



WHITE PAPER

formlabs  | dental

3D Printer Buyer's Guide for Dental Practices

Learn how to move from analog to digital workflows and find a 3D printer for your dental practice.

Contents

Introduction

3

Why Go Digital?

4

High Quality and Precision

4

Improved Efficiency: Time and Cost Savings

5

Better Patient Experience and Outcomes

7

Business Opportunities

8

The Digital Dentistry Workflow

9

1. Scan.

9

2. Plan and Design.

10

3. Manufacture.

11

Workflows Between the Orthodontic Lab and Practice

11

Dental 3D Printing Technologies Overview

13

Low Force Display (LFD).

14

How to Compare Dental 3D Printers

14

Speed and Throughput.

14

Accuracy and Precision

17

Ease of Use

18

Cost and Return on Investment

20

Materials and Applications

20

How to Implement Digital Workflows in an Orthodontic Practice or Lab

22

1. Pick an Application

22

2. Define and Test a Digital Workflow.

22

3. Start Small and Scale Up.

23

Expanding Applications in a Dental Lab.

24

Get Started With Digital Dentistry and 3D Printing

25

Introduction

The present and future of dentistry is digital. With cutting-edge dental technologies for digital intraoral impressions, AI-assisted treatment planning, CAD design, and 3D printing, what was once prohibitively expensive is now becoming more accessible, already transforming dental practices worldwide. As CAD/CAM continues to replace traditional workflows as the standard of dental care, digital solutions are a necessary consideration for any dental business.

Throughout this white paper, you'll learn about:

- The benefits of going digital
- The digital dentistry workflow and how it's different from analog processes
- The best strategies for getting started with digital dentistry
- Differences between dental 3D printing technologies
- The comprehensive criteria and aspects to evaluate before investing in a 3D printing solution

If you are managing a dental practice, look no further—this is your ultimate guide to digital dentistry.

Why Go Digital?

High Quality and Precision

No two dental cases are the same. Patient anatomy is unique, and each treatment is tailored, enabled by a long history of custom, human-centric craftsmanship. But, as with any trade, quality is dependent on the skills of a given dentist, orthodontist, assistant, or technician, and achieving consistent, high-quality, affordable dental products with so many potential sources of error is incredibly difficult.

Digital dentistry reduces the number of steps and, therefore, the risks and uncertainties introduced by human factors, providing higher consistency, accuracy, efficiency, and precision at every stage of the workflow. 3D intraoral scanning removes many of the variables associated with taking a traditional impression, giving dental technicians more accurate data to design from.

Dental CAD software tools provide visual interfaces similar to traditional workflows, with the added benefit of being able to automate certain steps, as well as easily identify and fix mistakes.

Digital manufacturing equipment such as 3D printers or milling machines deliver a range of high-quality custom products, prosthetics, and appliances with superior fit and repeatable results for fewer errors, lower costs, and increased clinical performance and experience for practices and patients.



3D printers today can produce natural, long-lasting appliances, such as full dentures or temporary and permanent restorations.

Improved Efficiency: Time and Cost Savings

Digital dentistry improves the efficiency of procedures and streamlines workflows.

In a dental practice, saving time on menial tasks means shorter appointments, increased throughput, and patient satisfaction. Taking impressions with 3D intraoral scanners is easy, reducing chair time and labor. Digital impressions cut out the cost of materials and the time required to ship impressions to a laboratory. Instant feedback and the elimination of manual errors like voids, bubbles, or tears reduce the need to duplicate impressions.



Intraoral scanners help reduce chair time and labor, and cut out the cost of materials and the need to ship impressions to the orthodontic laboratory.

Digital design and manufacturing increase productivity, reducing hands-on work for streamlined production, fewer remakes, and less time per part. Dental CAD software tools are incredibly powerful and application-specific, enabling dental professionals to plan and design a variety of orthodontic or restorative appliances.

In many countries, dentists are required to store patients' physical models and records for years. This often requires renting space or dedicating a significant part of the office to storage. With digital impressions, patient anatomy can be saved in the cloud or on a local server, requiring significantly less space and making searching for records easier. Additionally, patient models can be rapidly produced from these digital impressions on-demand with desktop 3D printers.

Dental practices can save time and costs by bringing production in-house for indications including:

- [Diagnostic models](#)
- [Models for thermoformed appliances](#)
- [Surgical guides](#)
- [Occlusal splints, mouthguards, and night guards](#)
- [Temporary restorations](#)
- [Permanent restorations](#)
- [Temporary Full-Arch Implant-Supported appliances](#)

Consider starting with the following:



Models for core applications including quick retainers, bleaching trays, and diagnostic models

- Quick delivery time
- Easy to delegate
- ~\$2-3 per model
- Cost savings >75%



Occlusal splints

- Quick delivery time
- Easy to delegate
- ~\$4-5 per splint
- Cost savings vs. outsourcing >80%



Surgical guides

- Quick delivery time
- Easy to delegate
- ~\$3-6 per part
- Cost savings >90%

3D printers can batch jobs together and operate unattended. This can be further optimized with the addition of [automation](#), which enables 24/7 production, equating to a second shift worker.

Better Patient Experience and Outcomes

One of the most significant benefits of digital technologies is improved patient experience and comfort. A satisfied patient is more likely to follow treatment plans, return to a clinic, and recommend it to others, contributing to the long-term success of a practice.

Digital technologies improve the workflow from diagnosis to planning to treatment. Intraoral scanning is faster and substantially more comfortable than regular impressions, while [Cone Beam Computed Tomography](#) (CBCT) scanning adds a new dataset to assist planning for implant surgery or further diagnosis in orthodontic treatments. Virtual treatment planning and appliance design enable less invasive treatments and better-fitting prosthetics. Digital tools also simplify communication between the dentist and patient, and the practice and lab, allowing for immediate data transmission and worldwide reachability.

3D printers can create temporary or permanent prosthetics chairside, so there's no need to wait when presented with an urgent case. If replacement occlusal splints are needed, patients can quickly be presented with the appliances they need, removing potential gaps in treatment plans. Same-day and chairside delivery of appliances became possible thanks to digital production methods and technical developments. As a result, digital dentistry enables reduced chair time, faster treatments, and higher acceptance rates, all with scientifically proven, superior clinical outcomes.



3D printed surgical guides enable quick and high-precision implant placement. Print up to six surgical guides on Form 4B in 35 minutes for just \$2-6 per guide.

Business Opportunities

The dental industry is going through rapid change. Practices that delay adopting new technologies risk falling behind their competition and leave money on the table by over-reliance on labs, milling centers, and outsourced providers.



3D printed removable die models are similar to traditional made models used for fit-checking final restorations.

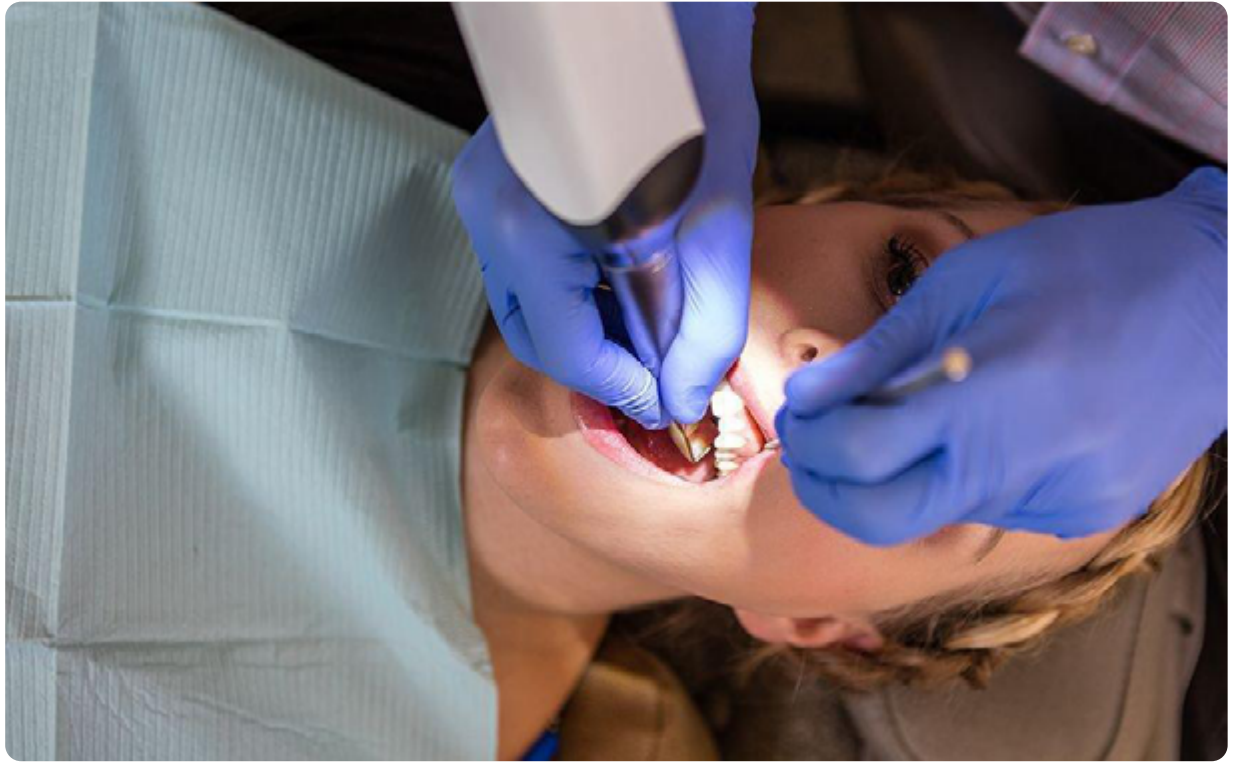
In a [transnational study published in the International Dental Journal in 2023](#), more than 78% of respondents, all dental clinicians, utilize an intraoral scanner to take impressions.

According to a 2022 survey by the [Journal of the American Dental Association](#) (JADA) 17% of respondents currently use a 3D printer, 67% of whom have been using it for two years or less. The adoption of 3D printers by practices is rapidly increasing as dental professionals look to control workflows, improve efficiency, and reduce costs and lead times.

The Digital Dentistry Workflow

With a wide range of dental specialties, the planning of treatments and design of different appliances varies somewhat by specialty and application, but they all follow the same basic workflow.

1. Scan



An intraoral scan is more comfortable for the patient and has less chance of errors than taking traditional impressions.

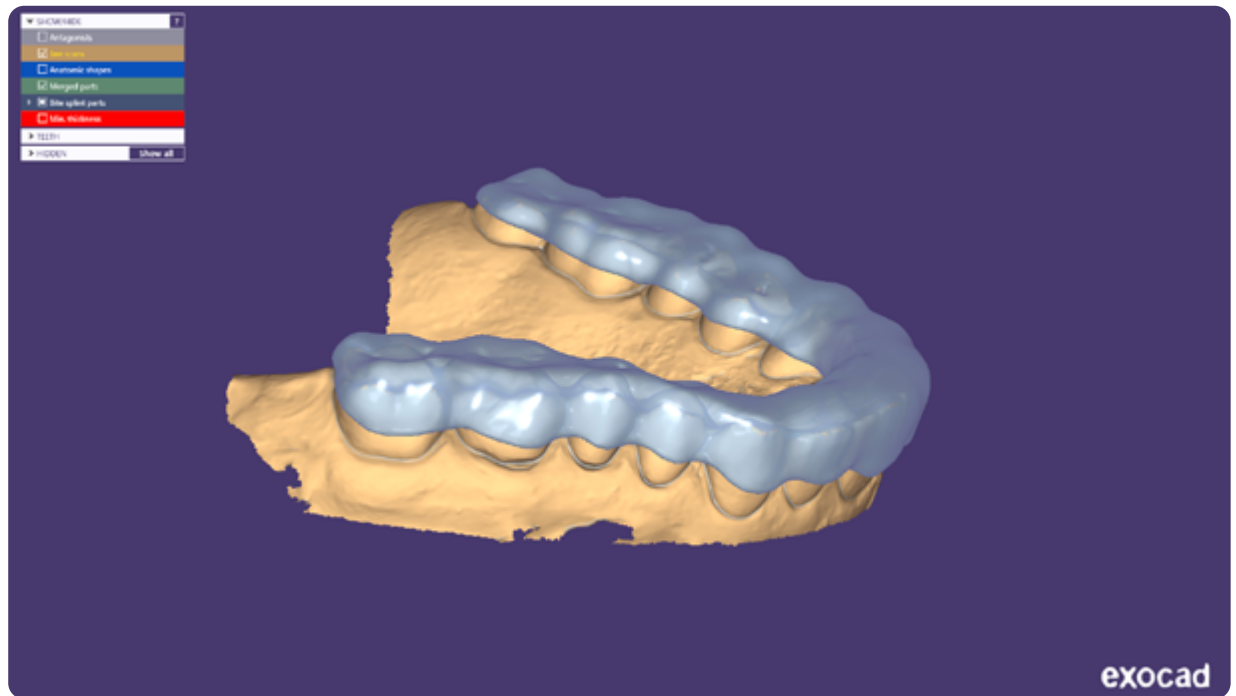
Like traditional dental product fabrication, digital production starts with the patient's individual anatomy. 3D intraoral scanners can be used in the dental practice to capture fast and accurate digital impressions from the patient, replacing manual impressions. Alternatively, desktop optical scanners can be used to scan traditional impressions or plaster models. For treatments and applications that require patient osteotomy, such as surgical guides for implant placement, an additional dataset needs to be collected using CBCT scanners.

For complex rehabilitation cases, extraoral and intraoral photography and facial scanning provide further data to create highly accurate digital patient files.

Recommended tools:

- 3D intraoral scanner
- CBCT scanner (optional)
- Facial scanner (optional)

2. Plan and Design



An occlusal splint being designed in exocad.

After scanning, patient anatomical data is imported into dental CAD software for planning treatments and designing prosthetic or restorative appliances, mock-ups, and models. For simple diagnostic models, you can also convert intraoral 3D scan files directly into printable dental models using [Scan to Model](#) in [PreForm Dental](#), Formlabs' print-preparation software.

Most software packages use design processes very similar to traditional methods, employing highly visual interfaces with features like virtual articulators that are familiar to dental technicians. Digital design results in easier, more precise treatments and simplified communication. After the treatments are designed, models can be exported for printing. If a remake is needed, the same digital design can be reprinted.

Dental digital design services have also proliferated in recent years, empowering any dental business to get started easily without design knowledge.

Recommended tools:

- Dental CAD software or design service
- [PreForm Dental \(free\)](#)

3. Manufacture



Precision Model Resin is a high-accuracy material for creating restorative models with >99% of printed surface area within 100 μ m of the digital model.

To manufacture an appliance, 3D models are uploaded to the CAM or print-preparation software and then sent to a 3D printer or a milling machine. 3D printers are common in both dental labs and practices and can produce appliances for a [variety of indications](#).

3D printers work by solidifying parts (via photopolymerization) layer by layer to form the shape of the appliances and models.

Milling machines are more common in dental labs, but also have some limited applicability to the dental practice as well. These are typically used to create final restorations and dentures by using burs to subtract material from a solid block of material, such as PMMA or zirconia.

Recommended tools:

- 3D printer

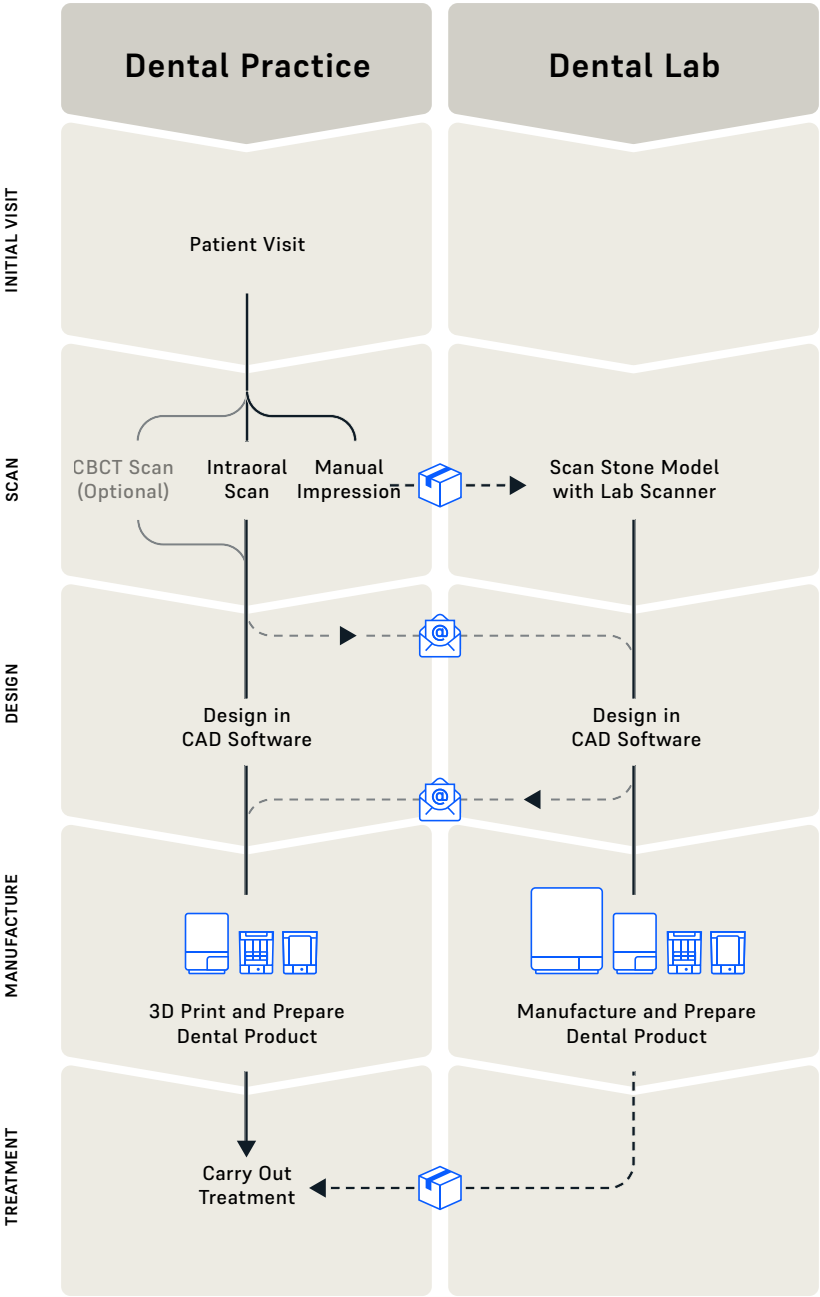
Workflows Between the Orthodontic Lab and Practice

With a traditional workflow, a dental practice takes a physical impression of the patient and ships it to a dental lab that creates the required models, restorations, or other appliances. The lab then ships the final parts or appliances back to the practice for treatment. If there are mistakes in the physical impression or the fabricated appliance, additional time must be added to the process, including additional patient appointments.

In digital workflows, the individual steps can alternate easily between the dental lab and practice depending on the complexity of the case, the indication, the tools available at a practice, and other conditions.

For example, a dental practice can take a digital intraoral impression and instantaneously send it to a lab, or send a manual impression for scanning at the lab. Alternatively, a dental practice can use a digital impression to design the models, restorations, and other indications in-house in CAD software or outsource design to a lab or design service. A practice can then manufacture simple parts—such as models, surgical guides, occlusal splints, or models for thermoforming—in-house and rely on a lab for complex parts such as all-ceramic restorations. Labs can manufacture parts in-house with 3D printing or milling or offer design as a service and send the design files to their customer for 3D printing in the dental practice.

Overall, digital technologies simplify the workflow between the dental practice and lab, offering unlimited freedom to optimize for speed, ease of use, or cost, depending on the case.



The digital dentistry workflow can move back and forth between dental practice and lab, increasing efficiency and collaboration.

Dental 3D Printing Technologies Overview

Today, three resin 3D printing technologies are common in dental and orthodontic practices and labs: **traditional (laser-based) stereolithography (SLA)**, **digital light processing (DLP)**, and **masked stereolithography (MSLA)**.

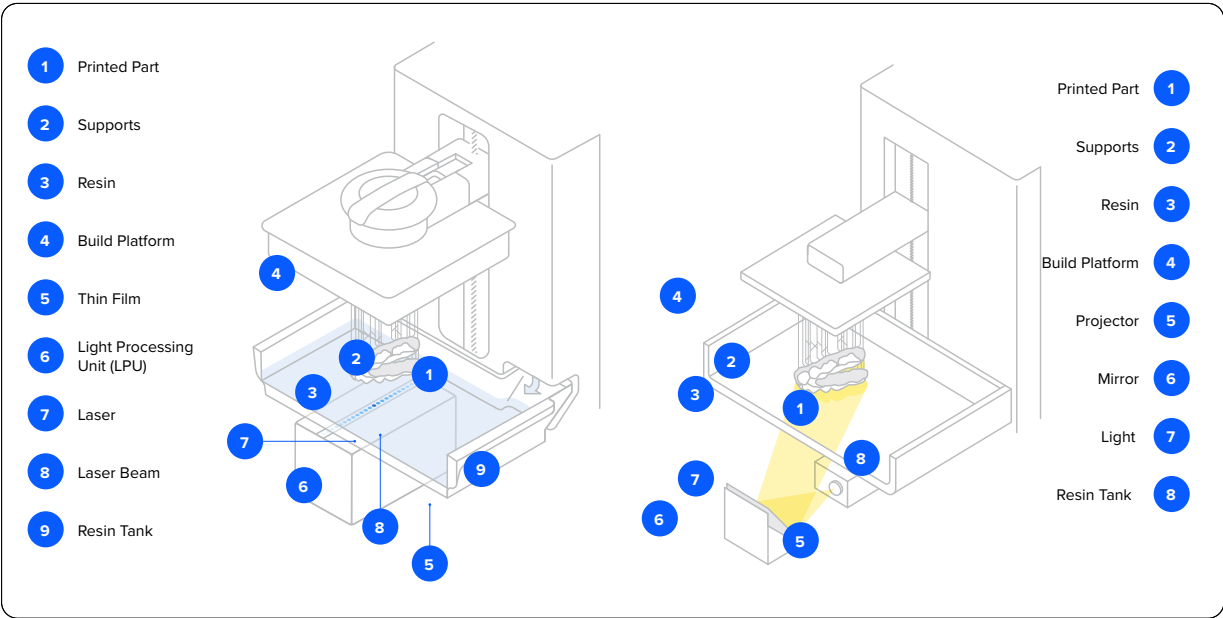
In traditional SLA, a vat of liquid resin is selectively exposed to a laser across the print area, solidifying resin in specific areas. This exposure occurs layer by layer, building the print. Low Force Stereolithography™ (LFS) is an advanced form of laser SLA technology used by [Form 3B+ and 3BL 3D printers](#). LFS reduces the strain created on a part when peeling it from the resin tank between layers, producing parts with a smooth surface finish, clarity, and accuracy.

DLP operates with the same chemical process, but uses a digital projector as the light source and a micromirror device light-processing technique to selectively solidify the resin. With DLP, the entire layer gets cured at the same time.

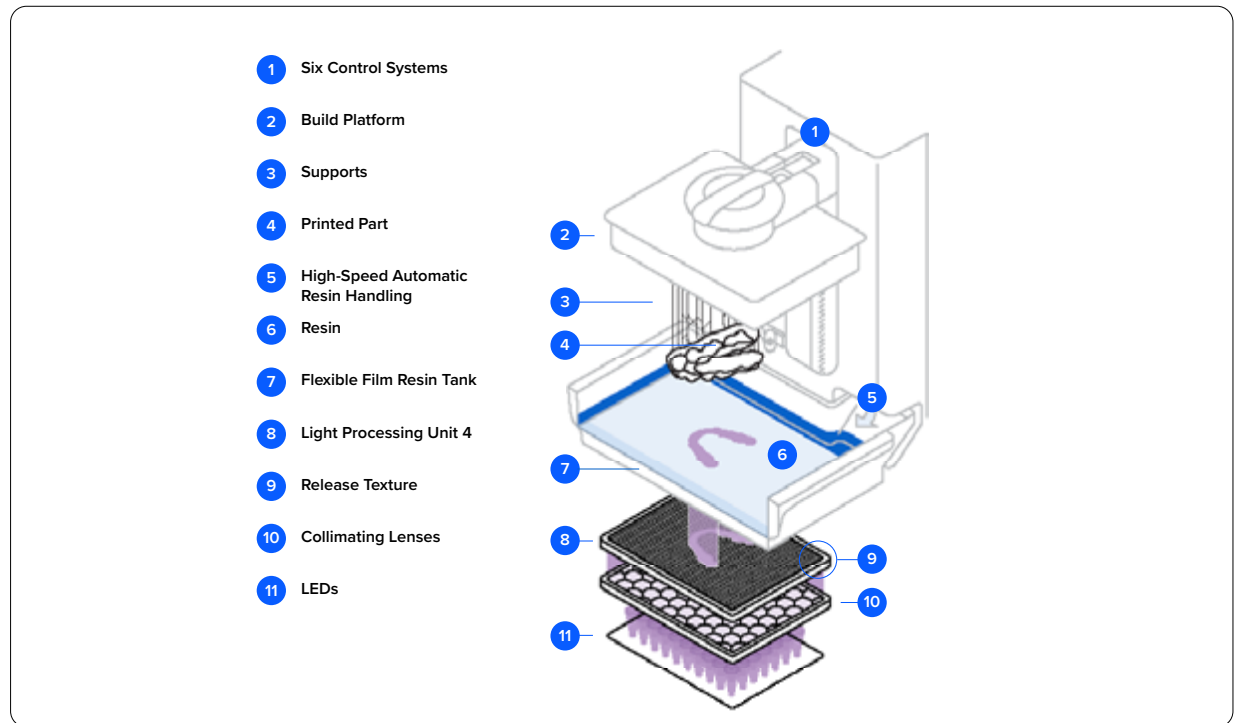
MSLA uses the light from LEDs and an LCD as the light-processing solution to cure an entire layer rapidly and with high accuracy. Formlabs' Low Force Display™ (LFD) is an advanced form of MSLA, developed for [Form 4B](#). LFD introduces a brand new technology stack including a backlight unit, light processing unit, release texture, and integrated camera, and significant improvements with updates to the flexible film tank, resin cartridge, automatic resin handling, and intelligent control systems to deliver the speed, reliability, and part quality that professionals need, all in a single printer.

LOW FORCE STEREOLITHOGRAPHY (LFS)

DIGITAL LIGHT PROCESSING (DLP)



LOW FORCE DISPLAY (LFD)



The most common 3D printers for orthodontic applications work by selectively exposing liquid resin to a light source filtered and projected by various light-processing techniques to form very thin layers of material that stack up to create a solid object.

The way resin 3D printers work is similar; the differences in print quality, workflow, available materials, costs, and other factors are bigger from 3D printer to 3D printer than technology to technology.

How to Compare Dental 3D Printers

Speed and Throughput

For dental practices, print speed can be the difference between providing a solution during an appointment versus a day or more later.

Both DLP and MSLA 3D printers expose the entire layer at once. This means print speed is uniform across the build platform and depends only on the height of the parts in the Z-axis. Laser SLA 3D printers utilize a single laser to draw out each part. Generally, this means they can be slower when printing a densely covered print platform.

However, there's a trade-off between resolution and build volume for DLP printers. A small DLP 3D printer might be able to print fast, but you can only fit a few models on the build platform.

A different machine with a larger build volume might be able to print more parts, but only at a lower resolution, which means that it might not be accurate enough for printing restorative models or surgical guides that require higher accuracy.

MSLA printers combine build volume and speed, allowing dental professionals to have the best of both worlds. LFD technology takes this one step further, combining speed and accuracy across the build platform in one machine.



With the LFD Print Engine of Form 4B, surface accuracy is over 95% of data points within 50 µm of the original CAD data consistent across the build platform – while being able to print 11 models in nine minutes.

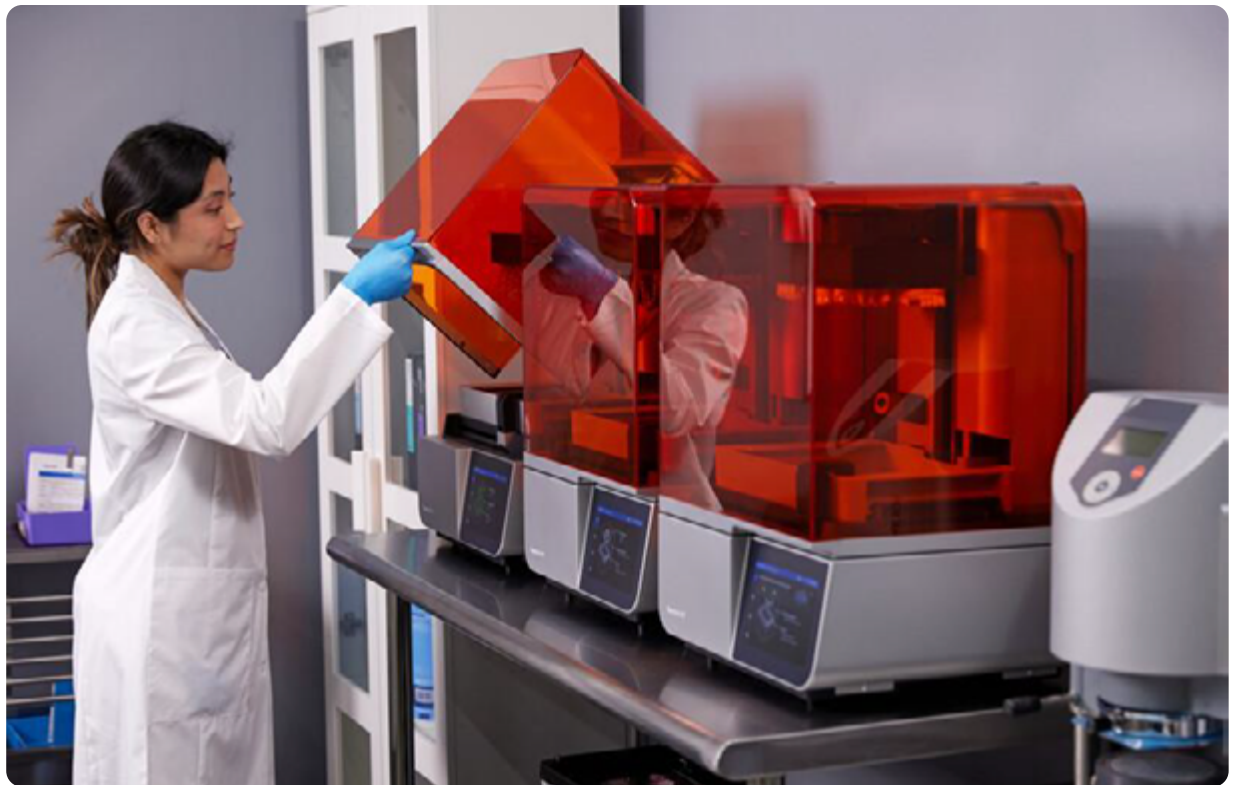
Print Speeds on Form 4B

APPLIANCE	QUANTITY	BUILD TIME FOR A FULL BUILD	PRINT TIME FOR SINGLE PART
Surgical Guides	12	48 min	40 min
Clear Aligner Models	11	9 min	7 min
Splints	8	49 min	41 min
All-on-X	9	37 min	29 min
Crowns and Bridges	5	25 min	18 min
Restorative Models	10	1 h 50 min	1 h 25 min

The Power of Printer Fleets

Another important consideration is whether to fulfill capacity with a single printer or multiple printers. Production with printer fleets often reduces upfront costs compared to larger-format machines. By buying one machine at first, a practice can test out production methods before ultimately scaling up production with demand.

This provides the opportunity to pay for production only when it is needed, rather than making large, long-term investments in a rapidly evolving market. Printer fleets with multiple printers also empower the printing of multiple different appliances, and different materials, at once, and reduces risk through redundancy. If one machine needs servicing, production can be balanced across the rest of the printer fleet.



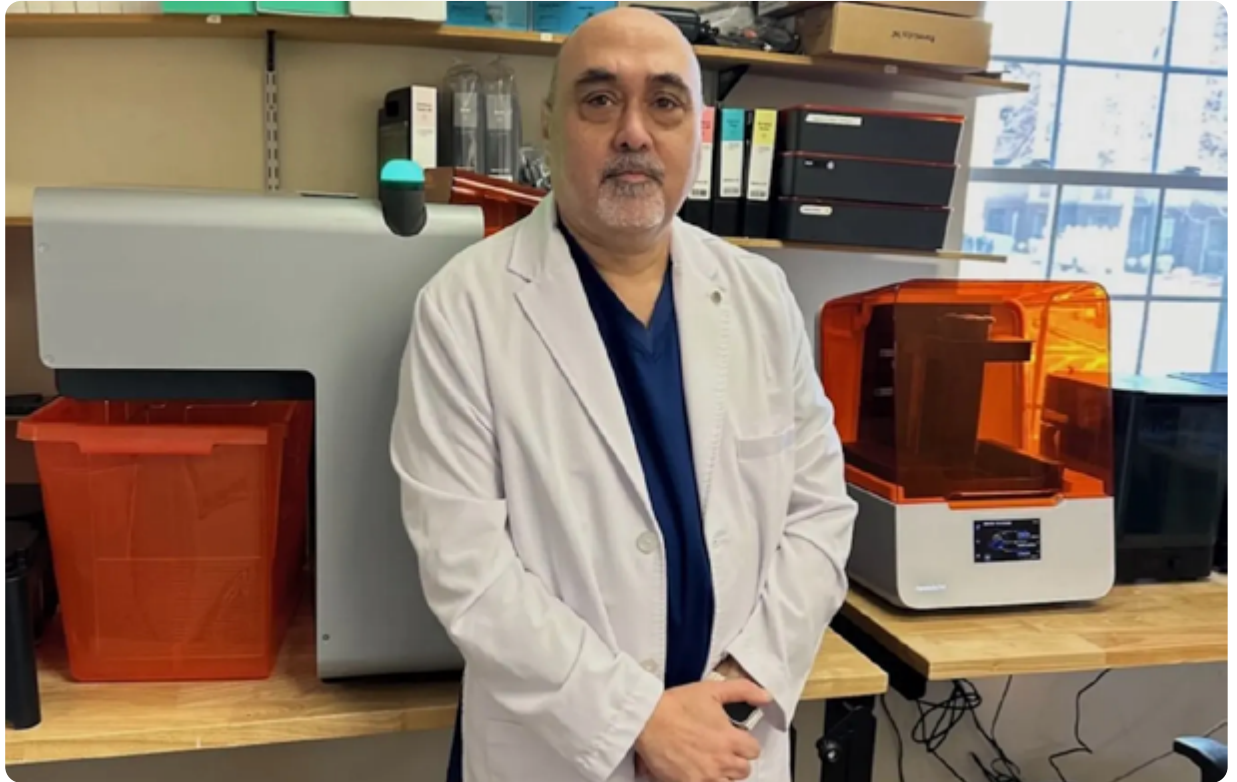
Printer fleets allow 3D printing for multiple different applications in parallel, balancing production needs and lowering risk through redundancy.

Printer fleet management can also be automated, minimizing touchpoints and freeing up workers for higher-value tasks. For example, Formlabs' [Fleet Control](#) enables automatic print-to-printer assignment, streamlined queueing, and optimized workflow management. This allows multiple users to collaborate, adding, duplicating, and prioritizing prints across an entire fleet of printers

Adding Automation

Automating 3D printing is becoming an increasingly attractive option for dental practices that want the ability to print multiple batches of prints without interacting with the printer. With the addition of automation, such as the [Formlabs Automation Ecosystem](#), a printer can run 24/7, as hardware removes prints from the Build Platform 2 and starts the next print.

When comparing a printer to an automated solution, it's important to look at the number of prints in both a 24-hour period and when printing 24/7, all while factoring in the labor required to print on a printer without automation.



[Dr. Fatemi of Fatemi Family Dentistry](#) utilizes automation to print even while he's at his other practice location, saving costs and improving efficiency.

For example, a printer with automation hardware can print for an entire weekend without needing worker interactions. By contrast, printing 11 dental models in 10 minutes on a faster printer would require a worker to remove parts from a build platform and replace the platform before the next print begins. Depending upon your unique business requirements, automation may be the most efficient solution.

Accuracy and Precision

Guaranteeing high-quality, accurate, final parts is the most important concern for any dental practice. Unfortunately, not all 3D printers marketed for dentistry applications can deliver the quality, precision, and accuracy needed. Additionally, comparing different dental 3D printers goes beyond looking at technical spec sheets.

Some manufacturers may try to confuse prospective customers with misleading statements and technical specifications. Most commonly, they indicate layer height, laser spot size, or pixel size as “accuracy,” even though these specifications do not have a direct impact on the accuracy of final parts. While most companies refer to a single number for accuracy (i.e. 50 μm or 75 μm), these are typically marketing gimmicks, and most commonly represent the limit of resolution of the printer.

Fundamentally, accuracy and precision depend on many different factors: the quality of the 3D printer, the 3D printing technology, materials, software settings, post-processing, and how well-calibrated all of these systems are, so a 3D printer can only be judged on its final dental parts. Always evaluate accuracy studies with real scan data of printed parts. Even better, ask for a [sample part](#) or a custom sample of your own design to check the fit or measure against the original design yourself.



Form 4B prints highly accurate parts anywhere on the Build Platform.

Ease of Use

Ease of use is key not just for onboarding and training, but for daily operations and delegation. After all, you and your team are going to have to learn how to use the equipment and incorporate it into daily work. Try to get a sense of the learning curve that will come with a new 3D printer by watching tutorials, visiting a [trade show](#), contacting [sales teams](#), or asking colleagues about their experience.

The availability of educational resources and guides makes learning new workflows and indications easier. Many companies offer free [guides](#), tutorials, [webinars](#), and even [courses](#) to help you get up to speed with the latest, clinically-approved applications.

Some printers come with proprietary software to prepare 3D models for printing, such as [PreForm Dental](#) for Formlabs 3D printers, while other manufacturers offer off-the-shelf solutions. Features differ by software tool. For example, PreForm Dental offers a one-click print setup, where automatic algorithms set up your model's layout, orientation, and supports based on customizable presets for each indication, so anyone in your office can print successfully without extensive training. With [Scan to Model](#), intraoral scans can be converted into solid printable dental models in less than 10 seconds. Plus, advanced users can create custom presets with preferred material, layer height, orientation, and support settings.

Consider the types of everyday interactions as well as regular maintenance the printer will need once it is up and running. For example, some printers require you to manually refill resin, whereas others are automated.

Form 4B includes intelligent maintenance modes to keep the printer running smoothly. Additionally, six onboard control systems precisely measure and maintain the temperature, resin level, print forces, and print status inside the printer, shortening the pre-print process and freeing up you or your technicians for higher-value tasks.

Once a part is printed, it must be removed from the build platform. Removing printed parts can result in scratches, broken models, or part defects. Form 4B's [Build Platform Flex](#) features Quick Release Technology, which allows you to remove parts without the use of tools by moving stainless steel side handles.



Build Platform Flex with Quick Release technology allows for the removal of parts without the use of tools.

Resin 3D prints require post-processing after printing. Post-processing involves hands-on labor, so workflow, space requirements, and labor needs should be considered.

First, the parts need to be washed in a solvent to remove excess resin. Automated wash cycles, such as those of the [Form Wash](#) and [Form Wash L](#), can increase efficiency.

Biocompatible dental parts also require post-curing. Formlabs offers [high-speed](#), [desktop](#), and [large-format](#) solutions to automate these steps, saving time and effort, and making a big difference in keeping a clean, low-maintenance production environment.



Form Wash, Form Cure, and Fast Cure automate post-processing, saving time and effort.

Lastly, depending on the design, some parts need to be cleared of support structures. To simplify this step, Formlabs resin printers offer light touch supports that greatly reduce both the need for finishing and costly labor. Plus, with the Build Platform Flex, some parts can be printed directly on the build platform – without supports.

Early 3D printers had an infamous reputation for spending half of their lives in service, with many failed prints even when they were online. Fortunately, more recent generations of printers deliver greatly improved reliability. Dig deep into published reliability information, and make sure that a manufacturer has appropriate warranties and [service offerings](#) to ensure you'll be taken care of if service is needed.

Cost and Return on Investment

When you consider adopting a new technology, it needs to make sense for your business.

[Dental 3D printer prices](#) have dropped significantly since the early days and the systems on the market today offer the lowest costs for many applications.

For example, a practice printing surgical guides or dental models to produce thermoformed aligners in-house can often reduce costs by 75-95% for each part compared to outsourcing to labs or service providers — enough to pay for a 3D printer in a few weeks and save many times its price tag over the years.

When you compare dental 3D printers, remember to consider:

1. Upfront costs, including not just the machine cost, but also training, setup, and potentially software.
2. Running costs, best estimated with per-unit material costs.
3. Servicing and maintenance costs, which can be expensive without a service plan.

Materials and Applications



Formlabs offers 15+ dental resins, including biocompatible resins produced at our FDA-registered facility in Ohio

Professional 3D printers are some of the most versatile tools found today in dental and orthodontic practices and labs, and the key to their versatility is dedicated materials.

Material selection varies by printer brand and model. Some basic 3D printers can only produce a few indications like diagnostic models, while more advanced systems such as Form 4B can manufacture appliances for orthodontic or restorative applications including:

- [Diagnostic models](#)
- [Clear aligner models](#)
- [Restorative models](#)
- [Surgical guides](#)
- [Splints, mouthguards, and occlusal guards](#)
- [Full dentures](#)
- [Temporary All-on-X](#)
- [Temporary restorations](#)
- [Permanent crowns](#)
- [Custom impression trays](#)
- [Patterns for casting and pressing](#)
- [Orthodontic models for wire retainers](#)
- [Indirect bonding trays](#)
- [Direct composite restoration guides](#)

Some 3D printers work only with proprietary materials, which means your options are limited to the offerings of the printer manufacturer. Others have an open system, meaning that they can use materials made by third-party manufacturers.

However, when using third-party materials, it's important to make sure that the results achieve clinically acceptable quality and accuracy. Furthermore, using biocompatible materials on non-validated 3D printers that claim to be "open" breaks the usage requirements and will produce non-biocompatible appliances. Be careful that you know what risks your business takes by using non-validated 3D printers and materials.

It's important to check the available materials for a given 3D printer against the list of appliances you're looking to print. However, it's common to regularly release new materials and updated formulations, so there's a good chance that the printer you buy today will become capable of creating an increasing variety of dental products in the near future.

Form 4B can print 15+ dental-specific Formlabs resins including biocompatible resins developed and validated under a stringent QMS and produced in an ISO 13485 certified facility. For even more freedom, [open materials and print settings](#) are available.

How to Implement Digital Workflows in an Orthodontic Practice or Lab

1. Pick an Application

Transitioning to digital dentistry doesn't need to happen all at once. Start with the easiest 3D printing workflows first, build your team's expertise, and gradually add new applications to avoid unnecessary risks.

The best place to start is with diagnostic models. These are the easiest parts to 3D print because they don't require third-party design software to prepare a digital impression for printing. Formlabs Dental 3D printer customers can use the [Scan to Model feature in PreForm](#) to turn their digital impressions into physical models for free. These models can be used as diagnostic models or as molds for thermoforming retainers or bleaching trays in-house. Additionally, the ability to 3D print models means you can store files, rather than physical models, freeing up valuable office space.

If you want to start with something other than simple models, choose an application that is currently inefficient, unreliable, expensive, or in high demand. Splints are one such appliance and can be directly printed with biocompatible resins and post-processed for same-day delivery – all with minimal polishing.

Surgical guides or clear aligners also have simple, quickly learned workflows. Design can be executed in-house with design software, or you can outsource this step to a design service like [Evident](#), [Full Contour](#), or [Digital Smile Design](#), and still do the appliance manufacturing in-house. Whatever you choose, start with a single use case and extend to multiple applications, while continuing to rely on labs for complex cases and final restorations for maximum efficiency and accuracy.

Professional 3D printers are incredibly versatile: it's possible to manufacture a wide range of products on the same machine, just by switching materials. Explore the complete dental resin library and dental indications to learn more about the versatility of 3D printing.

[Explore Dental Resins](#)[Explore Dental Indications](#)

2. Define and Test a Digital Workflow

When you have a specific application in mind, piece together the complete step-by-step digital workflow for that application to make sure you understand all the pieces needed for scanning, design, and manufacturing, and how to time this for your practice.

Educational resources, including step-by-step workflows, are available online to help ease the process of learning new indications. Formlabs offers an extensive [resource library](#) and the [Formlabs Dental Academy](#), a hub of free courses for learning and building digital dentistry skills. If you're planning to design parts in-house, make sure to get a demonstration of the workflow of any design software to understand the step-by-step process before adopting it. Then, select a dental software package compatible with the scanning and manufacturing equipment of your choice. The easiest way to do this is to stick with software that allows open importing of scan files, and open STL file export, which ensures compatibility with all 3D printing solutions.

When considering manufacturing equipment such as milling machines or 3D printers, always source samples before buying equipment. Technical data and marketing specs can be misleading and hard to decipher. Instead of comparing sales brochures, compare actual parts — don't hesitate to ask for a physical sample of the appliance you're looking to produce. There's no better way to compare quality between two machines than holding the final product in your hand.

Explore dental application guides to learn more about digital dentistry workflows.

[Explore Application Guides](#)

3. Start Small and Scale Up

Once you're ready to start, trial the workflow for a few weeks before moving to full production, leaving time to learn each step and iron out any wrinkles. As you get comfortable with the results, switch the workflow fully to digital, and start scaling up.



Using [Dental LT Comfort Resin](#), Formlabs 3D printers can manufacture flexible occlusal splints in-house. Printed appliances are easily polished to high optical transparency, and offer enhanced comfort and durability that boosts patient adoption and compliance.

In digital workflows, scaling up can include adding scanning, design, or production capacity or expanding to more complex applications. Desktop 3D printers offer more production flexibility than ever before, with access to a library of resins – including biocompatible ones – that can easily be changed out for an agile production process.

Expanding Applications in a Dental Lab

BEGINNER	INTERMEDIATE	ADVANCED
<ul style="list-style-type: none">• Diagnostic models• Models for thermoformed appliances	<ul style="list-style-type: none">• Surgical guides• Occlusal splints and guards	<ul style="list-style-type: none">• Temporary restorations• Permanent restorations• Temporary Full Arch Implant-Supported appliances

When scaling up, adding printers can bring added benefits. A significant advantage of affordable desktop printers over larger, more expensive systems is the ability to add additional printers for redundancy. Printers can also be devoted to specific materials. For example, one printer can print [denture bases](#) while another prints [denture teeth](#), for even more efficient production.

Offering a new product or service doesn't have to be a difficult decision with a long-term return on investment. With digital dentistry, you can start small, see faster returns on investment, and scale up over time.

Get Started With Digital Dentistry and 3D Printing



3D printers have become important tools for dental practices and, with thousands of dental practices and labs already using digital workflows, there's never been a better time to adopt digital dentistry. In the past few years, technological advancements have increased speed and accuracy, and improved clinical outcomes and patient experience, all while making workflows easier than ever, empowering dental practices to leverage the power of digital dentistry and 3D printing. .

Explore [Formlabs dental resources](#) and [Formlabs Dental Academy](#) for free guides, step-by-step tutorials, white papers, courses, and webinars to learn how you can integrate 3D printing into your practice.

Curious to see our quality firsthand? Pick a material and we'll ship you a free sample part 3D printed on Form 4B to evaluate or talk to a 3D printing expert to learn how you can meet your business goals.

[Request a Free Sample Part](#)[Talk to a 3D Printing Expert](#)

formlabs  | dental

North America Sales Inquiries

dental@formlabs.com
+1 (617) 702 8476

dental.formlabs.com

Europe Sales Inquiries

dental@formlabs.com
+49 30 88789870 (EU)
+44 330 027 0040 (UK)

dental.formlabs.com/eu

International Sales Inquiries

Find a reseller in your region:
formlabs.com/find-a-reseller