October 2, 2024
Toshiba Corporation

Toshiba in Agreement with Rinko Bus and Drive Electro on Demonstration Project for Electric Bus with Super-Rapid 10-Minute Charging

Japan's first e-bus operation on public road using pantograph charging provides a robust solution that can be applied in towns and cities of Asian countries

---

TOKYO—Toshiba Corporation has agreed with Kawasaki Tsurumi Rinko Bus Co., Ltd. (Rinko Bus) and Drive Electro Technology Co., Ltd. (Drive Electro Technology) to jointly study a demonstration project[*1] to confirm the effectiveness of a super-rapid charging battery powered by a pantograph. The project is expected to start operation in November 2025, once the bus has been modified and the pantograph charging facility installed in the bus depot, and the bus will operate on a regular route along public roads in Kawasaki, south of Tokyo.

The project, the first of its kind on public roads in Japan[*2], will demonstrate the feasibility of commercial operation of an e-bus charged by a pantograph. Rinko Bus will operate the service, and Drive Electro Technology will produce the pantograph charging system and convert the diesel bus to electric powered by Toshiba's super-rapid charging SCiB™ rechargeable battery. The project will also verify the ability to reuse SCiB™. Used batteries installed in the pantograph charging system will be charged to minimize power consumption during peak demand, and used to supply power to the on-board battery via the pantograph.

While governments in China and Europe are providing support for e-buses as an environmental investment, total sales worldwide in 2023 were a low 50,000 units, a mere 3% of all bus sales[*3]. Long charging time and a limited number of chargers can impact vehicle operational efficiency, while the need to secure large charging spaces and install numerous charging facilities presents major barriers. These challenges are particularly significant for the adoption of e-buses in densely populated urban areas of Asia, where space is limited.

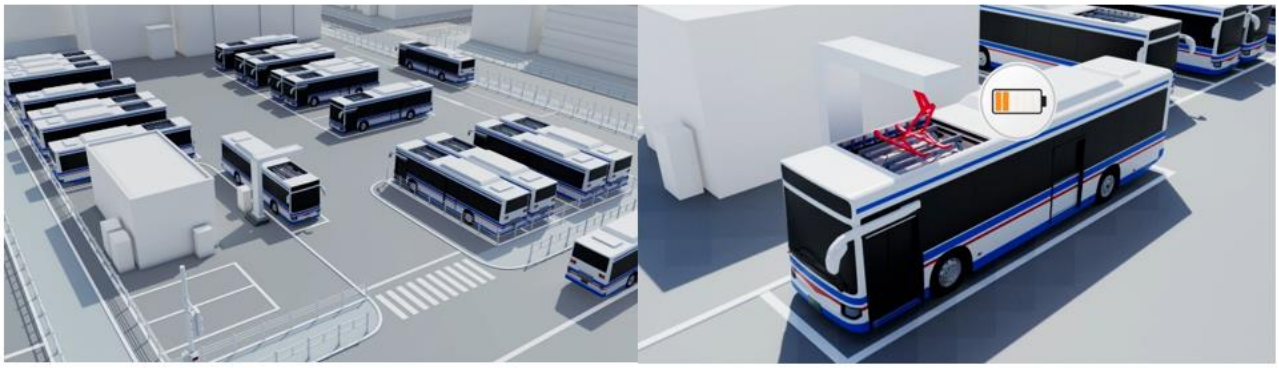

Image of e-buses with Toshiba's SCiB™ powered by a pantograph charging system

Toshiba will collaborate with Rinko Bus and Drive Electro Technology to make full use of each company's capabilities, to promote the demonstration project as a cutting-edge initiative and to take the lead in introducing the system into Asia, and to work toward advancing carbon neutrality and sustainable growth for society as a whole.

*1 This project utilizes the results of the demonstration project, "International Demonstration Project of Energy Consumption Efficiency Technology and System Demonstration / Project to Demonstrate 10-Minute Charging of Large EV Buses (Malaysia)" supported by NEDO

*2 Source: Rinko Bus, Toshiba and Drive Electro

*3 Global EV Outlook 2024 – Analysis - IEA

###