



News Release

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3D Systems Enables Derby the Dog to Run with 3D Printed Custom Prosthetics

- 3D printed custom prosthetics allow disabled dog to run upright for the first time
- 3DS' ProJet 5500X multi-material prints allow for comfort and speed
- Integrated 3D scanning, design and printing tools deliver custom-fit prosthetics

ROCK HILL, South Carolina, December 16, 2014 – [3D Systems](#) (NYSE:DDD) today announced that it has successfully outfitted Derby the dog with 3D printed prosthetics, allowing him to run down the street for the first time ever. Derby was born with a congenital deformity characterized by small forearms and no front paws. While always cheerful, Derby was, until now, only able to get around on soft surfaces. Hard surfaces, like sidewalks, cause severe abrasions on his front extremities.

Having fostered Derby through the dog rescue group [Peace and Paws in Hillsborough, N.H.](#), Tara Anderson decided to help. Tara, as a 3D Systems employee, knew that 3D printing afforded an unmatched level of design freedom, functionality and speed. Using 3D technology, she knew it would be possible to rapidly design and manufacture prosthetics customized to Derby's morphology.



Marshaling help from Derrick Campana, a certified [Orthotist at Animal Ortho Care in Chantilly, VA](#), and 3DS designers, Kevin Atkins and Dave DiPinto, data of Derby's forearms and 3D scan data of a cup design, created by Campana, were used to create the 3D design. The team utilized Geomagic Freeform, 3DS' digital sculpting platform, which allowed them to create perfect organic shapes and smooth curves for Derby's shape.

The ProJet 5500X delivers multi-material 3D printing in a single build, so Tara and the designers could build complete prosthetics with comfortable cups in rubber and rigid spokes and base. Ready in a few hours, the prosthetics were shipped to Derby for testing.

"The beauty of 3D printing is that if the design needs to be adjusted, we don't have to wait for time-consuming and expensive traditional manufacturing processes, we can simply print out a new set," said Buddy Byrum, Vice President of Product and Channel Management, 3DS. "The dovetailing of 3D scanning and design with the ProJet 5500X multi-material 3D printing allowed for the creation of complete prosthetics printed in a single build, custom-fit to Derby."

Through the power of 3D, Derby is now able to run alongside, and sometimes past, his newly adoptive owners, Sherri and Dom Portanova.

"He runs with Sherri and I every day, at least two to three miles," said Dom Portanova. "When I saw him sprinting like that on his new legs it was just amazing."

[See the video of Derby's incredible journey here.](#)

Watch a [TED talk by Avi Reichental](#), President and CEO, 3DS, to see more examples of real life digital craftsmanship made possible by 3D Systems.

About 3D Systems

3D Systems is pioneering 3D printing for everyone. 3DS provides the most advanced

and comprehensive 3D design-to-manufacturing solutions including 3D printers, print materials and cloud sourced custom parts. Its powerful digital thread empowers professionals and consumers everywhere to bring their ideas to life in material choices including plastics, metals, ceramics and edibles. 3DS' leading healthcare solutions include end-to-end simulation, training and integrated 3D planning and printing for personalized surgery and patient specific medical and dental devices. Its democratized 3D design and inspection products embody the latest perceptual, capture and touch technology. Its products and services replace and complement traditional methods with improved results and reduced time to outcomes. These solutions are used to rapidly design, create, communicate, plan, guide, prototype or produce functional parts, devices and assemblies, empowering customers to manufacture the future.

Leadership Through Innovation and Technology

- 3DS invented 3D printing with its Stereolithography (SLA) printer and was the first to commercialize it in 1989.
- 3DS invented Selective Laser Sintering (SLS) printing and was the first to commercialize it in 1992.
- 3DS invented the ColorJet Printing (CJP) class of 3D printers and was the first to commercialize 3D powder-based systems in 1994.
- 3DS invented MultiJet Printing (MJP) printers and was the first to commercialize it in 1996.
- 3DS Medical Modeling pioneered virtual surgical planning (VSP) and its services are world-leading, helping many thousands of patients on an annual basis.

Today its comprehensive range of 3D printers is the industry's benchmark for production-grade manufacturing in aerospace, automotive, patient specific medical device and a variety of consumer, electronic and fashion accessories.

More information on the company is available at www.3dsystems.com.