

Promotion Policy on Automated Driving Systems and Introduction of Autonomous Vehicle Project in Japan

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- Target of Automated Driving in Japan
- FOT of Automated Vehicles in Japan
- Introduction of one FOT project supported by METI and MLIT



Automated driving system is aiming...

- 1. To realize a safe and smooth road traffic society
- 2. To create a new mobility service



- 3. To revitalize regional community and economy
- 4. To strengthen international competitiveness of the auto industry





Target to achieve for automated driving





Challenges to achieve goals

- 1. Research and development
 - Dynamic map, etc.
- 2. Field Operational Test (FOT)
- 3. Charter for Improvement of legal system and environment for automated driving systems



Automated driving Field Operational Test(FOT)





Charter for Improvement of legal system and environment for automated driving systems

(decided in the IT Headquarters on April 17th, 2018)



Secure safety (Human driver, Technology, Infra)



Major action

Establishment of Safety standard for automated driving vehicles

(Japan is leading the discussion to formulate international standards of automated vehicle safety)

- To establish <u>vehicle safety requirements etc. as guideline by</u> <u>this summer</u>

- To establish <u>safety standard</u> for automated driving vehicles



Major action

■Improvement of traffic rules

- (Japan is leading the international discussion of traffic rules for automated driving)
- To <u>improve domestic traffic rules</u> based on the progress of technology development and international discussion
- To consider necessary measures in order to make automated driving systems observe traffic rules
- For the time being, unmanned autonomous driving transport system <u>can be commercialized to utilize the current</u> <u>FOT framework</u>



Major action

■Liability issues

- To relief victims rapidly using compulsory automobile liability insurance when an accident occurs
- - To consider of <u>criminal liability</u>
- - To consider obligation to install of driving record devices



Automated driving Field Operational Test(FOT)





First/Last Mile Project -Service Image and Electric Vehicle-





Small Electric Vehicle(EV) with autonomous function Advantage

- Available where no gas station in rural area
- EV can be charged during waiting time
- Easy and high efficiency at low speed
- Useful inside building

Small EV

Disadvantage

Range anxiety (depending on conditions)



Objective

 Social implementation of new transportation system for public use by a small EV

Automated driving technology for first/last mile mobility

- Support for short distances between transportation hub (railway, bus, etc.) and home, or final destination or in areas
- Reduction of labor costs and Drivers shortage issue
- Demonstrating transportation service of the last mile automated driving at the level 4 (SAE J3016) and a remote type automated driving systems (remote control operator and dispatcher)
- Sponsor: Ministry of Economy, Trade and Industry (METI) and Ministry of Land, Infrastructure, Transport and Tourism (MLIT)
 - 3 years from 2016FY, approximately 400 million yen per year.
 (Partly excludes development cost of automated bus)
 - AIST is conducting with companies and university.



Key points of project

- Establishment of automated driving technology
 - Demonstration of automated driving, safety and reliability of remote operation in real environment
- Clarification of business model (business feasibility)
 - Demonstrating the feasibility of service business and the way of continuity in the real regional model
- Establishment of social system
 - Discussion on institutional approach of technology and business aspects with relevant ministries, demonstration of infrastructure development
- Establishment of public acceptance
 - Demonstration for the high utility value and user acceptance for the stakeholders in the actual area



Technology development of smart E cart

Focus on application of technologies and operations with high safety, reliability, business viability, and continuity suitable for installation region (YouTube "Smart e-cart")



Coverage of First/Last Mile Mobility



System



Smart E Cart image



Efficient operation by management system





Snow and indoor by electromagnetic induction line



Obstacle detection and safe stop







Avoid obstacles by remote monitoring / steering system

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Demonstration areas (FOT areas)

 Public offering for demonstration areas and selected 3 areas from 23 municipalities



Eiheiji-cho, Fukui-Pref.: **Depopulated area model**



Wajima-city, Ishikawa-Pref.: City area model

- 3 regional models
- 4 key points verified by field operation test



Chatan-cho, Okinawa-Pref.: Sightseeing area model







First Trial in Japan Automated Vehicle without Safety Drivers on Public Road (Remote type Automated Driving System)





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