Nidec Advance Technology Corporation

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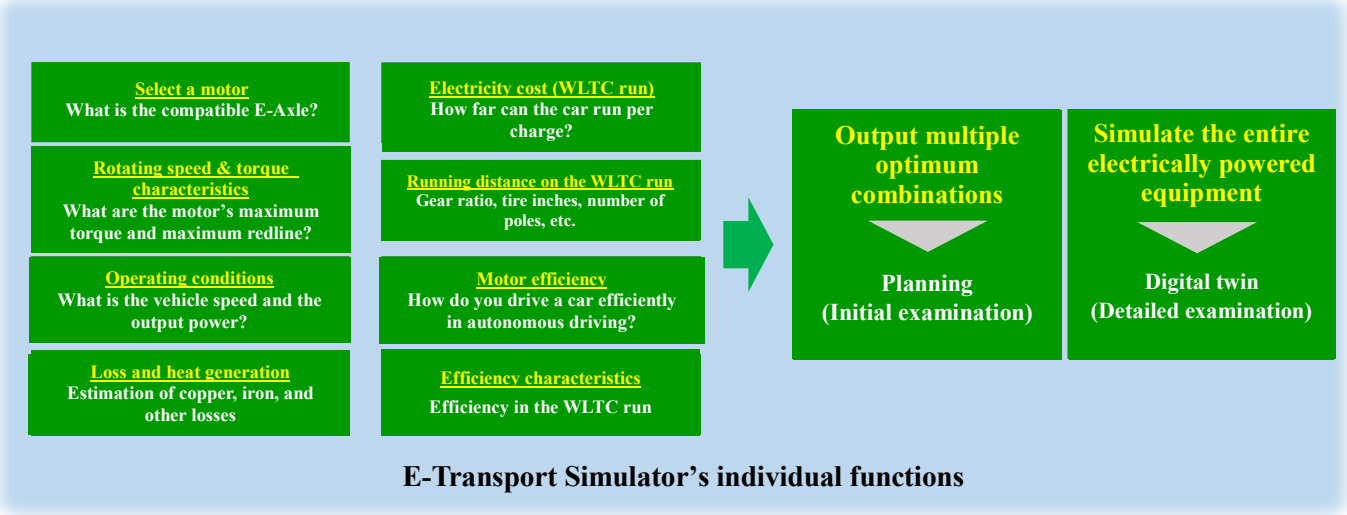
Nidec Advance Technology Develops E-Transport Simulator, a New xEV Modeling Simulator to Optimize xEV Device's Components

Nidec Advance Technology Corporation ("Nidec Advance Technology" or the "Company"), a Nidec Group company, announced today that it has developed E-Transport Simulator, an integrated simulation tool to support the designing and analysis of *xEV (electric vehicles).

This tool performs, during xEV development, a simulation of an entire electric vehicle, including the individual characteristics of the E-Axle, which houses an automotive drive motor, a gear, an inverter, and other components. This function enables the tool's users to propose, among others, motors and components that match the vehicle's conditions and running environment, while shortening the time for motor test via detailed calculation, and improving the efficiency of the calculation-result gap analysis.

Functions can be added easily to this tool, which can perform simulations on drones, eVTOL aircrafts, flying vehicles, trains, airplanes, vessels, and other vehicles that supply and generate electricity.



E-Transport Simulator's individual functions

How the Company developed E-Transport Simulator

Automobile electrification, growing worldwide, requires the optimization of an entire car as a single system, not the development of a vehicle's individual components. Nidec Advance Technology has developed E-Transport Simulator for the purpose of creating and optimizing a digital twin of an entire electric vehicle, instead of making such a digital twin of its individual components.

E-Transport Simulator's features

Installed with AI that searches for optimum parameter solutions for multiple components, E-Transport Simulator performs detailed calculation to generate an electric vehicle's digital twin, while making multiple proposals on efficient combinations of various motors, inverters, batteries, bodies, and other components. These features enable E-Transport Simulator's users to examine an entire electric vehicle's characteristics in the early phases of product development.

Effects that E-Transport Simulator can bring

With the combination of the overall optimization and the use of actual components, E-Transport Simulator can be used in all EV development phases, from the start-up phase to detailed assessment, while the tool can shorten product development time significantly, and reduce prototype development costs.

Expansion of E-Transport Simulator's scope of application and future usages

In anticipation of the expansion of E-Transport Simulator's scope of application, Nidec Advance Technology plans to

add such functions as multiple-motors analysis and new-structure motor analysis, while discussing how to meet its customers' customizing needs and how to integrate the tool with the Company's motor bench, to significantly reduce the time required for characteristic analysis.

The Nidec Group stays committed to selling internally produced products developed with the use of its inspection apparats-related technologies, to optimize an entire system by saving motors' energy for better electricity consumption, and to proposing revolutionary solutions that contribute to reducing the Earth's environmental load.

*xEV: A term for electric vehicles in general, including battery electric vehicle (BEV), hybrid electric vehicle (HEV), plug-in hybrid electric vehicle (PHEV), and fuel-cell electric vehicle (FCEV).

For more details on the above product, please contact: Planning Group, TDS Department of Nidec Advance Technology Corporation's A&T Business Division at +81-75-280-8100. Thank you.

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