Moving the dental world from analogue to digital: 3Shape’s success story continues

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During SCANDEFA, a major dental fair in Scandinavia, DTI recently visited the 3Shape headquarters in the heart of downtown Copenhagen to learn about the company’s new products and future strategies. The office building is located beside Kongens Nytorv square and the Royal Danish Theatre has light and airy rooms, a perfect environment for a young, passionate and ambitious organisation driven to develop the best technological solutions in 3-D scanning and CAD/CAM.

Often referred to as the “Google of the Dental Industry”, 3Shape was founded more than ten years ago in a one-room apartment by two young and ambitious students from the Technical University of Denmark and Copenhagen Business School—Tal Clausen and Nikolaj Deichmann. At the time, Clausen was completing his master’s thesis on a ground-breaking 3-D scanning technology and Deichmann was finalising his Master’s degree in Finance and Economics. Having met through friends, they joined forces to participate in the prestigious Venture Cup business plan competition, established by McKinsey and Co., in which they finished second. Throughout the competition, they constantly considered the manner in which the technology could be commercialised and thus the idea of launching 3Shape was born.

Initially, Clausen and Deichmann approached companies in the hearing-aid industry with the idea of developing a quality control system for hearing-aid shells and ear moulds. Similar to a dental restoration, the devices need to be custom fitted to the patient’s hearing canal and are traditionally made by taking an ear impression that is then manually sculpted, cut and used to make a mould—a time-consuming, manual procedure.

“During these first meetings, we realised that we could actually create a mass customisation production system,” Deichmann remembered. “So instead of just checking the quality we decided to go directly for changing the workflow completely, from a manual process, where you spend hours shaping the hearing-aid shells, to a completely digital workflow.”

3Shape digitised the entire manufacturing process by introducing a 3-D scanner for ear impression taking, as well as the management software and CAD software needed to simulate the position of all the electronic components that need to fit into the patient’s ear along with the shell, taking up minimal space and using CAM software for controlling the manufacturing equipment. They developed the system for a specific hearing-aid manufacturer but retained the rights to sell the technology to others.

At the time, there were only six companies that controlled intra-oral scanning solutions, the company extended and enhanced their dental laboratory product range by continuously responding to and involving their customers from the early stages of the product development process.

“Perhaps the most important lesson we have learned is that innovation is only successful if it moves and is guided in directions that truly benefit professionals in their daily work.” Clausen, CTO and head of the 3Shape development team, pointed out.

“Today, 3Shape has become the leading manufacturer of virtual impressions and treatment plans, and the company has been the first to develop ear impressions that can be used in CAD/CAM systems,” Clausen added.

Today, 3Shape, a privately held company headquartered in Copenhagen and boasting the largest team dedicated to scanner and software development for the dental industry. It is based in Denmark and Ukraine, has production facilities in Poland, and support offices in major international locations, including Copenhagen, New Jersey (USA) and Shanghai (China), thus virtually covering every time zone. The wide range of services includes customer support and the development of automated solutions covering a dedicated level of efficiency in re-engineering patient data that can easily be realised by any laboratory.

Generally, digital data is controllable, predictable and available at any time, within only minimal space. This guarantees that the dentists own and is able to generate the data, to support and can potentially export virtual set-ups to other systems, and for appliance manufacturing.

Surprisingly, 3Shape is the only major dental company that offers easily integrable solutions. All products are designed as plug-and-play solutions and feature open interfaces for connection to third-party applications. 3Shape has won Ernst & Young’s Entrepreneur of the Year in the Innovation category in Denmark three times. This prestigious award recognises innovation, leadership, state-of-the-art products, and a clear strategy to pursue continuous growth.

Today, 3Shape’s development team consists of more than 100 developers offering different nationalities, with at least 50 PhDs amongst them. All their products and solutions are born from the union of cutting-edge technology with the latest trends in the industry and markets. 3Shape product managers and key developers have regular meetings with distribution partners around the world to keep each product at the top of its class. During the life cycle, the products are developed in close collaboration with partners who understand and continue to gather the needs of their customer base and the market.

But even with ten years of outstanding successes, 3Shape never stops looking ahead. The company believes that the age of fully digital dentistry is just around the corner.

An open communication interface allows dentists to send the scanned data via the Internet directly to the laboratory of their choice, where the technician can start designing the restoration immediately using 3Shape Dental System software or the appropriate interface to third-party software. The TRIOS communication software includes a tool to visualise the technician’s solutions for the patient, for example on an iPad, where the patient remains still in the chair, which is especially important for anterior cases.

The system is a designed to give dentists high-quality restorations and treat more patients rather than spending time and money on chairside milling. It handles a wide range of indications and produces quality 3-D data that can easily be realised by any laboratory.

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