

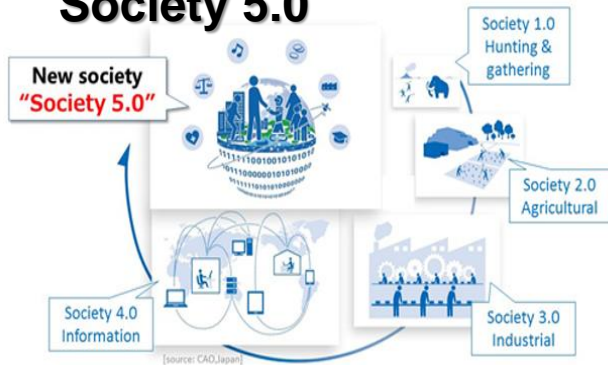


**Looking back on the past 10 years**  
**around ADS&ADAS in Japan**

**Seigo Kuzumaki**  
**SIP-adus Program Director**

**11 Oct. 2022**

## Society 5.0



## Strategic Innovation promotion Program

adus ; Automated driving system for universal service

SIP 1<sup>st</sup>

FY2014~FY2018

SIP 2<sup>nd</sup>

FY2018~FY2022

**Main purpose ; SAFETY**

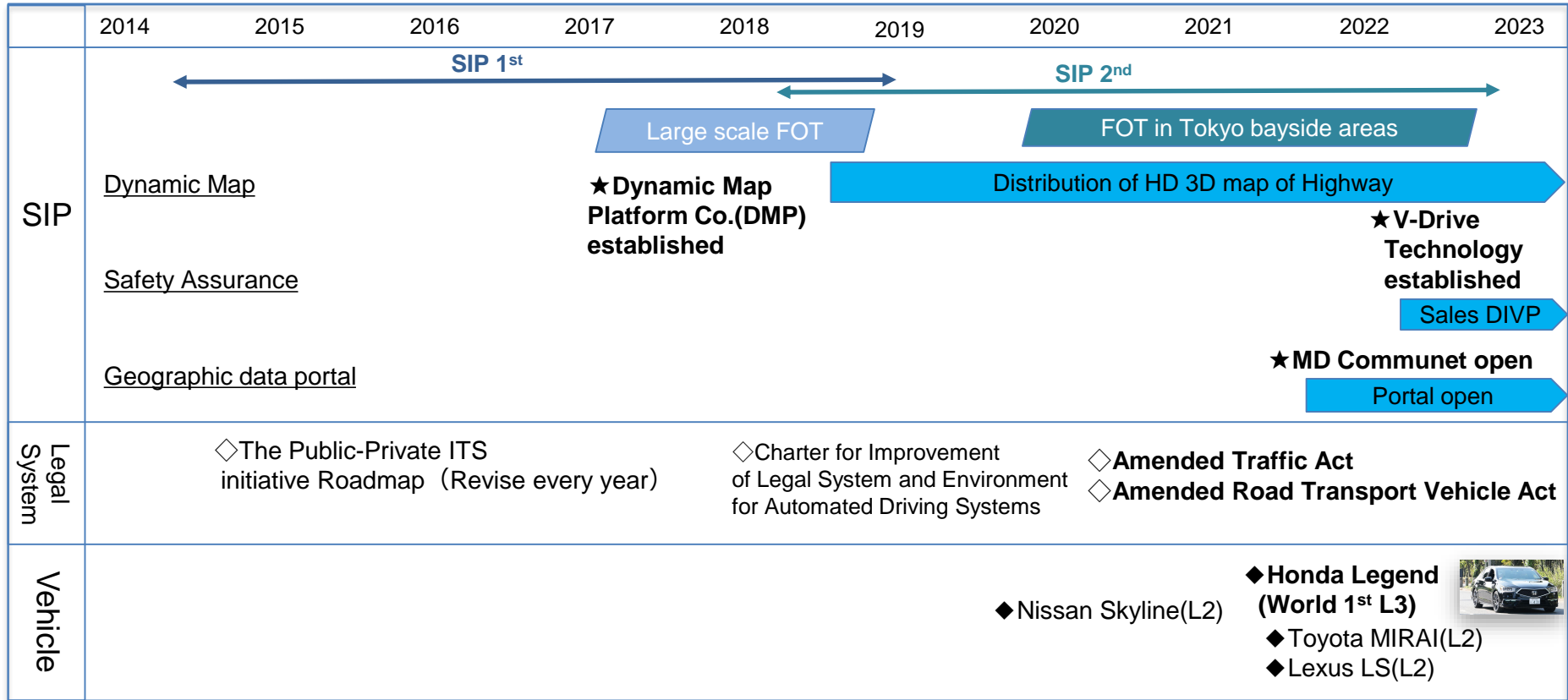
Reduction of Traffic fatality



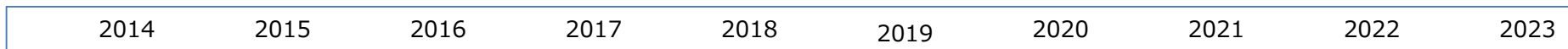
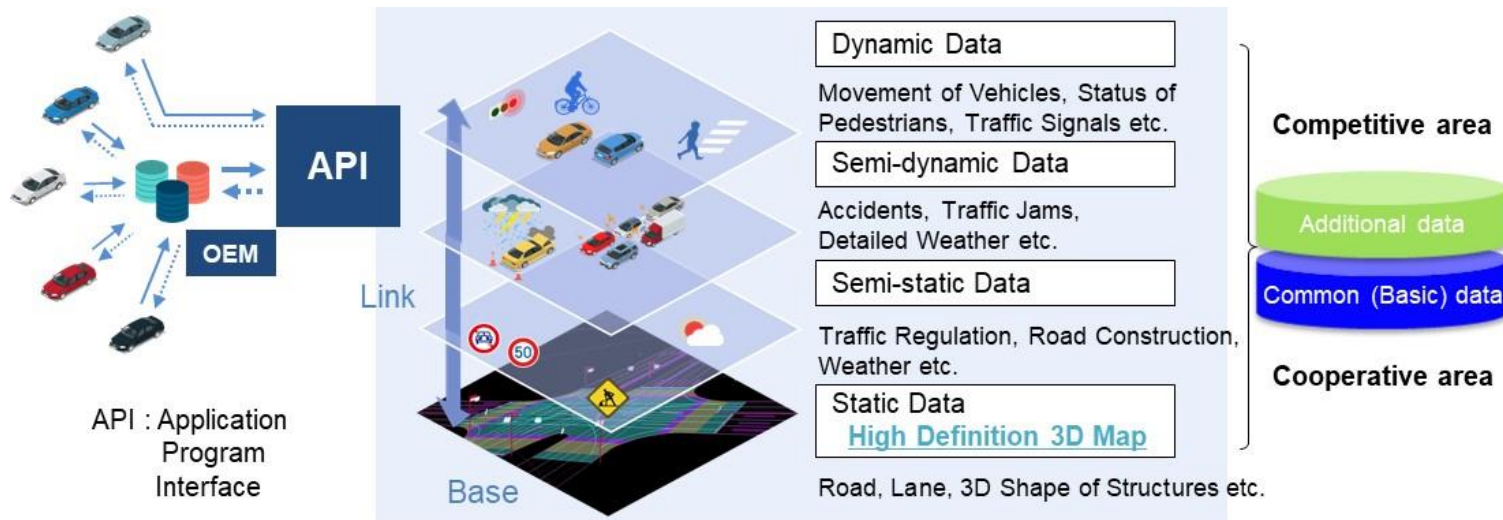
Innovation of Automated Driving for Universal Services (SIP-adus)

- Mobility Bringing Everyone a Smile

# Progress of ADS in recent 10 years in Japan



# Dynamic Map

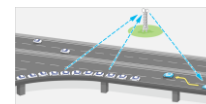


Large scale FOT

FOT in Tokyo bayside areas

★ Dynamic Map Platform Co.(DMP) established

➤ HD 3D map linked with traffic info. (V2N)

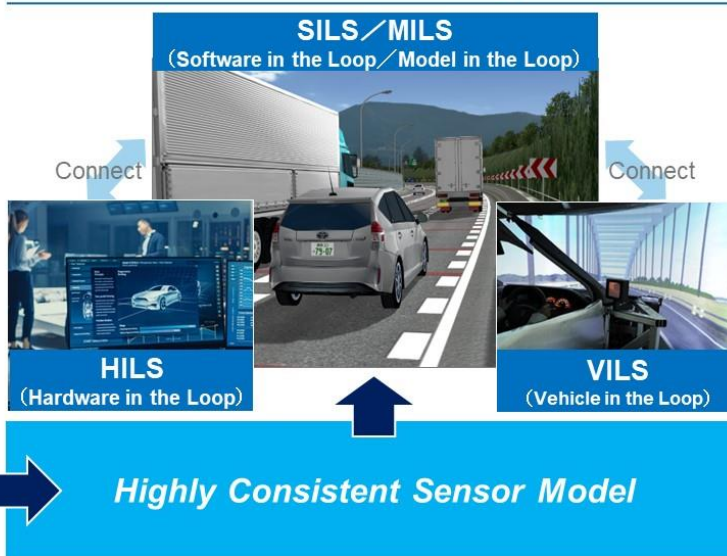


# Virtual validation platform for AD-safety assurance

Real vehicle test



Virtual test



Source : Kanagawa Institute of technology, MITSUBISHI PRECISION CO.,LTD., DENSO Corporation, Pioneer Smart Sensing Innovations Corporation, Hitachi Automotive Systems, Ltd.

DIVP; Driving Intelligence Validation Platform

July 2022

★ V-Drive Technology established



# Process to commercialization of SAE Level 3

April 2018

Charter for Improvement of Legal System and Environment for Automated Driving Systems (Cabinet Secretariat)

April 2020

**Amended Traffic Act (Police Agency)**  
**Amended Road Transport Vehicle Act (MLIT)**

March 2021

Honda  
**SENSING**  
Elite

World first SAE L3 POV



**HD 3D Maps for ADS & ADAS are distributed by DMP\***

DMP\*; Dynamic Map Platform Co.

ADAS: SAE L2

Nissan SKYLINE



Toyota Teammate  
MIRAI

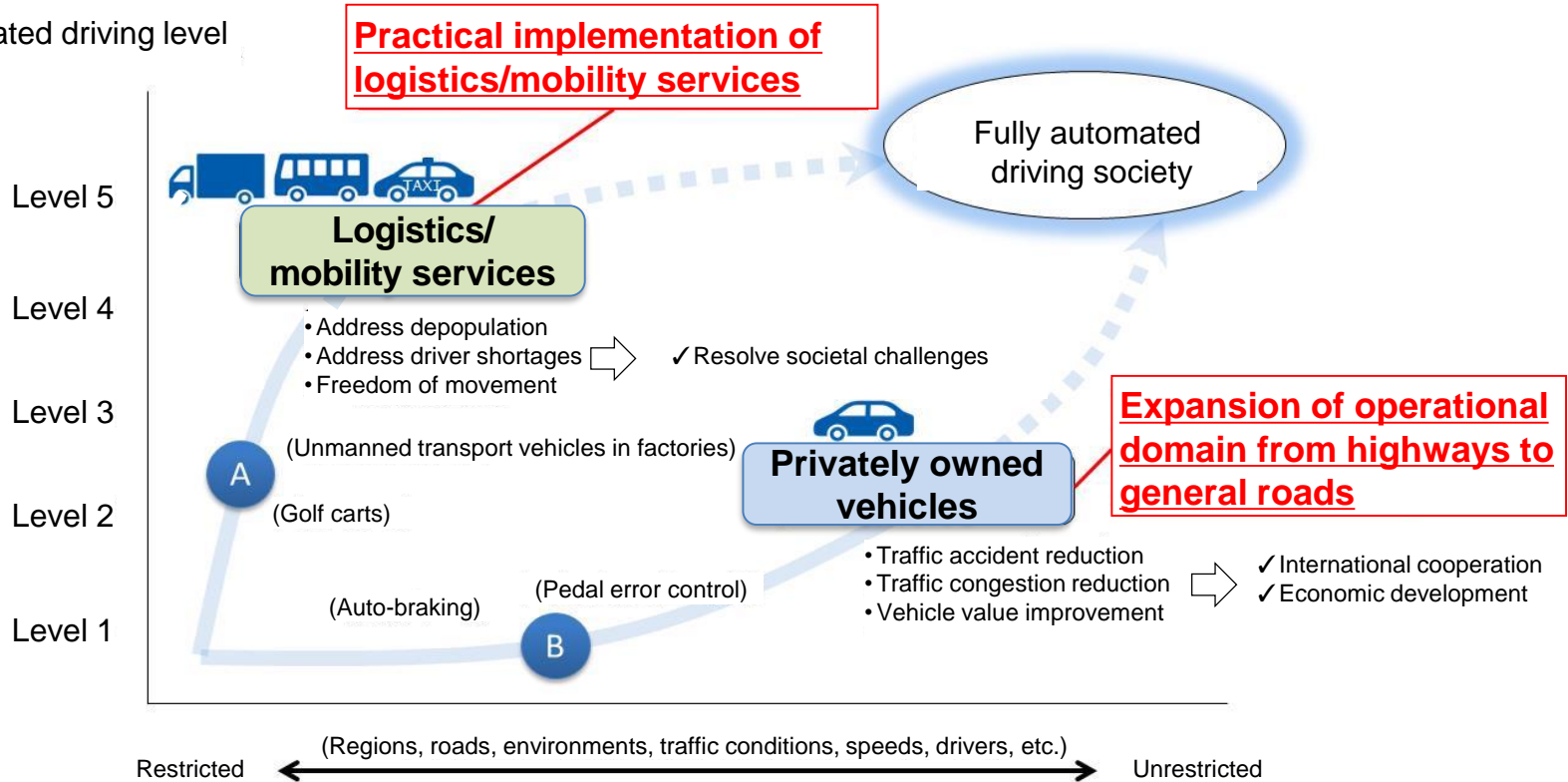


Lexus Teammate  
LS 500h

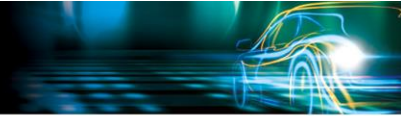


# Two deployment paths of Automated Driving

SAE\* automated driving level



# Evolution of ADAS



Example : JNCAP Preventive safety performance

2014

2015

2016

2017

2018

2019

2020

## AEB

(Autonomous emergency braking system)

Car to Car



For pedestrian at daytime



For pedestrian at night



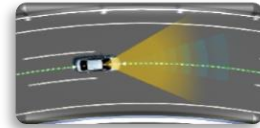
For pedestrian at night without lighting

## LDP

(Lane departure prevention system)

Lane departure warning

Lane departure prevention



## Rear-view monitoring

Rear-view monitoring



## Headlights

High-performance headlights

## Pedal misapplication

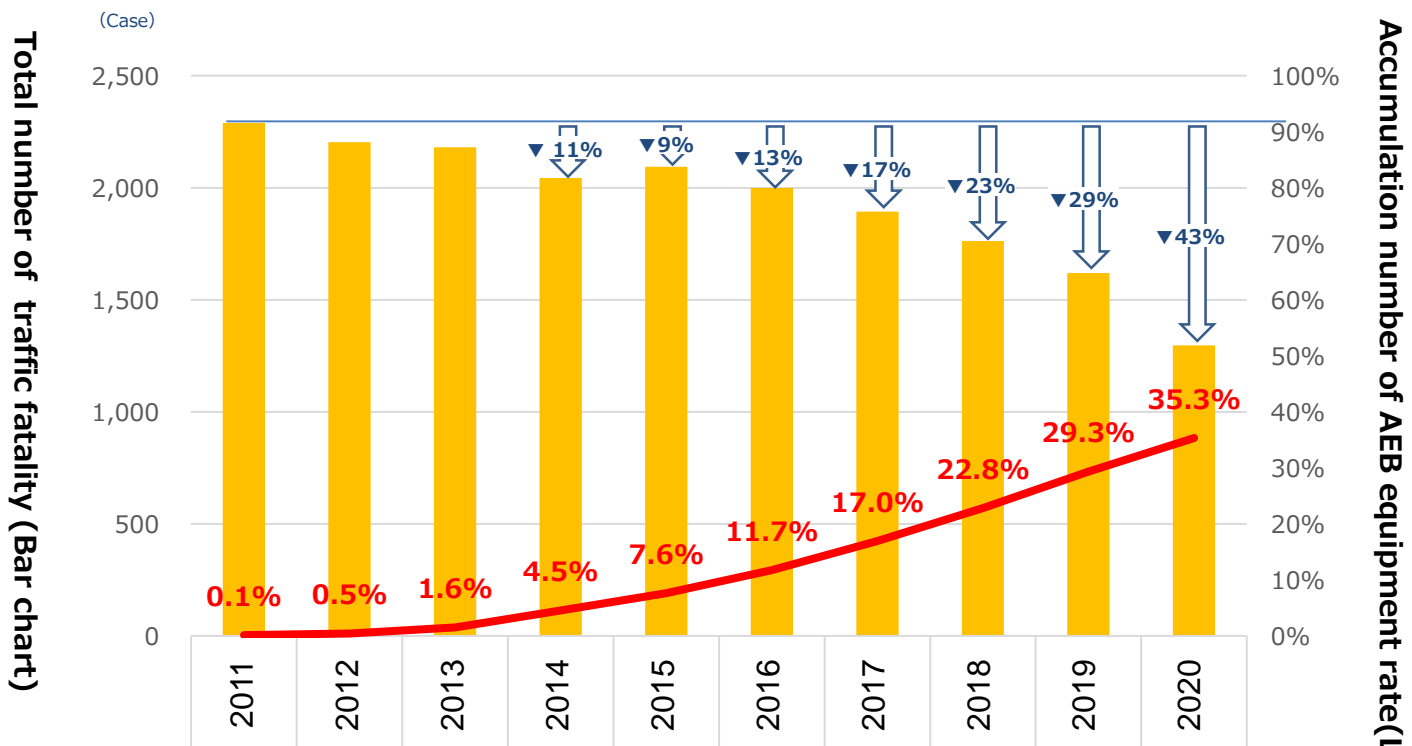
Pedal misapplication prevention





# Transition of traffic fatalities and AEB equipment rate

Japan



Source : ITARD Traffic accident annual statistical report

Note : Investigate only accidents which POV(Standard size, Small size, K car) becomes the first party



# Conclusion

- ◆ Automated driving technology and legal system have been moving forward steadily with industry-academia-government cooperation in Japan.
- ◆ ADAS including AEB has been spread and evolved rapidly. Those contribute the reduction of traffic fatalities and accident greatly.
- ◆ Business model with ADS has not yet established.
- ◆ “How safe is safe enough” and “How to evaluate” are still under discussion.

ADS; Automated Driving Systems

ADAS; Advanced Driver Assistance Systems

AEB; Autonomous Emergency Braking

**Thank you**

The background features a large, glowing blue and green globe in the upper left, with light trails and a futuristic car with glowing blue and yellow lines in the lower right. The overall scene is set against a dark background with horizontal light streaks at the bottom.

<https://en.sip-adus.go.jp/>