

CSR

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Special Feature : Development of Environmentally Friendly and Commercial Electric Vehicles (Part 2)

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1 Our Process of Developing Commercial Electric Vehicles

Three Poncho light-duty electric buses developed by Hino Motors were sold and used to provide bus service on fixed routes.

In a special feature in our CSR Report for fiscal 2012, Hino Motors wrote up on the development of light-duty electric buses that had been employed for public bus transportation. .

☒ Development of Environmentally Friendly and Comfortable Commercial Electric Vehicles(CSR Reporting 2012)

Light-duty electric truck is being developed by Hino as commercial vehicle subsequent to development of light-duty electric buses. This truck was designed as a commercially available vehicle based on the HINO eZ-Cargo, a concept vehicle that Hino Motors exhibited at the 2011 Tokyo Motor Show.



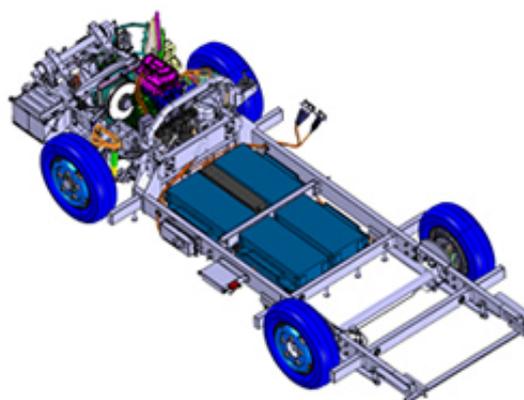
Working in collaboration with two delivery companies, Yamato Transport Co., Ltd. and Seino Transportation Co., Ltd., Hino Motors commenced trial operations of three prototypes of the truck model from March 2013. The trial operations are planned for about one year, during which the vehicles' adaptivity and utility for loading and delivering goods will be reviewed. Hino Motors is striving to put these trial operations to use for making enhancements toward the commercialization in the future.

2 The features of the light-duty electric truck

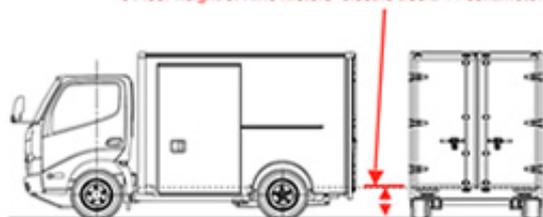
The features of the light-duty electric truck:

- 1 No exhaust is emitted while running
- 2 Driving noise is quiet and simulated engine noises are transmitted in consideration of the safety of pedestrians
- 3 With no gear changes are necessary with motor of electric truck running seamlessly. Consequently, the vehicle is designed to drive with steady engine torque .
- 4 The front-wheel drive design enables a very low floor, which facilitates the loading and unloading of cargo

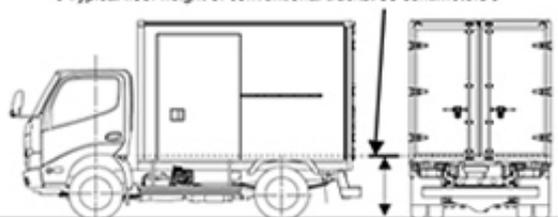
Instead of using a conventional engine and transmission, Hino Motors fitted a compact motor under the cab to power front-wheel drive, and a lithium-ion battery inside the frame under the cargo area. This unique electric vehicle design allows for a very low floor in the cargo space, which was difficult to achieve in conventional rear-wheel drive trucks.



(Floor height of Hino Motors' electric truck: 44 centimeters)



(Typical floor height of conventional trucks: 86 centimeters)



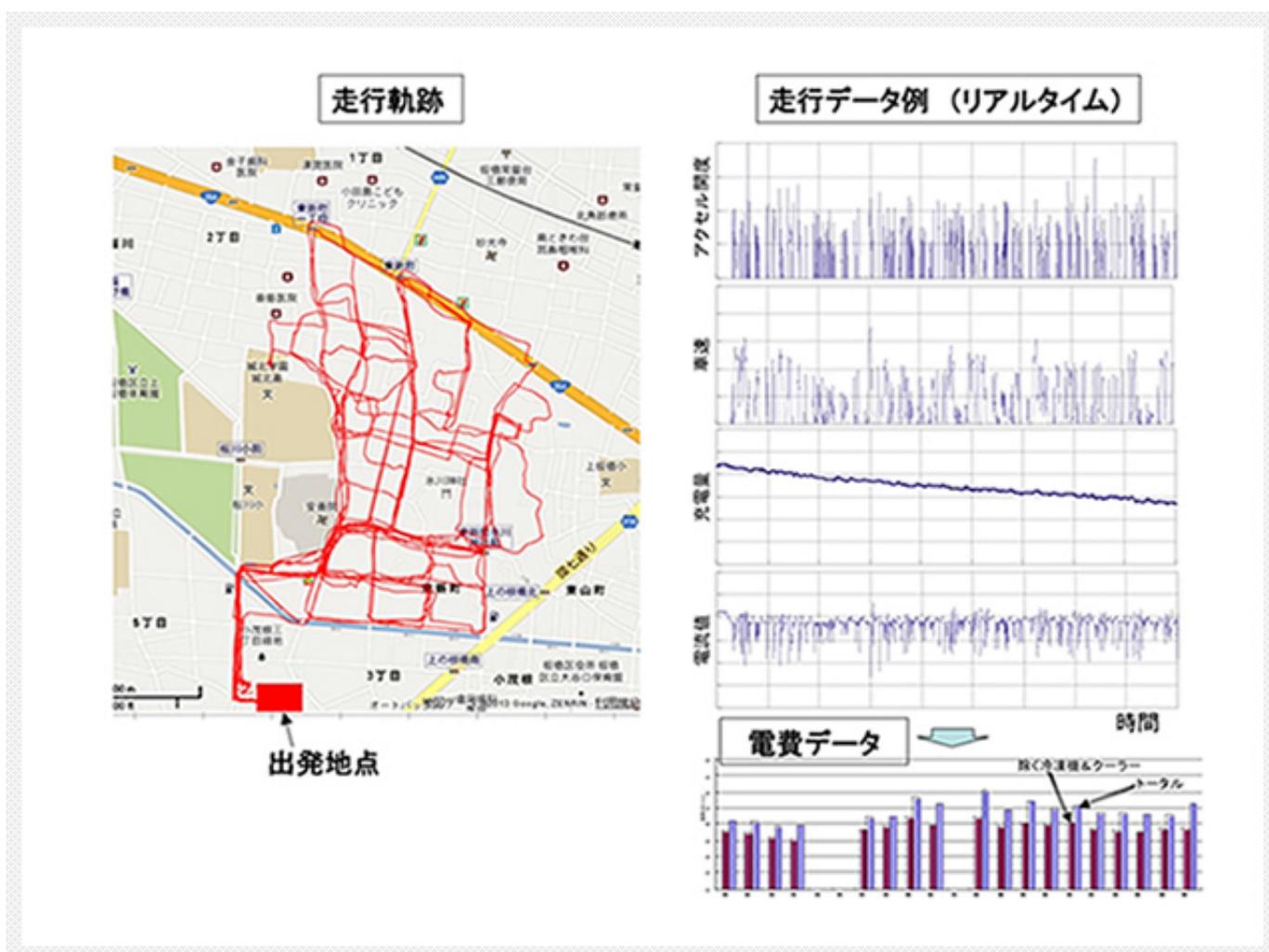
3 Trial operations and future development

Hino Motors announced the trial operations in a press conference held jointly with Yamato Transport and Toyota Motor Corporation and, in a press conference held jointly with Seino Transportation. Released by a large number of mass media organizations including newspapers, magazines, and television stations, the track seemed to attract a high level of public interest.

The trial operations conducted with Yamato Transport and Seino Transportation continue for over one year, thus covering all four seasons. The vehicles are being evaluated for their performance in delivery operations based on items specific to each season. In the development of electric vehicles, one of the most important challenges is developing battery technologies. Attention is paid to the effects of air temperature on the battery and how various applications consume battery power, including freezers in the rear cargo compartment, air conditioning in the summer months, and heating in the winter.

Telematics* are being employed in the trial operations to help monitor driving and data on electric performance, as well as collect valuable data in real time. Hino Motors analyzes data transmitted daily from measuring instruments fitted inside the vehicles and verifies how the trucks consume fuel and use electricity. Hino Motors aim to make then use of the data it analyzes in the development of its future electric vehicles for commercial use.

* Telematics is a term made by combining "telecommunications" and "informatics." It describes integrated information systems that provide real-time information services to mobile objects such as automobiles.



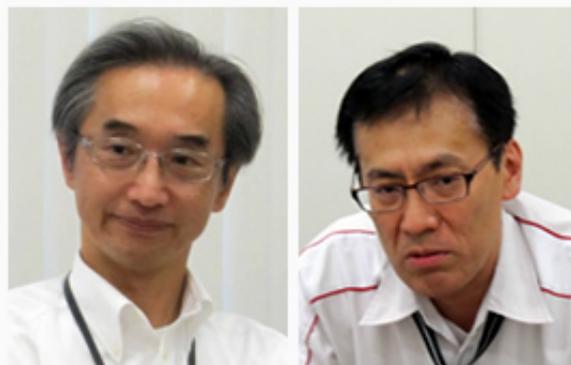
Sample screen of Telematics

Employee Comments

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**Pursuing the future of electric
trucks as a global manufacturer
of environmentally friendly
commercial vehicles**



Hino Motors' original design, development, manufacturing, registration, and trial test for this model was carried out over a relatively short period of time. We could produce these trucks because the project team combined development activities and manufacturing work. I think it would have been impossible to accomplish everything we did in such a short period of time if the team had not integrated the design work with the trial manufacturing.

Looking ahead, I hope that Hino Motors will pursue the future of electric trucks as a global manufacturer of environmentally friendly commercial vehicles.