



NVIDIA Unveils Palm-Sized, Energy-Efficient AI Computer for Self-Driving Cars

New DRIVE PX 2 to Provide In-Vehicle Driving, Mapping for Baidu's Autonomous Car

GTC China -- NVIDIA today unveiled a palm-sized, energy-efficient artificial intelligence (AI) computer that automakers can use to power automated and autonomous vehicles for driving and mapping.

The new single-processor configuration of the [NVIDIA® DRIVE™ PX 2 AI computing platform](#) for AutoCruise functions -- which include highway automated driving and HD mapping -- consumes just 10 watts of power and enables vehicles to use deep neural networks to process data from multiple cameras and sensors. It will be deployed by China's Baidu as the in-vehicle car computer for its self-driving cloud-to-car system.

DRIVE PX 2 enables automakers and their tier 1 suppliers to accelerate production of automated and autonomous vehicles. A car using the small form-factor DRIVE PX 2 for AutoCruise can understand in real time what is happening around it, precisely locate itself on an HD map and plan a safe path forward.

"Bringing an AI computer to the car in a small, efficient form factor is the goal of many automakers," said Rob Csongor, vice president and general manager of Automotive at NVIDIA. "NVIDIA DRIVE PX 2 in the car solves this challenge for our OEM and tier 1 partners, and complements our data center solution for mapping and training."

More than 80 automakers, tier 1 suppliers, startups and research institutions developing autonomous vehicle solutions are using [DRIVE PX](#). DRIVE PX 2's architecture scales from a single mobile processor configuration, to a combination of two mobile processors and two discrete GPUs, to multiple DRIVE PX 2s. This enables automakers and tier 1s to move from development into production for a wide range of self-driving solutions -- from AutoCruise for the highway, to AutoChauffeur for point to point travel, to a fully autonomous vehicle.

The new small form-factor DRIVE PX 2 will be the AI engine of the Baidu self-driving car. Last week at Baidu World, in Beijing, [NVIDIA and Baidu announced a partnership](#) to deliver a self-driving cloud-to-car system for Chinese automakers, as well as global brands.

"Baidu and NVIDIA are leveraging our AI skills together to create a cloud-to-car system for self-driving," said Liu Jun, vice president of Baidu. "The new, small form-factor DRIVE PX 2 will be used in Baidu's HD map-based self-driving solution for car manufacturers."

NVIDIA DRIVE PX is part of a broad family of NVIDIA AI computing solutions. Data scientists who train their deep neural networks in the data center on the [NVIDIA DGX-1™](#) can then seamlessly run on NVIDIA DRIVE PX 2 inside the vehicle. The same [NVIDIA DriveWorks](#) algorithms, libraries and tools that run in the data center also run in the car.

This end-to-end approach leverages NVIDIA's unified AI architecture, and enables cars to receive over-the-air updates to add new features and capabilities throughout the life of a vehicle.

Product Specifications

NVIDIA DRIVE PX 2 is powered by the company's newest system-on-a-chip, featuring a GPU based on the [NVIDIA Pascal™ architecture](#). A single [NVIDIA Parker system-on-chip](#) (SoC) configuration can process inputs from multiple cameras, plus lidar, radar and ultrasonic sensors. It supports automotive inputs/outputs, including ethernet, CAN and Flexray.

Availability

The new single-processor DRIVE PX 2 will be available to production partners in the fourth quarter of 2016. DriveWorks software and the DRIVE PX 2 configuration with two SoCs and two discrete GPUs are available today for developers working on autonomous vehicles. More information is available at www.nvidia.com/drive.

Keep Current on NVIDIA

Subscribe to the [NVIDIA blog](#), follow us on [Facebook](#), [Google+](#), [Twitter](#), [LinkedIn](#) and [Instagram](#), and view NVIDIA videos on [YouTube](#) and images on [Flickr](#).

About NVIDIA

[NVIDIA](#) (NASDAQ: [NVDA](#)) is a computer technology company that has pioneered GPU-accelerated computing. It targets the world's most demanding users -- gamers, designers and scientists -- with products, services and software that power amazing experiences in virtual reality, artificial intelligence, professional visualization and autonomous cars. More information at <http://nvidianews.nvidia.com/>.

Certain statements in this press release including, but not limited to, statements as to: the features, impact, performance,

benefits and availability of the NVIDIA DRIVE PX 2; and the deployment of the NVIDIA DRIVE PX 2 by Baidu 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 year ended July 31, 2016. 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 statements to reflect future events or circumstances.

© 2016 NVIDIA Corporation. All rights reserved. NVIDIA, the NVIDIA logo, NVIDIA DRIVE, DGX-1, and Pascal are trademarks and/or registered trademarks of NVIDIA Corporation in the U.S. and other countries. Other company and product names may be trademarks of the respective companies with which they are associated. Features, pricing, availability and specifications are subject to change without notice.