

# BANK OF AMERICA MERRILL LYNCH CONFERENCE CALL TELEMATICS AUTO INSURANCE REFERENCE MATERIALS

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MS&AD あいおいニッセイ同和損害保険株式会社

## WHAT IS TELEMATICS AUTO INSURANCE?

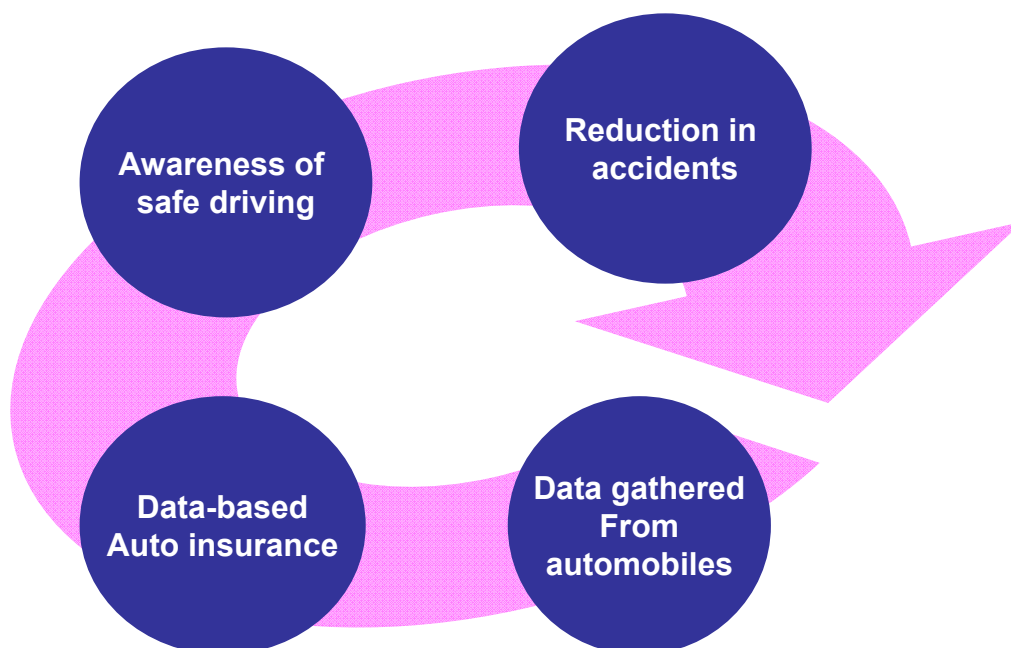
# T e l e m a t i c s

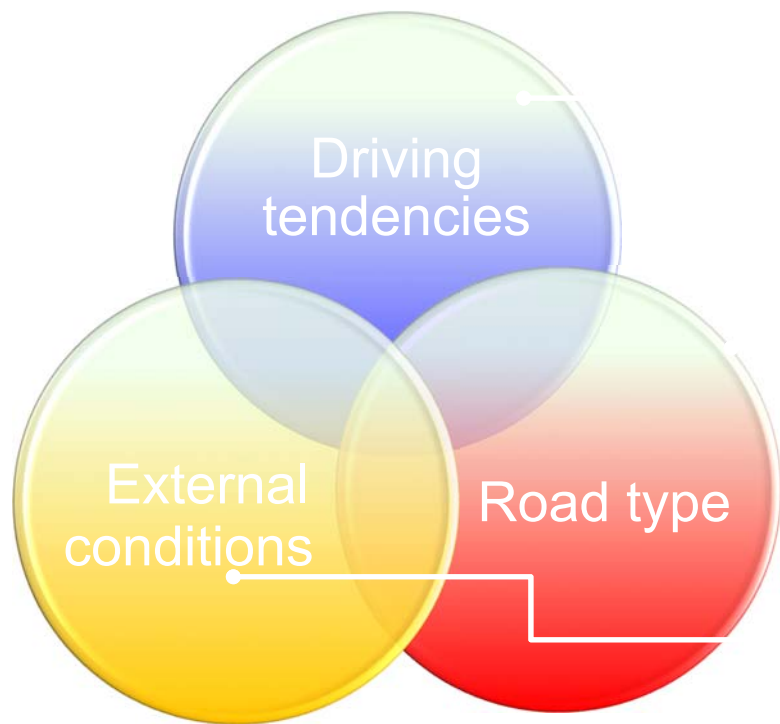
**Telecommunication**  
(遠隔) 通信



**Informatics**  
情報工学

■ Expectations are high for telematics auto insurance and services as an incentive insurance to encourage drivers to drive more safely. Based on telematics technology, the product uses various types of data collected from automobiles.





Sudden acceleration • sudden braking • handling  
• Distance • Speeding • Time

General roads • major roads • highways • Ratio of more dangerous roads

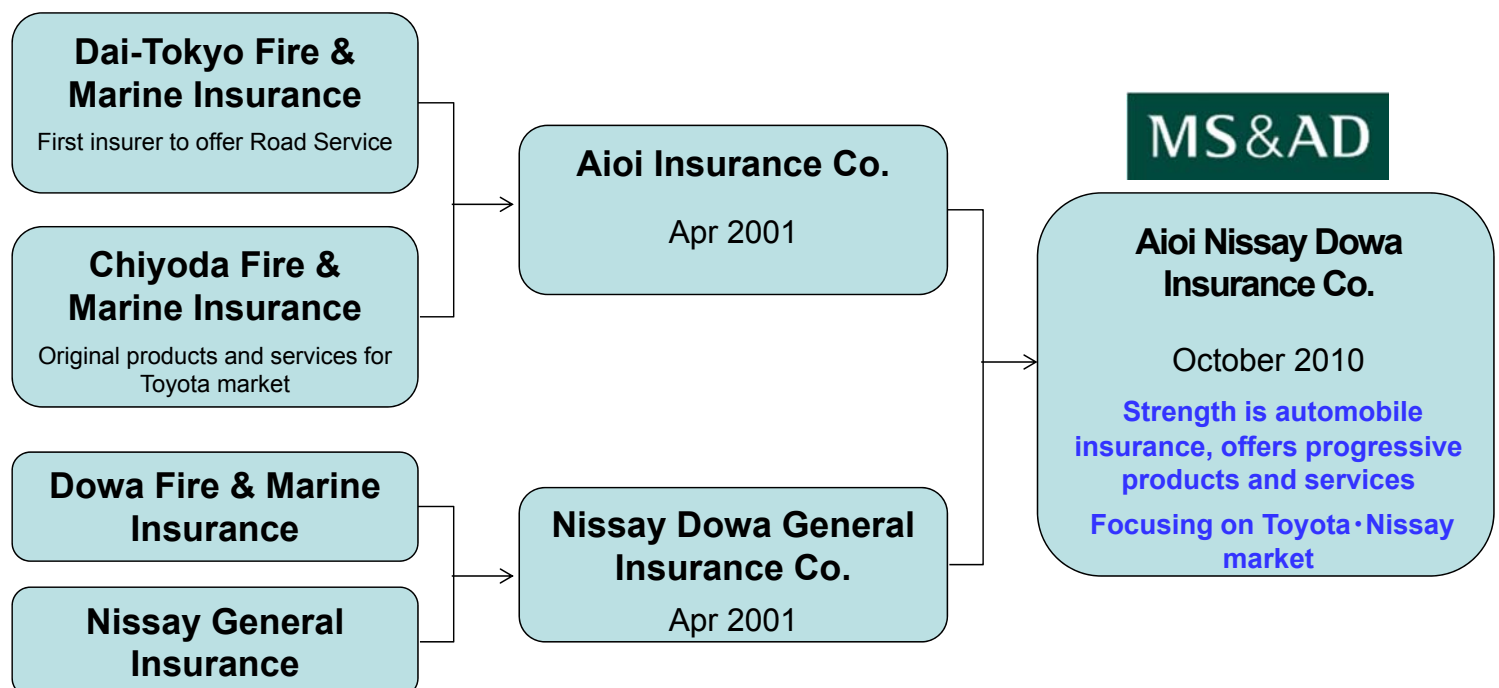
Rainfall • cloudiness • temperature • sunlight • wind speed • location, etc.

- Telematics insurance being developed around the world
- Most widespread in the US, UK, Italy, and South Africa

Location	Recent developments
US	<ul style="list-style-type: none"> <li>■ Most developed telematics insurance market</li> <li>■ Market leader Progressive Auto Insurance has 4mn+ policyholders</li> </ul>
Europe	<ul style="list-style-type: none"> <li>■ Primarily through use of mounted devices and smartphones</li> <li>■ Most UK business models are oriented toward younger drivers, with high premiums</li> <li>■ In Italy, telematics insurance is largely intended to deter theft using mounted devices</li> </ul>

# BACKGROUND TO DEVELOPMENT OF TELEMATICS AUTO INSURANCE

- Aioi Nissay Dowa Insurance Co. was formed in October 2010 from the merger of Aioi Insurance Co. and Nissay Dowa General Insurance Co.
  - Aioi Insurance was formed from the merger of Dai-Tokyo Fire & Marine Insurance and Chiyoda Fire & Marine Insurance
  - Dowa Fire & Marine Insurance and Nissay General Insurance merged to form Nissay Dowa General Insurance
- ⇒ Non-life insurance company with strength in automobile insurance.  
Offers progressive products and services



# Original Products for Toyota Vehicles

## An auto insurance developed from crash tests Don! To omakase

- The only Japanese insurer with crash test facilities and with original products developed using the company's close affiliation with an automobile manufacturer.
- Company crash test facilities are used to assess vehicle durability and ease of maintenance to offer insurance premium discounts.



## Original products developed based on partnership with Toyota

- A convenient and reasonable auto insurance premium that allows automobile installment payments and insurance premiums to be paid together **「Conbini Plan」**
- Auto insurance with no accident incentive, payable with credit card **「Nagaraku Plan」**
- Automobile insurance affiliated with T-connect, Toyota's telematics service **「Tsunagaru Automobile Insurance」**

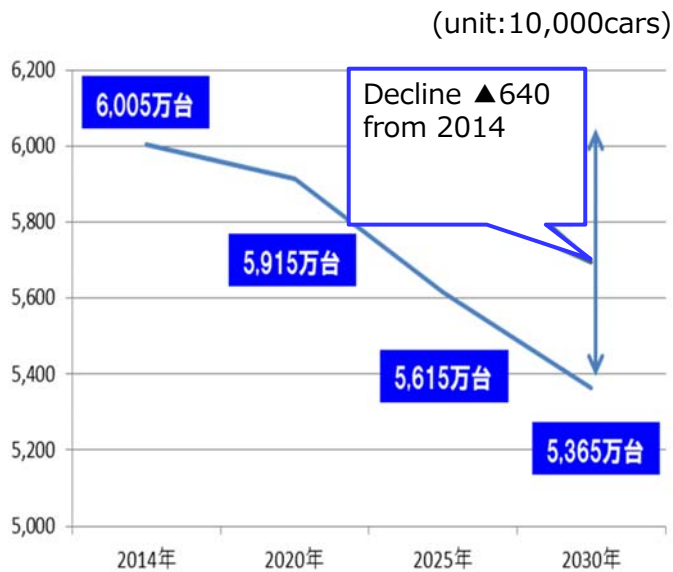


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## WHY AIOI NISSAY DOWA INSURANCE ENTERED THE TELEMATICS AUTO INSURANCE BUSINESS

# The expanding connected car market

## ◆ Automobile market forecast



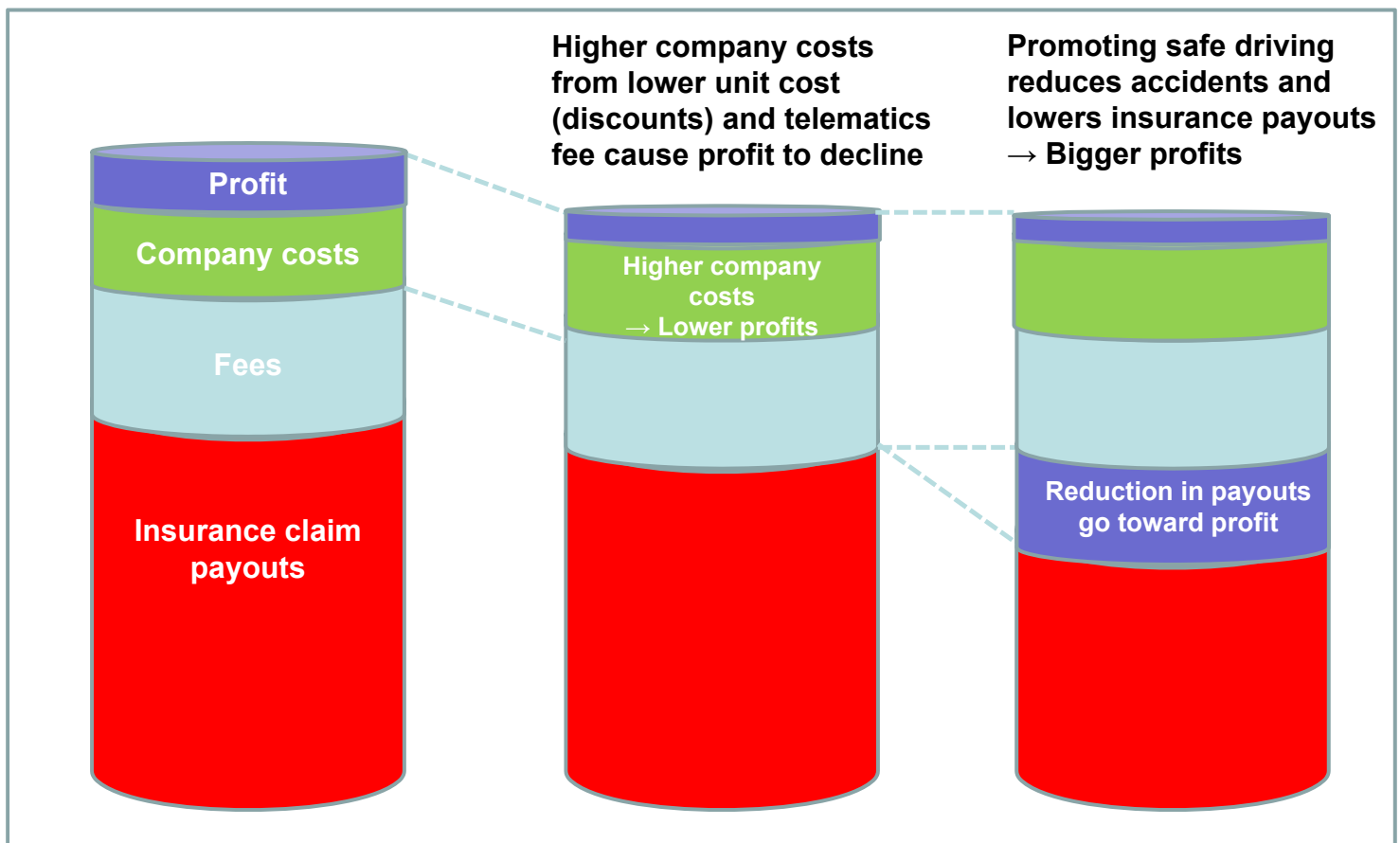
\* Source: Automobile Dealers Association.

## ◆ Connected car market forecast

	2012	2025
World	7.6mn	85mn
Japan	90,000	12.75mn

Approximately  
140x bigger

## Bigger profits



# Preparing for autonomous vehicle insurance



**Who is the responsible party for accidents involving autonomous driving?**



**Can the cause of self-driving vehicle accidents be investigated?**  
System malfunction, cyber attacks...



**How are accident conditions confirmed when the autonomous vehicle system is in use?**

Auto insurance companies that cover autonomous vehicles need the ability to collect and the expertise to analyze travel data in order to pinpoint the cause of accidents



One of the first telematics insurance companies to work together with automakers ahead of autonomous vehicle coverage

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## TSUNAGARU KURUMA INSURANCE PRODUCTS AND SERVICES



# Japan's first telematics automobile insurance



2004

**PAYD: Pay-as-you-drive**  
(insurance premium reflects  
actual distance traveled)

Vehicle data is collected automatically using telematics technology  
Insurance premium paid only on actual monthly distance traveled  
(unit: 1km)

## Japan's first insurance that reflects driver behavior

**“TOUGH-Tsunagaru” Auto Insurance**



Telematics auto insurance for Toyota connected cars



# “TOUGH-Tsunagaru” Auto Insurance

Provide necessary data to calculate premium, provide service

Toyota Smart Center

provide the driving data

Aioi Nissay Dowa Insurance

Toyota Dealers

Provide Insurance and Service

Customer



Connected Car

Enjoying

Saving

Supporting



# “TOUGH-Tsunagaru” Auto Insurance



**Enjoying** to drive safe

You can feel that your driving skill is progressing while having fun by Safe Driving Score. we provide 2 kind of advice “Drive Report” & “Monthly Report”.

Confirm your drive every time

Drive Report



- Safety Driving Score
- Drive Report Map
- Alarm Information
- Advice for you

You can feel your driving skill is progressing by Safety Driving Score.

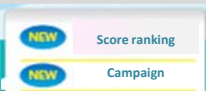
Confirm your result every month

Monthly Report



- Safety Driving Score
- Calculated premium
- Advice for you

We will provide **New Service** to make your driving more fun since Dec. 2018.



※「マンスリーレポート」は1か月の車両運行情報の集計で、4/10登録車契約で10月分レポートは10/10〜10/29までの車両運行情報の集計。

# “TOUGH-Tsunagaru” Auto Insurance



## Saving by drive safe

You can get discount spontaneously during enjoying safety driving.  
You can get discount by safety driving completely.

Premium is consisted by “Basic Premium” and “Driving Premium”

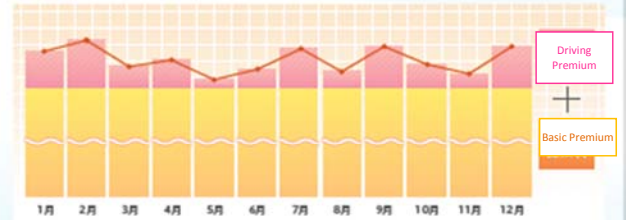
Driving Premium is calculated by  
“Safety Driving Score” and “Distance”.



### 1 Calculated by “Safety Driving Score”



### 2 Calculated by “Distance”



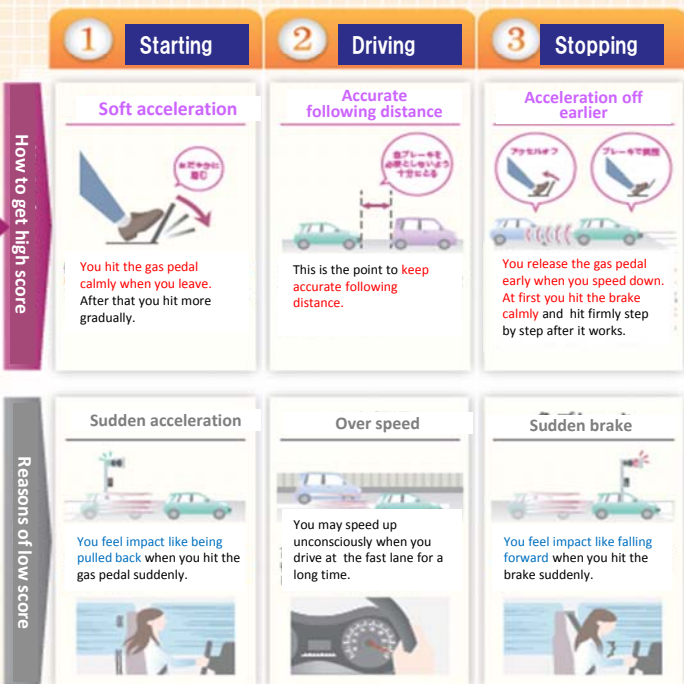
Driving Score	Driving Distance for a year				
	4,000km <333km>	8,000km <667km>	12,000km <1,000km>	16,000km <1,333km>	20,000km <1,667km>
80~ score	92,400円 ▲4,800円	93,600円 ▲9,600円	94,800円 ▲14,400円	96,000円 ▲19,200円	97,200円 ▲23,800円
60~79 score	94,800円 ▲2,400円	98,400円 ▲4,800円	102,000円 ▲7,200円	105,480円 ▲9,400円	109,080円 ▲12,000円
~59 score	97,200円	103,200円	109,200円	115,080円	121,080円

You will be satisfied with reasonable premium.

# “TOUGH-Tsunagaru” Auto Insurance

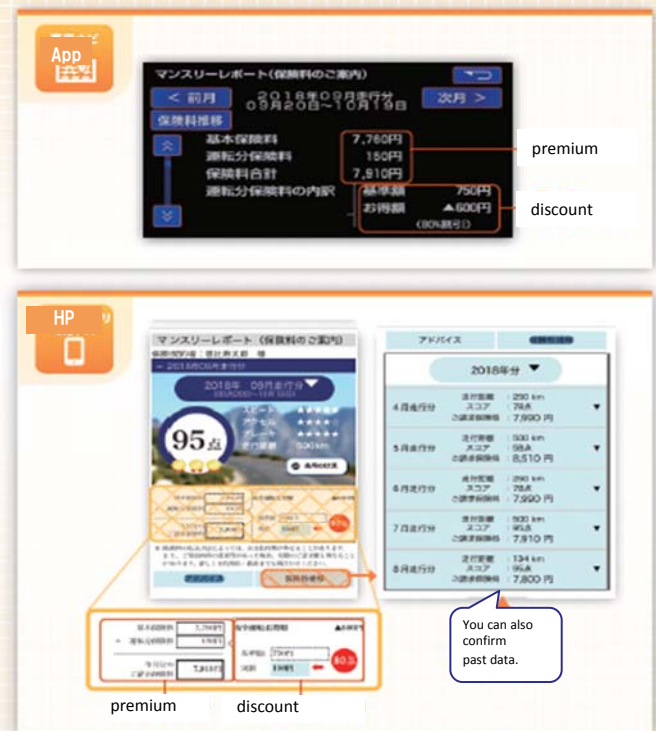
## Safely driving point

It is important to know safely driving's point for getting high score.



## How to confirm premium

You can confirm both monthly and driving premium by using application .



●上記ポイントは安全運転の一環です。実際に走行する際は、交通ルールを守って安全運転を心がけてください。  
●道路状況や子どもの飛び出し等の事故につながる危険を察知した場合は、急激なブレーキ操作をしても危険を回避してください。

# “TOUGH-Tsunagaru” Auto Insurance



## Supporting for your safety

We call to customer of “TOUGH-Tsunagaru” automatically when the car get big impact.  
We support to ask towing service and making accident report. Then we also call to your family.

Safety  
For  
Driver

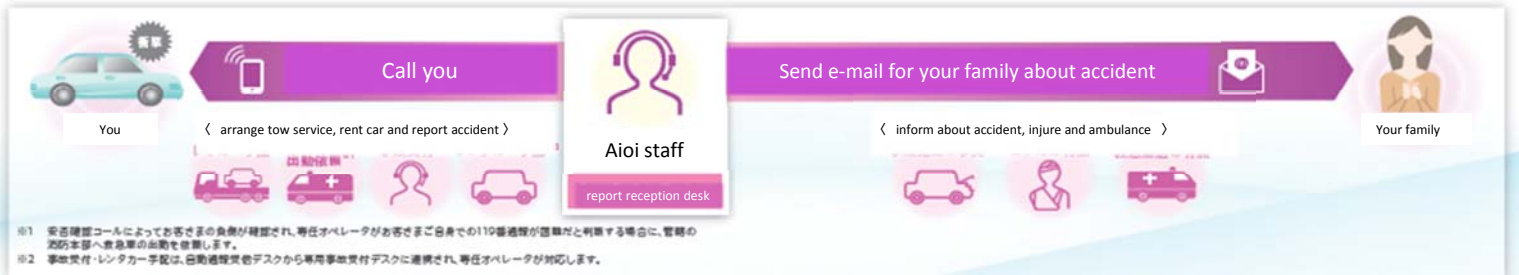
### Emergency Real Time Support

We call you to confirm your safety when TOYOTA connected car gets big impact and inform about it to report reception desk automatically.

Safety  
For  
Family

### Safety Watching Support

We send e-mail to your family about accident, injure or not, use ambulance or not.  
This service was created by customer's voice.

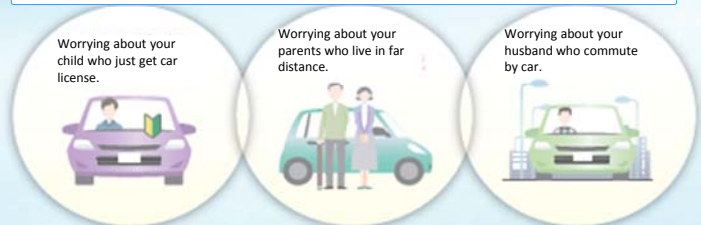


#### If you don't need calling from Aioi..

If you don't need calling from Aioi, We send you e-mail.  
We will arrange tow truck, rent car and report accident after we got contact from you as usual.



We also send e-mail for your family in below cases.



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## TSUNAGARU AUTO INSURANCE SALES THUS FAR



# Acquisition of new contracts and reduction of accidents

## ◆ Acquisition of new contracts

- Among newly registered Toyota's new-type 'Crown' cars in July, ADI acquired a large share of auto insurance contracts above its market share.
- Over 70% of ADI's auto insurance contracts for new-type 'Crown' are 'Tough Tsunagaru' PHYD-type contracts.
- Our share of new contracts for 'Lexus' exceeded the share in the same period of last year.

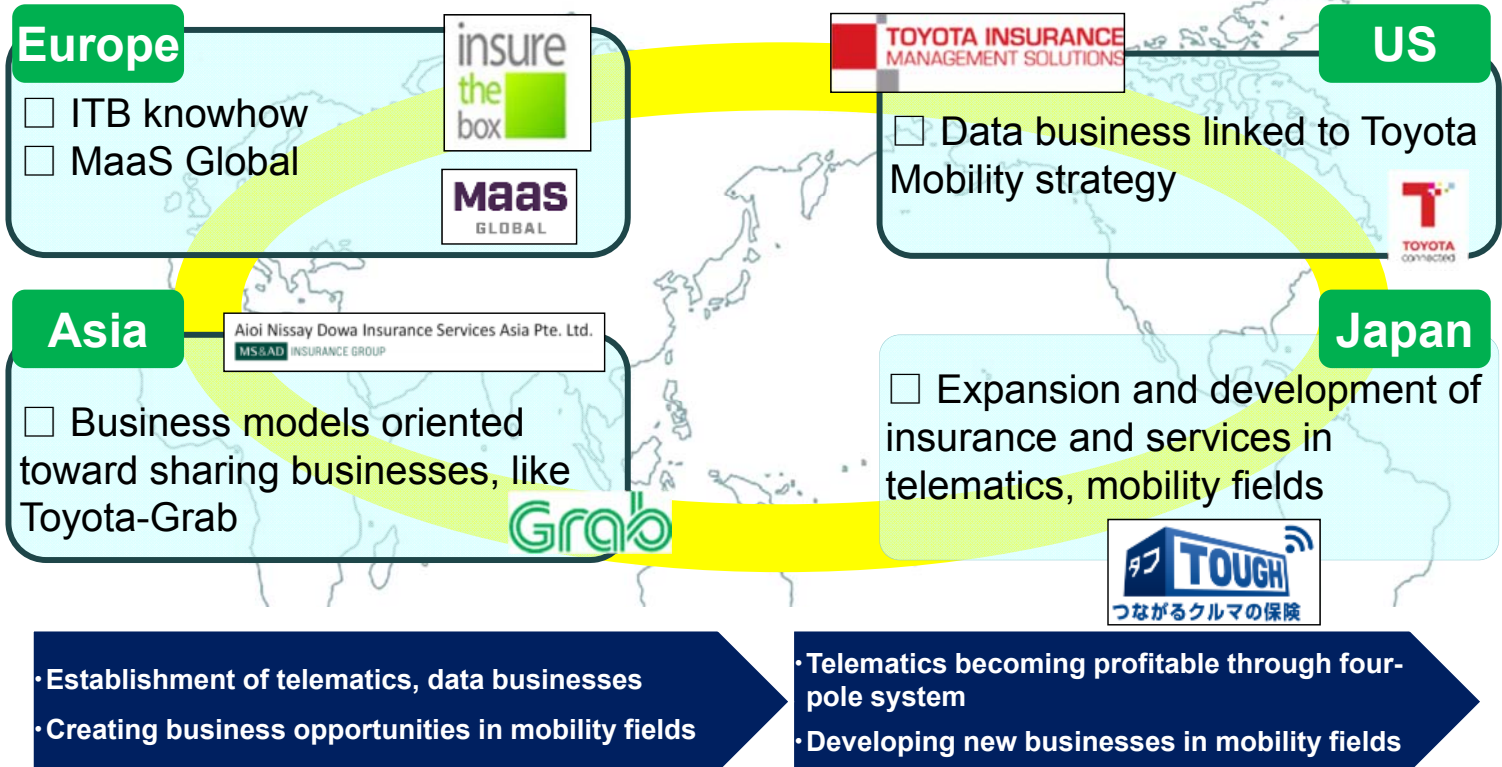
## ◆ Reduction of accidents

- This type of incentive for safe driving in the form of an insurance premium discount attracts good drivers and promotes safe driving awareness. As a result of this, three-quarters of policyholders are receiving the biggest discount.
- Over three-quarters of contracts are those where a discount has increased or stayed at the highest level due to the rising safe-driving awareness after buying insurance.
- Accidents are down sharply over 30% compared to traditional, non-telematics products and distance-based PAYD-type products.

## TELEMATICS AUTO INSURANCE OVERSEAS

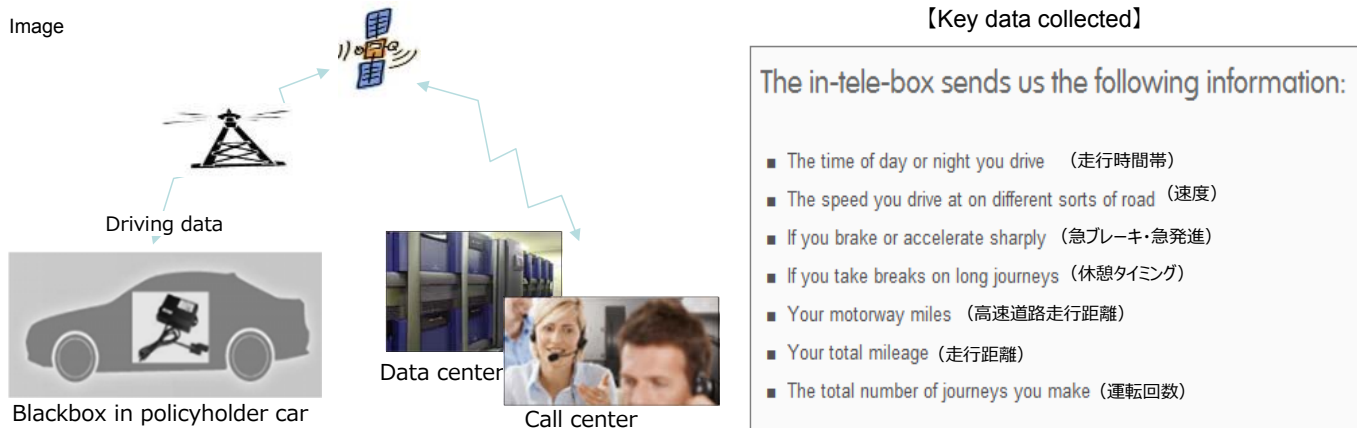
# Telematics and mobility businesses around the world

- Creating new mobility field businesses through tie-ups with Toyota Motor and using ITB knowhow
- Telematics and data businesses developing in four poles: Japan, Europe, US, and Asia



## Europe – Acquired Box Innovation Group

- In 2015, the Insure the Box (ITB) business was expanded and UK telematics insurance company Box Innovation Group (BIG) was acquired
- Total of 900,000 sold, data collected on approximately 6.5bn kilometers driven (equivalent to 16 trips around the earth), end-March 2018
- Known for its original product design and services



- ① Original device ("Blackbox") is mounted on policyholder vehicles to collect driving behavior data
- ② Offers latest products, services in Europe based on driving behavior data
- ③ Company targets younger drivers, since premium discounts based on telematics are bigger for younger drivers with higher premiums
- ④ ITB partners with Tesco, the UK's biggest logistics group with third-highest sales in the world, and has expanded by combining Tesco member data with telematics insurance.

## Europe – ITB product outline

### Distance-based prepaid-type auto insurance with safe driving rewards that encourage policyholder safe driving

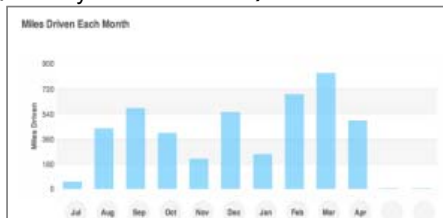
① Buy **[Base miles]** at signup (choose from [6,000], [8,000], or [10,000] miles)

<1 mile = 1.6km>

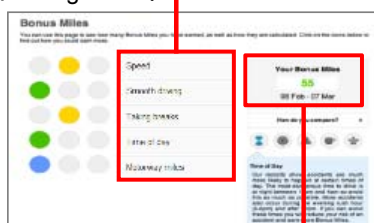
② Get **[Bonus miles]** based on driving tendencies (※ up to 100 miles/month)

- Collect distance and driving tendency data from Blackbox, give bonus miles to better drivers
- Policyholder can confirm distance, driving tendency, and bonus miles data from portal site.

(Monthly distance driven)



(Driving habits)



- ① Speed (スピード)
- ② Smooth driving (安全運転)
- ③ Taking breaks (休憩)
- ④ Time of day (時間)
- ⑤ Motorway miles (高速道路)

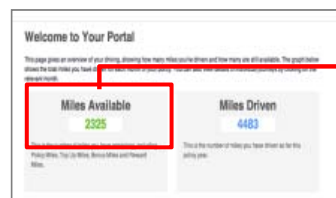
Bonus miles for safe driving



• Up to 100miles/month

③ Buy **[additional miles]** when miles insufficient

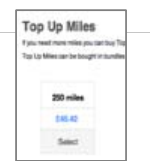
- Policyholder can confirm balance of unused miles, and buy more if insufficient through portal site



Mileage balance during policy term



Buy additional miles when insufficient balance



Unused miles (bonus miles and additional miles) can be rolled over to next year

## Europe – ITB services

### Emergency service : Emergency service using data from Blackbox

When an accident appears to be big based on Blackbox data, the call center connects with the policyholder's cellphone

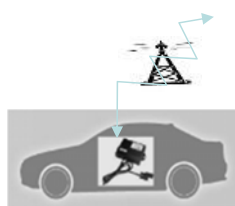
#### When vehicle is stopped after a strong impact

- When an accident is expected to be so severe that the car is immobilized, an emergency call is placed to the policyholder to confirm the policyholder's condition
- The center helps with the policyholder's transport as needed

#### When there is no response on the cellphone

- A serious accident is assumed when there is no response
- An emergency call is made to the police and ambulance as needed

※ An example of the Blackbox emergency service saving a life (See figure above right, Daily Mail News)



**Little black box under the bonnet saved my life**

### Stolen vehicle tracking: Pursue stolen vehicles using Blackbox data → Retrieve



Following a stolen vehicle report by the Policyholder, location data from the Blackbox is used to track and retrieve the vehicle

- The stolen vehicle is retrieved together with the police, using vehicle location and movement information
- The Insure the Box Blackbox is mounted in a spot not visible from outside the vehicle, so the retrieval rate for stolen vehicles is very high.



## Europe - Encouraging safe driving for speeders

- The loss ratio for dangerous drivers who well exceed speed limits is double the average
- A 'caution' message is flashed to speeding drivers, encouraging safe driving

- Winner of the Data Analytics Excellence Award at the 2017 Tech & Innovation Awards
  - ⇒ By using travel data from the Blackbox and cautioning the speeder, drivers become more aware of safety, leading to a lower loss rate. This system has garnered positive reviews.



## Europe - Insurance anti-fraud measures using telematics technology

### ■ Travel data used to deter fraudulent insurance claims

⇒ By confirming map data together with detailed traveling data, the credibility of the testimony (perpetrator and victim) can be assessed

<Example: Denial of fraudulent insurance claim using GPS data>

#### ● Sept 2015: Traveling data from Blackbox used as court evidence for first time

- Two drivers who pretended to be unknown to each other were involved in a car accident and made personal injury claims
- ITB Blackbox data showed that the perpetrator had visited the victim approximately 50 times over the six months prior to the accident. ITB rejected the insurance claim.
- A judge then ordered the two perpetrators to pay ITB £14,000 in compensation for insurance fraud.

※Source: This is MONEY.co.uk (FINANCIAL WEBSITE OF THE YEAR), October 14, 2015



#### ● Past travel data shows vehicle fraudulently covered

- ITB does not cover company vehicles
- A policyholder applied for coverage, stating the vehicle was not used for business
- When the policyholder reported an accident, the investigation found that the car was frequently parked at a different location from the home address. The investigator examined the specific location using map and GPS data
- The investigator found that the vehicle was frequently parked in front of a specific restaurant, and the car was excluded from coverage because it was used for business. The fraudulent claim was dismissed.



#### ● Mounted device collects unusual travel data causing accident

- The policyholder reported he was the victim of a traffic accident
- There were four passengers in the policyholder's car, and all four claimed they were injured by the impact (and sought injury payment)
- The other party's account of the accident differed, and the policyholder's travel data was examined.
- The data showed the policyholder's driving prior to the impact was clearly unusual, and that he had circled the roundabout three times.
- As a result, the policyholder was found to have deliberately chosen the dangerous location and willfully caused the accident. The fraudulent claim was denied.



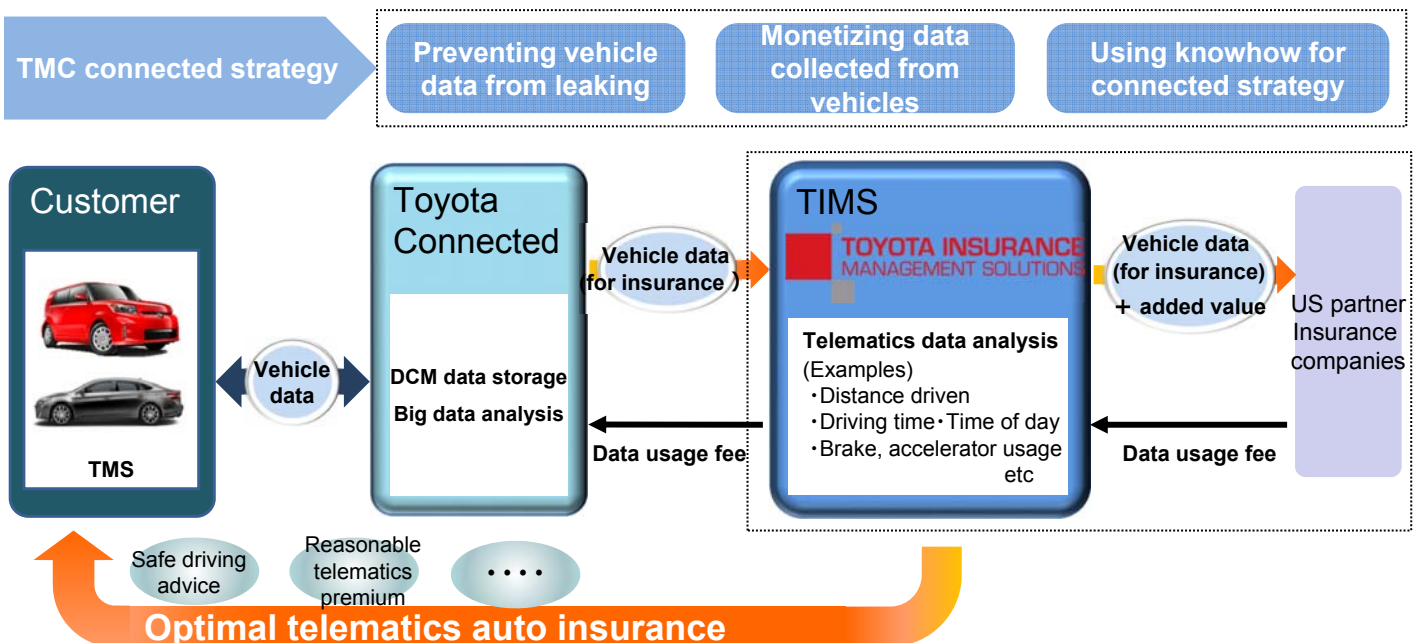
## Europe – Insurance Fraud Award, Winner for two straight year

- ITB won the *Combating Fraud Technology of the Year* award at the Insurance Fraud Awards in 2016 and 2017.



## US – Toyota Insurance Management Solutions

- **Joint stock partnership Toyota Insurance Management Solutions established in 2016** (MS&AD Group 50%, Toyota Connected 5%, Toyota Finance 45%) combining knowhow on data (Toyota Connected Co.), finance (Toyota Finance), and insurance (MS&AD Group) to **offer the optimal telematics insurance services to customers**.
- Toyota user data is processed using original algorithms. The data is reflected in user services and premium rates and provided to partner insurance companies



## Asia – Aioi Nissay Dowa Services Asia / Grab

- Aioi Nissay Dowa Services Asia Pte. Ltd established in 2017 ahead of business creation and development in SE Asia, where telematics and mobility expansion is anticipated

### ◆ Main businesses:

Telematics service and consulting

Surveys of new areas (InsurTech・self-driving)

AIS Asia

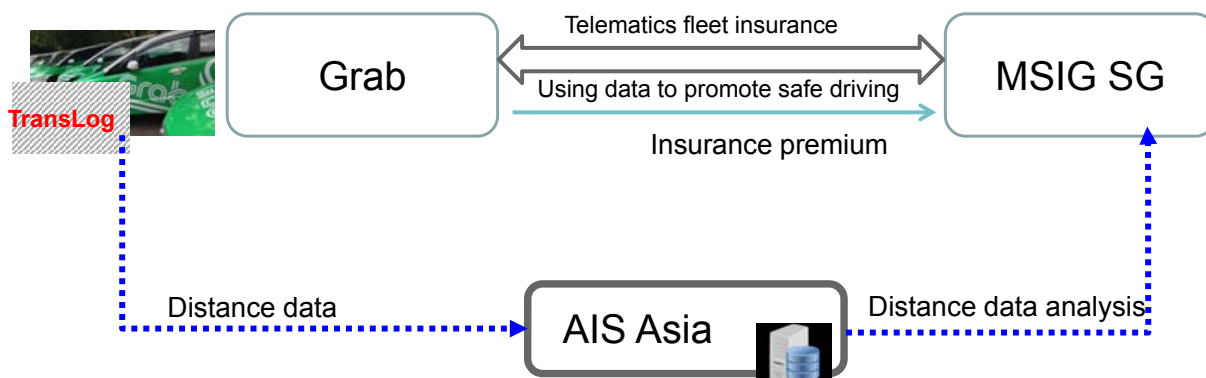
Business partners



CAMBRIDGE  
MOBILE TELEMATICS



### ◆ Grab telematics fleet insurance case



Investment stake in Grab to collaborate primarily in ride sharing, also joint R&D

## Thailand

- First PAYD (distance-based automobile insurance) in Thailand approved in March 2016
- Launched March 2018

### タイ初の走行距離連動型自動車保険の認可取得！

2016年3月8日

MS & ADインシュアランス グループのあいおいニッセイ同和損害保険株式会社(社長：鈴木 久仁、本社：東京都渋谷区恵比寿1丁目28番1号)のタイ現地法人であるAioi Bangkok Insurance PCLは、走行距離連動型自動車保険の商品認可をタイの保険監督局(OIC:Office of Insurance Commission)より2016年3月2日付で取得しました。タイでは初の走行距離連動型自動車保険となります。

昨今、テレマティクス技術<sup>※</sup>の進化に伴い、欧米を中心として自動車の走行データを活用した様々な商品やサービス提供が行われています。タイでもこうした世界的な潮流に追随する中で、同国の他損保に先駆けて商品認可を取得したものです。

※：テレマティクスとは、「テレコミュニケーション（通信）」と「インフォマティクス（情報工学）」を組み合わせた造語。カーナビやGPS等の車載機と移動体通信システムを利用して、様々な情報やサービスを提供する仕組み。

#### 1. 認可を取得した走行距離連動型自動車保険について

自動車の走行距離に応じた自動車保険で、走った分だけの合理的でムダがない保険料をお支払い頂くものです。PAYD (Pay As You Drive) 型自動車保険とも言われます。

今般の認可取得を受け、本年内にタイでの新商品発売を目指します。