## FORWARDTrends

# Dentistry without borders

How emerging technologies and new business models can connect you to a global market.

By Richard Palmer

#### It is a small world after all.

And getting smaller every day, in a variety of ways that assuredly will affect U.S. dental laboratory owners. A few thought leaders within (and outside) the dental industry see unlimited potential for growth in a Pangean economy; some view automated digital technologies as a practical means to replace a shrinking workforce and streamline or expand workflow; others see the international predominance U.S. laboratories hold in the field of cosmetic dentistry as providing an edge on foreign labs. However, the scenario unfolds, the consensus points toward the coming end to the traditional ways of doing business.

#### **MOVING IN**

As the world becomes not hundreds of disjointed economies but a single interconnected market, business owners in the United States need to rethink the way they historically have viewed the competition. Chuck Yenkner, President of Business Development Associates and DLP "Business Strategies" columnist, believes that most U.S. labs have several disadvantages against their overseas counterparts. "If you look at the U.S. lab population, about 80% of the labs have five technicians or fewer, basically small businesses," he said. If you look at international export labs, they're big companies. And they've been doing international business since their inception."

The concept of the large, centralized, full-service lab is as foreign to the U.S. lab industry-traditionally comprised of small, independent operations—as the idea of high-end cosmetic dentistry is to foreign labs. Glidewell Laboratories and Trident Dental Laboratories pioneered the industrial model of the dental laboratory in the United States and have shown that this type of lab-which is more the norm in Europe and Asia—can work here. Well-known lecturer and educator Lee Culp, CDT, Vice-President of Digital Technologies at D4D Technologies, predicts that smaller labs will fade away and eventually will be replaced by "huge industrial factories creating teeth."

Another common business model

in the United States and Canada is the gradual buildup of a chain of labs (e.g., NDX, DTI, or DSG) into a connected network. Yet, a trend is emerging centered on consolidating and networking of independent small-to-mid-sized laboratories through mergers and acquisitions coming from investment firms—some outside the dental industry and increasingly others outside the United States. These outsider investors, such as Bolder Capital and Healthpoint Capital, see the growth potential in dentistry as well as the industry-wide fragmentation of the small-business landscape and have established footholds in the U.S. dental market through the purchase of individual labs or lab groups to create or expand a network.

"Big business is looking at dentistry right now," Culp said. "Large corporations are coming in because they see the fragmentation and they see the growth in dentistry. Even though we're in a bad economy now, that will go away." He related an occasion where he was approached after one of his presentations with forward-looking questions

### **DID YOU KNOW?**

- The global C&B market is expected to exceed \$30B by 2015.
- The U.S. market makes up 35.2% of the total global C&B market.
- The U.S. market for dental lab sales in 2009 reached \$11.6B.
- By 2014, the market value for U.S. dental lab sales will exceed \$14.6B.

Source: 2008 iData Research Inc.

about laboratory workflow and business processes. At first, Culp said he thought the woman was a lab owner or otherwise connected with the dental year." Biodenta also has milling centers in Europe, Brazil, the Middle East, and Asia that handle only work from their specific region as part of Biodenta's decentralized/

### "You have to think of an international market as opposed to the 50-block area surrounding your lab."

– CHUCK YENKNER, PROFESSIONAL BUSINESS ASSOCIATES

profession, but she introduced herself as the head financial analyst for medical devices from Deutsche Bank in London who was at the dental meeting gathering information to advise clients on investing in dental businesses. "She told me, 'We now feel that there is money to be made in dentistry,'" Culp said.

In addition to investment firms eyeing the fragmented U.S. dental lab industry for consolidation, European-based laboratories also have taken an interest in moving into the American market.

Biodenta, a Swiss company, has taken a growing interest in the dental market in the United States and is moving ahead on expansion plans to capture a market share from franchise locations. It recently purchased a lab in Bethesda, Md., and is in the process of constructing a centralized milling center that will accommodate work from future DentaSwisslab-partners in the United States and Canada.

"We have started to promote this model, and we will have another 20 labs under contract by January," said Morten Brunvoll, Executive Chairman of Biodenta Swiss AG. "Our ambition is to place another 50 scanners in the United States next  $centralized \ production \ concept.$ 

Biodenta developed an alternative business model that allows veteran lab owners as well as those just entering the field to become part of a global franchise brand known as DentaSwiss through the incorporation of proprietary technology. "Our philosophy is completely different from the other big players," said Brunvoll. "We have a franchise concept where we basically rent the scanners and you send all the milling exclusively to our milling center." As part of the franchise model, DentaSwiss labs receive a wealth of support, including training, business assistance, and marketing services.

"If you are part of a global dentistry franchise with a global brand recognition, you have built-in substance, you have built-in value, which you can sell," said Brunvoll.

Optident Ltd., a U.K. dental supplies company with a laboratory business, also recently moved into the U.S. lab market by opening a U.S. satellite in Oregon in addition to its UK and China labs. According to Randy Leininger, President of Optident USA, the three separate labs focus on specific types of cases based on their market strengths. The U.S. lab specializes in highly esthetic smile design cases; the U.K. center deals with implant cases; and the Asian facility concentrates on posterior work. All of which are available to the global market.

#### **OUT CLAUSE**

This increased interest by outside parties looking to assemble a laboratory business conglomerate may be welcome news for the large percentage of lab owners working on a foreseeable exit plan.

A recent online poll conducted by DLP<sup>1</sup> indicated that many lab owners are looking to get out of the business and would do so under the right conditions. Of those responding to the survey, 30% said they would sell their labs today for the right offer, and another 25% would sell in the next couple years under certain terms.

However, many of these small labs lack a marketable business to sell even if anyone were to come calling. "The larger companies aren't really interested in anything most labs are going to have to sell in the first place," Culp said. "For the labs

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**FAST BOAT** 

15.4%

19.7%

37.3%

**TO CHINA?** 

Percentage of U.S. dental

crowns made offshore.

Source: 2008 iData Research Inc

middle class in developing countries in

Asia and South America as the 21st cen-

of the population being what we would

consider 'middle class' still has a larger

population than most Western coun-

China's middle class then would equate to around 150 million people<sup>2</sup>, whereas India's

middle class is forecast to grow more than

10 times its 2007 population of approxi-

With a total population of 1.3 billion,

"Right now, China with only 10%

2005

2007

2010

tury gets under way.

tries," Yenkner said.

that don't take a specialized position, it's going to be really tough for them in the next 5 to 10 years."

#### **BULGING AT THE MIDDLE**

Much as the industrial revolution helped create a large middle class in the United States and European countries at the start of the 20th century, the technological revolution that began toward the end of the last century is creating a growing mately 50 million to 583 million by 2025.<sup>3</sup> According to research published by the Brookings Institution, by 2020 the world's middle class is estimated to exceed half of the global population, up from 30 percent now.<sup>4</sup> Many in this new middle class are experiencing the draw of accessible consumerism for the first time, including disposable income that can be used for restorative or cosmetic dental care.

"There's a huge demand over there,"

### SWISS WATCH

Through the Biodenta DentaSwiss business model, labs can sign on as franchisees working with Biodenta's proprietary scanner **(01)** and software then send the CAD file **(02)** to the central milling center for their region (such as the U.S. facility in Bethesda, Md.) for CAM production **(03)**.



PHOTOS: BIODENTA SWISS AG

### FORWARDTrends MGLOBAL BUSINESS

Yenkner said, who added that while much of that demand will be handled locally by domestic Chinese or Indian laboratories, a lot of the caseload will be available for international labs who seize upon the opportunity. However, that restor-

### "If you are part of a global dental franchise, you have built-in value."

- MORTEN BRUNVOLL, BIODENTA

ative business could go to other nations such as Korea and Brazil emerging onto the global market that would be more than happy to absorb the extra dental business. "It's going to take the U.S. lab industry getting its head up from the bench and looking around. You have to think of an international market as opposed to the 50-block area surrounding your lab," Yenkner said.

### ORIENT EXPRESS

Although Albensi Laboratories started outsourcing CAM milling work to a facility in China **(01)** to keep clients, it has been able to re-invest capital into the purchase of several in-house CAD/CAM systems and now has reduced the amount of work being sent overseas in favor of keeping it in-house for time and money savings **(02, 03)**.



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#### **STRIKING LABOR**

For years, the news of overseas competition eating away at domestic business has been building. A certain share of U.S. dentists have and probably always will continue to send restorative cases to offshore labs as they chase after the low lab fees afforded labor. If you've got technology in there, you drop that labor cost to 20% of the price of the product. The fact that the labor is less expensive in another country now is less of an issue. It tends to reduce a lot of the labor benefit that foreign operations currently enjoy," he said.

### "[Technology] almost makes the local lab relationship less important."

- ERIC RELYEA, DEN-MAT

by cheaper overseas labor.

"At least for the foreseeable future, they are always going to beat us on labor," said Culp. "If we look at metal-ceramics and high-labor items like that, then I think it will go over there. Metal-ceramics, as opposed to all-ceramic work, is phenomenally expensive to produce in this country, but it's not so expensive to produce over there. It's going to be tough for us to compete in that arena."

Culp sees the gradual growth building in all-ceramics-such as pressables and full-contour milled materials that can be produced more readily through digital technologies-as an effective and profitable way to offset this offshore economic imbalance by removing many of the manual steps and therefore much of the labor costs factor involved. He points that in most all-ceramic cases, the CAD/CAM equipment and much of the materials used by international and U.S. labs will be relatively equal in price, leaving labor and shipping as the highest cost components. Then, when you factor in that a trained technician working on a computer typically can produce many more units per day than by working by hand, the labor costs are marginalized.

"A lot of it is not going to be worth sending overseas. When we talk about the amount of work we can get out a person, it may be cheaper over there, but it's not going to be that much cheaper when we can increase the productivity of the technicians over here," Culp said. "When we talk about technology, that's really going to flatten things out."

Yenkner also sees technology as an equalizer against foreign competition. "Close to 50% of a lab's cost typically is

In addition to making the current U.S. technician work force more productive on a per-person basis, digital technologies also can help check the abatement of that same labor pool caused by more technicians leaving the industry and fewer coming in. Even in the current recession with historic unemployment levels, the dental lab industry faces a growing personnel deficit. Also, rather than the widespread man-versus-machine automation revolution that some pontificated would happen with the advent of dental CAD/CAM, Culp says it will accomplish more in an individualized filling of labor voids. "As technology comes in and people retire, one will replace the other," he said. "I honestly don't see people losing jobs to machines. We'll see an exchange of people and technology through attrition, not because I can buy a machine and fire 10 people."

#### **RISE OF THE MACHINES**

One thing that machines can replace is other machines. Pittsburgh-area Albensi Laboratories began outsourcing CAD/CAM work to a Chinese milling center through the separate Innovative Dental Arts business to provide clients with a lower-priced alternative. "We were forced to go into outsourcing, and now the outsourcing has given the revenues to get involved into CAD/CAM," said owner Don Albensi, CDT. "That allowed us to keep work inside, not lose clients because we were able to offer them an outsource alternative, and allowed me to have capital as a small company to invest back into my lab." Albensi has since incorporated a 3Shape digital scanner, the imagin 3D gold coping printer, the Sirona CEREC MCXL desktop milling machine, a

3D Systems rapid-prototyping printer, and E4D systems into his in-house armamentarium. He says he has started to produce more of the work in-house that used to go offshore, saving both time and money.

Culp adds that digital technologies such as in-house CAD/CAM will be the ultimate defense against offshore competition. "The days of the 2-to-3-week turnaround are going to quickly go away. In a lot of smaller cases, there's no reason for the typical, historical 5-to-7-business-day turnaround. I can do a crown in the same day, having the whole thing finished very quickly through technology."

Technology allows labs of all sizes to compete on a global scale. "What technology does is it basically breaks down all the barriers of distance. It allows you to serve the customer equally well regardless of where you are located," said Eric Relyea, Vice-President of Marketing, Den-Mat. "It almost makes the local lab relationship less important because through technology you can have interaction, you can have the contact, you can have the dialogue."

#### **SELLING TO A NEW MARKET**

Lab owners in the United States receive more than their fair share of marketing materials via postal or e-mail delivery from labs soliciting their business from the other side of the planet, just as dental practices also are inundated with flyers and brochures from U.S. and international labs. To compete globally, U.S. lab owners can use their strengths

#### LONG-DISTANCE VENEERS

The SensAble haptic device **(01)** and custom design software allow certified Lumineer labs worldwide to design the ultra-thin veneers **(02)** that are then 3D printed **(03)** by Den-Mat in California.



in marketing to build interest overseas.

"We're huge marketers in the U.S. A lot more so than all the other countries. The rest of the world is just starting to catch up with that a little bit," Culp said. globe desire the American-born esthetic concept. "Where the U.S. is still dominant is in cosmetic work. We designed the philosophies, the techniques, and the treatments," Culp said. "There are things we can

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"We'll see U.S. labs marketing to dentists around the world, and that work coming back over here."

The selling of the "Hollywood smile" to overseas markets is a development that Culp sees as key as patients around the do that they aren't really good at over there. The economic population growth happening in Asia right now, they are going to be looking for the things their labs can't provide over there. We'll see countries coming to us for that type of work. American labs are starting to explore putting down roots in Europe, South America, Asia to start to build on this growing middle class wanting more cosmetic work."

One such American company, Den-Mat, recently started to expand its Lumineers brand of ultra-thin veneer design and manufacture to overseas markets. According to Relyea, Den-Mat has established design centers in Dubai and Lebanon with another studio in Switzerland undergoing training-in addition to established U.S. labs in Phoenix, Detroit, and Portland, Ore. Technicians use a customized version of SensAble's virtual workbench and haptic technology to design veneer cases and then send the digital files to Den-Mat in Santa Maria, Calif., for 3D printing and fabrication of the veneer, which is then shipped back to the lab.

"This is the beginning of a lab model for us," said Relyea, adding that expansion plans are expected to proceed as test results prove out the model. "We're looking mostly at labs that see Lumineers as an opportunity to differentiate themselves in the market, and use that as a platform for growth. In addition, it's allowing us to leverage the Lumineers brand."

On the other hand, just as international labs are sending cosmetic casework to U.S. labs for that "Made in America" esthetic touch, foreign labs are sending technicians to noted education centers here to learn the techniques used to make the dazzling smiles desired back overseas.

"If they're not good at it today, tomorrow they will be," Albensi said. "They send their technicians here, they're educated, and then they go back." [ab]

#### References

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