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Darren Buddemeyer / DynaFlex



An array of clear aligner arches 3D printed on the Stratasys J700.

CASE STUDY

Aligned with Growth

DYNAFLEX SCALES-UP CLEAR ALIGNER CAPABILITIES

THE PRICE OF A SMILE

Businesses speak of pain points, but none more literally than the dental industry, whose customers sometimes claim actual pain and discomfort from services rendered. Still, straight teeth and a great smile are big business; the global dental market is expected to reach \$37 billion by 2021.

Dentistry itself is not a new industry but the rise of digital dentistry and clear aligners have redefined markets and expanded the alternatives to traditional braces. Intraoral scanners that take a patient's digital oral impression, as well as expiring patents on the leading provider of clear aligners mean barriers-to-entry for this lucrative market are diminishing. And, while going to the dentist may still not be a preferred activity, the clear aligner alternative is credited with diminished pain of treatment as well as a better quality of life during treatment.

For labs and suppliers looking to enter the fast-growing clear aligner market, however, one issue has remained – an affordable, efficient, high-quality 3D printer that could handle the workload, interface with existing digital workflows, and provide the high quality arches necessary for clear aligner production.

Market Opportunity Realized

One lab, DynaFlex, located in St. Ann, Missouri, is banking on clear aligner production to be what they believe is the “fastest growth area in orthodontics now,” said Darren Buddemeyer, CEO. “We expect [market] revenue to hit \$3 billion by 2020, worldwide, and we plan to capture a nice percentage of that market.”

DynaFlex opened its doors in 1965, as a very small lab, and now competes in four dental-related markets: orthodontic products, orthodontic appliance manufacturing, 3D digital services and dental sleep medicine. Although already a small player in the clear aligner market, DynaFlex has been hampered by speed of production and fear of expanding into a technology that could compromise their high standard of care. “We talked with a lot of other lab owners who have tried various 3D printers with only limited success,” said Buddemeyer.

Enabling Technology

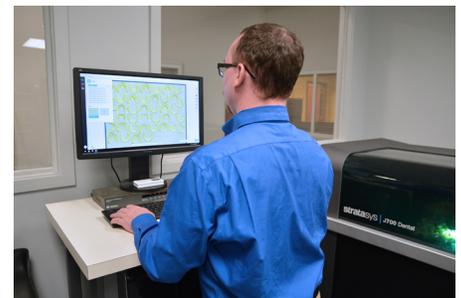
“We’re already one of the largest acceptors of digital file transfers (DFTs),” said Buddemeyer. The lab currently has two Stratasys Objet260 Dental 3D printers and three Objet 500s, servicing their core dental and orthodontic business. We don’t have any other brand of 3D printer at DynaFlex because of the continuing success we’ve had with Stratasys printers.”

“The arrival of the Stratasys J700™ Dental printer on the scene,” said Buddemeyer “with its dedicated production of clear aligner arches, was the impetus behind our company deciding to construct a dedicated 3D Printing Center within our warehouse.” The Stratasys J700 is optimized for the accurate, high-output of clear aligners, with a capacity of 40-60 arches per print tray and production of up to 1,500 arches a day.

“We’ve been in the clear aligner market for quite a while,” said Darren Buddemeyer, CEO of DynaFlex, “but only in small quantities. What we’ve needed is a faster printer, one that could produce on-demand and didn’t require high levels of expertise to operate. We were anxiously awaiting the opportunity to get our hands on a J700 so we could meet customer demand,” said Buddemeyer.



The DynaFlex dedicated 3D Printing Center, with space for two additional J700s.



Setting up a print tray with 40-60 clear aligner arches on the J700.

“We had the capability and the knowledge to compete in that space but we needed to have the hardware, too. Now we do,” said Buddemeyer. “The ability to scale as needed is really great,” said Buddemeyer and the fully digital workflow means DynaFlex uses a switching system, or one computer, to direct all the print jobs going through the workflow. “From snoring and sleep apnea to orthodontics and now clear aligners, we can keep everything running off one central computer,” said Buddemeyer.

In a nod to DynaFlex’s confidence in the growth of the clear aligner market and their ability to capture market share, two additional J700 Dental 3D printer stations have already been pre-wired, awaiting DynaFlex’s purchase of their next two J700s. “By year-end, our 3D Printing Center will look much different,” said Buddemeyer, “and we plan to be producing in excess of 1,000 arches a day” on the J700.

“This is a very competitive market,” said Buddemeyer, “and a lot of 3D printing companies are making a lot of claims. But we’re very confident and comfortable with StratasyS.



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