

**SIP-adus
Workshop
2018**

NPA Initiative Regarding Automated Driving

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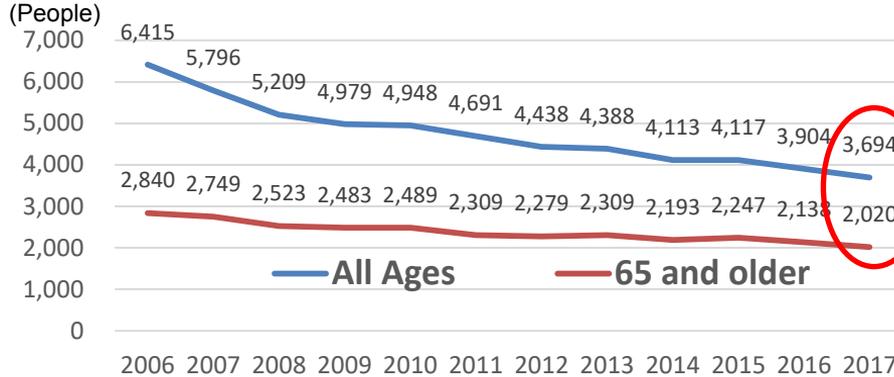




1. Road Traffic Situations in Japan
2. Promotion of Automated Driving by Japanese Police
3. Current AD Testing Situations

Road Traffic Situations in Japan

Traffic Accident Fatalities (within 24 hrs after accident)



“Key Points in 2017”

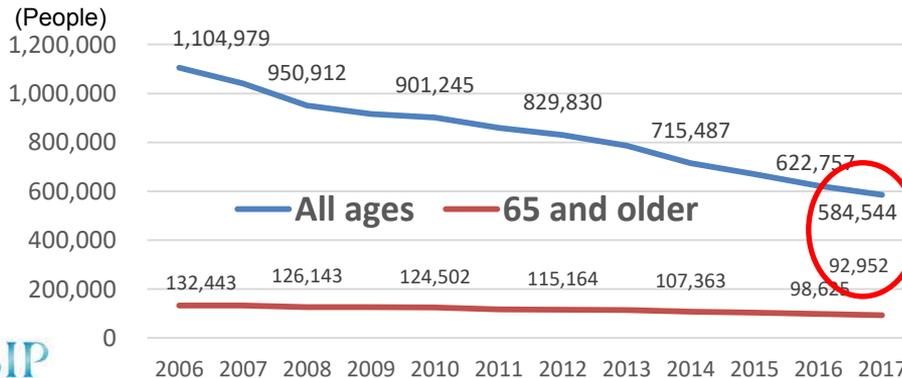
[All ages]

Lowest since records began in 1948

[65 and older]

Accounted for 55%

Traffic Accident Fatalities and Injuries



[All ages]

13th straight year of decline

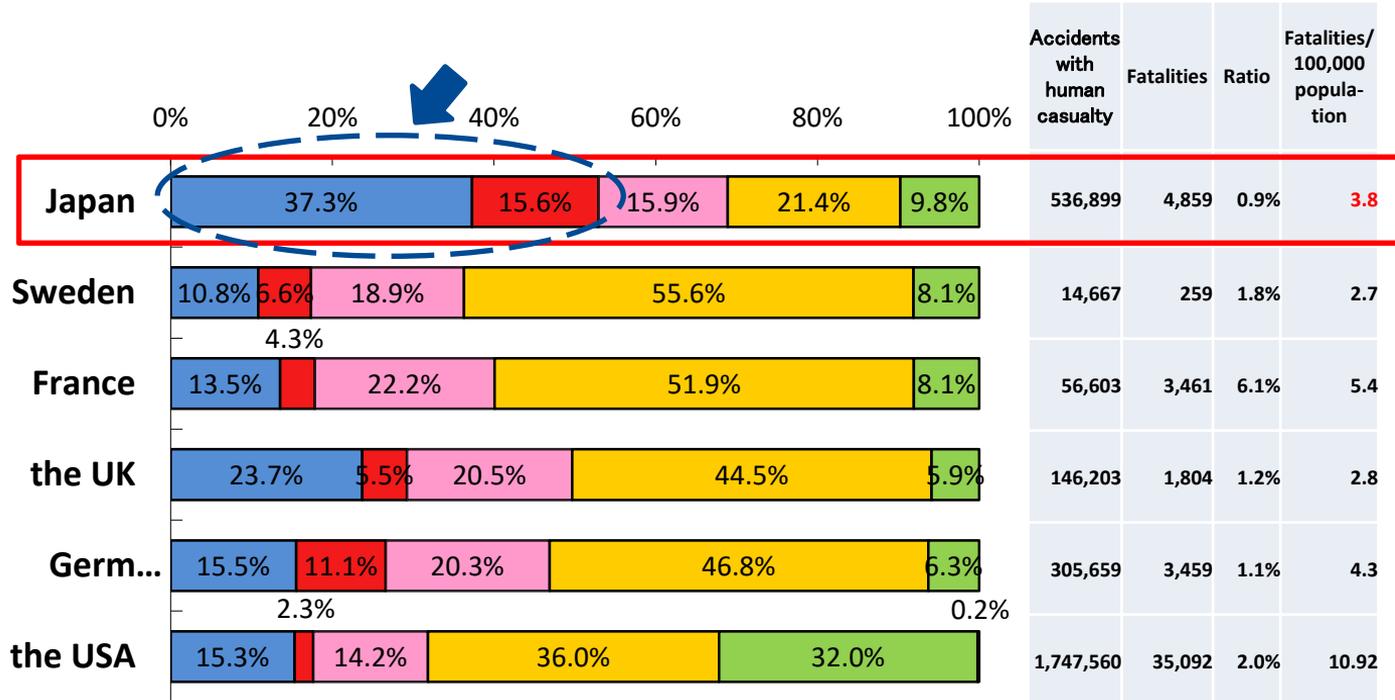
[65 and older]

Accounted for 16%

Road Traffic Situations in Japan

Fatal Accidents in Japan and other Countries (2015)

■ Pedestrian
 ■ Pedal cyclist
 ■ 2-wheeled vehicle
 ■ Passenger Car occupant
 ■ others
 ■ unknown



※ Fatalities: Number of fatalities within 30 days from the time of accident

(Source : IRTAD)

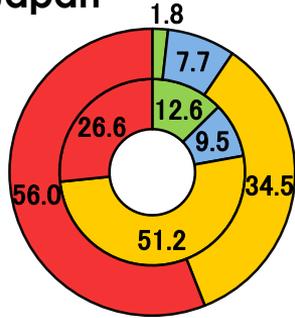
Road Traffic Situations in Japan



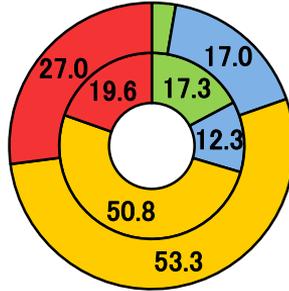
Component Ratio of Road Fatalities by Age groups (2015)

Inner circle: Composition of Population, Outer circle: Composition of Road Fatalities

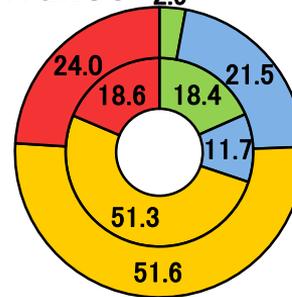
Japan



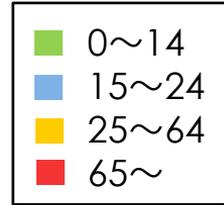
Sweden 2.7



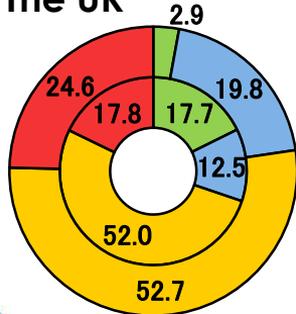
France 2.9



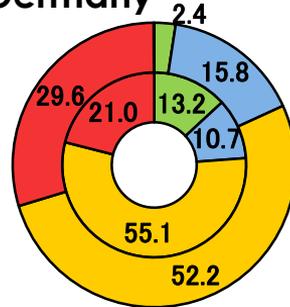
Age Group



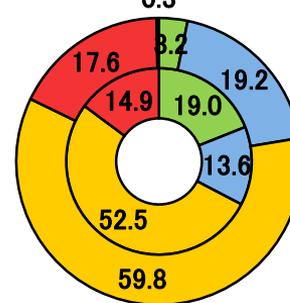
The UK



Germany



The USA 0.3

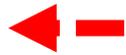


※ Fatalities: Number of fatalities within 30 days from the time of accident

(Source : IRTAD)



- ‘10th Fundamental Traffic Safety Program’
(FY2016- FY2020)



Utilization of “advanced technologies”

[Objectives]

- To attain the safest road traffic in the world, by reducing the annual number of fatalities within 24 hours after each traffic accident to **2,500** or less. (**3,000** or less within 30 days.)
- To reduce the annual number of casualties to less than 500,000 persons.

Our Policy

Automated Driving technology is expected to **be vital to future reduction of traffic accidents and traffic congestions**. Japanese Police is establishing and implementing policies to **support its development**.

Key Measures

- Regulatory review: Review of road traffic rules
- Guidelines: Providing experimental environment
- International discussions
- R&D and enhancement of infrastructures

In Japanese Government

NPA (National Police Agency)

Road Traffic Act:

providing traffic regulations

MLIT (Ministry of Land, Infrastructure,
Transport and Tourism)

Road Transport Vehicle Act:

providing safety standards of vehicles

NPA's Actions

- **Legal obligations of drivers** using Automated Driving Systems
- **Preservation of data** related to Automated Vehicles
- **Relationship** with other road users

Guidelines

■ Guidelines for Public Road Testing of Automated Driving Systems (May 2016)

- In Japan, testing of all levels of AD is allowed under existing laws, **as long as a driver inside the vehicle can take over the control of the vehicle in emergency situations.**

■ Criteria for the permission on using public roads for testing of Automated Driving System with Remote Control Technology (June 2017)

- Stating the case where one driver drives multiple vehicles.

Promotion of Automated Driving by Japanese Police

Geneva Convention: Convention on Road Traffic (Geneva, 1949)

2014.9 WP1 69th session

→ Joined in WP1
(as a non-ECE member state)

2015.10 WP1 71st session

→ **Established IGEAD**
Japan joined IGEAD

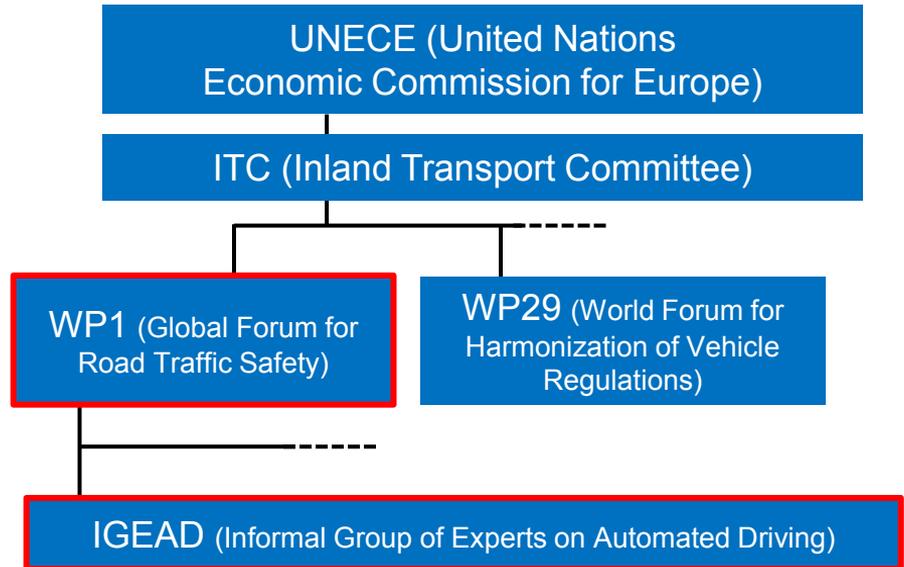
2016.2 UNECE ITC session

→ **Agreed on request by Japan
to become a full WP1 participant**

2016.3 WP1 72nd session

(hereafter as a full WP1 participant)

Japan ratified the Geneva Convention in 1964



Promotion of Automated Driving by Japanese Police

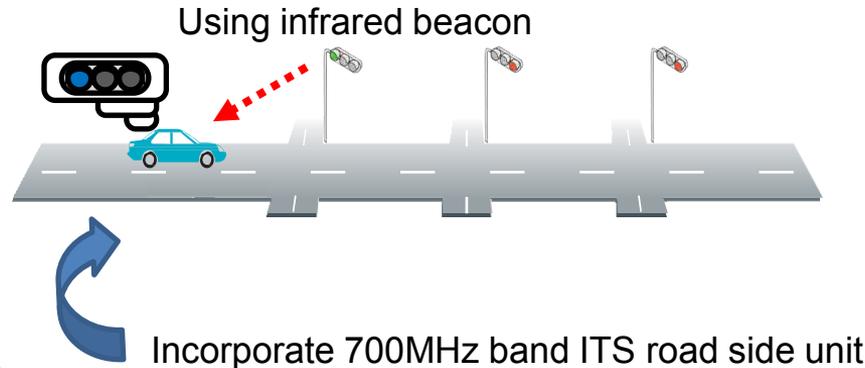
■ TSPS (Traffic Signal Prediction Systems)

TSPS encourage safe and eco-friendly driving by providing drivers with driving support information (ex. The color of traffic signals)



Information

- The place of crossroads
- The maximum speed regulation
- The color of traffic signals
- Signal time span etc.



Current AD Testing Situations

MLIT's project

| | |
|----|--------------------------------------------------------------|
| 1 | 2017.12 Akita Pref YAMAHA Motor Co., Ltd. etc. |
| 2 | 2017.9 Tochigi Pref DeNA Co., Ltd. etc. |
| 3 | 2017.11 Shiga Pref Advanced Smart Mobility Co., Ltd. etc. |
| 4 | 2017.11 Shimane Pref AISAN TECHNOLOGY Co., Ltd. etc. |
| 5 | 2017.9~10 Kumamoto Pref YAMAHA Motor etc. |
| 6 | 2017.12 Hokkaido Pref Advanced Smart Mobility etc. |
| 7 | 2018.2~3 Yamagata Pref Yamaha Motor etc. |
| 8 | 2017.11 Ibaraki Pref Yamaha Motor etc. |
| 9 | 2017.11 Toyama Pref AISAN TECHNOLOGY etc. |
| 10 | 2018.2 Nagano Pref Advanced Smart Mobility etc. |
| 11 | 2018.3 Okayama Pref AISAN TECHNOLOGY etc. |
| 12 | 2017.12 Tokushima Pref AISAN TECHNOLOGY etc. |
| 13 | 2018.2 Fukuoka Pref YAMAHA Motor etc. |

MLIT and METI's project

| | |
|---|---------------------------------------------------|
| 1 | 2017.12~ Ishikawa Pref YAMAHA Motor etc. |
| 2 | 2017.6, 2018.2~ Okinawa Pref YAMAHA Motor etc. |

Cabinet Office's project

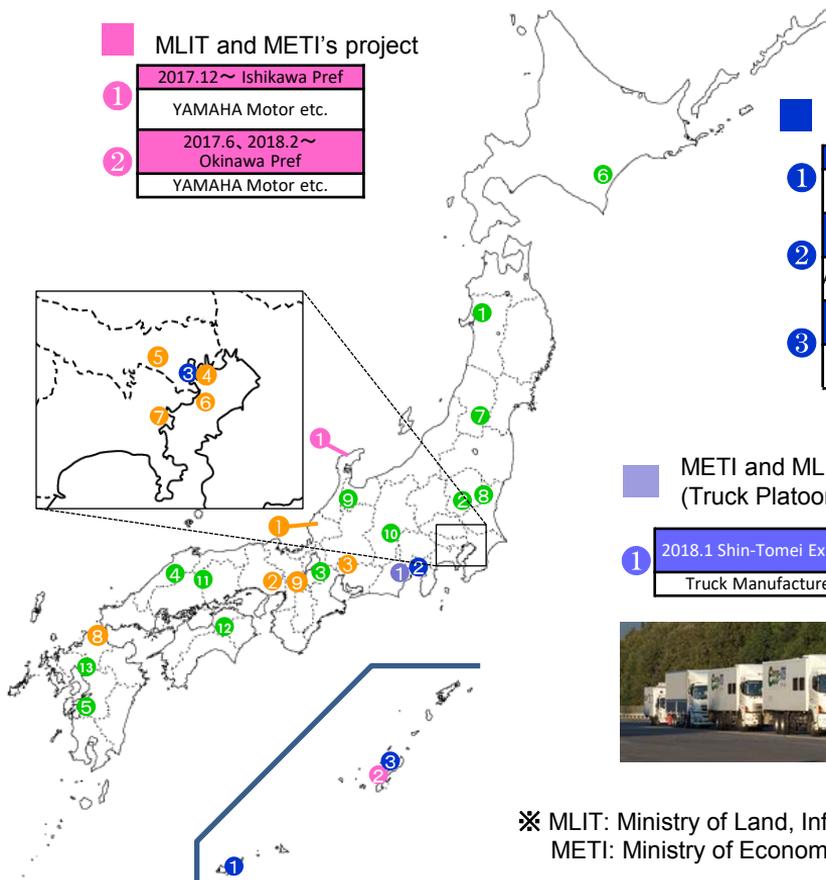
| | |
|---|------------------------------------------------------------------------|
| 1 | 2017.6~7 Okinawa Pref SB Drive Corp., Advanced Smart Mobility |
| 2 | 2017.10~ Public Roads in Kanto Region Automobile Manufacturers etc. |
| 3 | 2017.11~12 Okinawa Pref SB Drive, Advanced Smart Mobility |

Universities etc.

| | |
|---|-------------------------------------------------------------------------------------------------|
| 1 | 2017.10~2019.3 Fukui Pref Panasonic Corporation etc. |
| 2 | 2017.11~12 Hyogo Pref Kobe Minato Kanko Bus Inc., Gunma Univ etc. |
| 3 | 2017.12~2018.2 Aichi Pref AISAN TECHNOLOGY etc. |
| 4 | 2017.12 Tokyo ZMP Inc. etc |
| 5 | 2018.1 Tokyo AISAN TECHNOLOGY, Univ of Tokyo etc. |
| 6 | 2018.2 Around Haneda Airport ANA Holdings Inc., SB Drive |
| 7 | 2018.3 Kanagawa Pref NISSAN Motor Co., Ltd. DeNA |
| 8 | 2018.3 Fukuoka Pref Kyushu Institute of Technology etc. |
| 9 | 2018.3 Kyoto pref, Osaka Pref, Nara Pref Public Foundation of Kansai Research Institute etc. |

METI and MLIT's project (Truck Platooning)

| | |
|---|---------------------------------------------------------|
| 1 | 2018.1 Shin-Tomei Expressway Truck Manufactures etc. |
|---|---------------------------------------------------------|



※ MLIT: Ministry of Land, Infrastructure, Transport and Tourism
METI: Ministry of Economy, Trade and Industry

Current AD Testing Situations



① DeNA Co., Ltd.



Uses GPS and IMU.

Capacity: 6 passengers
(10 including standing
type seats)

Speed: 10 km/h
(Max: 40 km/h)

③ YAMAHA Motor Co., Ltd.



Uses electromagnetic induction.

Capacity: 4 ~ 6 passengers

Speed: 12 km/h (automated)
20 km/h (manual)

② Advanced Smart Mobility Co., Ltd.



Uses GPS, Magnetic marker and
Gyro sensor.

Capacity: 20 passengers

Speed: 35 km/h
(Max: 40 km/h)

④ AISAN TECHNOLOGY Co., Ltd.



Uses High-precision 3D map
and LiDAR.

Capacity: 4 passengers

Speed: 40 km/h
(Max: 50 km/h)

The background of the slide is a long-exposure photograph of light trails from a city at night. The trails are in various colors, including yellow, blue, purple, and white, and they radiate from a central point on the horizon, creating a sense of depth and motion. The overall effect is a vibrant, abstract representation of light and energy.

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Thank you