

Press Release

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The new, fully electric ES90 – defined by software and built on our Superset tech stack

- The new Volvo ES90 is software-defined and based on our Superset tech stack, a single set of hardware and software modules underpinning all future electric Volvo cars
- Equipped with a dual NVIDIA DRIVE AGX Orin configuration, the ES90 is the most powerful car Volvo ever created in terms of core computing capacity
- The ES90 is designed to continuously evolve and improve over time, allowing us to further raise the bar in areas like safety, connectivity, and overall performance

We are only weeks away from launching our next fully electric model. The soon-to-be-revealed Volvo ES90 further exemplifies our approach around the software-defined car and is designed to continuously evolve and improve through core computing technology, constant connectivity and data. In short, it is a car designed for safe and enjoyable journeys every day.

The ES90 is the first Volvo car to be equipped with a dual NVIDIA DRIVE AGX Orin configuration, making it the most powerful car we have ever created in terms of core computing capacity. This allows us to further raise the bar on safety and overall performance through data, software and AI.

DRIVE AGX Orin is NVIDIA's core computer for intelligent cars that orchestrates various essential systems and processes inside the car at ultra-fast speeds. With a high level of computational power – around 508 trillion operations per second (also known as TOPS) – it manages functionalities such as AI-based, state-of-the-art active safety features, car sensors and efficient battery management.

The NVIDIA DRIVE AGX Orin-powered primary core computer provides an eightfold improvement in AI compute performance compared with DRIVE AGX Xavier, enabling us to gradually increase the size of our deep learning model and neural network from 40 million to 200 million parameters. This will happen over time as we collect more data and continue to develop the model, with the overall goal of improving customer experience and – most importantly – safety levels.

A truly software-defined car designed to improve with time

The ES90 is built on our SPA2 architecture and is the second car based on the Volvo Cars Superset tech stack, following the EX90. The Superset tech stack consists of one single set of hardware and software modules and systems that underpin all our upcoming electric cars.

It represents a radical transformation in how we can develop and use software to improve our levels of safety, technology and overall performance throughout the car's lifecycle. With the Superset tech stack, we can make such improvements more efficiently and roll them out even faster via over-the-air updates and across all models based on the Superset.

Such updates might include new connectivity features, safety improvements and other enhancements that can elevate the performance of the car, such as a better battery range for your car for certain driving behaviours. Continuous improvement via regular over-the-air updates now comes as standard on your Volvo car.

And as the Superset tech stack underpins all our upcoming electric cars, we can boost the performance of each car in our lineup simultaneously, so that ES90 customers benefit from EX90 software upgrades and vice versa. That means software now replaces hardware as the primary

driver of innovation and value creation for our customers.

“The Volvo ES90 is one of the most technically advanced cars on the market today and is designed to be improved further with time,” says Anders Bell, our chief engineering and technology officer. “Built on our state-of-the-art Superset tech stack, the ES90 puts safety at the forefront.”

Safe Space Technology designed to protect and care for you

The ES90 combines an exceptional understanding of its surroundings through an advanced array of sensors, which includes one lidar, five radars, seven cameras and twelve ultrasonic sensors, as well as an advanced driver understanding system inside the car. These safety systems are designed to help keep you safe by detecting obstacles, even in darkness, and activating proactive safety measures, such as collision avoidance.

It's what we call our Safe Space Technology – everything we put in a car is meant to build a safe space for everyone in and around the car, and technology helps us make that happen. Our Safe Space Technology is designed to help avoid accidents and hazards on the road, with the aim of making your everyday journey safer and more enjoyable.

“We innovate in all areas of technology to become a leader in software-defined cars, and we're channelling all our engineering efforts into one direction: making great cars that get even better over time,” says Anders Bell. “By combining the power of core computing and our Superset tech stack, we can now make safer cars more efficiently than ever before.”

For ES90 customers, all this translates into a premium Volvo car that is designed to keep you safe and give you quality time with the people you love. We have designed cars that place people first for nearly 100 years. We always use technology with purpose, equipping our cars with the right amount of tech to ensure a comfortable and safe ride. As such, the ES90 is designed to provide you with the mental peace and balance we all need in our hectic lives.

Future implementation for existing customers

The dual NVIDIA DRIVE AGX Orin configuration will also be implemented on EX90 cars, upgrading its current version which includes DRIVE AGX Orin and DRIVE AGX Xavier, in line with our philosophy of continuous improvement.

This is a tangible example of how our Superset tech stack approach allows us to upgrade the hardware of our cars as new technologies become available. Existing customers of the EX90 will get an upgrade of their cars free of charge.

The all-new Volvo ES90 will be revealed to the world on 5 March 2025. Follow the livestream via es90event.volvocars.com

Volvo Cars in 2024

For the full year 2024, Volvo Car Group recorded a record-breaking core operating profit of SEK 27 billion. Revenue in 2024 amounted to an all-time high of SEK 400.2 billion, while global sales reached a record 763,389 cars.

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 to customers in more than 100 countries. Volvo Cars is listed on the Nasdaq Stockholm exchange, where it is traded under the ticker “VOLCAR B”.

"For life. To give people the freedom to move in a personal, sustainable and safe way." This purpose is reflected in Volvo Cars' ambition to become a fully electric car maker and in its commitment to an ongoing reduction of its carbon footprint, with the ambition to achieve net-zero greenhouse gas emissions by 2040.

As of December 2024, Volvo Cars employed approximately 42,600 full-time employees. Volvo Cars' head office, product development, marketing and administration functions are mainly located in Gothenburg, Sweden. Volvo Cars' production plants are located in Gothenburg, Ghent (Belgium), South Carolina (US), Chengdu, Daqing and Taizhou (China). The company also has R&D and design centres in Gothenburg and Shanghai (China).

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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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