



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, Calif.—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.

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