

Working together to create perfect smiles

NEOLab pushes the limits on 3D-printing products

By 3D Systems

New England Orthodontic Laboratory (NEOLab) was started in 1976 as a family-owned organisation. Its president, Bill Saurman, who was the original master technician and founded NEOLab, has always been passionate about maintaining the human aspect and the knowledge of hand-crafted appliances in a world gone digital. Over the years, the NEOLab team has continued to grow with a strong focus on innovation. Today, NEOLab, based in Andover in Massachusetts in the US, is still family-owned and has developed into a fully digital laboratory offering a wide range of dental orthodontic appliances.



NEOLab's CEO, Christian Saurman, is dedicated to keeping the company running smoothly and at the forefront of the latest technological advances. He explained: "We like to be forward thinkers and do things differently. We produce over 100,000 cases a year, and our company is growing across the country. When our clients ask us whether we can develop a specific appliance, our reply is that we've been at it for years." Zachary Breeze, supervisor of the laboratory's digital department, added: "Here at NEOLab, we take each case and put a personal touch to it."

Fig. 1: President Bill Saurman (left) and Christian Saurman, CEO of NEOLab.

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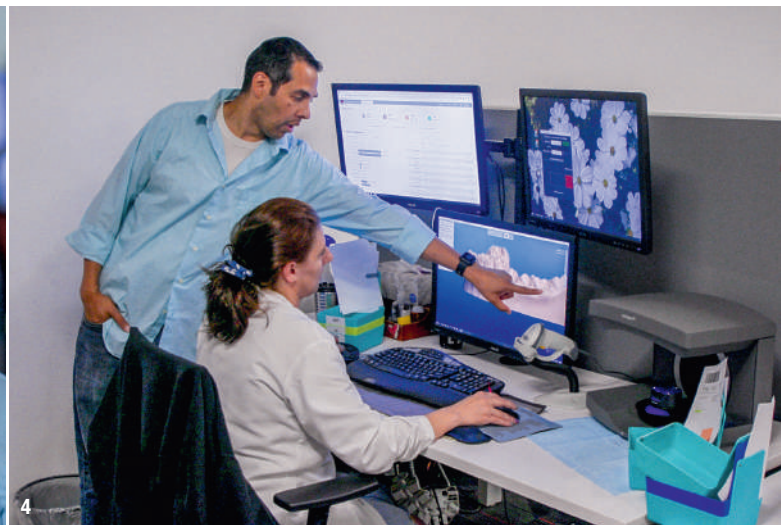
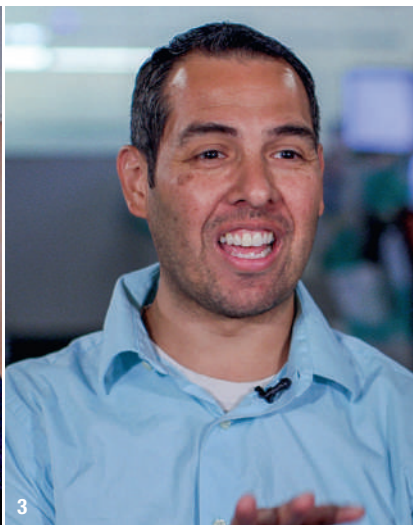


Fig. 2: Christian Saurman, CEO of NEOLab. **Fig. 3:** Zachary Breeze, supervisor of the laboratory's digital department at NEOLab. **Fig. 4:** NEOLab team at work.

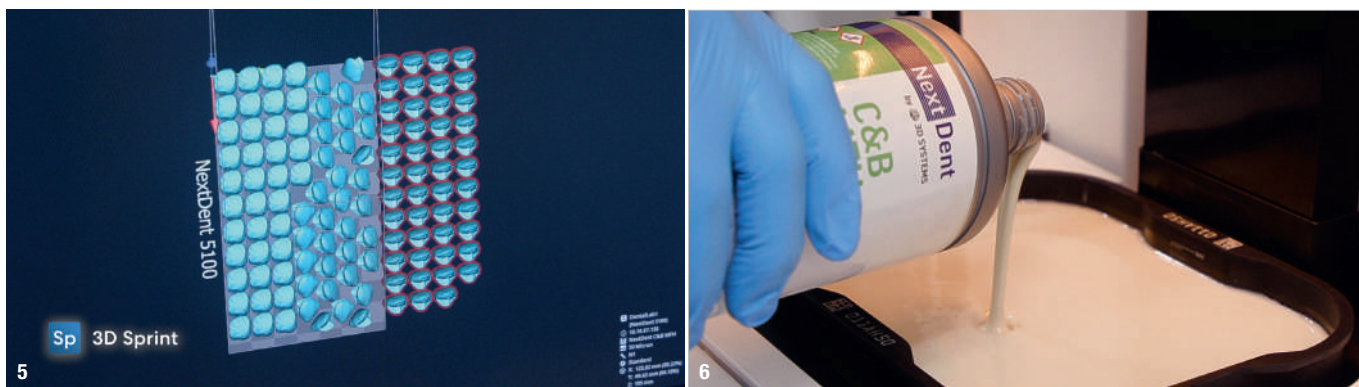


Fig. 5: Design in 3D Sprint software. **Fig. 6:** NextDent C&B MFH material for crowns and bridges.

Designing customised appliances

At NEOLab, the team works together closely with many dentists who submit their cases digitally. Utilising digital workflows allows the appliances to more quickly reach the technicians, saving valuable time. This creates extra floor time, allowing the team to make even higher quality appliances.

Breeze explained: “I have a team of three 3D-printing technicians. They all use 3D Systems’ 3D Sprint nesting software. The software is so user-friendly and consistent that I am unable to determine who did the nesting.”

3D-printed pontics

NEOLab is one of the few laboratories that utilises 3D-printed pontics. 3D Systems’ NextDent 5100 has proved to be a reliable printer for NEOLab, accurately printing teeth with the necessary cleanliness and durability. Christian Saurman said that he has seen increasing numbers of 3D-printed teeth, and he expects the market to expand further.

According to the 3D pontic designer at NEOLab, Kim Jordan, 3D-printed pontic teeth allow her to mirror or copy other teeth in a way that looks more natural than other methods can achieve. During the process, she also designs a ridge at the patient’s gingival margin that allows the pontic to click consistently into the correct position and eliminates the need for adjustments to create a perfect fit by the next department.

Bringing it all together

At NEOLab, the team pushes the limits of digital technology. Speaking from experience, Breeze said, “We’re glad to have a printer that quickly and reliably produces our appliances and are proud to send them out to our dentists and their patients. We put our passion and dedication into our work and when they receive our printed products, it makes them both smile.”

Jordan summed it up beautifully: “When I design teeth, I am shaping someone’s confidence, and the end result is going to be a smile—a perfect smile!”

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Fig. 7: Printed pontics. **Fig. 8:** Kim Jordan, 3D pontic designer at NEOLab. **Fig. 9:** 3D-printed pontic teeth on the model.