to preserve them during the repeated handling of the models (**Fig. 4**). To get around the necessity to dry models before application of Wondergloss, I have found that, by constructing a low cost drying box made from a dollar store storage container and an inexpensive hand held hair dryer, I have shortened the process of model drying, and the drying of multiple coats to a 10-15 minute chore. Similarly, I have also used an inexpensive food dehydrator for the accelerated drying processes as well (**Figs. 5a and 5b**).

Wonderadmix is another product I use to enhance and fortify my model work. This product replaces plain water with a formulated additive that is mixed with water to enhance existing properties of the stone. The large bottle supplied with Wonderadmix comes empty, as the product is actually contained in the syringe and is added to the bottle along with regular tap water. This saves greatly on the cost of shipping premixed gallons of the product (**Fig. 6**). There are noticeable improvements in the flowing property of the stone without the use of debubblizer, the smoothness of surface texture and the reflection of detail when compared with models made with plain water (**Figs. 7a and 7b**). I also use this product when capping or performing a secondary pour of stone into a closed, bolted flask, such as the ones used in injection and some microwave systems. I fabricate my partial denture models with stone fortified with Wonderadmix because I want

to protect models against chipping and breakage during the numerous handling steps involved in the fabrication of alloy and flexible resin frames.

With two simple and inexpensive products, I cannot only improve the presentation quality of the work my lab produces, but also—and more importantly—enhance the overall quality of the work by eliminating factors that cause remakes and lower quality, by fabricating on smooth, strength-fortified, master models for just pennies a case (**Fig. 9**). **lab**

ABOUT THE AUTHOR

Tom Zaleske is Benchtop Editor for Dental Lab Products. The owner of Matrix Dental Laboratory in Crown Point, Ind., he has more than 25 years of experience in removable prosthodontics and regularly lectures on providing high quality service to dentists and, most importantly, to their patients. He can be reached at matrixdental@comcast.net.

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A simple choice for complicated esthetics

How GC America's porcelain, GC Initial™, helped one patient achieve the youthful look he desired.

Shannon Pace Brinker, CDA, CDD and Matt Shafer, CDT

The most challenging question ceramists face today is which material, what ingot, or what layering porcelain is best for specific patients with unique expectations and prescriptions. They must consider how the color of the preparation will influ-

ence the final shade on the veneer, or how the crown will hold up to the forces that destroyed the dentition.

These questions and many more are part of the impossible equation of selecting a restorative material. Have you made your decision?

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Fig. 1 Finished unshaded copings.



Fig. 2 Copings shaded with GC Luster Pastes.

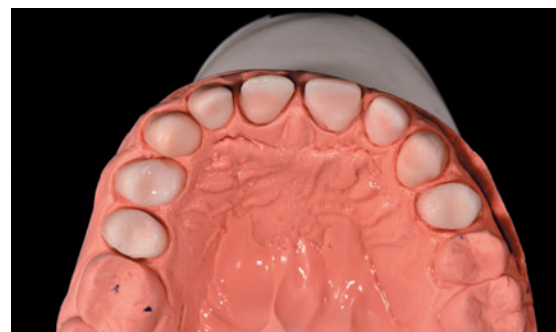


Fig. 3 Prepared copings on untrimmed solid model.

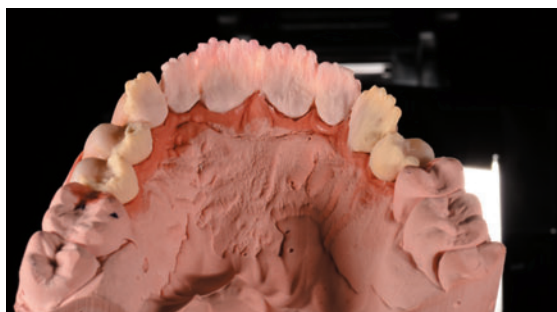


Fig. 4 Full-contour lingual build-up establishing proper function and incisal edge position.

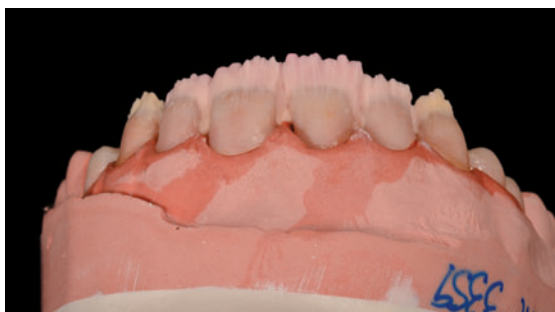


Fig. 5 Labial view of lingual build-up.



Fig. 6 Modifiers applied to labial surface.



Fig. 7 First bake seated on solid model.



Fig. 8 Fired and contoured first bake.



Fig. 9 Second bake evaluation.



Fig. 10 Photo from the day of delivery. Dentistry by Dr. Trey White.

To make the decision even more challenging, all the products we use can produce beautiful results, and they all have countless studies proving their durability and superiority. So what do we do? With the available technology I honestly think you cannot make a bad decision, but I strongly believe you can increase your odds and decrease your stress by choosing a system with strengths that are aligned with the product you're trying to produce.

I need the flexibility and consistency to cross all platforms. I need a powder that has enough power and richness to block the darkest prep yet delicate enough to create the depth and vitality that today's patient demands. GC America's porcelain, GC Initial™ gives me that.

CASE PRESENTATION

A 55-year-old male patient has the desire to enhance his smile's appearance with in-office whitening. He wanted a more youthful smile, as he was about to embark on a new employment venture. After the whitening consult, a comprehensive records examination—including a TMJ/occlusal evaluation, restorative charting, full periodontal probing and oral cancer screening—was performed. The patient had old crowns, bonding and broken fillings with decay present, so the dentist developed a restorative component to the patient's treatment plan to fully realize the desired result.

INITIAL TREATMENT

The patient's discolored dentition made him a good candidate for whitening. His dental assistant decided on an in-office whitening procedure (Ultradent Opalescence® Boost 40%) in combination with a nightguard vital bleaching procedure (Ultradent Opalescence®) that consists of viscous 10% carbamide peroxide material in a syringe delivery system.

FOLLOW-UP AND TREATMENT PLANNING

During the follow-up visit, the patient was highly satisfied with the whitening results, but agreed restorative procedures were necessary to accomplish his esthetic goals. Diagnostic models were taken and mounted with the Slidematic facebow (Whipmix Corp.) in centric relation

on a Denar® combination articulator (Whip Mix Corp.). The esthetic goals were waxed into position by the laboratory ceramist (Walt Richardson of Bayview Dental Laboratory). This model was used to fabricate provisional matrices.

TREATMENT PLAN

Discussion led to agreement on a treatment plan consisting of restoring tooth Nos. 4-12 using GC Initial Porcelain. The patient did not want any tissue adjustments. The goal was to add 1.25 mm vertical length, while positioning the restorations slightly more lingually to allow for a more harmonious lip closure path.

PROVISIONAL RESTORATIONS

Tooth Nos. 4-12 were prepared for GC Initial Porcelain bonded restorations. The dentition was equilibrated to centric relation. After final impressions and jaw relation records, the teeth were provisionally restored with Structure 3 Provisional Material (VOCO America) and cemented with GC Fuji Temp LT (GC America). The restorations were then systematically contoured to provide all the requirements of stable occlusion and to satisfy the patient's esthetic needs.

The patient was seen for a 48-hour follow-up appointment to evaluate esthetics and envelope of function. When all parameters were met to satisfy doctor and patient, an impression was made of the provisional restorations, digital photographs were taken of the patient's face, and a bite record was made to aid in the cross mounting with the die model in the laboratory. The photographs, impression and bite record served as blueprints, communicating to the laboratory what the final restorations should look like.

LABORATORY FABRICATION

The dentist wanted to use a universal all-ceramic system containing zirconia for this case. He and Matt Shafer, CDT, decided on Initial Porcelain because of its high strength, incredible esthetic properties and easy processing. The following are the steps to fabricate the restorations:

01 Using the impressions of the patient's teeth before the provisional restorations were placed and a provisional model, zirconia copings for the restorations were designed and milled.

02 A porcelain layering technique was used to create an optimal esthetic appearance with a process that is easily learned, efficient, cost-effective and not technique-sensitive.

03 GC Initial™ Lustre Paste was applied to the restorations before beginning the build-up to shade the copings. A combination of Opacious Dentin Modifier, Inside and Fluorescent Dentin powders were applied to establish proper color saturation and reflective zones.

04 Standard dentin mixes and a proper lingual/incisal edge matrix were used to layer functional lingual

contours. With the working side established, we could focus all our attention on a true-to-nature build-up process.

05 The incisal was contoured with enamel or transparent mixtures, and by means of a "cut-back" technique, the area was reduced to internal dentin levels. The reduced area was reconstructed with reflective dentins and transparent enamels in the desired anatomic structure. This was a very important point for color synchronization. One does not wish to wash out, or allow excessive show-through of the internal structures of the crowns. The final contouring was built from a mixture of Enamel Opalescence (EOP) standard Enamel (E) and CL-F.

06 The restorations were checked on trimmed and untrimmed models to ensure proper proximal contacts, margin accuracy, function and occlusion. The final GC Initial restorations were sent to the dentist for placement.

DELIVERY APPOINTMENT

07 The final restorations were evaluated and inspected for marginal fit on the master dies. The patient was anesthetized, and the provisionals were carefully cut away in sections so the underlying tooth structure would not be damaged. The exposed preparations were cleaned with chlorhexadine scrub (Consepsis, Ultradent), and each individual restoration was tried in with water to check the marginal fit, occlusion, esthetics, and final color. The patient approved delivery of the restorations.

08 After patient approval, the restorations were rinsed and dried, etched with 37 percent phosphoric acid, and silanated with Ultradent's Porcelain Etch and Silane.

09 The definitive restorations were bonded into place using GC FujiCEM™ 2 Automix (GC America) glass-ionomer luting cement dispensed directly into the restorations with its syringe delivery system. Excess cement was removed from interproximal areas by careful flossing. Final cement cleanup and occlusal adjustments under water were completed. When viewing the finished restoration, the optimum incisal placement was noted from a vertical and horizontal perspective, and precise placement toward the inner vermilion border of the lip established the desired lip closure.

CLOSING THOUGHT

This patient presented with a discolored, aged smile and wanted to look more youthful for his new employment venture. Through careful treatment planning, excellent hygienist work, outstanding laboratory communication, and talented restorative dentistry, the entire dental team helped him achieve his esthetic goal. As demonstrated by this case, it is imperative to have appropriate and predictable restorative materials like GC Initial Porcelain for esthetic dental treatments, as well as a talented, well-communicating restorative team to perform them. **lab**

SURVIVE AND THRIVE

How to end well

Someday, it will be time to close up shop. Here's how you can take control of that decision.

by Carol J. Pilmer

ABOUT THIS COLUMN

Carol J. Pilmer, who has 22 years leadership experience dedicated to the dental laboratory profession, including contributing writer and photographer for the quarterly publication of the Dental Lab Owners Association of California, THE DENTAL LAB ENTREPRENEUR, offers her insights and advice on a variety of topics designed to help you and your lab to survive and thrive. This month, she covers the importance of an exit strategy. Check back regularly for additional columns in DLP and online at dlpmagazine.com.



Carol J. Pilmer

No matter the reason, the day will come (and not anytime soon, I hope) that you as a lab owner will be ready to leave your dental lab and the dental lab profession.

Unfortunately, the past few years' economy has played an important part in this decision for many technicians. We often hear about dental lab technicians and business owners who can no longer make it and are forced to consider closing the lab's doors with just a few months notice. Some, faced with soliciting for new accounts, choose not to and instead go to work as an employee in another lab. Some lab owners close to retirement age who have begun to draw social security have chosen the same path as many baby boomers: sell the equipment, their existing accounts and close the door on their business for good. In the case of many one-person labs, they have only their used equipment to sell.

Labs also can be affected by the sale of dental practices. A dental office is "acquired" by a large conglomerate, and the conglomerate dictates the contracted lab to which the office sends its lab work. That can change the entire workflow of a lab, disrupting a relationship that may have existed for decades.

A technician of retirement age who continues to work, says, "Thank goodness I love what I'm doing because there is no way I will be able to retire." He goes on to share that the bad economy is only one of the factors affecting his decision to continue working well past "retirement." He purchased several "systems" during his career and has found that only one produces the ROI promised by the manufacturer's rep. He continues to make payments on equipment loans for outdated equipment while waiting on the delivery of ROI promises made at the time of purchase.

Those wishing to eliminate the stresses and challenges of being self-employed may choose to merge with another lab—hopefully one of the same caliber—and continue to serve their clients from a new location while sharing those same stresses and challenges with a new partner.

The ideal sale/purchase of a dental lab is several years in the planning and making. Given this ideal situation, the owner/technician will have time to carefully consider to whom he would like to sell his lab equipment and accounts. The seller ideally will begin looking at each new hire with a "prospective buyer" consideration. As the interviews and decisions are made regarding which candidate to hire, which candidate has the best potential to own the business and serve the clients is taken into

account. The luxury of a two- or three-year phase-in period means the owner will be able to comfortably and gradually introduce the new owner to the clients and allow them to form a great working relationship before exiting. Successful transitions are those in which the seller remains an active presence in the lab until all facets of the business are running smoothly and successfully.

With that in mind, it's a good idea to develop an exit strategy now, whether your last day is next week or 20 years from now. How will you make sure you get a return on your years of work? How can you make sure you're taking care of your family, yourself and, if applicable, your employees? Whatever your plan, strategize so when you close up shop, you can do so with the dignity and pride that come with a job well done.

Best wishes on your exit strategy—may it be on your own terms and in your own time frame. **lab**

Carol J. Pilmer graduated as a dental assistant from Elkhart University, Elkhart Ind., and spent the first 10 years in the clinical environment. She was recently appointed to the Pasadena City College Dental Lab Tech Advisory Board, and has been co-owner of R Dental Ceramics, Solana Beach, Calif., for 37 years. She can be reached at rdental@sbcglobal.net.



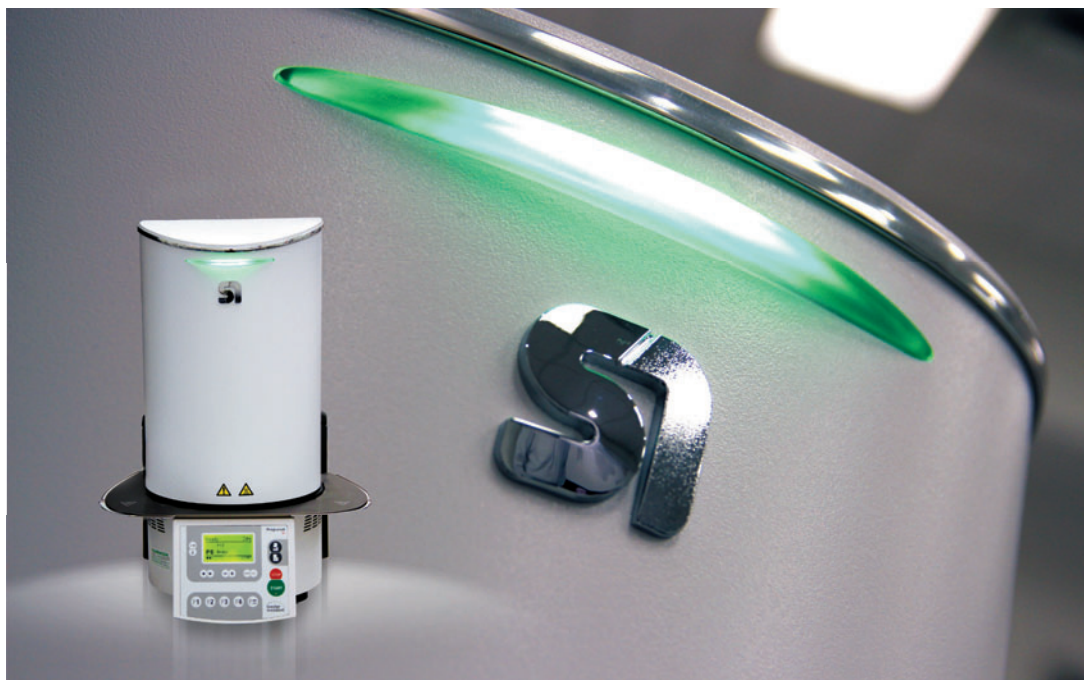
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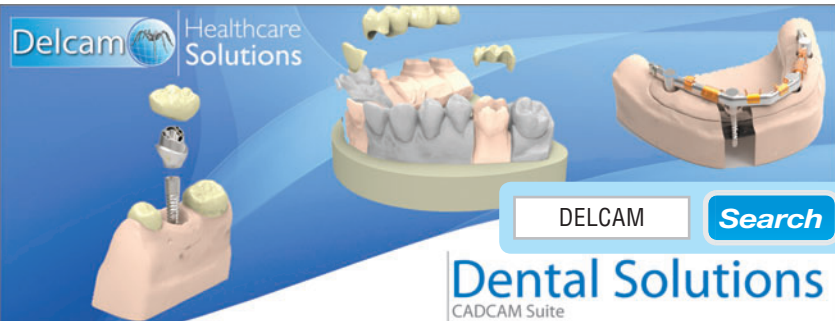


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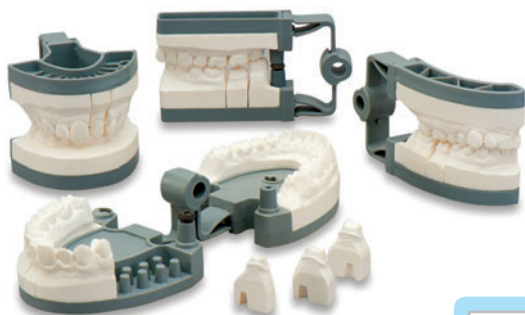
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Q+A

Oliver Amann (right)
& Albert Garza (left)
OF AMANN GIRRBACH

01. Where do you see the U.S. dental laboratory market going?

Oliver Amann, Vice President of Research & Development: I believe it will continue to move toward in-house digital production. We see this not only with scanning and designing, but now with milling in the laboratory.

02. Why?

OA: It is a natural progression. Dental technology has always been an art form and very personal to the technician. When all-ceramics improved patient satisfaction in both function and esthetics, laboratories were forced to outsource ceramic fabrication to provide the service to their customers and meet their expectations. With outsourcing, the lab relinquished some of the control. As technology improved, mills were able to be made smaller and also became more affordable for the dental laboratory setting. So the lab could now bring the work back in-house for complete control.

03. What is the biggest hurdle for laboratories trying to make the leap to CAD/CAM technology?

Albert Garza, Vice President, North America Marketing & Sales: Justifying the investment. We provide a calculator to show the cost of outsourcing versus the cost to own equipment. We then explain the value-added benefits of shorter turnaround, in lab control and precise results.

04. With so many CAD/CAM players in the market, what makes Amann Girrbach different?

AG: We took a modular and open architecture approach when designing the Motion 2 mill. It was important to design a system that was flexible enough to grow with laboratories and meet their changing needs as newer materials were developed. On the support side, we pride ourselves on being a supportive partner to our laboratories. We provide expert attention throughout every facet of their CAD/CAM experience, from sales to installation, maintenance, technical support and training.

05. What can we expect to see from Amann Girrbach in the near future?

OA: At the 2013 IDS meeting, we introduced a variety of materials, developed both internally and through partnerships. One such new product is Sintron®, a soft wax-like, millable CrCo. Sintron CrCo can be milled on the same mill laboratories use for zirconia. With the rising costs of noble metal and now Sintron's widespread availability, Sintron is becoming a more attractive material option for the U.S. market. Other materials introduced at IDS include more glass ceramics, lithium silicate and disilicate, pre-colored zirconia and a provisional material, to name just a few.

06. What role do indications/applications play in the purchase of your Ceramill system?

OA: Because the Motion 2 is both a wet and dry mill with grinding capabilities, the fabrication possibilities seem endless. Currently, the Motion 2 mill can handle full arch zirconia restorations and frameworks, implant abutments and screw-retained restorations, inlays, onlays, and veneers. We are working on a denture application where the denture is milled from a wax blank and processed conventionally. This alleviates the issues previously known for tissue/bone accommodation.

07. Where do you see the greatest growth for CAD/CAM?

OA: Ceramill is currently the leading full CAD/CAM system sold in Europe. We believe the next opportunities for explosive growth lie in the Asia Pacific and certainly the U.S. markets. We have significantly increased our focus on the U.S. market, establishing a U.S. headquarters, help desk and training center in Charlotte, N.C. This allows us to quickly and efficiently respond to the needs of our customers, whether it's for sales, service, support or training, adding direct value to U.S. customers.

08. What changes do your customers see after purchasing the Ceramill System?

AG: The biggest change is the type of cases the lab accepts. Most often their cases migrate from metal castings to all-ceramic, becoming in effect an all-ceramic laboratory. Many lab owners found their customers were outsourcing to other laboratories because they did not offer these all-ceramic services directly. Many labs recoup these lost cases now that they have the equipment to address patient demands for the more esthetic options. Another change is the significant reduction in overall costs and labor.

09. What are two things labs should remember about Amann Girrbach?

AG: Esthetics and Precision. The Amann Girrbach name has long been synonymous with precision, because of the attributes of our Artex® articulator series, our model management products from the Smartbox/Smartmix collection, as well as the Giroform system. The Ceramill Map, Mind and Motion allow laboratories to integrate a new level of esthetics to all restorations. With all products combined, laboratories can now achieve exceptionally precise and esthetic results.

10. What advice do you have for those laboratory owners just beginning to look at investing in CAD/CAM technology or upgrading existing technology?

AG: Laboratory owners need to do their homework and incorporate their team into the research process. It is vital to understand the company selling, manufacturing and servicing the equipment. Learn about the training offered with the system—the levels and modes of training available. Attend system demonstrations hosted by other laboratory owners or at a company event. Understand all associated costs, determine if the system is upgradable and compatible with other systems, and identify maintenance requirements. Review the current product mix you offer and the associated revenues and costs. Speak with your current customers and prospects regarding patient requests for new and current materials. Finally: Don't be afraid of change. Embrace it. Get excited about making the change.

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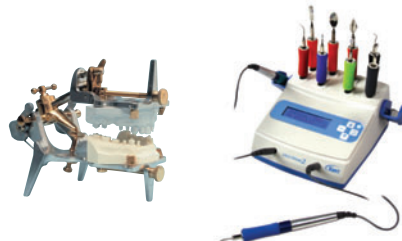
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