

Defining Safe Automated Driving



The Insurer View



Automated Driving - Insurer challenge and response



Thatcham
Research
SAFER CARS. FEWER CRASHES

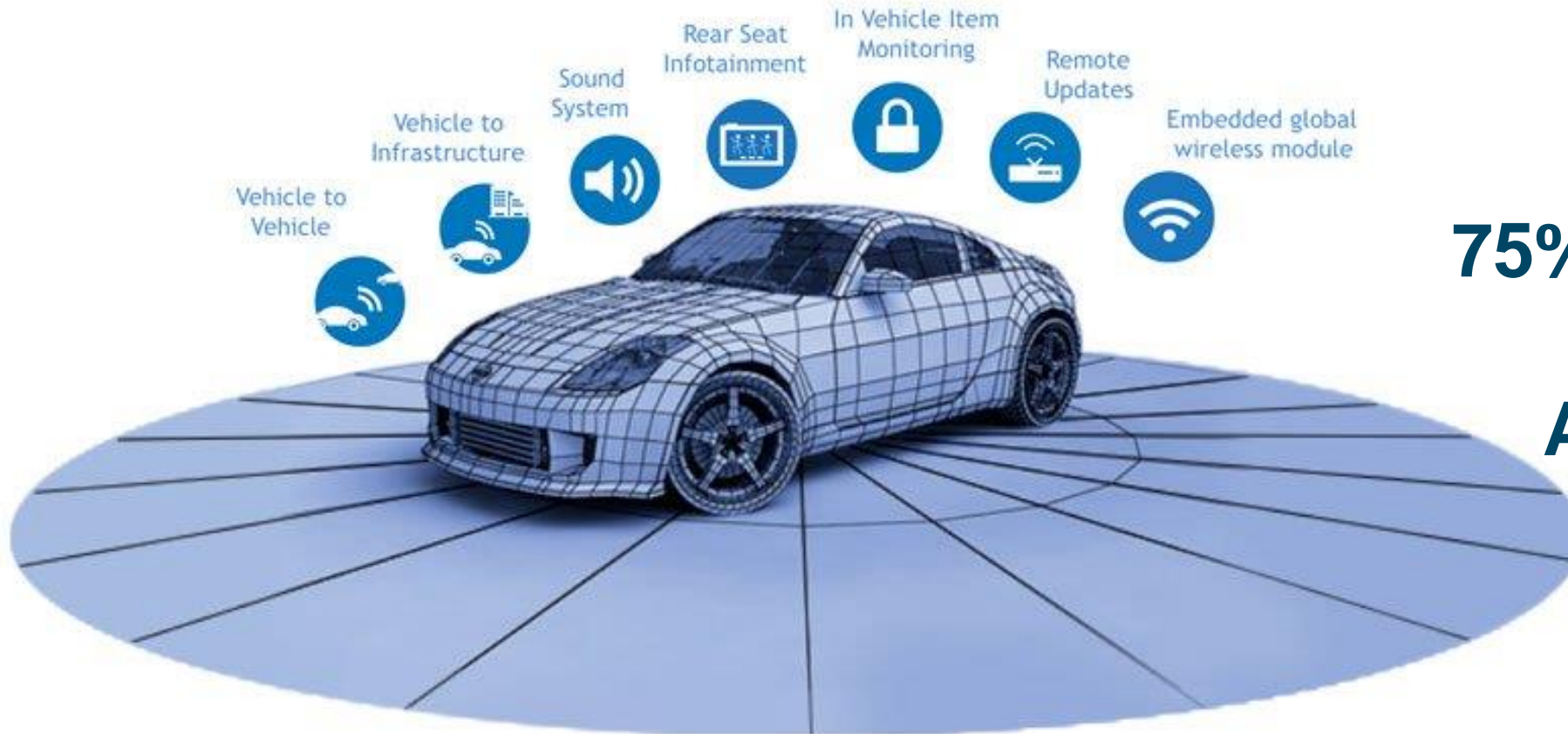
veoneer

@AXADavidW

**David Williams, MD Underwriting & Technical Services, AXA Insurance
Chair of the Automated Driving Insurer Group (ADIG)**

Connected & Autonomous Vehicles (CAV's)

100% of cars will be connected by 2025*



75% of cars on the road will be Autonomous by 2035! *

**GISMA & Navigant Research*

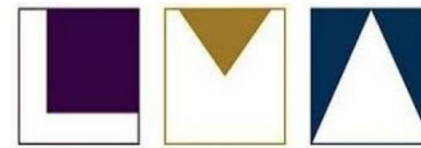


- Autonomous Technology
- Motor Manufacturers (OEM's)
- Mobility as a Service / Sharing Society

Automated Driving Insurance Group (ADIG)



CLEAR ► CONCISE ► CONNECTED



LLOYD'S MARKET ASSOCIATION



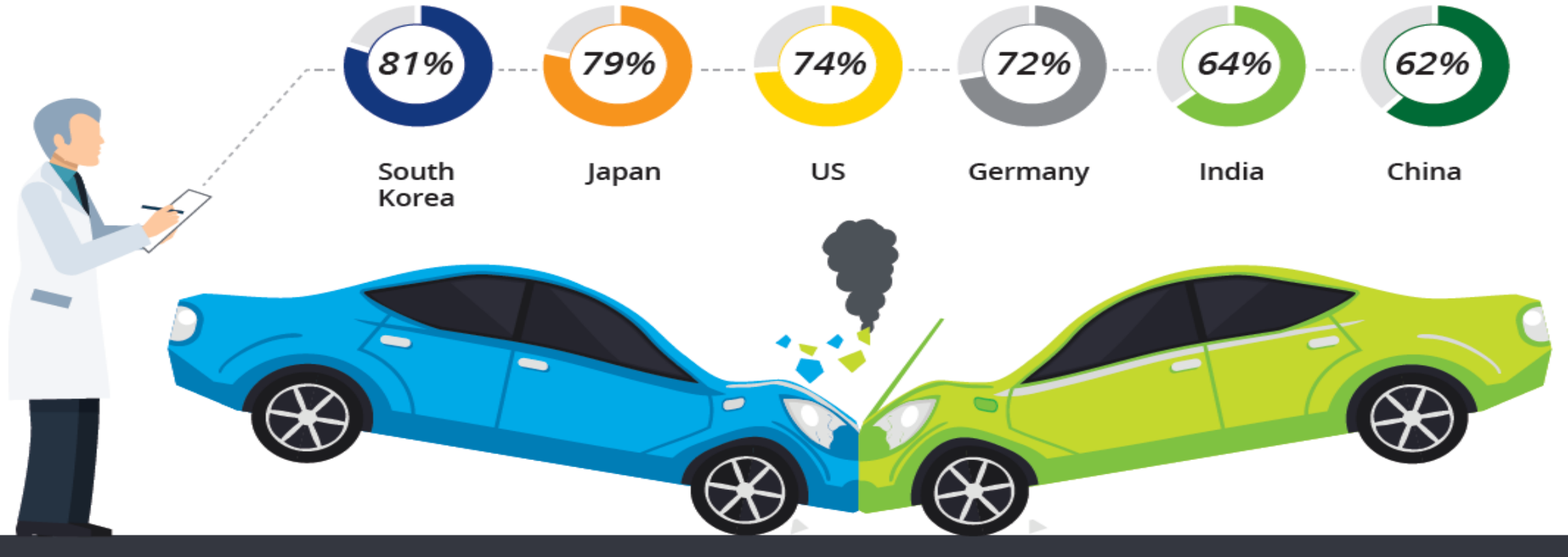
Insurers Involvement in UK CAV projects

UKAutodrive



TRUST?

Percentage of consumers who feel full self-driving vehicles will not be safe

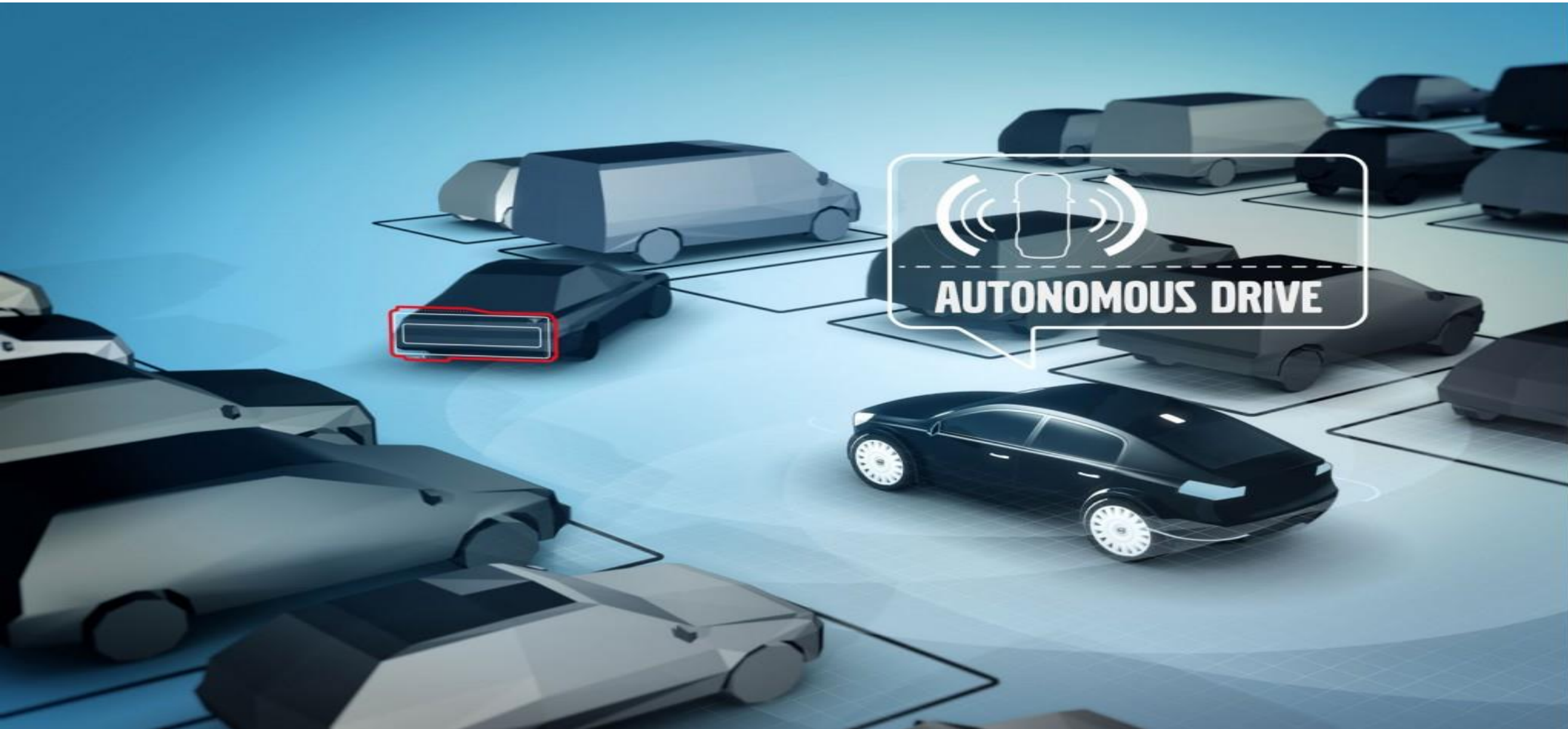


Source: Deloitte Global Automotive Consumer Study

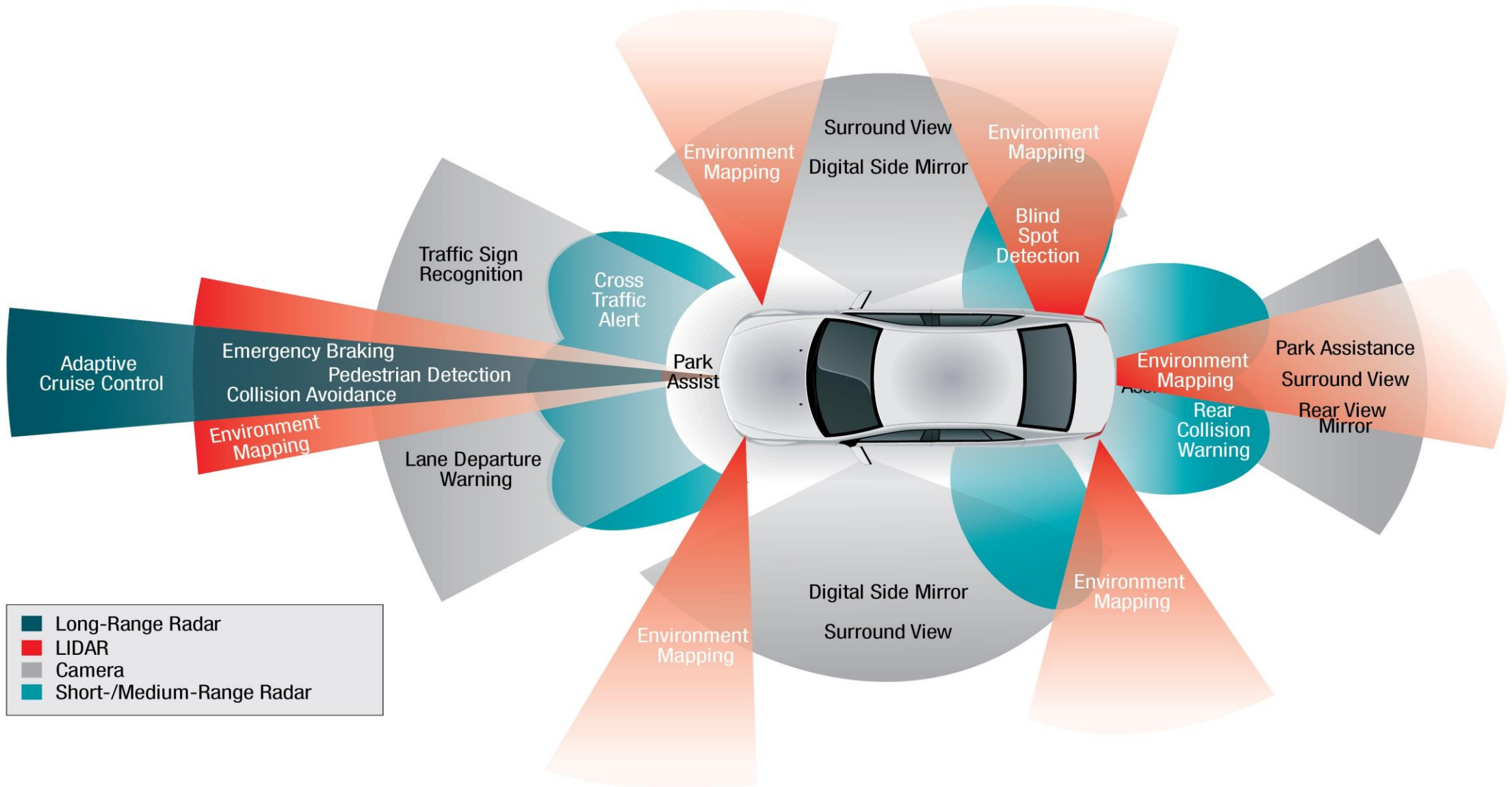
Public Perception – A History of Distrust & Fear



TRANSPORT - Integrated Solutions & Wider Implications



Testing - Autonomous Vehicle Technology



AUTOMATION LEVELS OF AUTONOMOUS CARS

LEVEL 0



There are no autonomous features.

LEVEL 1



These cars can handle one task at a time, like automatic braking.

LEVEL 2



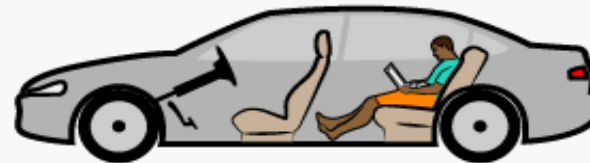
These cars would have at least two automated functions.

LEVEL 3



These cars handle “dynamic driving tasks” but might still need intervention.

LEVEL 4



These cars are officially driverless in certain environments.

LEVEL 5



These cars can operate entirely on their own without any driver presence.

Timing? From ADAS to Automated Driving

Lack of Clarity? = Worried insurers

SAE Level	0	1	2	3	4	5
	None	Assisted	Partial	Conditional	High	Full
Estimated Timeline	Current	Current	2016	2018	2021	2025
Control of steering, throttle, brakes	Driver	Driver & Vehicle	Vehicle	Vehicle	Vehicle	Vehicle
Monitoring of driving environment	Driver	Driver	Driver	Vehicle	Vehicle	Vehicle
Responsibility if driver fails to take control when requested	Driver	Driver	Driver	Driver	Vehicle	Vehicle
System capable in...	No capability	Some driving modes	Some driving modes	Some driving modes	Some driving modes	All driving modes

- Driver perception could be that vehicle is responsible...
- But vehicle is not responsible yet

You can't decide who is responsible without the Data!

Thatcham Research
Safer cars, fewer crashes



IS THE DRIVER LIABLE?

WHO PAYS WHEN A DRIVERLESS CAR CRASHES?

IS THE CAR MANUFACTURER LIABLE?



Using Data to provide additional / better Customer service?



Car-related services

- Free roadside assistance automatic emergency assistance
- Theft/recovery notification
- Free oil/car services
- Free parking
- Remote vehicle diagnostics,
- Information on free parking
- Mobile phone GPS



Services non related to car

- Tailored communications based around places visited
- New Insurance Products
- Partnerships with Stores / Food outlets
- Geo-notification discounts
- Benefits for safe driving away from Motoring
- Credit for e-commerce websites



Data analytics and driving behaviour related services

- Embedded insurance, variable pricing?
- Portable 'Driving DNA'?
- Trip and expense log book
- Monitoring children's driving
- Carbon footprint feedback
- Gamification - compare driving with friends, family
- Access your driving data

We have been involved in discussions throughout the various iterations; Modern Transport Bill / Vehicle Technology & Aviation Bill / Automated and Electric Vehicles Bill

Automated and Electric Vehicles Bill

New rules to ensure safe and effective insurance for self-driving cars



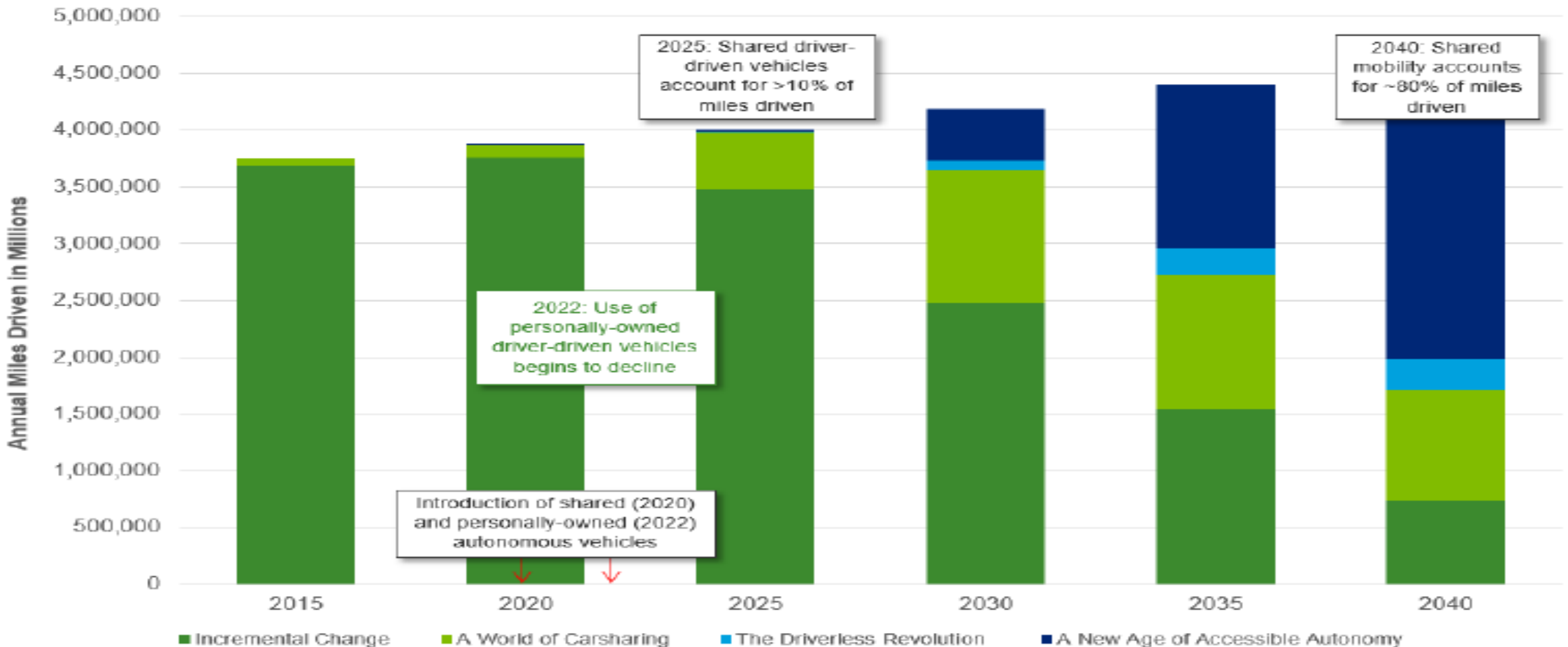
Department for Transport

Effective strict liability on insurers to pay out in the first instance keeping the safety of road users and pedestrians at the heart of the legislation

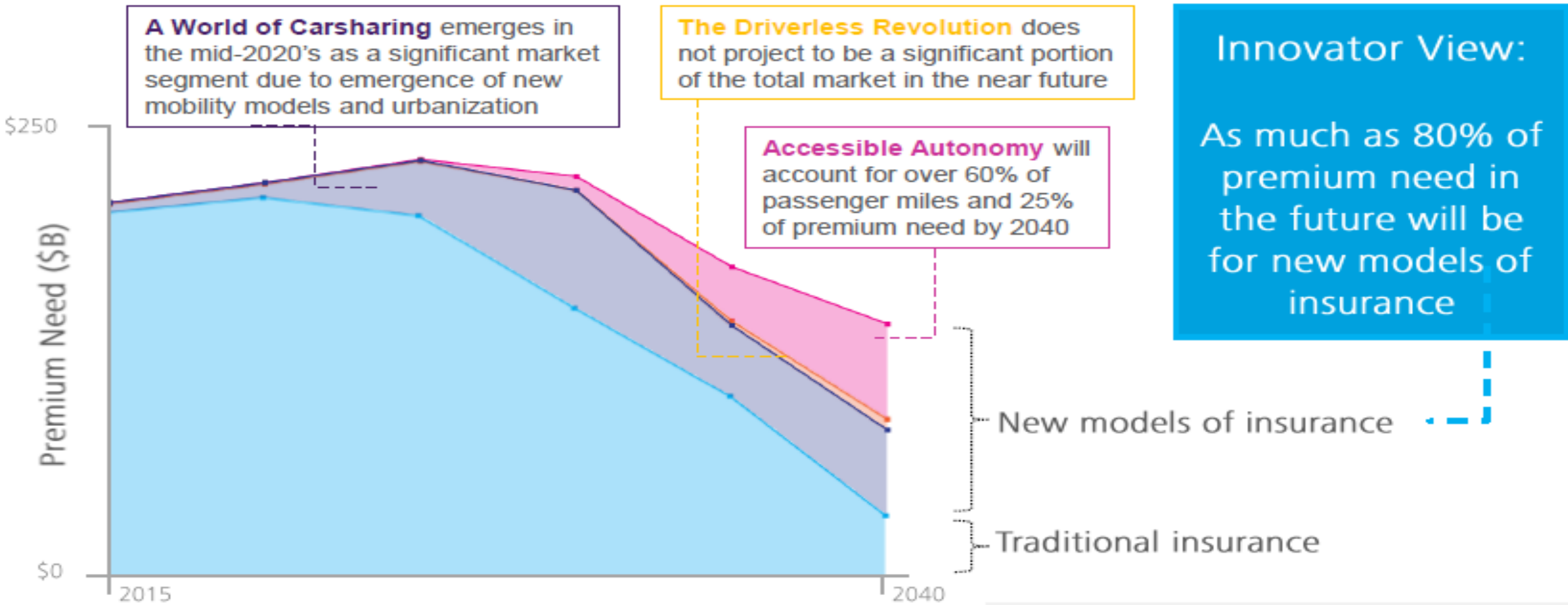
Realistic levels of liability on OEMs and other third parties to encourage innovation

People miles driven by 2040 will increase by 25% and shared mobility will account for the majority of them

People Miles Driven by Future State



Premium Mix will move away from conventional Motor Insurance and decline overall



- 1
Incremental Change
- 3
The Driverless Revolution
- 2
A World of Carsharing
- 4
Accessible Autonomy

Note: This model was developed by Deloitte's actuarial practice and is based on assumptions around distribution of passenger miles, frequency, and severity of loss events in each Future State

A man in a blue jacket and jeans is running through a park, carrying a young child on his shoulders. The child is laughing and covering the man's eyes. In the background, a red car is parked on a path. The scene is set in a lush green park with trees and grass.

Imagine technology that saves over 1 million lives a year

AXA is a partner in the development of driverless car technology, helping to create a future with safer roads.

We're restless for a reason

axa.co.uk

1 million lives worldwide.

Thankyou for Listening



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