

Hyundai Motor Group unveils next-generation hybrid propulsion system

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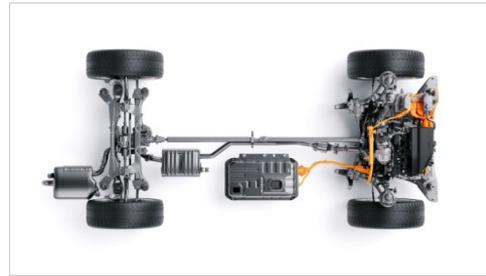
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Hyundai Motor Group has unveiled its next-generation hybrid powertrain system, which features a new transmission with two integrated motors that can be paired flexibly with a range of internal combustion engines, allowing for optimized performance and fuel efficiency across a range of vehicle classes, Hyundai announced April 21.



Source: Hyundai Motor Group

The South Korean carmaker said that it plans to offer a range of products that will be powered by its new hybrid powertrain system.

Hyundai said that the transmission includes a new P1 motor that handles starting, battery energy generation and energy deployment to assist propulsion. The transmission's P2 driving motor is responsible for propulsion and regenerative braking.

The company said that the integrated dual-motor setup improves power, performance and fuel efficiency while achieving smooth shifting and reduced noise and vibrations for a more refined driving experience.

Hyundai plans to flexibly pair the transmission with internal combustion engines (ICEs) powering the Group's lineup, delivering a system output from the low-100 PS range to the mid-300 PS region, allowing for broad application from subcompact to large vehicles.

In this context, the first powertrain that Hyundai plans to pair the next-generation hybrid system with will be the newly developed gasoline 2.5-liter turbo hybrid unit. The company also disclosed that it plans to have a new, next-generation gasoline 1.6-liter turbo hybrid powertrain paired with the propulsion system.

Elaborating on how the propulsion system will operate, Hyundai said that the 2.5-liter gasoline engine's starting and generating tasks will be reassigned to the newly added P1 motor, helping the turbo hybrid powertrain in minimizing power losses.

Moreover, the transmission and engine enhancements are aimed at improving the fuel efficiency and driving experience.

Hyundai said that its gasoline 2.5 turbo hybrid system used in the all-new Palisade sport utility vehicle delivers maximum fuel efficiency of 14.1 kilometers per liter (km/l), a maximum system output of 334 PS, and maximum torque of 460 Newton meters (N.m), offering approximately 45% greater fuel efficiency, 19% more maximum power, and a 9% improvement in maximum torque compared to a 2.5 turbo gasoline model.

Meanwhile, the next-generation gasoline 1.6 turbo hybrid improves fuel efficiency by more than 4% in a midsize SUV compared with previous models, increasing the system's maximum rated torque output from 367 N.m to 380 N.m and improving acceleration response.

"We have developed an innovative new hybrid system that integrates our long-accumulated engine, transmission and hybrid system development experience with the electrification technology applied to our world-class electric vehicles," said Dong Hee Han, executive vice president and head of

Electrified Propulsion Test Center, Hyundai Motor Group. “We will continue to develop innovative technologies that actively utilize electrification capabilities during the transition to EVs, providing customers with eco-friendly vehicles that offer superior performance.”

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