

Future of Mobility

Mexico City

February 2019

Future of Mobility...



Where is mobility going?

Four Forces defining the future

What will shape the future?

Today's citizens think the age of digital mobility is dawning, where the whole of movement will be a data-enabled service...

From all participants and in all four potential scenarios, the striking features were:

Shared

Connected

Autonomous

Seamless

Responsible

Regulated city mobility

Personalized

Experience



One platform combining multi-modal transport real time data



Single, integrated payments for entire journey



Customer preference based journey optimisation

...that is being driven by some strong forces...



Customers



Cities



Investors

Enabled by data and technology

...cities have to deal with the consequences of urbanisation

1

Space and Pollution

Over the next 15 years, India will have to build between **7.5 and 9.5 billion sq ft** of residential and commercial space each year just to keep pace with population growth. In China, air pollution causes an estimated **1.6 million deaths** per year.

2

Resource Constraints

Resources are limited and there's appetite to increase infrastructure, yet advancements are behind. **US\$53-71T** of infrastructure spending is needed by 2030.

3

Congestion

Australians' travel time increased 15% between 2002 and 2011. Travel is the second largest household expenditure in Australia, between 10-17% of household income.

...and Mobility-as-a-Service (MaaS) can achieve effective resource allocation and reduce pollution...

TODAY

88%

of travellers do not engage in transport modal choice

BUT

TOMORROW

71%

of SMILE pilot respondents tried new routes

of trips by Helsinki Whim respondents involved **public transport** (previously 48%)

74%

...customers attitudes and behaviour are changing too...

Millennials

On demand

Flexible

Experience

Gen Z

Technologically advanced

Materially endowed

Practical

Convenient

Environmentally active

Little need for possessions

Networked

Future of Mobility...

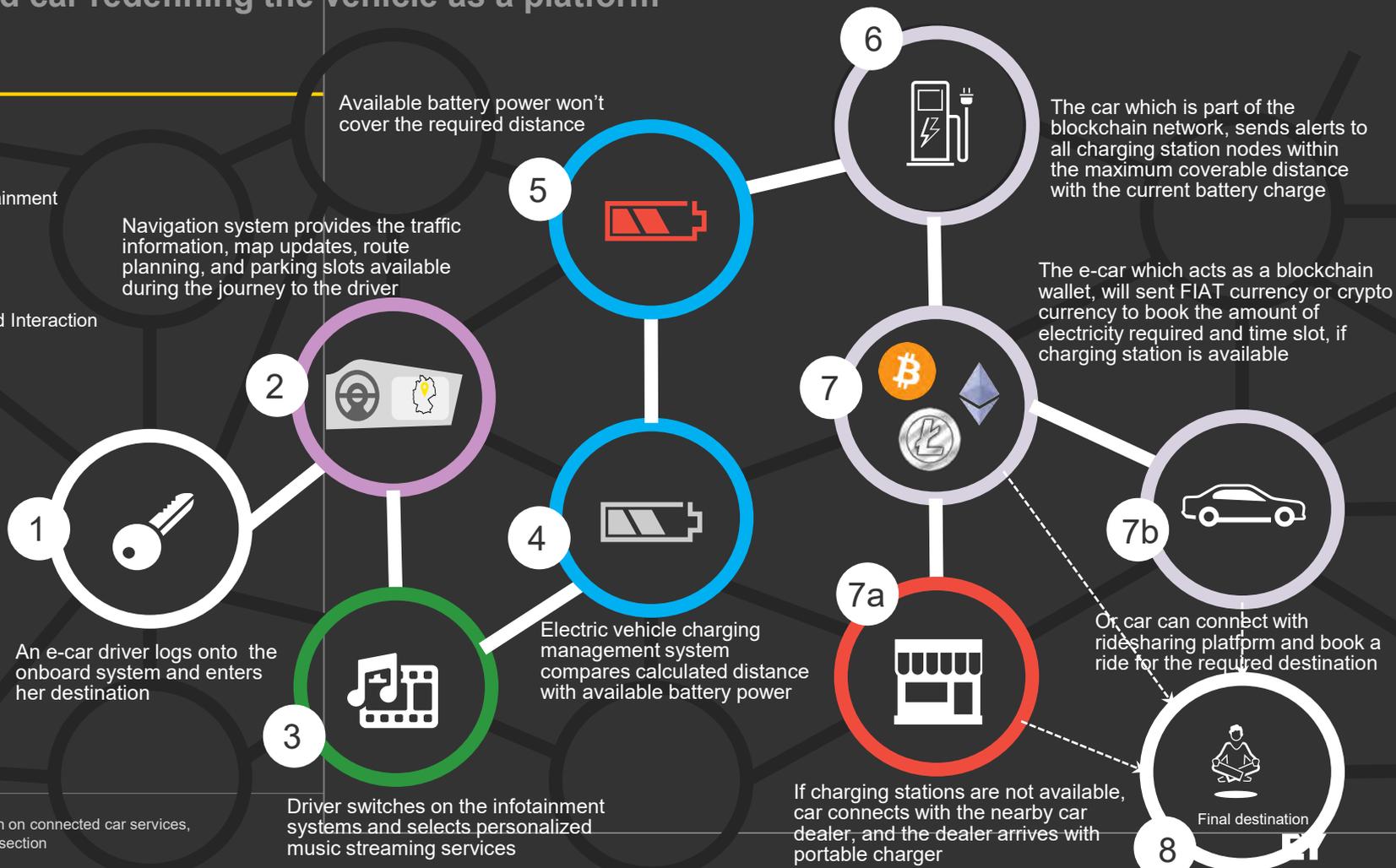
What is driving changes in mobility?

Four Forces defining the future

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Connected car redefining the vehicle as a platform

- Traffic efficiency
- Connected Infotainment
- Cost efficiency
- Convenience and Interaction
- Traffic safety



Note: For more information on connected car services, please refer to appendix section

Self-driving is fast becoming reality

Today 

Future 

	Level 0 No Automation	Level 1 Driver Assistance	Level 2 Partial Autonomy	Level 3 Conditional Autonomy	Level 4 High Autonomy	Level 5 Full Autonomy
TESLA				 TESLA Model S/X	 2019	 TBC
 WAYMO					 2018	 TBC
		 Current Fleet			 2020	 2021
			 (Pilot Assist)		 2018	 2020
UBER					 2019	 TBC
CRUISE			 (Pilot Assist)		 2019	 TBC

Electric Vehicles are rapidly becoming a reality with 2025 seen as a tipping point, but major inroads from 2021

Challenges being addressed and resolved



Rapid pace of technology development



Difficult consumer proposition due to battery cost



Ecosystem and infrastructure

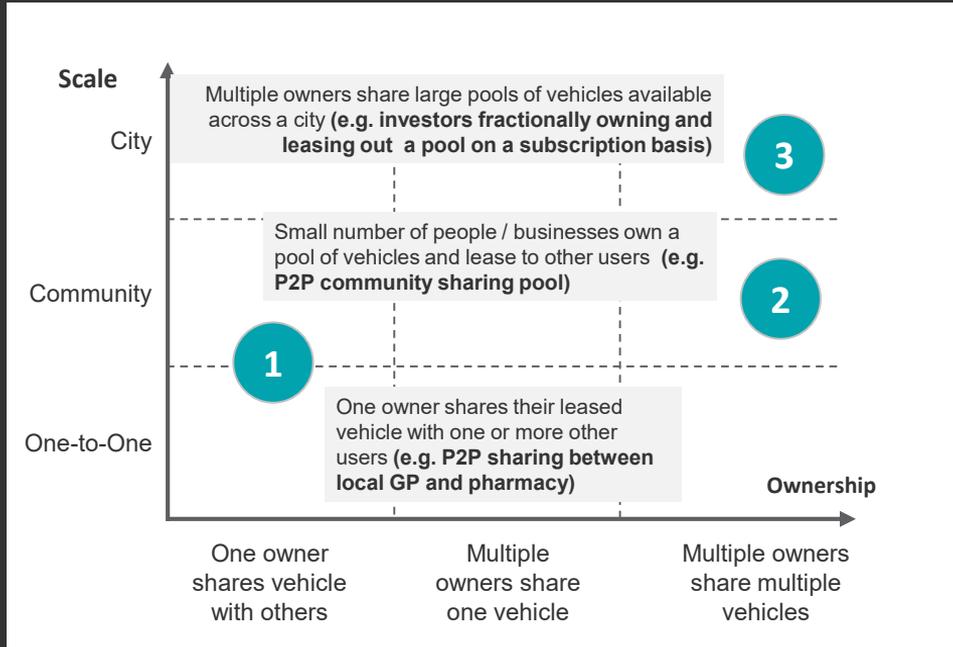


New Retail Models



Scaling and production

New shared ownership models will drive changed mobility behaviours



Potential Use Cases:

Fractional investment in infrastructure

P2P community sharing of leased fleets

Investable shared leasing pools

Fractional ownership of ride-sharing cars

Premium or luxury car ownership

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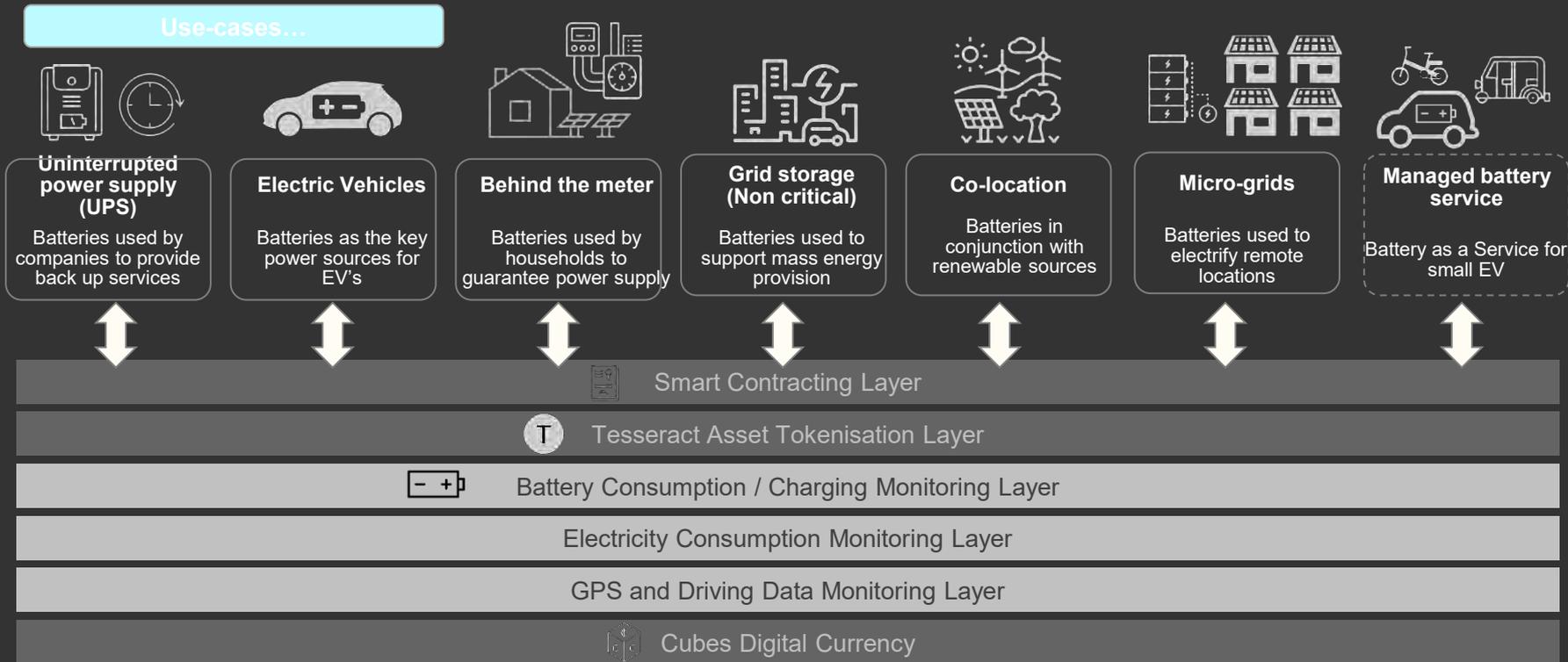
Fractional ownership

“ Fractional ownership will re-organise the sector **more than anything...** more than EV, more than autonomous.... ”

Prof Michael Jakobides

- More affordable form of car ownership
- Simplification of the ownership experience – insurance, maintenance etc.
- Ability to earn money from others' usage
- Increased purchasing power for customers – able to buy a better car for the same money
- On-demand access to a variety of vehicles depending on needs

EY see Blockchain playing a major roll in the EV battery storage... Tesseract: Battery and electricity service platform thru battery lifecycle



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