

# PRESS RELEASE



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## **Triton Awarded Contract for Development of New Nanoparticle Optical Metamaterials**

**Chelmsford, MA - June, 2010** – Triton Systems, Inc. (Triton), a materials-based product development company announced it has been awarded a Defense Advanced Research Projects Agency (DARPA) contract for the research and development of a new family of optical metamaterials capable of imaging beyond the diffraction limit in the UV and visible spectrum. The \$900,000, two-year program is a continuation of previous work Triton completed on an earlier DARPA contract. Triton’s partner in the program is the University of Massachusetts Lowell.

Metamaterials is a revolutionary new technology of man-made materials which can control light in ways not possible with any naturally occurring substance. They allow light energy to flow in radically different patterns compared to conventional media such as glass. Applications expected for optical metamaterials include superlenses capable of much finer detail than conventional lenses and optical cloaking – coatings which make objects invisible by causing light to flow around them. Metamaterials are seen as an unprecedented new technology for the US military and commercial industries including microelectronics, fiber optic communications, and microscopy.

Until now however, optical metamaterials have been laborious to fabricate and scientists have only been able to make tiny laboratory samples, restricted to long wavelength light which could propagate only in one direction. Triton’s innovative nanoparticle approach is simpler, gives materials which are fully three-dimensional and work at shorter visible wavelengths, and can be fabricated in unlimited large areas. “Until now optical metamaterials have been a laboratory curiosity” said Dr. Ken Mahmud, Triton’s Chief Technology Officer. “Our nanoparticle approach make this technology practical, manufacturable, and commercially realistic for the first time.”

**About the Defense Advanced Research Projects Agency (DARPA) ([www.darpa.mil](http://www.darpa.mil))**

DARPA is the research and development office for the U.S. Department of Defense. DARPA’s mission is to maintain technological superiority of the U.S. military and prevent technological surprise from harming our national security. DARPA funds unique and innovative research through the private sector, academic and other non-profit organizations as well as government labs.

**About Triton Systems, Inc. (Triton) ([www.tritonsystems.com](http://www.tritonsystems.com))**

Triton Systems, Inc. (Triton) is an advanced materials and systems engineering product development firm headquartered near Boston, Massachusetts. Triton selectively combines US Government funds with private equity investments to transition ideas to the marketplace. Founded in 1992, Triton, along with its affiliates, has two locations in Massachusetts, a life science group in Berkeley, California, and a manufacturing site in Domat-EMS, Switzerland.