



NimroDENTAL can now 3D print ortho-study models much faster than they could make traditional plaster models.

Digital Dentistry

NimroDENTAL Transforms the Way it Practices Orthodontics with 3D Printing

From its founding in 1991, NimroDENTAL Orthodontic Solutions set out to deliver top-quality laboratory services to dentists in the London area. As the company expanded to meet growing demand, faster turnaround times, increased accuracy and more complex dental models became the new norm as both the market and available technologies developed.

To address these challenges and increase productivity, NimroDENTAL purchased its first 3D printer in 2011. "People come here from all over the world for specialist medical treatment for things like dental procedures. It's important to deliver what is needed as quickly as possible and 3D printing technology has enabled us to meet that requirement," said Nimrod Tal, founder and managing director of NimroDENTAL.

"As a whole, people expect more from dentistry today, and the way that dental labs respond has to keep pace with the expectations of the dentists and their patients," adds Tal.

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Hugo Patrao
NimroDENTAL



Digital Dentistry

Improving Patient Understanding

"The introduction of 3D printing to our operations has revolutionized the way we work," says Hugo Patrao, head of R&D and manager of NimroDENTAL's 3D printing department. "We have a better workflow, higher productivity and can produce products that look more professional. In fact, the benefits of 3D printing go far beyond the models themselves."

Patrao cites several advantages from the dental materials, including a higher level of contrast than the traditional plaster models. That makes it easier for patients to see how the orthodontic device works and looks. "Models with moving parts fit precisely and this helps dentists explain what is being done, and how the final result will function," says Patrao.

"Better communication with patients made possible with 3D printed models has had a real, positive impact on patient satisfaction," adds Tal.

Cleaner, Faster Production

Apart from improved productivity, faster turnaround times and more accurate, detailed models, 3D printing offers dental laboratories and their customers many other advantages.

Patrao comments that the office-friendly printer size makes them cleaner and easier to use than plaster models. "They are also less labor-intensive and we can set them to print overnight, which is an enormous benefit to turnaround times and productivity.

"Our 3D printing technology needs to be reliable," he adds. "Reliability is a critical factor, and our 3D printers deliver day in, day out."

Leveraging Capabilities and Improving Market Education

Tal says that while the number of dentists who use 3D scanning and printing is still relatively small, the market is growing. One tactic is to address reasons behind the smaller market, including time to explore it, misperception of costs and failure to understand the benefits. "These are things that our business development activities address."

For example, saving space is one of the key benefits of digitization dental labs should recognize. Scans and 3D print files consume nothing more than hard-drive space. Large storage areas for bulky physical models – many of which will never be referred to again – are no longer needed.

Since purchasing its Stratasys 3D printers, NimroDENTAL has maximized their use. It capitalizes on the capabilities of its Objet Eden500V™ and Objet260 Connex3™ systems. Transparent and colored materials make it possible to create functional models for aligners, crowns, bridges and complex reconstructive orthodontic devices, faster and more precisely.

"The printers are running virtually 24/7, producing models for a range of simple and complex applications," says Patrao. NimroDENTAL can 3D print up to 20 high-quality ortho-study models on demand in just a short period, saving time and lowering costs.

"3D printing is the solution to many challenges in this market," Tal concludes. "The accuracy, speed, cost-effectiveness and improved communications – between us and our customers, and between the dentists and their patients – are the ones with the greatest impact."

He adds that patient expectations will continue to rise, encouraging more dentists to move into digital dentistry. "The value of understanding what is involved in a procedure and having an accurate picture of the outcome cannot be overestimated, and our Stratasys 3D printers enable those conversations."

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NimroDENTAL makes functional dental models using its Objet260 Connex3 and Objet Eden500V 3D Printers.



Stratasys Headquarters

7665 Commerce Way,
Eden Prairie, MN 55344
+1 800 801 6491 (US Toll Free)
+1 952 937-3000 (Intl)
+1 952 937-0070 (Fax)

stratasys.com
ISO 9001:2008 Certified

1 Holtzman St., Science Park,
PO Box 2496
Rehovot 76124, Israel
+972 74 745 4000
+972 74 745 5000 (Fax)

