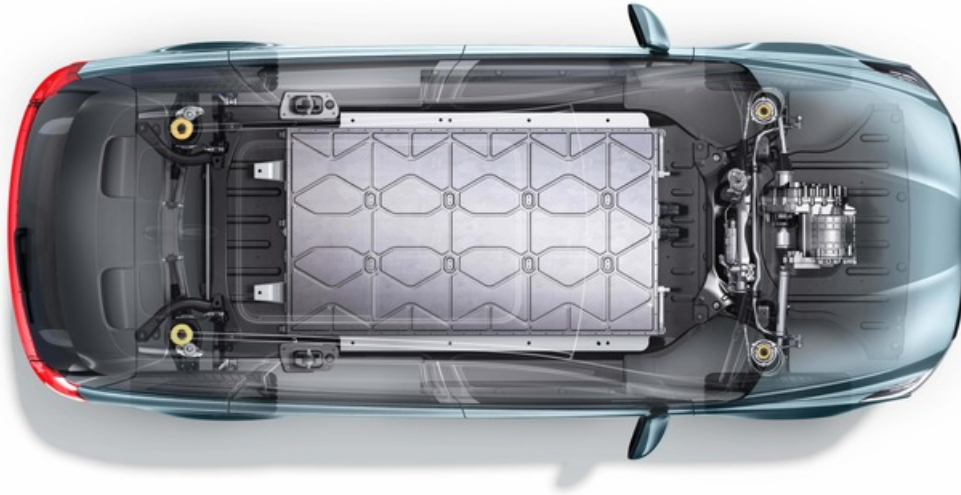


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Technical advantage: Aiways U5 SUV with innovative lightweight design



Shanghai/Munich (ots) -

Battery-electric vehicles score with lower operating costs compared with conventionally powered ones. In developing the U5 SUV, Aiways placed particular focus on intelligent lightweight construction, an efficient powertrain and the best possible thermal management of the battery to keep energy requirements as low as possible.

The MAS (More Adaptable Structure) platform developed by Aiways, a Shanghai-based provider of customized mobility solutions, combines innovative technical solutions to create an intelligent architecture. For example, the body-in-white of the Aiways U5 SUV is made of 52 percent lightweight and corrosion-resistant aluminum and 48 percent specially alloyed high-strength steels.

MAS platform with intelligent aluminum-steel lightweight material mix

These are up to four times stronger than conventional special steels used in vehicle construction and ensure maximum safety. Innovative bonding and joining techniques in the body-in-white mean that the torsional stiffness of the aluminum substructure is 50 percent higher than with conventional construction methods. In addition to the Aiways U5 SUV, the U6 SUV-Coupé, which will soon be making its debut, and other models will also be based on this flexibly adaptable platform.

Patented sandwich structure of the high-voltage battery with intelligent thermal management

The MAS platform is also distinguished by its pioneering battery architecture. A patented sandwich structure not only ensures high crash safety for the 24 battery modules supplied by CATL, but also enables the use of an intelligent thermal management system to increase the efficiency of the high-voltage system. A multilayer insulating protective layer separates the battery modules in the dry zone from the cooling plates in the wet zone. This not only increases efficiency but also the operational reliability of the lithium-ion battery, which can be optimally cooled or preheated thanks to the sandwich structure. The thermal management system of the Aiways U5 SUV thus enables operation at the best point of the 63 kWh pack at all times, which helps to ensure a long service life. Aiways guarantees 75 percent residual battery capacity even after eight years of operation. With a power density of 172 watt-hours per kilogram, the high-voltage battery is also among the top performers in its segment.

High-speed permanent magnet synchronous electric motor saves weight and installation space

The engineers at the Aiways Research Center in Jiading also used lightweight designs for the drive system. The permanent magnet synchronous electric motor developed in-house, for example, rotates at 16,000 rpm, about 25 percent higher than the machines used by competitors. It can therefore be smaller and lighter. The drive unit consisting of electric motor, gearbox and inverter generates an advantage of a good 15 percent less installation space and weight and can also be used in a modular fashion. In addition to installation in the front of the vehicle and front-wheel drive with 150kW and 310Nm as in the Aiways U5 SUV, it is also

possible to configure a rear-wheel drive and an all-wheel drive based on the MAS platform.

Best-in-class curb weight ensures high efficiency and low wear and tear

The intelligent aluminum-steel lightweight material mix, combined with the innovative sandwich battery and compact electric drive unit, ensures an unladen weight of just 1,720 kg in the standard version of the Aiways U5 SUV. This not only makes it up to 350kg lighter than competing models in its class, it is actually lighter than many conventionally powered mid-size SUVs. The low weight not only ensures low energy consumption, but also high economy thanks to reduced wear. Components such as brakes, tires or chassis bearings are subjected to less stress than in other vehicles in its class due to the relatively light curb weight.

About Aiways

Founded in 2017, Aiways is a Shanghai-based personal mobility provider with its European HQ in Munich, Germany. It was the first Chinese start-up to introduce an electric vehicle to the European market with the launch of the U5 in 2020 – a battery-electric SUV with impressive range, style, and quality. Aiways is rapidly continuing its expansion in Europe and beyond: order books are open in Germany, Netherlands, Belgium, Denmark, France, Israel, Switzerland, Spain, Portugal, Italy, Sweden, Croatia, Faroe Islands, Iceland, and Slovenia – with more markets to follow. The U5 SUV is produced at Aiways' smart production facility in Shangrao – one of the most modern car production facilities in China. The IT-controlled processes with challenging quality gates follow the standards of Industry 4.0. With an initial production capacity of 150,000 units per annum, Aiways can increase this number to 300,000 units when global EV demand rises. Aiways' next model for Europe will be the battery-electric U6 SUV-Coupé. With a focus on sophisticated aerodynamics, highly connected driving, safety technology, and a sporty design, the U6 SUV-Coupé is just the next chapter of Aiways' promising future.

Press Releases & Media Assets

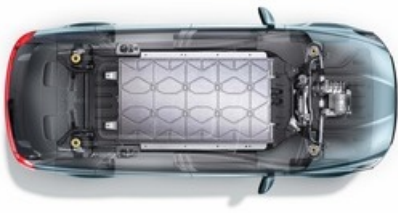
Aiways press material and an extensive selection of high-resolution photos and videos can be downloaded from the press portal <https://media.ai-ways.eu/>.

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Medieninhalte



Intelligent and economical: Thanks to pioneering technologies in body-in-white construction and drive architecture, the Aiways U5 SUV weighs 350kg less in comparison to its competitors / Editorial use of this picture is free of charge. Please quote the source: "obs/Aiways Automobile Europe GmbH"

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