

Primeprint Solution by Dentsply Sirona: The medical-grade 3D printing system for dental practices and labs

Primeprint Solution by Dentsply Sirona is a highly automated, end-to-end, medical-grade 3D printing system for dentists and dental technicians who want to expand their treatment and service offerings. It is a smart hardware and software solution that is optimized for dental applications and can run the entire printing process including post processing. The high level of automation helps reduce handling times, allows delegation, and enables maximized productivity. Primeprint Solution enables the user to print biocompatible applications with reproducible and accurate results*. The printing process meets strict regulatory requirements for medical products. Beta testers have called Primeprint the easiest way to get into 3D printing in dentistry.

Charlotte/Bensheim, March 4, 2022. Dentsply Sirona has announced Primeprint Solution for dental practices and laboratories, and the first of a new generation of Dentsply Sirona devices that will transform digital dentistry. With a printing process that is simplified and automated, this new 3D printing solution makes it easy to manufacture patient-specific and biocompatible appliances.

The printer uses digital light processing (DLP) technology, where resins are polymerized using UV light. The light projector hardens the resin layer by layer. Primeprint as a 3D printing solution also automates the post-processing of printed objects, which previously would have required complex, messy and time-consuming manual work.

Primeprint Solution will be the first new device by Dentsply Sirona specifically built to integrate into the digital universe that Dentsply Sirona is creating with its digital technology partner Google Cloud to connect many parts of the dental practice and dental lab across a vast array of procedures. The collaboration, announced at the end of February, will generate new digital solutions for dentistry, powered by artificial intelligence and machine learning algorithms at scale and supported by an integrated cloud solution. It will have a consistent user interface and user experience across its devices and services that will be as simple to use as a smartphone app.

A medical-grade 3D printing end-to-end solution

The combination of Dentsply Sirona's Cloud and Design Services will form an open, collaborative platform where dentists and dental technicians can work together to elevate patient care. Through this platform, dentists can request high-quality CAD designs as ready-to-print files for 3D printing with Primeprint, created by expert lab technicians.

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About Dentsply Sirona:

Dentsply Sirona is the world's largest manufacturer of professional dental products and technologies, with over a century of innovation and service to the dental industry and patients worldwide. Dentsply Sirona develops, manufactures, and markets a comprehensive solutions offering including dental and oral health products as well as other consumable medical devices under a strong portfolio of world class brands. Dentsply Sirona's products provide innovative, high-quality and effective solutions to advance patient care and deliver better and safer dental care. Dentsply Sirona's headquarter is located in Charlotte, North Carolina. The company's shares are listed in the United States on NASDAQ under the symbol XRAY.

Visit www.dentsplysirona.com for more information about Dentsply Sirona and its products.

Primeprint Solution is equipped with dental intelligence through the entire process: from software to 3D printing and post processing. Regulated parameters ensure the high quality of printed appliances for excellent treatment outcomes. Primeprint's process protocol, involving automated process times, supports a high level of safety based on medical device compliance and automatic case documentation.

"For us dentists, Primeprint Solution turns 3D printing into an efficient application for everyday use, and that's also great for my patients," said Dr. Mike Skramstad, dentist from Orono (Minnesota, USA). "The workflow is simplified, end-to-end, so I can get the best possible results." For dental technician Christian Schuchmann (Darmstadt, Germany), the efficiency of the system is an important aspect: "I am more than enthusiastic about Primeprint, as it means 3D printing on a completely new level for our dental lab. The printer speed allows me to run multiple print jobs even during the day."

All in one: safe, automated, accurate and reliable

The new Primeprint Solution—with its software, printer, post processing unit and validated material concept – offers a wide range of applications allowing opportunities for business growth. It also streamlines the manufacturing process allowing for increased delegation and improved productivity.

"Primeprint Solution is the first of a new generation of Dentsply Sirona devices that will transform digital dentistry – as an integral part of a new digital environment for dentistry, " said Cord Staehler, Chief Technology Officer at Dentsply Sirona. "This system now enables 3D printing to be the professional solution of choice for dental practices and labs. Working with it, you will be surprised how easy it is to use. And of course, this is just the start. As materials continue to evolve, so will the treatment opportunities that can be solved with 3D printing. Some of our beta testers have called Primeprint the easiest way to get into 3D printing in dentistry"

* Reich S, Berndt S, Kühne C, Herstell H. Accuracy of 3D-Printed Occlusal Devices of Different Volumes Using a Digital Light Processing Printer. Applied Sciences. 2022; 12(3):1576. <https://doi.org/10.3390/app12031576>

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Fig. 1: Primeprint Solution: Software, 3D printer and post processing unit map the complete workflow and make printing a special experience of digital dental technology.



Fig. 2: Dr. Mike Skramstad: "Primeprint turns 3D printing into an efficient application for everyday use."



Fig 3: Dental technician Christian Schuchmann: "It takes 3D printing on a completely new level."



Fig 4: Cord Staehler, CTO at Dentsply Sirona.

