

BLUE NEXUS RECEIVES AN INTERNATIONAL GRAND PRIX FOR INNOVATION

Paris, October 2022 – During the 2022 edition of the Equip Auto Paris show, BluE Nexus has the honor of receiving one of the 7 Automotive Innovation Awards 2022. The award-winning product, the eAxe, is an electric driving module for electric vehicles that integrates a motor, an inverter and a transaxle. This innovative product increases the mileage of electric vehicles.

Every 2 years, the “Automotive Grand Prix for Innovation” competition is organized in parallel with the Equip Auto Paris show. On this occasion, exhibitors are invited to submit to the jury composed of journalists their innovative solutions in one of the 7 categories proposed. It is in this context that AISIN EUROPE SA presented in the category “Original equipment and tires” the innovation of BluE Nexus of which AISIN is one of the founding members: the eAxe.

A winner in its class, this product is proven to improve electric mileage in electric battery powered motor vehicles. It fully embodies the initiatives of BluE Nexus for the reduction of carbon emissions.



THE BEGINNING OF BLUE NEXUS

BluE Nexus was established on April 2019 to develop and sell electric systems and driving modules. By combining the strengths of AISIN, DENSO and TOYOTA in electrification, BluE Nexus aims to further develop and popularize electric vehicles and to help realize a carbon neutral society by meeting the needs of customers around the world.

For this, BluE Nexus can rely on the expertise of AISIN, who has developed and produced more than 5 million electric units since the launch of its first hybrid transmission in 2004. Moreover, it benefits from the know-how of DENSO, who has designed and produced more than 20 million inverters since the launch of the first Prius in 1997. To develop the first eAxe, BluE Nexus was able to use its knowledge of component optimization and modularization, as well as its ability to adapt to a wide variety of vehicles.

BLUE NEXUS' E-AXLE, THE KEY TO ELECTRIFYING VEHICLES

Adopted on Toyota's "bZ4X" in April, BluE Nexus's eAxe is an electric driving unit that integrates a motor, an inverter and a transaxle. Available in three variants (a 150kW specification (front) for FWD vehicles and 80kW specifications (front and rear) for 4WD vehicles) it increases the driving pleasure and allows the optimization of mileage of electric vehicles.

This product has achieved excellent dynamic performance and high torque by increasing output density. Optimizing cooling inside the eAxe utilizing simulations and technologies nurtured so far, adapting heat management technology and improving the double-sided cooling technology for inverter layers help to increase output density.

Furthermore, top-class electric mileage has also been achieved through the optimal magnetic design of the motor, the joining technology to shorten coil ends, low-viscosity oil for the eAxle, and loss reduction technologies such as the new RC-IGBT.

Moreover, the eAxle has been significantly downsized through our technologies, including a built-in structure that incorporates an inverter into the transaxle, a downsized motor, and the shortened distance between the shafts by adopting an output shaft. The eAxle to be mounted in the front of a vehicle has a reduced longitudinal length, and the one to be mounted in the rear of a vehicle has a reduced height, helping expand the passenger and luggage compartment spaces.



eAxle (150 kW)



eAxle (80 kW)

BluE Nexus, AISIN, DENSO and TOYOTA will continue to develop compact, highly efficient, low-cost products by leveraging their respective strengths and know-how. The companies will also contribute to the realization of a carbon neutral society through by installing products in electric vehicles of every description via BluE Nexus.