



# NVIDIA Receives DARPA Contract Worth up to \$20 Million for High-Performance Embedded Processor Research

## Research Aims to Achieve Radical Advances in Autonomous Vehicle Intelligence With 75-Fold Improvement in Processor Efficiency

SANTA CLARA, CA--(Marketwire - Dec 12, 2012) - NVIDIA has been awarded a contract worth up to \$20 million from the Defense Advanced Research Projects Agency (DARPA) to research embedded processor technologies that could lead to dramatic improvements in the ability of autonomous vehicles to collect and process data from on-board sensors.

DARPA is the U.S. Defense Department's research and development arm. The five-year contract, awarded under DARPA's Power Efficiency Revolution For Embedded Computing Technologies (PERFECT) program, will fund research for processors that are 75-times more energy efficient than current embedded solutions. The goal is to enable surveillance and computer vision systems in ground and airborne vehicles to collect and analyze vastly more data than can be processed today in real time.

Existing embedded processors deliver about 1 gigaflops of performance (1 billion floating point operations each second) per watt. The NVIDIA program, known as Project Osprey, will research low-power circuits and extremely efficient architectures and programming systems that enable 75 gigaflops per watt, using process technologies as advanced as 7 nanometer (nm) compared with today's 28-nm process.

"The technologies developed with this program can transform the capabilities of embedded systems, making autonomous vehicles more practical and intelligent," said Steve Keckler, senior director of Architecture Research at NVIDIA. "This research will help NVIDIA continue to advance mobile computing for both government and consumer applications."

Project Osprey will leverage NVIDIA's strengths in heterogeneous computing and parallel processing technology, which enable more efficient processing than traditional CPUs. NVIDIA® processors are used in a wide variety of embedded applications today, including automobiles made by Audi, BMW, Tesla and Lamborghini, aircraft including the F-22 Raptor, and U.S. Army tanks.

NVIDIA researchers will work on the program with academic partners at the University of Utah and the University of Virginia.

Project Osprey, which is now underway, could, combined with two optional additional phases, continue over the next five and one-half years.

For more information, visit the [DARPA PERFECT program](#) website.

### About NVIDIA

[NVIDIA](#) ( NASDAQ : NVDA ) awakened the world to computer graphics when it invented the [GPU](#) in 1999. Today, its [processors](#) power a broad range of products from [smartphones](#) to [supercomputers](#). NVIDIA's [mobile processors](#) are used in [cell phones](#), [tablets](#) and [auto infotainment systems](#). [PC gamers](#) rely on GPUs to enjoy spectacularly immersive worlds. Professionals use them to create [3D graphics](#) and visual effects in movies and to design everything from golf clubs to jumbo jets. And researchers utilize GPUs to advance the frontiers of science with [high performance computing](#). The company has more than 5,000 patents issued, allowed or filed, including ones covering ideas essential to modern computing. For more information, see [www.nvidia.com](http://www.nvidia.com).

Certain statements in this press release including, but not limited to, statements as to: the impact, performance, features and benefits of the technologies to be developed under Project Osprey, and the effects of the company's patents on modern computing, are forward-looking statements that are subject to risks and uncertainties that could cause results to be materially different than expectations. Important factors that could cause actual results to differ materially include: global economic conditions; our reliance on third parties to manufacture, assemble, package and test our products; the impact of technological development and competition; development of new products and technologies or enhancements to our existing product and technologies; market acceptance of our products or our partners products; design, manufacturing or software defects; changes in consumer preferences or demands; changes in industry standards and interfaces; unexpected loss of performance of our products or technologies when integrated into systems; as well as other factors detailed from time to time in the reports NVIDIA files with the Securities and Exchange Commission, or SEC, including its Form 10-Q for the fiscal period ended July 29, 2012. Copies of reports filed with the SEC are posted on the company's website and are available from NVIDIA without charge. These forward-looking statements are not guarantees of future performance and speak only as of the date hereof, and, except as required by law, NVIDIA disclaims any obligation to update these forward-looking

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