

# **Toyota's Connected & MaaS Strategy**

**Feb.6<sup>th</sup>,2019**

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# Toyota's Connected Strategy



**Build a Mobility Service Platform (MSPF)**  
for use with vehicles that will all be “connected”  
● On-board DCM\* standard on all passenger vehicles sold in Japan, U.S., China by 2020



**Accelerate business innovation within Toyota**  
by promoting the utilization of big data,  
benefiting customers and society



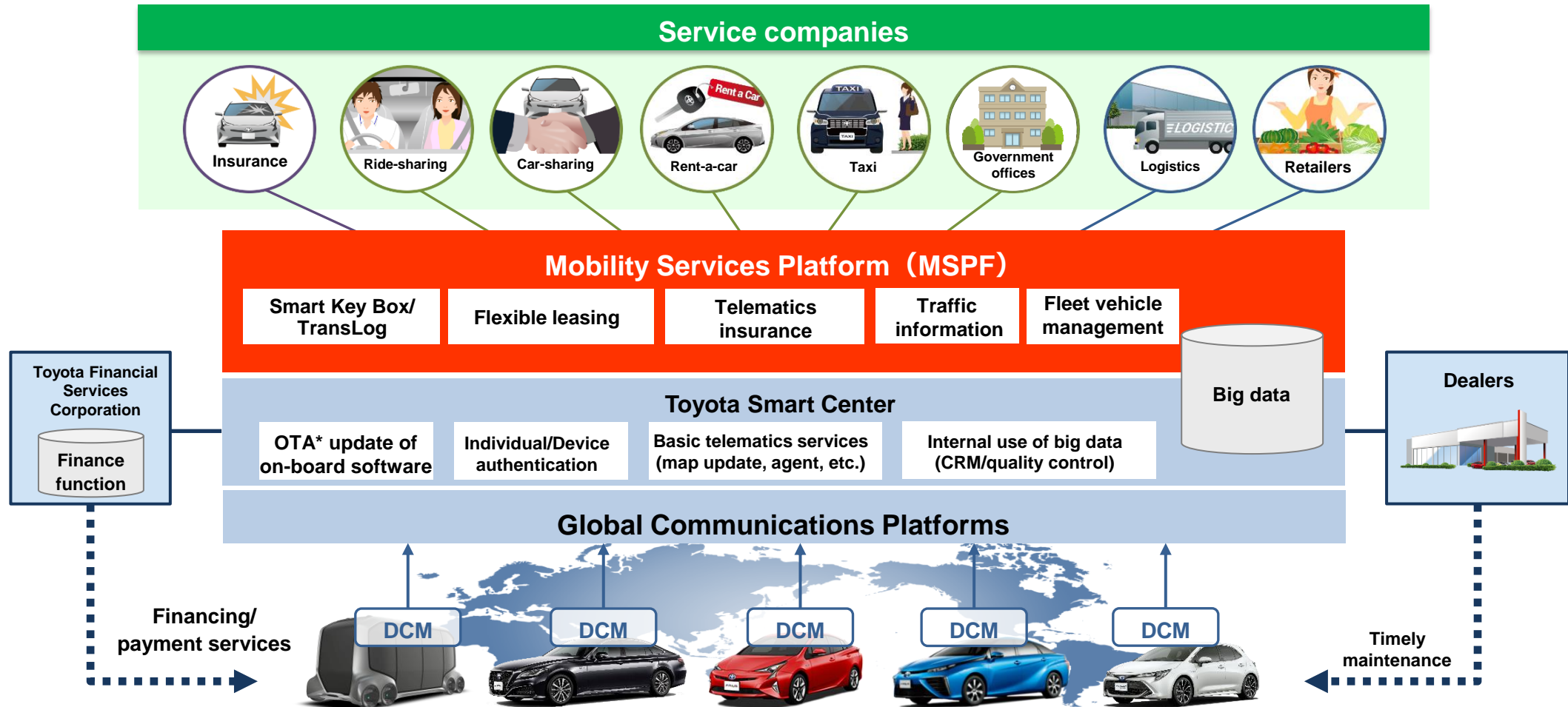
**Create new mobility services**  
via tie-ups with various companies

\*DCM: (Data Communication Module)

On-board dedicated communication module. Unlike general communication methods via mobile phones, a dedicated network makes connection with vehicles possible at all times.

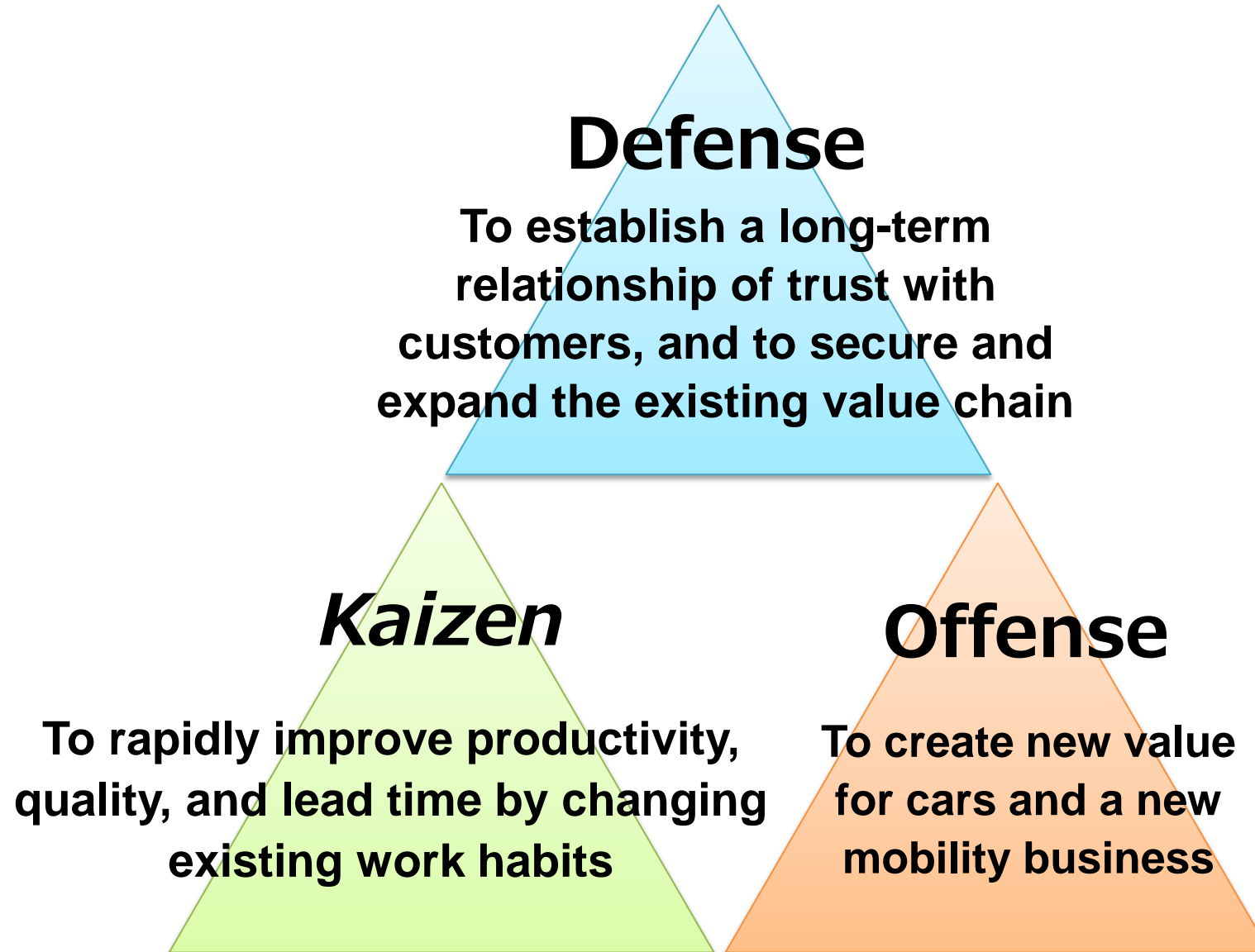
# Mobility Service Platform (MSPF)

- Safe and secure collection and management of data transmissions/big data between vehicles and external sources
- General service companies able to offer services to Toyota and Lexus vehicles via the Mobility Services Platform (MSPF)



\*OTA: "Over-the-Air" refers to the updating of software via wireless communication systems.

# Three faces of Connected Strategy

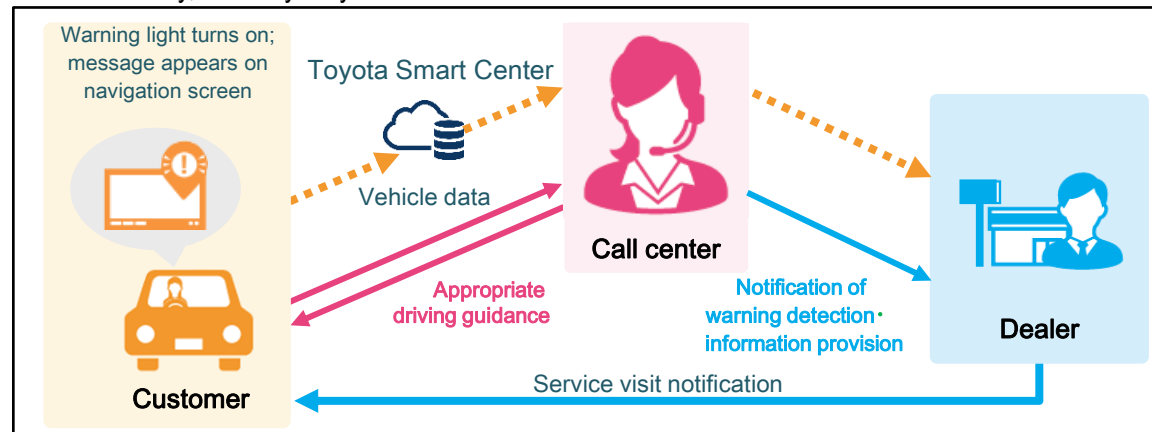


# Connected: “Defense”

- Timely after-sales service provision by dealers and a call center, both enabled by vehicle data
- Delivering a secure life with cars, therefore, increasing service visits to dealers and promoting sustained replacement with Toyota/Lexus vehicles

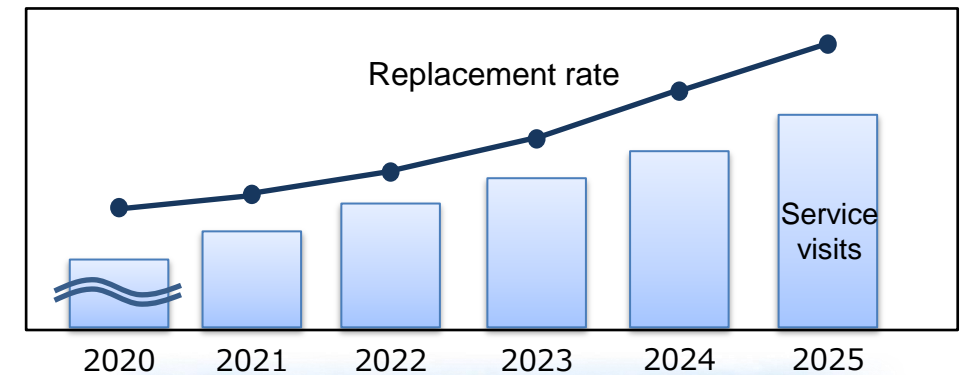
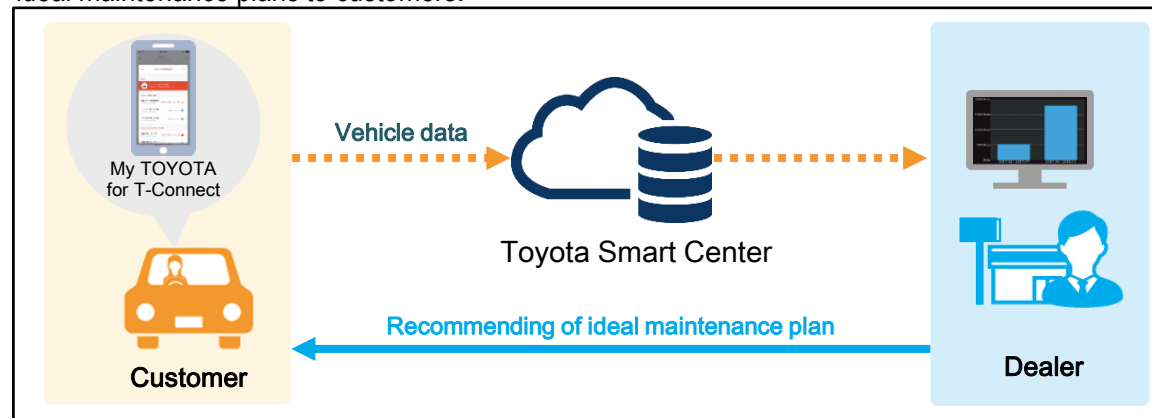
## ■ e-Care (Driving Guidance)

Providing advanced safety and security with dedicated operators monitoring customer cars 24 hours a day, 365 days a year



## ■ e-Care (Health Check Report)

Analysis of car use and driving styles of customers; recommending of ideal maintenance plans to customers.

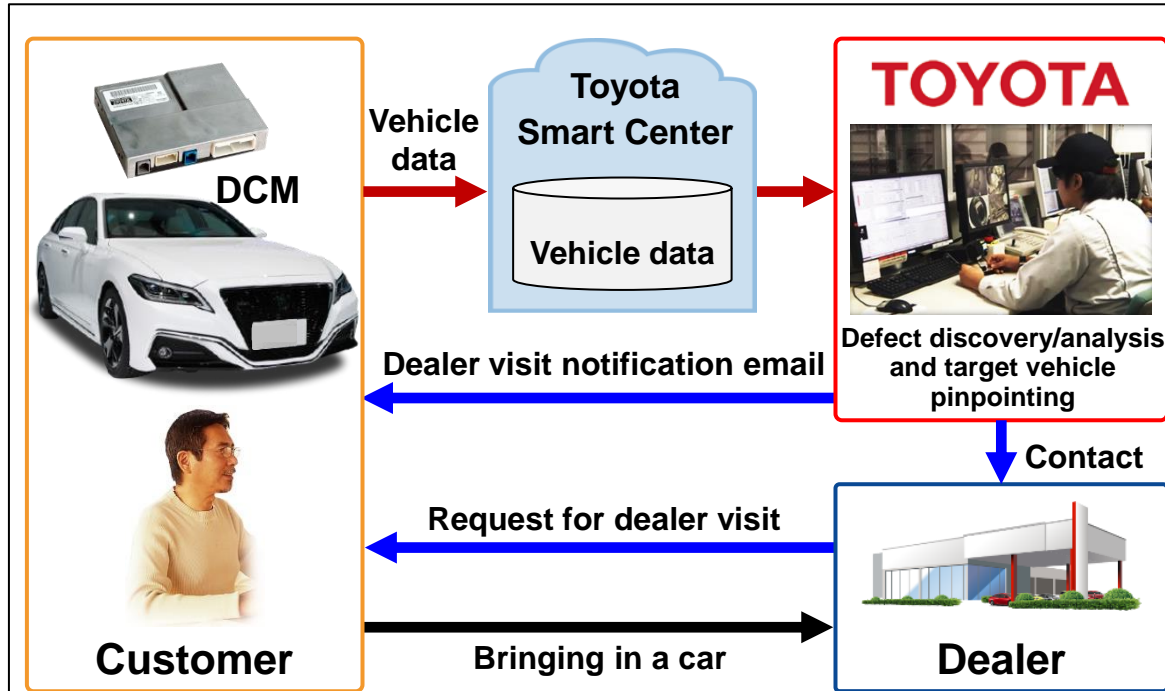


- Increase of service visits to dealers
- Sustained replacement with Toyota/Lexus vehicles

# Connected: “Kaizen”

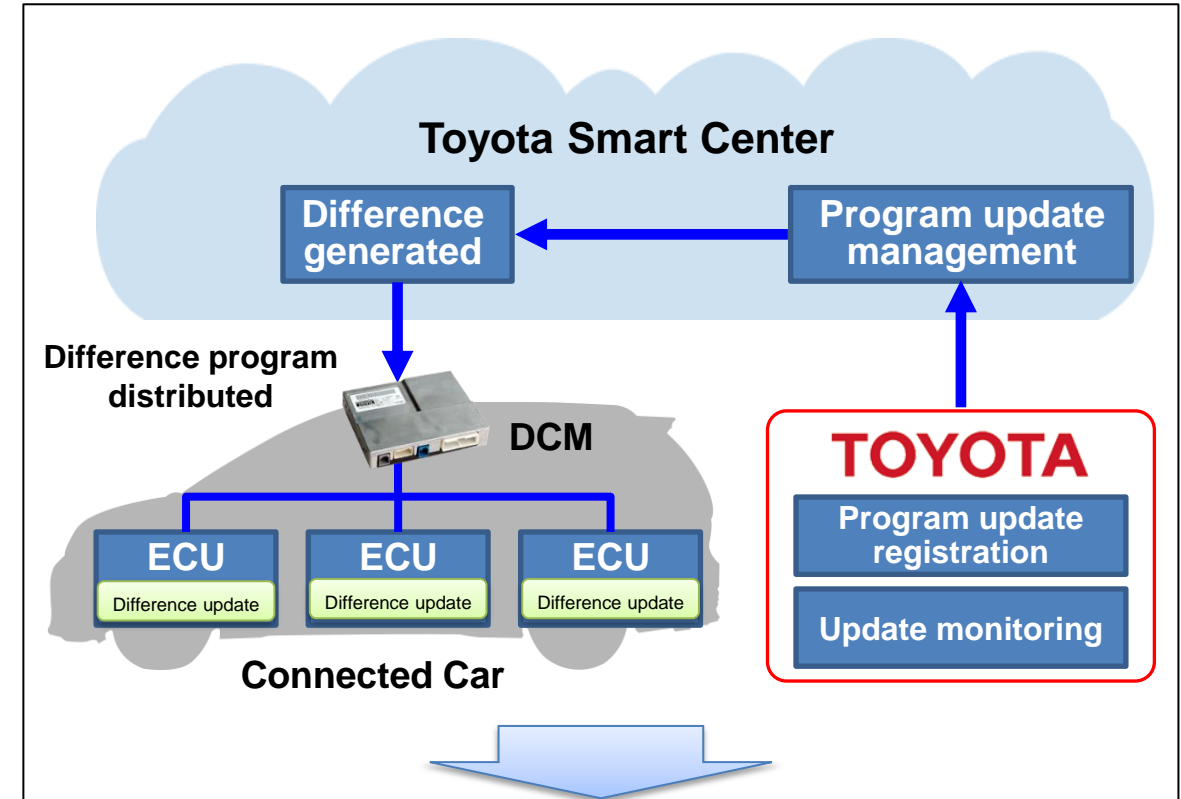
- EDER (Early Detection and Early Resolution): Early detection of market defects and pinpointing of target vehicles made possible through vehicle data
- OTA (Over-the-Air): On-board software can be constantly updated, reducing costs

## ■ EDER



- Faster, more efficient market action
- Action-cost reduction

## ■ OTA



- On-board software kept updated
- Update cost reduced

# Connected: “Offense”

- Creating new value for vehicles: Cloud AI virtual assistant “Agent” transforms cars via the ability to communicate with people
- Creating a new mobility business: New growth field as a mobility company

## ■ Creating new value for vehicles



### Agent 1.0



Hello. How may I help you?

Can you find me a soba restaurant nearby?



Searched for soba restaurants nearby.  
The first one is..., the second one is...

Set the second one as my destination.

### Agent 2.0 (Concept-i)



You seem tired.

...



We are entering an automated driving zone.  
Would you like to set the car to automated driving?

## ■ Creating a new mobility business

### MaaS (Mobility as a Service)



Uber

Getaround

Grab

DiDi  
More than a journey

TOYOTA  
MOBILITY SERVICE




KINTO



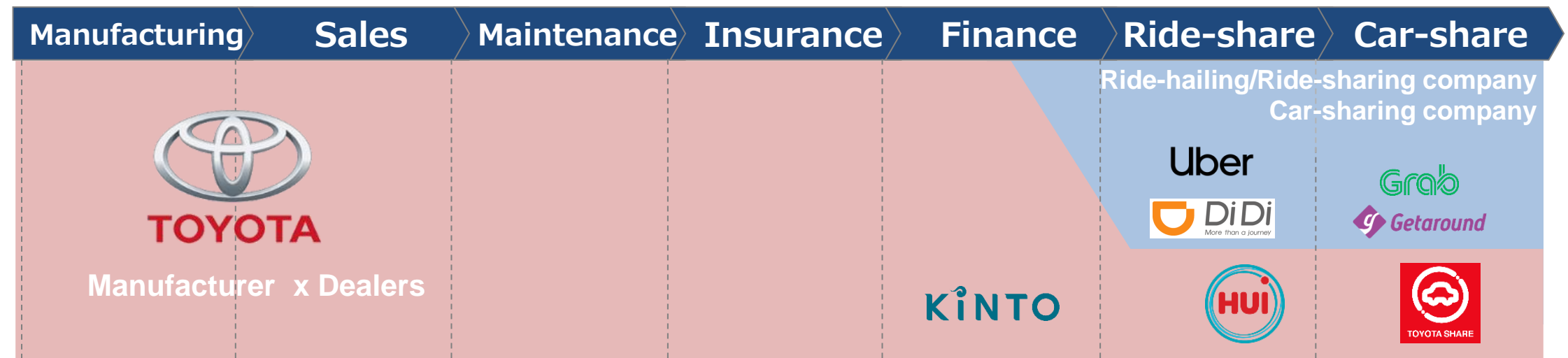
# MaaS Strategy Approach

- Three-approach strategy promotion tailored to the region and market
- Provision of maintenance, insurance, and leasing in addition to cars by the Toyota Group

## ■ Three-approach MaaS Strategy

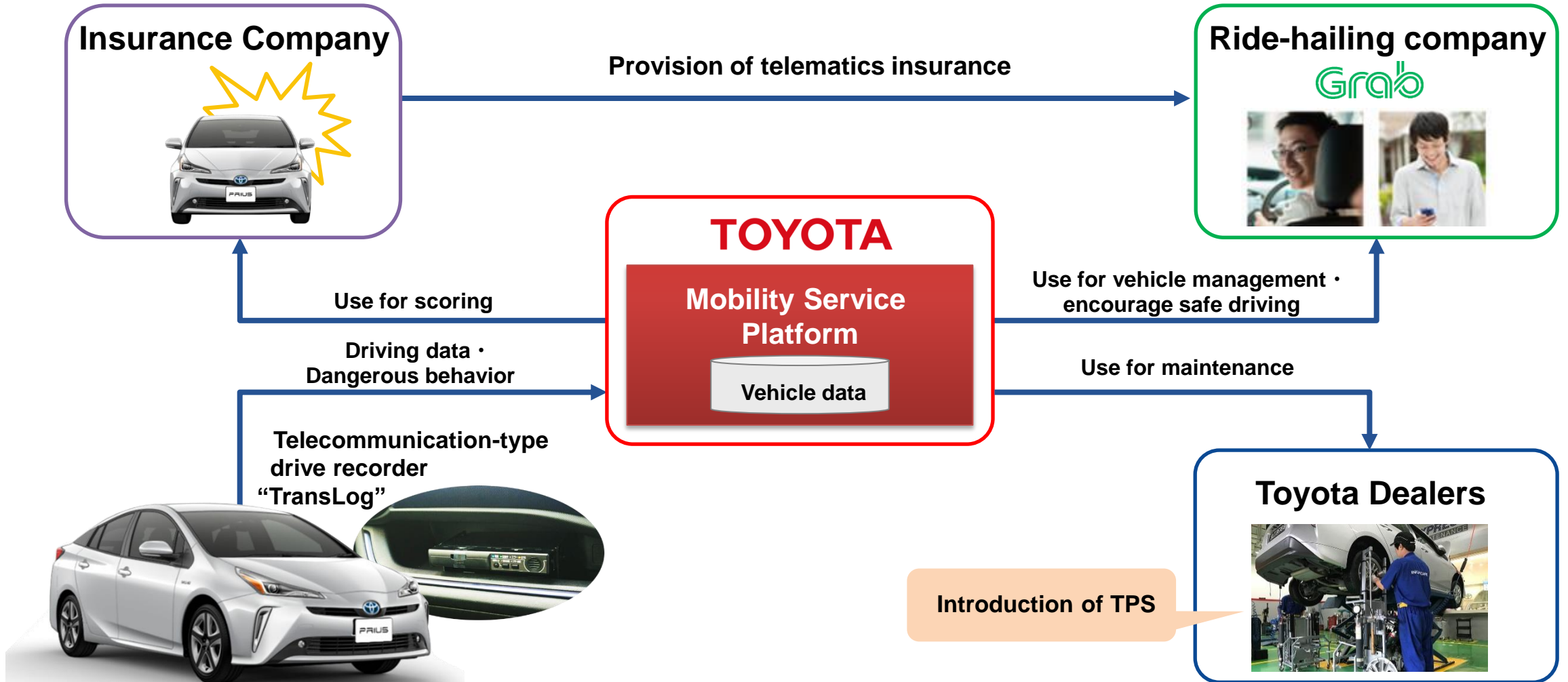
1	<b>Collaboration Model</b>	... Collaboration with powerful regional MaaS players	
2	<b>Toyota-led Business Model</b>	... Toyota the main business entity in the MaaS business	
3	<b>Toyota Dealer-led Business Model</b>	... Dealers the main business entity in the MaaS business	

## ■ Securing the value chain in the MaaS domain



# Collaboration with Grab: "Total-care Service"

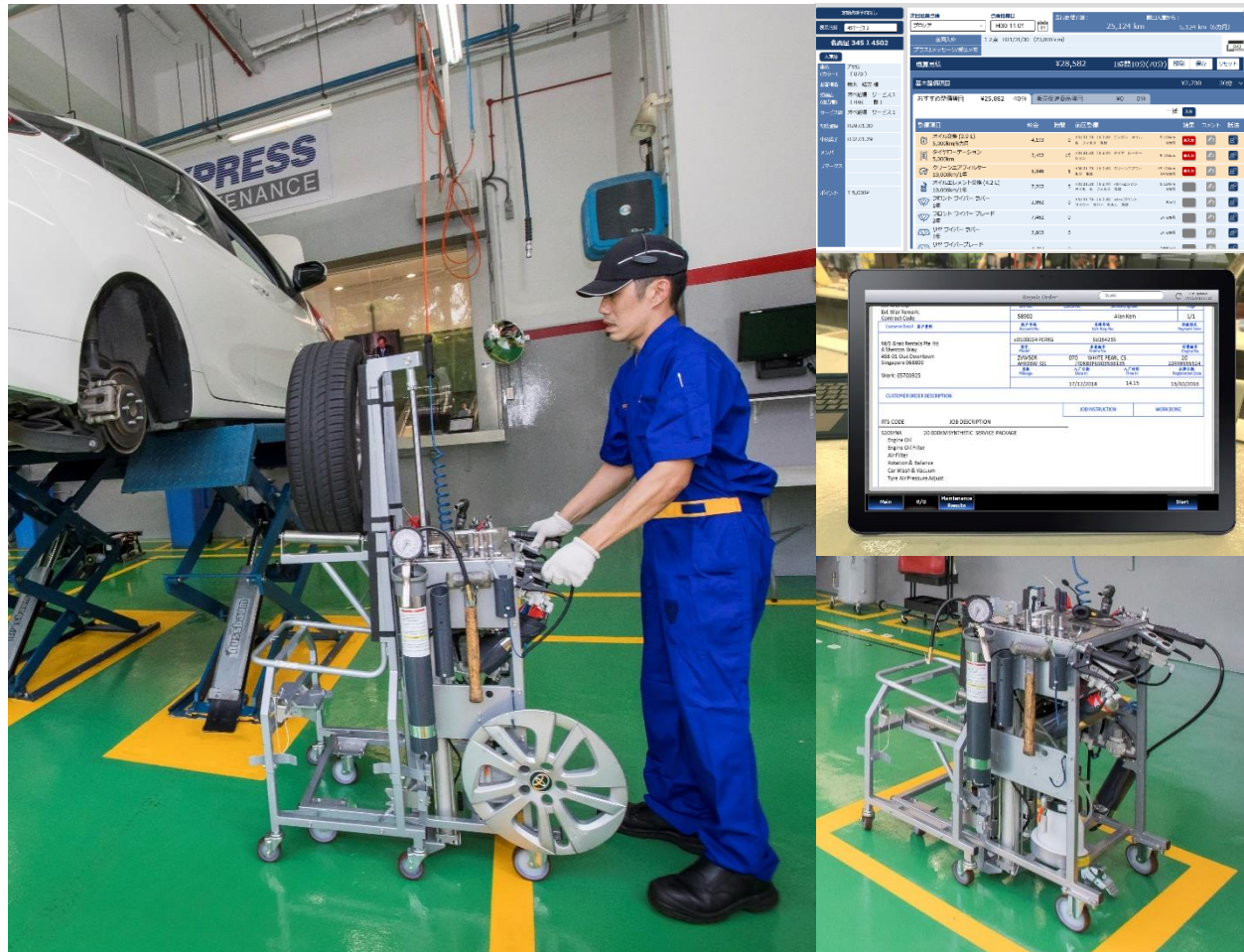
- Provide support for safe, efficient operations by sharing vehicle/driving data via a Mobility Service Platform (MSPF)
- Provide insurance, vehicle management, and maintenance, all coordinated with data, by the Toyota Group



# Collaboration with Grab: Introduction of TPS

- Provision of highly efficient maintenance with ICS (Intensive Care Stall) leverages TPS' kaizen specifically for Grab cars
- Increase Toyota's share of Grab rental vehicles in Southeast Asia by 25% (by 2020)

## ■ ICS

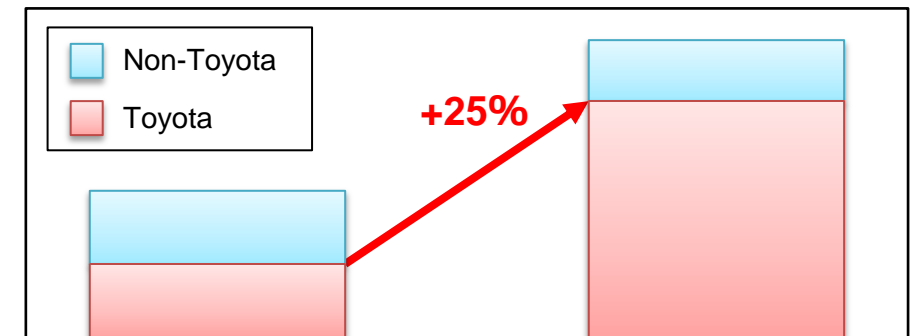


- Preparation using vehicle data
- Work instructions on tablets
- Standardized work with work-assistance carts



**Increase operating rate of vehicles;  
Reduce maintenance costs**

## ■ Toyota's Share in Grab's Rental Vehicles



2020

# Toyota/Toyota Dealer-led MaaS Businesses

## ■ Fleet-leasing business

- Lineup of approximately 70 models, from compact to hybrid vehicles
- Provision of connected service “TransLog”
- Centralized management of administrative processes linked to vehicle data
- “Anshin Plus” allows users to receive high-quality maintenance anytime across Japan

## TOYOTA MOBILITY SERVICE



## ■ Car-sharing service in Japan “TOYOTA SHARE”

- Available 24/7 with a smartphone app
- Vehicle doors can be unlocked/locked via user smartphones
- No sign-up/monthly fee
- Prices from 150 yen (tax incl.) per 15 min.
- Vehicles equipped with additional safety functions and assisted-mobility vehicles available
- Cars can be returned to stations other than the station from which the car was borrowed



## ■ Car-leasing business for individual customers

## KINTO

### 1) KINTO-ONE

- Max. 3-year contract, monthly fixed-sum lease fees
- Fee includes maintenance, voluntary insurance, and more
- Points awarded based on data reflecting peace-of-mind services and safe driving, gathered by connected technology

### 2) KINTO-SELECT

- Max. 3-year contract; users can lease 6 different cars in total, changing every 6 months. Monthly fixed-sum lease fees
- Fee includes maintenance, voluntary insurance, and more
- Peace-of-mind services through connected technology

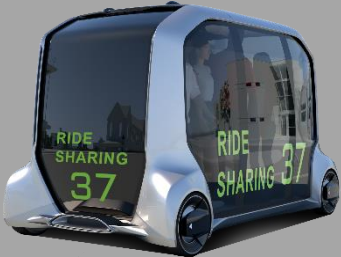


## ■ North America Car-sharing service “Hui”

- Available for use at 25 stations in Honolulu City
- Available 24/7 with a smartphone app
- Vehicle doors can be unlocked/locked via user smartphones
- 24/7 help desk and roadside service
- Gasoline, vehicle insurance, roadside service, tax, maintenance, and cleaning are included in the basic fee.
- Prices from \$9.95/hour



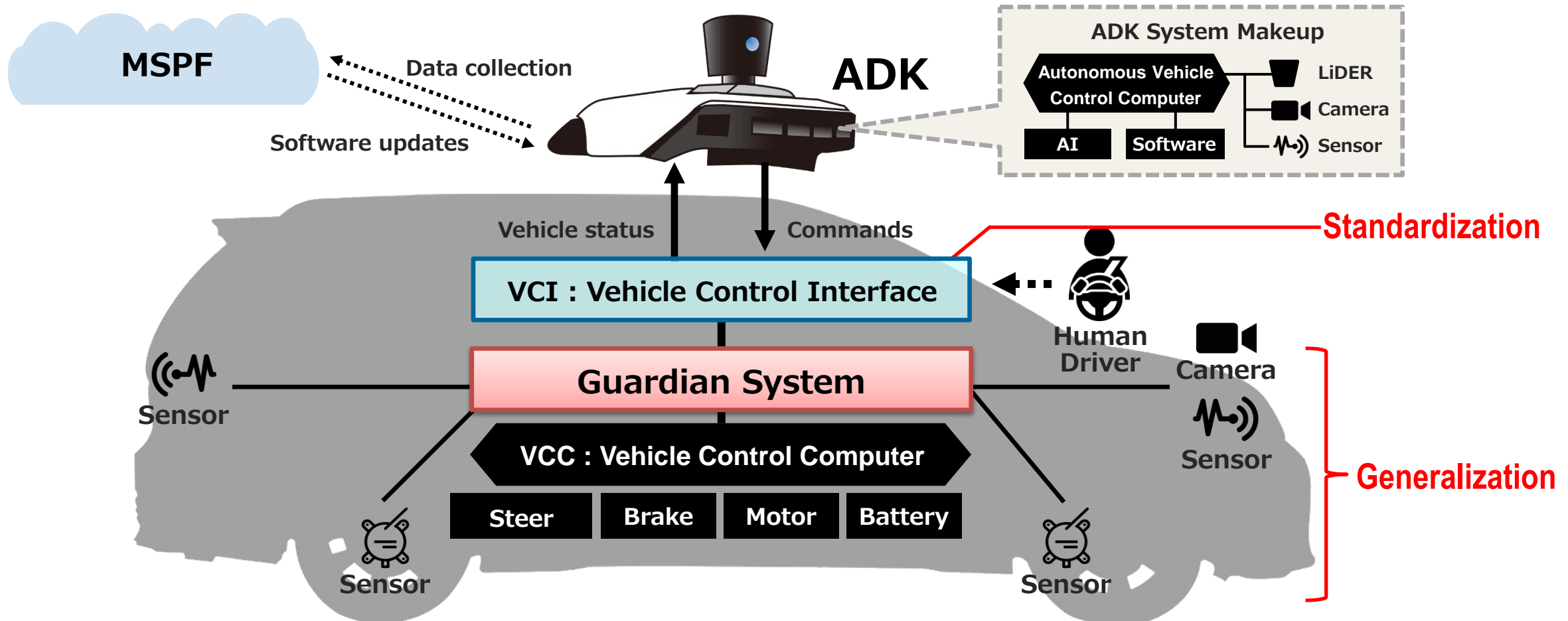
# MaaS-dedicated Vehicle Lineup

Develop multi-task vehicles that reflect the characteristics of MaaS (including capacity efficiency, ease of getting in/out, cleaning, and maintenance)

	e-Palette	MaaS Sienna	MaaS BEV
			
Purpose	Multi-task short distance transportation (people/cargo)	Medium-to-long distance ride-sharing	Short-to-medium distance ride-sharing
Launch	2020 Tokyo Olympic Games	2021	-
Power	BEV	HEV	BEV
Size	Large	Medium	Small

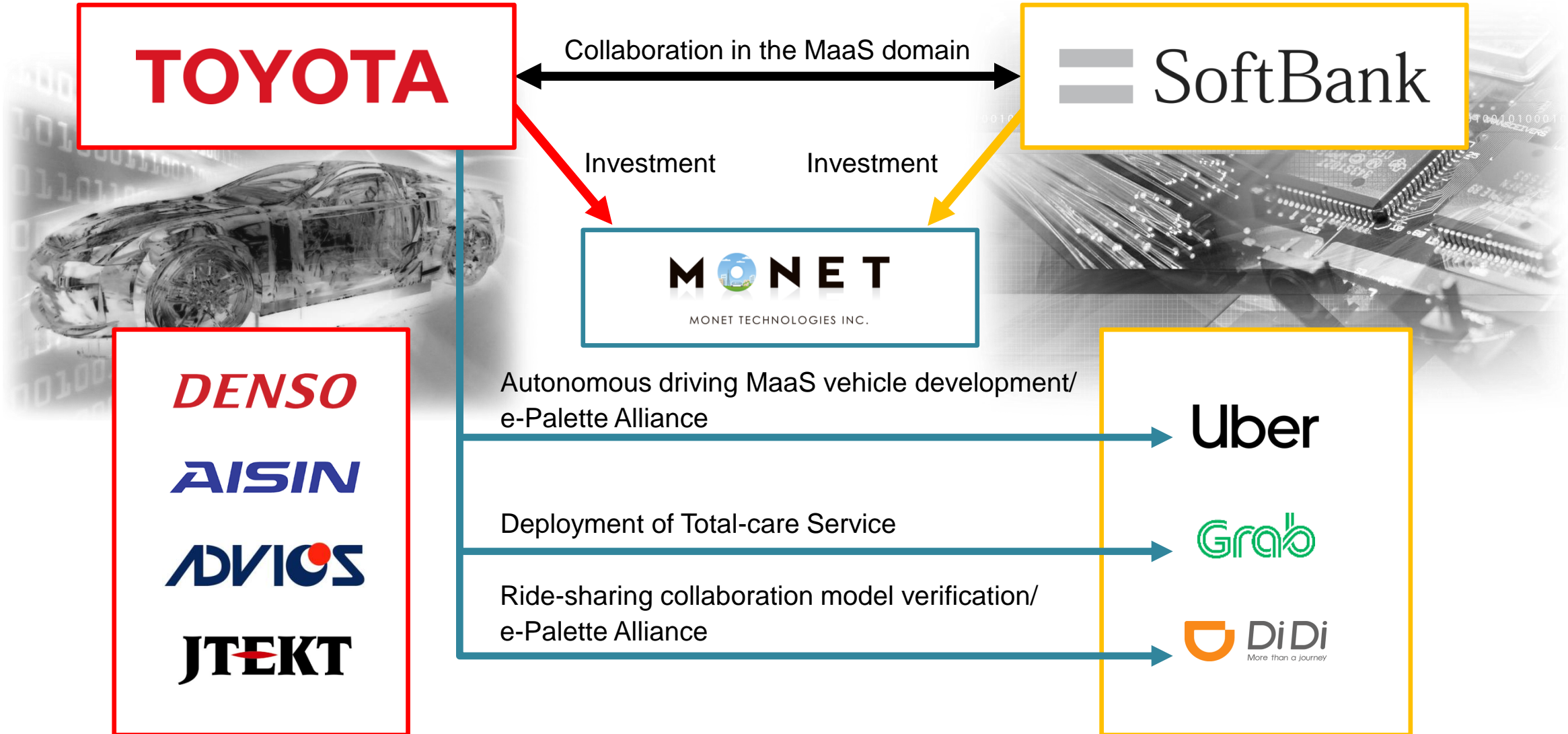
# Autonomous Driving MaaS Vehicles

- Convert Level 2-3 mass-produced vehicles into Level 4 MaaS-dedicated vehicles through ADKs (Autonomous Driving Kit)
- Improve safety through dual-monitoring of the surrounding environment by the ADK software and the Guardian system on the vehicle
- Promote standardization of VCI (Vehicle Control Interface) and generalization of the vehicle control unit, including the Guardian system



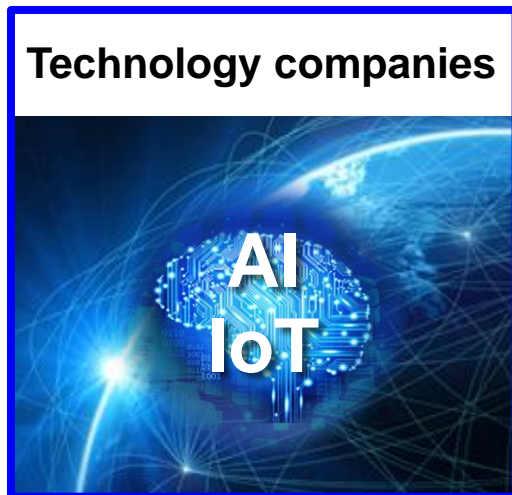
# Global Collaboration in MaaS

Create a new mobility service by fusing the SoftBank Group's IT assets and Toyota Group's power of *monozukuri*



# Using Toyota's Real-World Technology and Assets as Strengths

Mass-produce advanced vehicles equipped with AI at sufficient quality and appropriate cost, and conduct maintenance on those vehicles at appropriate intervals to popularize them as safe mobility services in society



## Popularization of Mobility Services

Two images illustrating advanced hardware/software. The left image shows a sleek, white, futuristic car with its door open. The right image shows a white autonomous shuttle with 'RIDE SHARING 37' on its side, parked in a city street. In the background, there are other vehicles labeled 'LOGISTICS' and 'FAB LAB', and a 'Pizza Delivery' sign.

Advanced hardware/software

Mass-production at sufficient quality and appropriate cost

Timely maintenance

Popularization in society as a safe mobility service





***Toward a mobility society in which everyone can move safely, smoothly, and freely***