

## Backgrounder: Straumann® CAD/CAM

Straumann entered the highly dynamic market of CAD/CAM for dental prosthetics (crown and bridge) through the acquisition of etkon AG in 2007.

The transaction opened up a very substantial new market opportunity for Straumann in one of the most dynamically growing fields of modern dentistry. With its leading-edge CAD/CAM technology, high performance ceramics, strong branding and powerful global reach, Straumann has an excellent platform for success in implant and tooth based CAD/CAM restoration.

### Schematic illustration of the Straumann CAD/CAM prosthetic production process



Technician scans impression model



Technician designs element (s) with CAD software



Prosthetic is milled at Straumann CAD/CAM



Prosthetic is delivered to lab

### Straumann CAD/CAM solutions

Computer aided design and manufacturing (CAD/CAM) have revolutionized conventional tooth restoration, offering fast, cost-efficient, reliable, and highly esthetic dental restorations in a broad range of materials. The acquisition of etkon makes Straumann a unique dental partner offering the latest generation implant and prosthetic technology combined with regenerative solutions.

The success of Straumann's CAD/CAM range is derived from its powerful scanning technology, its user-friendly CAD software and its manufacturing expertise using state-of-the-art materials and high-precision machinery.

Straumann's compact laser scanners are sold or leased in combination with proprietary modeling software to dental laboratories. Cost-efficient and extremely easy to use, the package enables the dental technician to model prosthetic crowns and bridges via computer. The data are then sent to one of Straumann's high-speed milling centers, which produce the desired prosthetic component within three working days and send it to the lab for coloring and finishing. The prosthetic solutions offered range from single-tooth inlays up to 14-unit restorations for either conventional or implant-borne restorations. A range of biocompatible, durable and esthetic materials is available, including high-performance ceramics such as zircon, a highly pure zirconium oxide with perfect surface quality, and IPS e.max lithium disilicate, a high performance material that combines strength with translucence and colorability.



### **Uninterrupted innovation**

At the International Dental Show in Cologne, Straumann CAD/CAM will introduce its new updated CAD software, etkon\_visual 5.0. This simple and easy-to-use CAD software offers a wide-range of design possibilities. For instance the tooth library added last year is now complemented by an occlusal surface database, enabling the technician to adjust the prosthetic design to the patient's bite (cut-back or full contour crowns). This is particularly important for the IPS e.max ceramic and enables Straumann to be the first company to offer this material through a centralized milling service. There is also a feature for designing the undercut of bridges, which complements the existing crown undercut facility. Other new features include a new 'Scanbody', which fully digitalizes the CAD/CAM process of designing abutments for all Straumann implant platforms.

These additions together with the speed, accuracy, convenience and practical design of the laser scanner position the Straumann CAD/CAM package as a solution of choice for dental labs.

### **Untapped potential**

Low penetration also characterizes the CAD/CAM tooth restoration segment, in which Straumann has a growing presence. To date, only a small proportion of dental laboratories have invested in this substitution technology, which will determine their ability to survive in the long term. As the conventional manufacture of dental prosthetics is labor intensive, competition from suppliers in regions where labor costs are low is increasing strongly. To remain viable and competitive, labs will have to reduce costs – either by sourcing from lower-cost countries, for example in Asia, or by replacing labor-intensive processes with automated, industrialized CAD/CAM procedures (scanning, modeling and milling).