



Increased Capacity

THE RIGHT TECHNOLOGY PROVIDES THE COMPETITIVE EDGE

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– Bob Belouin, Biogenic Dental Corporation President

CASE STUDY



A 3D printed partial framework positioned on a dental model.

Longevity in any business is never guaranteed. The companies that achieve it evolve with the market and make the right business choices that keep them ahead of their competition. Biogenic Dental Corporation (Biogenic) is one such example. Biogenic, a full-service dental lab located in Utica, New York, has been in business since 1906, so making sound choices is a skill it has mastered.

Embracing 3D Printing for Partial Frameworks

One of those key choices involved embracing 3D printing for partial frame production, primarily to adapt to the attrition of skilled employees. These employees created cast partial frame patterns using the traditional hand wax-up process, and replacing them was difficult. In contrast, 3D printing automates this process, doing it with greater speed and precision. Biogenic saw this advantage and purchased its first 3D printer in 2012. The automation this yielded allowed the company to redeploy workers to other essential roles and maintain capacity despite the loss of skilled labor.

As demand grew, Biogenic saw the need to expand its 3D printing capability, and purchased its first Stratasys printer, an Objet Eden 260VS Dental Advantage™. According to Biogenic president Bob Belouin, “When we started looking at our capacity again and what we needed for the next generation of 3D printer...talking to other lab owners, talking at trade shows and looking at what these machines can do, Stratasys was clearly the choice.”

Although it started out with another make of 3D printer, Biogenic purchased the Stratasys system because of its higher production capability. “We switched from the competitor system to Stratasys because the Stratasys system is much more efficient. Where we used to print only 18 to 20 frames per job and that would take 10-12 hours, we can print close to 30 frames and that only takes six to seven hours,” said Belouin. “We have the capacity in a normal work day to run upwards of 60 frames, and that’s great because our average (demand) is around 40-45 every day. So we have (capacity for) 10 to 15 more per day without changing anything, but load more prints.”

Workflow Efficiencies Provide a Competitive Advantage

This capability is measured in more than just a daily production of partial frames, however. For Biogenic, the additional capacity of the Stratasys system has also boosted business. “It’s given us a competitive advantage on turnaround time. Because of that capacity, we can turn the frames around on average in four to five days, and that’s pretty competitive when you’re talking about the volume we do,” said Belouin. “When you’re out there battling for your market share, it’s definitely something that’s improved our ability to compete on that level.” And that has enabled Biogenic to become a resource for other labs that have either closed down their frame departments or want to diversify their services but don’t want to invest in the necessary equipment.

Accuracy and consistency is another benefit of 3D printed partial frame patterns. According to Belouin, “There aren’t as many moving parts or hands involved in producing them, so when you’re going straight from CAD design to printing, investing and casting, you take away a lot of the variables that are involved.” The digital nature of the process also streamlines the workflow, since problems with casting machines, materials and burnout ovens inevitably occur. When they do, there’s no need to start from scratch with a new hand wax-up. “It’s fantastic when all you have to do is go back to that file, pull it up and reprint it,” said Belouin. “All you’re doing is going back to the file at the printer level and saying ‘print this one again’ and we’re back in business.”



This screen capture of Objet Studio software shows 25 parts loaded on the build tray in preparation for printing.



Examples of Biogenic's 3D printed partial frameworks.

If there's an overarching benefit to Biogenic's investment in 3D printing for partial frame production, Belouin puts it plainly: "In a nutshell, it's allowed us to stay in business. We definitely couldn't have gotten this far or maintained the level of business that we've been doing without 3D printing. It's essential to the success but also the longevity of that (partial frame) department."

That kind of foresight and investment in technology is probably a key to why Biogenic is independent and thriving in a consolidating industry. It's also a clue to how the company has been able to provide valuable service to its customers since 1906.



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