

NVIDIA, ZF and Baidu Launch Industry's First AI Autonomous Vehicle Computer for China

NVIDIA DRIVE Xavier Powers ZF ProAI with Baidu Apollo Pilot

CES--NVIDIA, ZF and Baidu today announced that they are creating a production-ready AI autonomous vehicle platform designed for China, the world's largest automotive market.

At the opening press conference of CES 2018, NVIDIA founder and CEO Jensen Huang said that the collaboration is based on the new NVIDIA DRIVE Xavier™, ZF's new ProAI car computer and Baidu's Apollo Pilot, an autonomous driving product targeted for mass production.

"NVIDIA and Baidu have pioneered significant advances in deep learning and AI together over the last several years," said Huang. "Now, together with ZF, we have created the first AI autonomous vehicle computing platform for China."

China makes up 30 percent of the global passenger vehicle market. Each of the three companies brings unique technologies together to serve this massive opportunity.

NVIDIA DRIVE Xavier, available this quarter, is the autonomous machine processor at the heart of this functionally safe system. The world's most complex and advanced SoC, it is capable of performing 30 deep learning TOPS (trillions of operations per second), using only 30 watts of power. In addition to its extreme efficiency, Xavier also enables rich, diverse I/O connections to many different types of sensors.

As one of the world's top automotive suppliers, Germany-based ZF brings expertise for system integration of the car computer and the sensors. ZF's new Xavier-based ProAI will process inputs from multiple cameras, plus lidar and radar, paint a 360-degree view around the vehicle, locate it on an HD map, and find a safe path through traffic.

"Our scalable and modular approach enables us to upgrade to our new ProAI based on NVIDIA DRIVE Xavier, and integrate the Baidu Apollo Pilot. Our second generation ZF ProAI could be customized accordingly and scaled up with a Xavier board, which is available to be implemented," said Torsten Gollewski, senior vice president of Advanced Engineering at ZF Friedrichshafen AG.

Baidu's Apollo open autonomous driving platform provides a comprehensive, secure and reliable all-in-one solution that supports all major features and functions of an autonomous vehicle. Apollo Pilot is an autonomous driving product targeted for mass production, which provides a safe, economical and comfortable autonomous driving experience. It's built on Baidu's technology and insight from the driving behaviors of Chinese users.

"NVIDIA's AI supercomputing architecture is ideal for our autonomous driving applications, as it can process huge amounts of data from sensors in real time, and localize the vehicle on our high-definition digital maps," said Zhenyu Li, vice president and general manager of the Intelligent Driving Group at Baidu. "We've been working with NVIDIA on developing on-vehicle chips for autonomous driving, which aims to accelerate the pace of mass production of autonomous vehicles."

This solution is created not only for Chinese automakers, but any vehicle maker planning to do business in China, and can scale from super Level 2 automated driving capabilities to Level 5 fully autonomous robotaxis. Production vehicles utilizing AI self-driving technologies from NVIDIA, ZF and Baidu are expected on the roads of China starting in 2020.

About Baidu

Baidu, Inc. is the leading Chinese language Internet search provider. Baidu aims to make a complex world simpler through technology. Baidu's ADSs trade on the NASDAQ Global Select Market under the symbol "BIDU". Currently, 10 ADSs represent one Class A ordinary share.

About ZF Friedrichshafen AG

ZF is a global leader in driveline and chassis technology as well as active and passive safety technology. The company has a global workforce of around 137,000 with approximately 230 locations in some 40 countries. ZF allows vehicles to see, think and act. With its technologies, the company is striving for Vision Zero - a world of mobility without accidents and emissions. With its broad portfolio, ZF is advancing mobility and services in the automobile, truck and industrial technology sectors. ZF is one of the largest automotive suppliers worldwide.

About NVIDIA

[NVIDIA's](http://nvidianews.nvidia.com/) (NASDAQ:NVDA) invention of the GPU in 1999 sparked the growth of the PC gaming market, redefined modern computer graphics and revolutionized parallel computing. More recently, GPU deep learning ignited modern AI — the next era of computing — with the GPU acting as the brain of computers, robots and self-driving cars that can perceive and understand the world. More information at <http://nvidianews.nvidia.com/>.

Certain statements in this press release including, but not limited to, statements as to: the impact and benefits of NVIDIA's collaboration with ZF and Baidu; the benefits, abilities and performance of NVIDIA's Xavier, ZF's ProAI and Baidu Apollo Pilot; and the expected date of use for production vehicles using AI self-driving technologies 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 October 29, 2017. 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.

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Media Contacts

Fazel Adabi

+1 408 486 8701

fadabi@nvidia.com