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Next generation pure electric Volvo comes with LiDAR technology and AI-driven super computer as standard to help save lives

Volvo Cars’ forthcoming fully electric flagship SUV will have industry-leading safety technology as standard, helping to save even more lives as the company sets a new benchmark for automotive safety.

The fully electric successor to Volvo Cars’ XC90, to be revealed in 2022, will come with state-of-the-art sensors, including LiDAR technology developed by Luminar and an autonomous driving computer powered by the NVIDIA DRIVE Orin™ system-on-a-chip, as standard.

By combining this state-of-the-art hardware with Volvo, Zenseact and Luminar software for the next generation of its well-established collision avoidance technology, Volvo Cars aims to reduce fatalities and accidents as a whole with this new safety package.

“Volvo Cars is and always has been a leader in safety. It will now define the next level of car safety,” said Håkan Samuelsson, chief executive. “By having this hardware as standard, we can continuously improve safety features over the air and introduce advanced autonomous drive systems, reinforcing our leadership in safety.”

With the new safety package, Volvo Cars aims to reduce collisions and the reduction rate is anticipated to accelerate over time via over-the-air software updates. The new technologies are also designed to specifically address those traffic situations which result in a large portion of remaining severe injuries and fatalities found today.

“In our ambition to deliver ever safer cars, our long-term aim is to achieve zero collisions and avoid crashes altogether,” said Henrik Green, chief technology officer. "As we improve our safety technology continuously through updates over the air, we expect collisions to become increasingly rare and hope to save more lives.”

Once introduced, the technology is expected to mature over time, becoming more capable and allowing the car to assist and improve the capabilities of a human driver in safety critical situations. Whereas previous generations of technology largely relied on warning the driver for potential immediate threats, this new safety technology will over time increasingly intervene as needed to prevent collisions.

While saving lives and preventing injury remains the company’s first priority, Volvo Cars also sees a potential added benefit of lower insurance costs as car crashes involving Volvo cars become increasingly rare. A Care package, standard on all fully electric Volvo cars, includes insurance coverage where available.

Beyond the sensor suite and AI computing performance, Volvo’s forthcoming flagship model will also come with back-up systems for key functions such as steering and braking that make it hardware ready for safe, unsupervised autonomous driving once available.

These back-up systems alongside LiDAR, compute and software will enable the Highway Pilot functionality, developed in-house together with Volvo Cars’ autonomous driving software development company Zenseact. An autonomous driving feature for use on motorways, the
optional Highway Pilot will be activated for customers when verified safe and legally allowed for individual geographic locations and conditions.

Earlier this year, Volvo Cars announced it will use NVIDIA technology to centralise computing. The core computer and autonomous drive computer both powered by NVIDIA technology allow its cars to become safer, more personal, and more sustainable over time through over the air updates, while also providing it with the computing power required for vision and LiDAR processing.

The new safety technology illustrates Volvo Cars’ belief in working together with technology leaders such as Luminar, NVIDIA and Zenseact as it strives to deliver the best and safest possible cars to its customers. These and other partnerships provide Volvo Cars with the technology base to be one of the fastest-moving companies in a rapidly transforming industry.

Volvo Cars will reveal more details on its future technology roadmap at the Volvo Cars Tech Moment, to be held on June 30.

Volvo Car Group in 2020
For the 2020 financial year, Volvo Car Group recorded an operating profit of 8.5 BSEK (14.3 BSEK in 2019). Revenue over the period amounted to 262.8 BSEK (274.1 BSEK). For the full year of 2020, global sales reached 661,713 cars (705,452), a decline of 6.2 per cent compared to 2019.

About Volvo Car Group
Volvo Cars was founded in 1927. Today, it is one of the most well-known and respected car brands in the world with sales of 661,713 cars in 2020 in about 100 countries. Volvo Cars has been under the ownership of the Zhejiang Geely Holding since 2010.

As of December 2020, Volvo Cars employed approximately 40,000 (41,500) full-time employees. Volvo Cars head office, product development, marketing and administration functions are mainly located in Gothenburg, Sweden. Volvo Cars head office for APAC is located in Shanghai. The company’s main car production plants are located in Gothenburg (Sweden), Ghent (Belgium), South Carolina (US), Chengdu and Daping (China), while engines are manufactured in Skövde (Sweden) and Zhangijakou (China) and body components in Olofström (Sweden).

Under its new company purpose, Volvo Cars aims to provide customers with the Freedom to Move in a personal, sustainable and safe way. This purpose is reflected into a number of business ambitions: for example, by the middle of this decade it aims for half of its global sales to be fully electric cars and to establish five million direct consumer relationships. Volvo Cars is also committed to an ongoing reduction of its carbon footprint, with the ambition to be a climate-neutral company by 2040.

Keywords:
Sustainability, Press Releases, Connectivity, Electrification

Descriptions and facts in this press material relate to Volvo Cars’ international car range. Described features might be optional. Vehicle specifications may vary from one country to another and may be altered without prior notification.
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Earlier this year, Volvo Cars announced it will use NVIDIA technology to centralise computing. The core computer and autonomous drive computer both powered by NVIDIA technology allow its cars to assist and improve the capabilities of a human driver in safety critical situations. Whereas previous generations of technology largely relied on warning the driver for impending collisions, the new safety system continuously monitors the surrounding environment, allowing it to act autonomously to stop the car if necessary.

By having this hardware as standard, we can also design the software to continuously improve in a safe manner. Since the hardware is present from the start, we can use it to continuously learn and improve over time.

The core computer is also designed to specifically address those traffic situations which result in a large portion of accidents and fatalities as a whole with this new safety package. Anticipated to accelerate over time via over-the-air software updates, the new technologies are also designed to specifically address those traffic situations which result in a large portion of collisions.

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The AI-driven super computer will be an optional feature. Vehicle specifications may vary from one country to another and may be altered without prior notification.

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