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## 3D Systems Expands Product Lines for Cardiology Training and Surgical Planning

- Introduces advanced simulation training for experienced cardiologists
- Cardiovascular anatomical modeling service provides patientspecific 3D printed models for surgical planning and education

**ROCK HILL, South Carolina, October 12, 2015** – <u>3D Systems</u> (NYSE:DDD) announced today the introduction of advanced cardiology training modules for the <u>ANGIO Mentor™</u> VR simulator, together with a cardiovascular anatomical model product line that allows visualization of complex cardiovascular anatomy.

Advanced Coronary intervention scenario of chronic total occlusion (CTO) using the ANGIO Mentor simulator

Over the last decade, developments in interventional cardiology have allowed more patients to be treated using minimally invasive Percutaneous Coronary Intervention (PCI) procedures. In order to provide experienced cardiologists with training for the most up-to-date and complex treatment techniques with PCI, 3DS has developed advanced training scenarios for Coronary CTO (Chronic Total Occlusion) and Coronary Bifurcation cases for use with its ANGIO Mentor endovascular training simulator. Watch a video of an ANGIO Mentor Advanced Coronary Interventions Simulation here.

In addition, the company's patient-specific cardiovascular anatomical models can be used to enhance planning in

complex procedures. 3DS' cardiovascular anatomical modeling service uses patient-

specific imaging data from CT or MR scans to design a patient-specific model that can be 3D printed in a variety of materials. These models are suitable for use as presurgical planning tools, educational resources, and benchtop fixtures for testing of instruments and implants.

"We have collaborated with 3D Systems to print 3D models of complex congenital heart disease," said Shafkat Anwar, MD and Assistant Professor of Pediatrics, Division of Cardiology at St. Louis Children's Hospital. "These models play an important role in patient care, from surgical planning to trainee and patient/family education. I believe 3D printing is a leap in the evolution of personalized medicine, and will hopefully improve patient outcomes. 3D Systems has been a vital partner for us in this initiative."

Life-size tactile heart models printed using 3DS' ColorJet Printing (CJP) technology enable a rich, full color 3D illustration of cardiac structures, making complex congenital heart defects easier to visualize and understand. At the same time, a growing number of doctors are using translucent models of vasculature with selective coloration of calcific deposits printed in Stereolithography (SLA) to prepare for surgical procedures and implants.



3DS Pediatric Heart Model showing congenital abnormalities

3DS offers an <u>end-to-end digital thread</u> that helps doctors achieve better patient outcomes by integrating surgical simulation, training, planning, and printing of anatomical models, surgical instruments and medical devices.

For a hands-on experience of our newest training modules and 3D printed heart models, stop by 3DS' booth at the upcoming <u>TCT exhibition</u> (Transcatheter Cardiovascular Therapeutics), October 12-14 in San Francisco. To find out more about 3DS' healthcare solutions and see how 3DS is manufacturing the future, visit

## www.3dsystems.com.

## **About 3D Systems**

3D Systems provides the most advanced and comprehensive 3D digital design and fabrication solutions available today, including 3D printers, print materials and cloud-sourced custom parts. Its powerful ecosystem transforms entire industries by empowering professionals and consumers everywhere to bring their ideas to life using its vast material selection, including plastics, metals, ceramics and edibles. 3DS' leading personalized medicine capabilities include end-to-end simulation, training and planning, and printing of surgical instruments and devices for personalized surgery and patient specific medical and dental devices. Its democratized 3D digital design, fabrication and inspection products provide seamless interoperability and incorporate the latest immersive computing technologies. 3DS' products and services disrupt traditional methods, deliver improved results and empower its customers to manufacture the future now.

## 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 and commercialized its patented, ground-breaking force-feedback haptic devices in 1993.
- 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 pioneered virtual surgical simulation (VSS<sup>™</sup>) and virtual surgical planning (VSP<sup>®</sup>) as part of its portfolio of leading 3D healthcare products and services.
- 3DS pioneered scan-based design with the release of the patented Geomagic Design X (XOR) software in 2006.

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 <u>www.3dsystems.com</u>.