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Toyota Tsusho Corporation
Advanced Smart Mobility Co., Ltd.
Nippon Koei Co., Ltd.
Mizuho Research & Technologies, Ltd.
Isuzu Motors Limited
Hino Motors, Ltd.
Mitsubishi Fuso Truck and Bus Corporation
UD Trucks Corporation

Launch of Public Road Demonstration Tests of Autonomous Driving Technology Utilizing Large Trucks on the Shin-Tomei Expressway

Toyota Tsusho Corporation (“Toyota Tsusho”), Advanced Smart Mobility Co., Ltd. (“Advanced Smart Mobility”), Nippon Koei Co., Ltd. (“Nippon Koei”), and Mizuho Research & Technologies, Ltd. (“Mizuho Research & Technologies”) have been contracted by the Ministry of Economy, Trade and Industry (METI) and the Ministry of Land, Infrastructure and Tourism (MLIT) in fiscal 2021 to perform the “Efforts to commercialize high-performance trucks on expressways (Theme 3)”^{*1} of the “Project on Research, Development, Demonstration and Deployment (RDD&D) of Automated Driving toward the Level 4^{*2} and its Enhanced Mobility Services (RoAD to the L4).” In addition, most recently, the four companies have been working toward the social implementation of Level 4 autonomous driving trucks, including being selected as Demonstration Experiment of Autonomous Driving Truck by Roadside-to-Vehicle Coordination on Expressway.”^{*3}

The above four companies, along with four commercial vehicle manufacturers - Isuzu Motors Limited (“Isuzu”), Hino Motors, Ltd. (“Hino”), Mitsubishi Fuso Truck and Bus Corporation (“MFTBC”), and UD Trucks Corporation (“UD Trucks”) announced today that the commencement of driving tests using large trucks with automated driving technology on the Shin-Tomei Expressway.

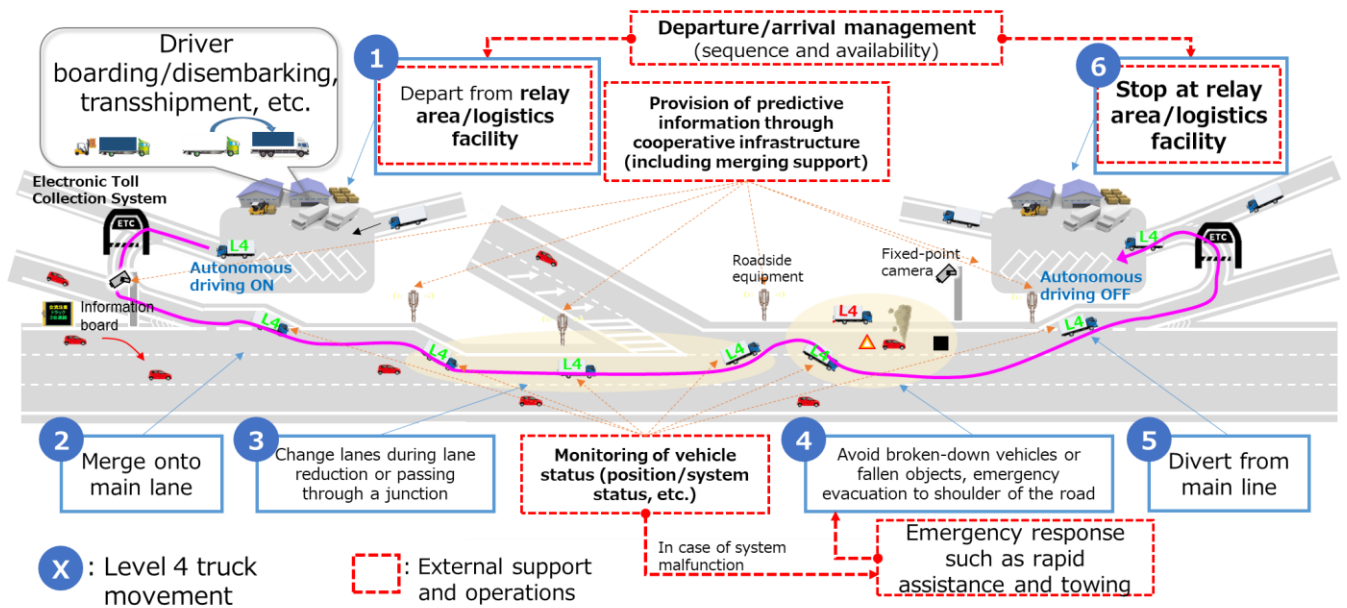
1. Background and Purposes of Project

To solve social issues such as driver shortages, the four companies, which are the contractors for this project, together with the four manufacturers, logistics companies, and other related parties, are aiming for the social implementation of autonomous driving trucks on expressway from fiscal 2026 onward through a joint public-private effort. To date, METI and MLIT have conducted “Demonstrations for Social Implementation of Truck Platooning”^{*4} (fiscal 2016-2020), which has

demonstrated technology for truck platooning without drivers in the following vehicles.

The ongoing initiative, which is running from fiscal 2021 to fiscal 2025, aims to achieve independent driverless driving between relay areas such as logistics facilities, service areas, and parking areas around expressways and verifies support from external infrastructure equipment, operations such as monitoring and management, and vehicle functions necessary for such operations.

[Driving concept for future autonomous driving trucks]



2. Overview of Demonstration Tests

In these demonstration tests, we will separately confirm and verify the multiple functions that are necessary for the social implementation of autonomous driving between the Surugawan-Numazu service area and the Hamamatsu service area on the Shin-Tomei Expressway.

Specifically, we will confirm and verify the automatic departure/arrival system that automatically starts and parks the vehicle at departure and arrival points, the braking function to stop the vehicle in case of emergency, the usefulness of information on broken-down vehicles and fallen objects transmitted from roadside equipment such as ITS spots^{*5} installed around the road, and remote monitoring functions while driving.

3. Future Initiatives

Based on the evaluation results of these demonstration tests, in fiscal 2025, the final year of the project, we plan to verify the process from vehicle departure at a service area to merging and changing lanes on the main line and parking at the destination under conditions closer to those of

actual driving.

In addition, we plan to conduct demonstration experiments utilizing priority lanes for autonomous driving vehicles, which is one of the Early Harvest Projects “Setting up CAV(Connected Autonomous Vehicles) corridors”^{*6} under the “Digital Lifeline Development Plan” led by METI.

4. Roles of Each Company

Toyota Tsusho	Project promotion, overall planning management
Advanced Smart Mobility	Vehicle system development, evaluation testing
Nippon Koei	Demonstration experiment operation
Mizuho Research & Technologies	Examination of highly useful business models in logistics systems utilizing Level 4 autonomous driving trucks, business feasibility analysis, etc.
Isuzu	Organization and evaluation of driving environment/conditions, planning of demonstration experiments
Hino	
MFTBC	
UD Trucks	

- *1 Four initiatives (Themes 1 to 4) have been established for the realization and spread of driverless autonomous driving services, and the “Initiative Toward the Commercialization of High-performance Trucks on Expressways (Theme 3)” is one of them.
(Reference) Ministry of Economy, Trade and Industry:
https://www.meti.go.jp/policy/mono_info_service/mono/automobile/Automated-driving/automated-driving.html
- *2 Level 4 autonomous driving is defined as a state in which the autonomous driving device replaces all driving operations in a limited area that meets specific driving environment conditions.
(Reference) Ministry of Land, Infrastructure, Transport and Tourism:
<https://www.mlit.go.jp/report/press/content/001377364.pdf>
- *3 Ministry of Land, Infrastructure, Transport and Tourism:
https://www.mlit.go.jp/report/press/road01_hh_001845.html
- *4 Ministry of Land, Infrastructure, Transport and Tourism:
https://www.mlit.go.jp/report/press/jidosha07_hh_000362.html
- *5 Intelligent Transport Systems (ITS) is an infrastructure for providing traffic information using information and communication devices installed on roads, enabling drivers to receive real-time traffic information and safety information.
- *6 Ministry of Economy, Trade and Industry:
https://www.meti.go.jp/policy/mono_info_service/digital_architecture/lifeline.html

Reference: Overview of Each Company

Overview of Toyota Tsusho

Company name	Toyota Tsusho Corporation
Location	Nagoya City, Aichi Prefecture
Established	July 1, 1948
Capital	64,936 million yen
Representative	President & CEO Ichiro Kashitani
Business description	Domestic and international trade of goods / Export and import of goods / Construction undertaking / Insurance agents, among others
Website	https://www.toyota-tsusho.com/english/

Overview of Advanced Smart Mobility

Company name	Advanced Smart Mobility Co., Ltd.
Location	Tsukuba City, Ibaraki Prefecture
Established	June 19, 2014
Capital	95 million yen
Representative	CEO Masaya Segawa, Ph. D.
Business description	Development, manufacture and sale of autonomous driving system / Support of operation autonomous driving mobilities / Development hardware and software for the autonomous driving
Website	https://www.as-mobi.com/en/

Overview of Nippon Koei Co., Ltd.

Company name	Nippon Koei Co., Ltd.
Location	Chiyoda-ku, Tokyo
Established	June 7, 1946
Capital	500 million yen
Representative	Representative Director and President Haruhiko Kanai
Business description	Construction technology consulting services in Japan and overseas
Website	https://www.n-koei.co.jp/consulting/english/

Overview of Mizuho Research & Technologies

Company name	Mizuho Research & Technologies, Ltd.
Location	Chiyoda-ku, Tokyo
Established	April 1, 2021
Capital	1,627.5 million yen
Representative	President & CEO(Representative Director) Masatoshi Yoshihara
Business description	Information processing services, think tank consulting services
Website	https://www.mizuhogroup.com/information-and-research

Overview of Isuzu

Company name	Isuzu Motors Limited
Location	Yokohama City, Kanagawa Prefecture
Established	April 9, 1937
Capital	40,644 million yen
Representative	President and Representative Director, COO Shinsuke Minami
Business description	Manufacturing and sale of products such as automobiles, transportation machinery and equipment, prime movers, etc. and their parts, as well as related materials and supplies
Website	https://www.isuzu.co.jp/world/

Overview of Hino

Company name	Hino Motors, Ltd.
Location	Hino City, Tokyo
Established	May 1, 1942
Capital	72,717 million yen
Representative	President & CEO Satoshi Ogiso
Business description	Manufacturing and sales of trucks, buses, etc.
Website	https://www.hino-global.com/

Overview of MFTBC

Company name	Mitsubishi Fuso Truck and Bus Corporation
Location	Kawasaki City, Kanagawa Prefecture
Established	January 6, 2003
Capital	35,000 million yen
Representative	President & CEO Karl Deppen
Business description	Development, design, manufacturing, sales/purchases, import/export, and other trading of trucks, buses, industrial engines, etc.
Website	https://www.mitsubishi-fuso.com/en/

Overview of UD Trucks

Company name	UD Trucks Corporation
Location	Ageo City, Saitama Prefecture
Established	December 1, 1935
Capital	10,000 million yen
Representative	President Kouji Maruyama
Business description	Development, manufacturing, and sales of heavy-duty trucks, sales of medium-duty and light-duty trucks, manufacturing and sales of automotive parts, maintenance of trucks and buses, sales of repair parts for trucks and buses
Website	https://www.udtrucks.com/