

# News Release

## Solid Concepts Awarded STTR Grant for Designing Complex Internal Structures for Solid Freeform Fabrication

VALENCIA, CA – August 1, 2008 – Solid Concepts Inc., a rapid prototyping and direct digital manufacturing company, has sought and achieved a STTR grant for designing complex internal structures for solid freeform fabrication.

This Small Business Technology Transfer (STTR) project will demonstrate the feasibility of developing a software system to design internal structures for solid freeform fabrication (SFF) processes. The software system is intended to serve as a simple and effective design tool to aid designers in achieving better design performance over a wide range of applications.

SFF is a direct manufacturing process that can fabricate complicated geometries cost-effectively and provides designers with design freedom to create complex internal structures. However, designing a computer-aided design (CAD) model with such internal structures is beyond the capability of current CAD software. The project will address significant questions that stand in the path of incorporating internal structures in our everyday products.

The project will generate an effective design method based on 3D texture mapping for various design requirements, an efficient computational approach based on hybrid geometrical representations and calculations, and a SLS fabrication feasibility study that will provide important insights on the relations between internal structures, material properties and SFF process parameters.

If successful, the project will result in an internal structure design method that is general and effective for a wide variety of applications. This STTR project is intended to give rise to a commercial software product that will enable designers to use SFF materials and optimize product designs more efficiently. This will positively impact a host of industries, such as aerospace, defense, and medical industries, where using materials efficiently is critical.

### ABOUT SBIR AND STTR PROGRAMS

The U.S. Small Business Administration (SBA) Office of Technology administers the Small Business Innovation Research (SBIR) Program and the Small Business Technology Transfer (STTR) Program. Through these two competitive programs, SBA ensures that the nation's small, high-tech, innovative businesses are a significant part of the federal government's research and development efforts. Eleven federal departments participate in the SBIR program; five departments participate in the

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STTR program awarding \$2billion to small high-tech businesses. The U.S National Science Foundation administers the SBIR.GOV site on behalf of the federal government.

*Founded in 1991, Solid Concepts supplies rapid prototyping, direct digital manufacturing, tooling and injection molding services. Solid Concepts has grown steadily to a five-facility, multiple technology company known to be a solutions provider with project management and engineering expertise. Capabilities in PolyJet™ high precision 3D printing, Stereolithography (SLA) models and patterns, HDSL (High Definition Stereolithography), Selective Laser Sintering (SLS), Direct Digital Manufacturing, CNC models and patterns, and QuantumCast™ advanced urethane castings, allows for low-volume production of plastic, urethane, and metal components directly from design data, resulting in significant time and cost savings. Capabilities in tooling and injection molding make Solid Concepts a one-stop source to bring concepts from prototype to finished product ready for market. ISO 9001:2008 and AS9100 Rev. B certified.*



www.solidconcepts.com