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# Medical Pioneer Installs EBM Direct Digital Manufacturing System from Stratasys

## Design Dynamics International and TMJ Implants Explore Direct Digital Manufacturing for Industrial and Medical Applications

MINNEAPOLIS--(BUSINESS WIRE)--

(NASDAQ:SSYS) Stratasys today announced Design Dynamics International, Inc. has selected an Arcam Electron Beam Melting (EBM) system for both prototyping and direct digital manufacturing. The company will produce metal parts for applications in the aerospace, automotive and marine equipment industries.

Stratasys is the exclusive North American distributor for Arcam EBM systems, which manufacture fully dense parts from metal alloys.

"The high durability, strength-to-weight ratios, biocompatibility and superior corrosion resistance make Arcam EBM metal parts ideal for any manufacturer interested in quickly creating end-products or components," said Robert W. Christensen, DDS, founder and chief executive officer of Design Dynamics.

In addition to metal part manufacturing through Design Dynamics, Dr. Christensen will review potential applications of Arcam EBM technology for his second company, TMJ Implants, Inc., a leader in the TMJ (temporomandibular joint) reconstructive surgery implant field.

Since 1953, Dr. Christensen has been regarded as a medical pioneer for his invention of a prosthetic TMJ implant to improve jaw functionality and alleviate pain associated with TMJ disorders and injuries, a variety of conditions affecting the joint connecting the jaw and skull base. Dr. Christensen also is the original patent holder for the first dental implants in the United States.

More than 10 million people in the United States suffer from TMJ problems, according to the National Institute of Dental and Craniofacial Research of the National Institutes of Health. Due to the irreversible progression of TMJ disease, the joints in many patients cannot be repaired by more simple means, making total or partial joint replacement a necessity.

"Manufacturers like Design Dynamics and TMJ Implants are realizing the value of EBM to streamline development and manufacturing," says Stratasys EBM channel manager Kirby Quirk. "The system uses titanium or cobalt chromium to manufacture 100-percent-dense parts, giving manufacturers a way to create end-use parts or solid prototypes."

EBM technology, patented by Arcam AB, offers a unique method for both manufacturing and prototyping metal components. EBM produces solid metal parts through a patented CAD to

Metal(R) process, where parts are built in layers of metal powder, each of which is melted by an electron beam to the exact geometry defined by the CAD file. Because this process occurs in a high vacuum, parts are completely solid, without imperfections caused by oxidation. The time, cost and challenges of machining or investment casting are eliminated, which makes alloy parts readily available for functional testing or installation.

Stratasys Inc., Minneapolis makes direct digital manufacturing and prototyping systems. Stratasys equipment is used in industries such as aerospace, automotive, defense, medical, and consumer products. In 2005, the company installed 34 percent of all systems sold worldwide, making it the unit market leader for the fourth consecutive year, according to Wohlers Report 2006. Stratasys patented the rapid prototyping process known as fused deposition modeling (FDM(R)). The process creates functional models directly from any 3D CAD program using ABS plastic, polycarbonate, PPSF or other materials. The company holds 175 granted or pending global prototyping patents. In addition to manufacturing products, Stratasys is the exclusive North American distributor of Arcam direct digital manufacturing and prototyping systems. On the Web: [www.Stratasys.com](http://www.Stratasys.com)

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