NVision Helps Orthodontic Company Recalibrate CT Scanner

Jerry Fireman

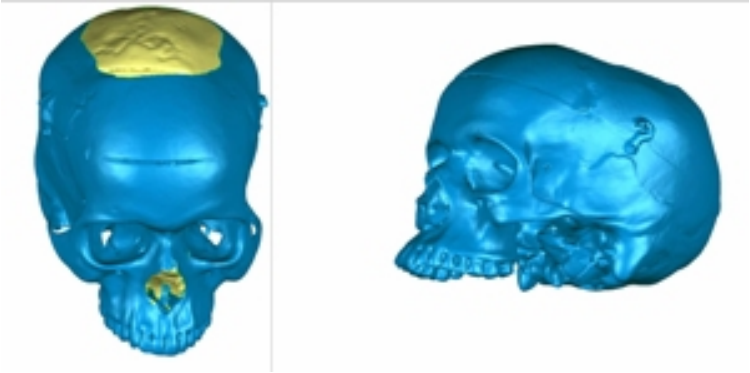
NVision Inc., **[1] a leader in 3D non-contact optical scanning for over 21 years, recently provided an orthodontic company with the information it needed to recalibrate its CT scanner. The company, an orthodontic supplier, utilized NVision's Engineering Service Division to scan a human skull as part of the verification/inspection process for its in-house CT machine. The scanning results provided by NVision contained all the measurement data necessary for the orthodontic company to recalibrate its CT machine to the highest possible level of accuracy.**

Actual skull (left) and Scan (right)

The use of CT scans in orthodontics has increased in recent years, primarily because such scans can provide practitioners with an enhanced view of a patient's facial anatomy. Unlike traditional 2D X-rays, CT scans provide a three-dimensional image of the patient's skull, teeth, roots, and jaw that can be viewed from all angles, providing extra information that can't be obtained soley with X-rays. This information can aid orthodontists and oral surgeons in diagnosing problems and planning treatment.

The orthodontic company needed a high-precision 3D scan of the skull to compare to measurement results obtained from its own cone-beam CT scanner. They sent NVision the skull and engineers began scanning it with NVision's HandHeld laser scanner.

The NVision Handheld scanner is a powerful portable scanning device that is capable of capturing 3D geometry from objects of almost any size or shape. The scanner is attached to a mechanical arm that moves about the object, freeing the user to capture data rapidly with a high degree of resolution and accuracy. An optional tripod provides complete portability in the field. Intuitive software allows full model editing, polygon reduction, and data output to all standard CAD packages.



Skull scan data

“Our scan of the skull confirmed that the orthodontic company’s CT machine, although only 1/1000 of an inch off in its measurements, was in need of some recalibration,” says Colin Ellis, Engineering Manager at NVision. “The company subsequently used our skull measurements as its key tool in the recalibration process.”

About NVision
NVision, Inc. was established in 1990 with one goal in mind: to provide customers with the highest accuracy non-contact optical measurement systems and services for Reverse Engineering and Inspection. Focusing our expertise on the aerospace, power generation, and oil/gas industries, NVision provides both contract scanning services and systems sales to companies throughout North America. Our elite team of engineers provides customers with an unmatchable level of experience and is able to advise and assist with the most difficult engineering challenges.

NVision’s clients include industry leaders such as Alstom, Boeing, GE, Lockheed, Lear, NASA, Porsche, Raytheon, Siemens, Toyota, and every branch of the U.S. military.

Jerry Fireman has been a writer of technical and trade journal articles for over 30 years. He has a Bachelor of Arts degree in Journalism from Wayne State University and a Masters of Business Administration from University of Michigan. He worked 4 years as Engineering Editor for The Valeron Corporation, a cutting tool manufacturer, and 7 years for French & Rogers, a high tech advertising and public relations agency ending as Vice President/Account Supervisor. He founded Structured Information *[2] in 1984 and has served as President ever since. Fireman has written over 9,000 articles for over 3,000 trade journals in 24 countries around the world. Email NVision with and questions at:* sales@nvision3d.com *[3]*

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