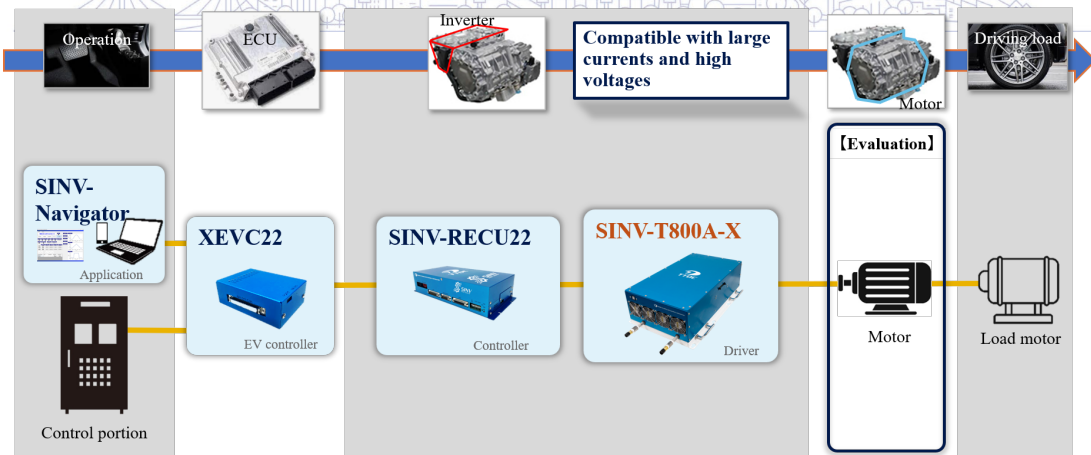
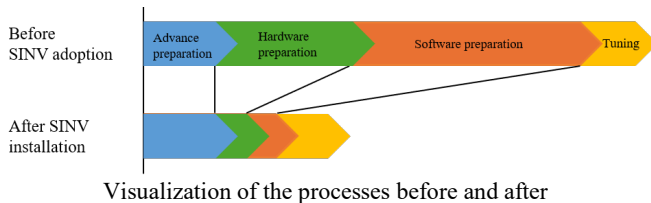


*³ ECU: electronic control unit

Reduce development time and costs with motor evaluation that eliminates the need for prototype ECUs and inverters!



Example of connections used in high-voltage BEV evaluation



Introducing the multi-purpose inverter (SINV) does not require more space since it fits right into the rack originally used to hold the inverters. Also, the price has come down to a point where purchase does not require a round of approvals, making it easy to deploy not only to the plants, but to other groups in the organization as well.

◆What were the benefits of adopting it?

The effects we benefitted from represent the flip side of our requirements.

1) Shorter development period

Hardware and software preparation time has been drastically reduced, enabling us to shorten development time. If we want to use an inverter for evaluations, the MG hardware comes out but if no calibrated ECU software is available, we cannot perform the evaluation. However, with the multi-purpose inverter (SINV), we can carry out a virtual calibration, which lets us quickly get the evaluation underway as soon as we get the MG hardware

2) Malfunctions and breakages

Using SINV means that there are no malfunctions or breakages even in limit anomaly tests, which reduces the impact on development quality and processes.

3) Lower costs

Expensive prototype inverters are no longer needed, leading to a major reduction in development cost.

●Did deployment to plants become more effective?

When we began the initial production, we used an actual vehicle inverter for the vehicle inspection, which presented the same problems of stopping or breaking as during development. With PE, we discussed introducing the multi-purpose inverter (SINV) in plants to help resolve these issues, focusing on device size and high price.



Photo of rack installation

◆Could you tell us about your plans for the future?

As BEV test benches are rolled out not only within Toyota but also across affiliated companies and overseas operations, we expect there will be a growing need for next-generation general-purpose inverters (SINVs) capable of handling higher currents and higher voltages, such as those currently under development.



From the left: Mr. Kondo (TTDC), Mr. Hirao, and Mr. Matsumoto (TTDC)