



A staff member at the NobelProcera training and manufacturing facility in New Jersey ensures that crown dies are properly prepared for isostatic pressing. The production line operates 24 hours a day, five days a week.

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A behind-the-scenes glimpse at NobelProcera

by Fred Michmershuizen, DTA

MAHWAH, NJ, USA: Nobel Biocare is revolutionizing CAD/CAM dentistry today in much the same way that Henry Ford revolutionized the automobile industry 100 years ago. But unlike Ford Motor Company, where every Model T coming off the assembly line was exactly the same and you could have any color you wanted as long as it was black, Nobel Biocare, with its state-of-the-art NobelProcera system, has perfected the art of mass production for customized, personal needs. Every crown and every bridge coming off the assembly line at Nobel's state-of-the-art facility is manufactured to exacting, individualized specifications.

As part of a small group of publishers from around the world selected to attend [Nobel Biocare's](#) first Dental Media Day, held 28 May, representatives from *Dental Tribune* had the opportunity to visit the training and manufacturing plant in New Jersey. (The company also operates two other such facilities, in Stockholm and Tokyo.) Attendees at the by-invitation-only meeting were able to learn from the assembled global brain trust behind NobelProcera, witness the assembly process — and even use the software to design an actual crown and send it into production.

After being welcomed to the meeting by Domenico Scala, CEO of Nobel Biocare, meeting attendees heard from Hans Geiselhöringer, global head of NobelProcera and guided surgery. As Scala and Geiselhöringer explained, NobelProcera allows dentists to provide their patients with prosthetics for every clinical indication and treatment option — from single and multiple teeth to fully edentulous jaws, supported by natural teeth and/or implants and abutments. As the executives explained, the NobelProcera system — which incorporates unique digital scanning technology, state-of-the-art design software, and a high-tech manufacturing process that involves

computerization, robotics and a strictly monitored quality control process — offers cost-effective, predictable treatment with reliable products.

In addition, Geiselhöringer offered meeting attendees a confidential glimpse into the future with a preview of the new digital platform that is powered by NobelProcera and being worked on in Mahwah.

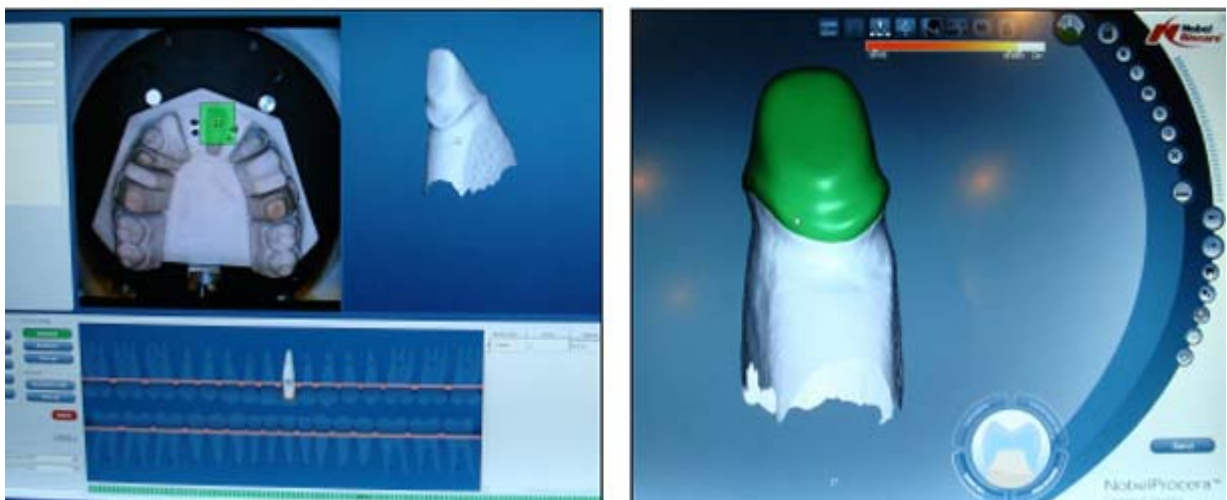


Top photo: Executives of Nobel Biocare were on hand for Dental Media Day. From left are Nicolas Weidmann, vice president of communications; Hans Geiselhöringer, global head of NobelProcera & guided surgery; and Domenico Scala, CEO Nobel Biocare. (DTI/Photo Fred Michmershuizen). Directly above: The Nobel Biocare team gathers for a group photograph during Dental Media Day. (DTI/Photo Fred Michmershuizen)

Dr Stefan Holst explained some of the science behind NobelProcera. He explained that the computer-aided design combined with centralized fabrication ensure long-term stability for the patient. He also explained that a wide range of high-strength ceramic or metal-based materials can be used. Options available include alumina, zirconia and titanium. Resin and non-precious alloys will be available soon.

Dr Pascal Kunz described NobelGuide, the planning and diagnostic tool that allows doctors, laboratories and patients to work as a collaborative team. Using NobelGuide, which utilizes new software and digital tools, dental professionals are able to collaborate on integrated prosthetic planning, implant planning and diagnostics. Dr Kunz explained that treatment — for a single implant to full mouth reconstruction — can now be prosthetic-driven. In other words, implants are placed according to a patient's specific prosthetic needs. Such an approach, he said, improves both treatment predictability and patient satisfaction.

Media Day participants weren't just told about the NobelProcera system, they were also able to get a feel for how it all works in dental labs during a hands-on session. Participants used optical scanners featuring conoscopic holography technology to input an image of a tooth impression. Then, using software installed on laptop computers, participants learned how to create a file for a crown. The software was so easy to learn that attendees were able to get up and running in minutes. Files were then sent to the production facility in the adjoining room.



Top photo: Utilizing conoscopic holography technology, the NobelProcera optical scanner provides fast and highly precise data acquisition. (DTI/Photo Fred Michmershuizen). Directly above: With its intuitive and user-friendly interface and virtual framework tools, NobelProcera software allows the dental technician to design crowns and bridges digitally. (DTI/Photos Fred Michmershuizen)

It was the first time members of the media were allowed to observe firsthand the manufacturing process itself.

Attendees were able to see the NobelProcera assembly line, where dies are lined up on conveyor belts above head for eventual processing in model milling machines, controlled by robotic arms and monitored by trained personnel. After milling, the crowns are sintered in furnaces before being packaged by robotic arms and labeled by personnel for overnight shipment to locations across North and South America. The assembly line, participants were told, currently runs 24 hours a day, five days a week.



Clockwise from top left: The assembly lines at the NobelProcera facility in New Jersey are capable of producing crowns 24 hours a day. Robotic arms ensure that automated processes are completed with the highest precision and accuracy. A workman applies final labels to NobelProcera prosthetic packaging and ensures that the final product is ready for overnight shipment. NobelProcera Alumina crowns are sintered using optimized temperatures in state-of-the-art furnaces that are continuously monitored.

As impressive as the demonstration of the manufacturing process was, however, it was the real-life case presentations offered by Dr Jonathan Ferencz that brought meaning to whole day. Dr Ferencz, a New York City-based prosthodontist who is also a clinical professor at New York University College of Dentistry, demonstrated just how important it is that people receive the very best treatment. Using before-and-after photographs, he told stories of patients whose entire personalities were transformed for the better. There was the teenage girl who had lost a front tooth after being hit by a puck at a hockey game, the university president who was so ashamed of his teeth that always kept his mouth awkwardly clenched with his lips close together, the real estate executive whose previous dentist had given her a crown for a front incisor that did not even come close to matching her other teeth. After treatment, all of them — and many more — were given the ability to smile once again.

“The wide range of clinical applications and positive patient response has made NobelProcera an important part of our practice for some time,” Dr Ferencz said. “NobelProcera offers us a level of predictable esthetics with amazingly consistent fit, and its cost-effectiveness enables our group of four in-house technicians to focus on veneering, while leaving core production to NobelProcera.”

Dr Ferencz showed a video of one of his patients, a professional singer who was absolutely overjoyed upon looking at her new smile in the mirror. It is cases like these, he said, that make everything worthwhile.

Meanwhile, back in the NobelProcera manufacturing facility, the assembly line keeps churning them out.