AEROSPACE

stratasys

ADDITIVE MANUFACTURING FOR AEROSPACE

INNOVATING FLIGHT

THE **3D PRINTING SOLUTIONS** COMPANY™

goengineer

www.goengineer.com

AEROSPACE

From 3D Models to Launch Hardware

SHAPING THE WAY AIRCRAFT ARE IMAGINED, DESIGNED AND DEVELOPED.

For more than a quarter-century, Stratasys® has been the trusted leader in the 3D printing industry with the largest installed base of 3D printers in the world. Our solutions empower the aerospace industry to innovate faster by reducing weight and fuel costs, improving production efficiency and maximizing supply-chain flexibility.

> “Stratasys is making a huge impact on our production and operations by creating the opportunity to have custom-built tools, cutting cycle time down, and it’s creating a great cost savings for us.”

Tory Bruno, United Launch Alliance
CHIEF EXECUTIVE OFFICER

INCREASE PRODUCTION EFFICIENCY

Realize supply chain benefits by incorporating 3D printing throughout your production process, from prototypes to custom tools and production parts. 3D print prototypes that can be tested, revised and perfected in days — and printed and repaired on demand. Maximize efficiencies by 3D printing jigs and fixtures affordably and quickly. Create customized, complex parts free from traditional manufacturing constraints.

TRUE DESIGN FREEDOM

Additive manufacturing empowers your organization to stay one step ahead of the competition by providing unprecedented design freedom. Stratasys 3D printing allows for topology optimization, assembly consolidation and material replacement to save your organization money. Replace metal with lighter-weight materials to create flight-certified parts for launch vehicles and other aircraft. Produce low-cost, one-off parts with complex geometries for differentiated passenger experience and cost-effective custom solutions.

MATERIAL DEVELOPMENT & CERTIFICATION

Stratasys offers a wide range of 3D printing materials for extreme aerospace environments and exacting requirement needs — from clear and rubberlike photopolymers for functional prototypes to advanced production-grade thermoplastics that stand up to rigorous real-world testing. Our additive material solutions include a powerful and diverse range of material properties and certifications, such as heat resistance, flame retardance, high strength and transparency.

EXPERT UNDERSTANDING OF THE AEROSPACE INDUSTRY

Stratasys has invested significant resources into developing technology specific to the aerospace industry and has the expertise to stay on top of the industry's changing needs. When you partner with Stratasys, you benefit from the knowledge, accomplishments and global experience of our dedicated aerospace team. Combined with our history of transformative 3D printing technology, this ensures our solutions meet your specific business challenges.

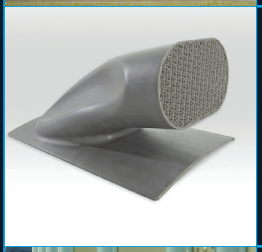
"Additive manufacturing represents a great opportunity for Boeing and our customers, so we made a strategic decision more than a decade ago to work closely with Stratasys on this technology."

Darryl Davis, President, Boeing Phantom Works

stratasys® | THE **3D PRINTING SOLUTIONS** COMPANY™

www.goengineer.com

THE POWER OF 3D PRINTING

	APPLICATION & KEY BENEFIT	STRATASYS SOLUTION	DELIVERING VALUE
	**Optimized Structures** Reduce costs	– Lightweight materials, compared with metal materials – Fortus 900mc™ Acceleration Kit for large parts and repeatability	– Flight-certified parts for trusted on-vehicle hardware – Topology optimization for reduced weight and fuel costs – Assembly consolidation for reduced weight and costs
	**Customized Interiors** Enhance passenger experience	– ULTEM™ 9085 resin provides high strength-to-weight ratio and is FST compliant for aircraft interior applications – Certified materials that meet the quality and traceability requirements of the aerospace industry	– Avoid the high cost of traditional manufacturing methods for parts that can be built from durable thermoplastics — greater complexity won't drive up costs – Enable on-demand production of custom parts – Reduce supply chain risk and accelerate return to service
	**Forming Tools** Shorten production time	– Durable FDM™ thermoplastics for composite tooling, thermoforming and metal forming applications – Fortus 900mc Acceleration Kit for rapid production of large tools	– Create more durable, thermally stable and lightweight composite tools – Produce durable thermoform molds of complex shape – 3D print metal forming tools with complex curves quickly – Reduce tooling costs, compared with traditional methods – Cut tooling lead time from months to days – Enable innovation for tooling solutions – Optimize design and build parameters – Enable cost-effective repair tooling
	**Manufacturing Aids** Improve production line efficiency	– Tough, durable FDM thermoplastics that withstand the factory floor environment – Create custom drill guides and assembly fixtures quickly – Ability to combine many material properties in one part with PolyJet™ technology, such as rigid and flexible, or opaque and transparent	– Streamline and improve the toolmaking process – Customized low-volume tools at lower cost – Reduce lead time – Eliminate assembly steps – Improve performance, accuracy and ergonomics
	**Rapid Prototyping** Accelerate the product development process	– High-performance FDM thermoplastics for real-world testing – PolyJet photopolymers offer fine detail and unmatched product realism – Multi-material and multi-color capabilities with PolyJet technology – Stratasys Direct Manufacturing™ offers eight additive technologies	– Complete more design iterations in less time – Real-time part verification – Validate designs before investing in costly tooling – Communicate ideas and gain feedback with physical models

Stratasys Aerospace
7665 Commerce Way
Eden Prairie, MN 55344

Authorized Distributor:

goengineer

www.goengineer.com

stratasys | THE **3D PRINTING SOLUTIONS** COMPANY™

ISO 9001:2008 Certified