

Volkswagen and NVIDIA to Infuse AI into Future Vehicle Lineup

VW I.D. Buzz to Use NVIDIA DRIVE IX Technology for AI Co-Pilot Capabilities

CES--Volkswagen and NVIDIA today shared their vision for how AI and deep learning will shape the development of a new generation of intelligent Volkswagen vehicles using the NVIDIA DRIVE™ IX platform to create new cockpit experiences and improve safety.

At the kickoff of CES 2018, Volkswagen CEO Herbert Diess and NVIDIA founder and CEO Jensen Huang discussed on stage how AI is transforming the auto industry and highlighted the new I.D. Buzz, Volkswagen's exciting rebirth of the iconic VW MicroBus, reimagined in electric car form and infused with AI technology for the cockpit and self-driving.

"Artificial intelligence is revolutionizing the car," Diess said. "Autonomous driving, zero-emission mobility and digital networking are virtually impossible without advances in AI and deep learning. Combining the imagination of Volkswagen with NVIDIA, the leader in AI technology, enables us to take a big step into the future."

"In just a few years, every new vehicle will be expected to have AI assistants for voice, gesture and facial recognition as well as augmented reality," Huang said. "Volkswagen's work with NVIDIA DRIVE IX technology will make that a reality. Together, we are building a new generation of cars that are safer, more enjoyable to ride in than anything that has come before, and accessible to everyone."

The NVIDIA DRIVE IX Intelligent Experience platform is a software development kit for creating AI-enabled applications such as facial recognition for automatically unlocking and opening the vehicle, surround perception to alert the driver to potential hazards, gesture recognition for user controls, natural language understanding for flawless voice control, and gaze tracking for driver distraction alerts.

Focus on Intelligent Co-Pilot Capabilities

The VW I.D. Buzz will use DRIVE IX technology to create "Intelligent Co-Pilot" applications, which will include convenience and assistance systems based on processing sensor data from both inside and outside of the car. The systems can be enhanced throughout the life of the vehicle via software updates, and can gain new capabilities as further developments are made in autonomous driving. Thanks to deep learning, the car of the future will learn to accurately assess situations and analyze the behavior of others on the road, enabling it to make the right decisions.

Volkswagen's Path to Autonomous Driving

The I.D. Buzz is part of the I.D. family¹ with which Volkswagen will launch its electric car campaign and gradually introduce autonomous driving starting in 2020. More than 20 fully electric vehicle models are planned by 2025, as the automaker works toward its goal of becoming the world leader in this area.

These new models are based on the completely new MEB car architecture that is consistently geared toward zero-emission, digital mobility and making use of the electric drive's overall package benefits. Using a battery that is integrated flat in the chassis floor and a compact drive system, they offer a generous and highly variable interior. To this end, pioneering technologies are available from the electric compact car segment, such as the operating concept featuring an augmented-reality head-up display.

From the start, the models based on the MEB architecture will offer the very latest assistance systems and will be prepared for the respective levels of autonomous driving that are available. The MEB electronic systems will also be gradually introduced to vehicles with conventional drive systems that are based on the MQB architecture.

Recognition of Companies' Leadership

"NVIDIA is not just at the forefront of developing GPUs and cloud computing, but is also the market leader for AI computing in cars," said Roger Lancot, director at Strategy Analytics. "The combination of NVIDIA and Volkswagen has the potential to bring this level of AI capability to everyone. VW I.D. Buzz, with its exciting AI user interfaces, self-driving and improved driver safety, is a sign of the future all of us can imagine."

About VW

About the Volkswagen brand: "We make the future real" The Volkswagen Passenger Cars brand is present in more than 150 markets throughout the world and produces vehicles at over 50 locations in 14 countries. In 2016, Volkswagen produced about 5.99 million vehicles, including best-selling models such as the Golf, Tiguan, Jetta and Passat. Currently, 196,000 people work for Volkswagen across the globe. The brand also has 7,700 dealerships with 74,000 employees. Volkswagen is forging ahead consistently with the further development of automobile production. E-mobility, Smart mobility and the digital transformation of the brand are the key strategic topics for the future.

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/>.

1. The I.D., I.D. CROZZ and I.D. BUZZ concept vehicles have not gone on sale, and therefore Directive 1999/94 EC does not apply.

Certain statements in this press release including, but not limited to, statements as to: the benefits and impact of NVIDIA and Volkswagen working together; how AI is transforming the auto industry and revolutionizing the car; the timing and capabilities for AI assistants in new vehicles; the creation of a new generation of cars that are safer and more enjoyable; the potential benefits, performance and abilities of new car technology systems, including Intelligent Co-Pilot capabilities; possible AI-enabled features in future cars based on the NVIDIA Drive IX Intelligent Experience platform; Volkswagen's launch of, investment in and goals for its electric car campaign and introduction of autonomous vehicles by 2020; and the benefits and features of the MEB car architecture 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