

**How do you unlock  
the potential of the  
future?**



The better the question. The better the answer.  
The better the world works.



# The last century was the age of auto-mobility. We're now on the dawn of a new age.



Source: Transport for NSW

# ....they think the age of digital mobility is where the whole of movement is a data-enabled service...

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

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**

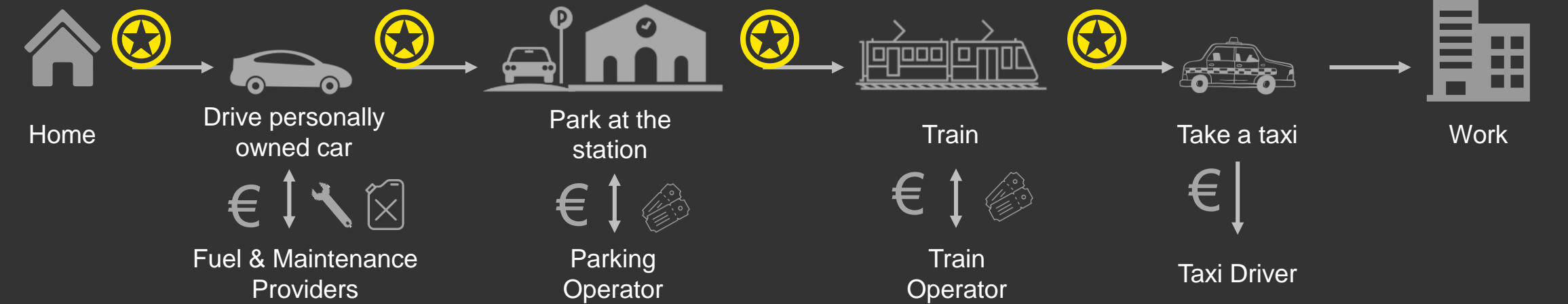
Environmentally active

**Little need for possessions**

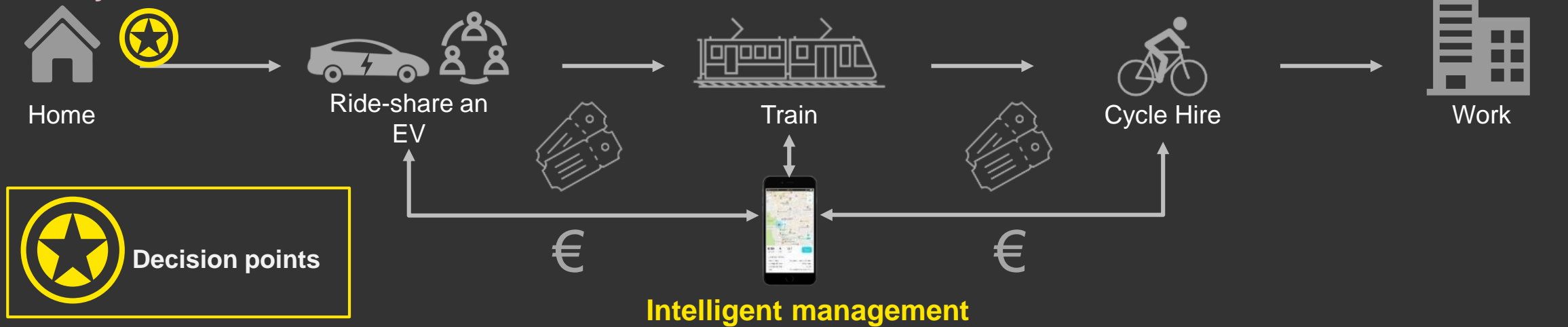
Networked

# ...for them, MaaS offers a journey and experience, free from today's hassles...a “do it for me” experience...

## Present Travel

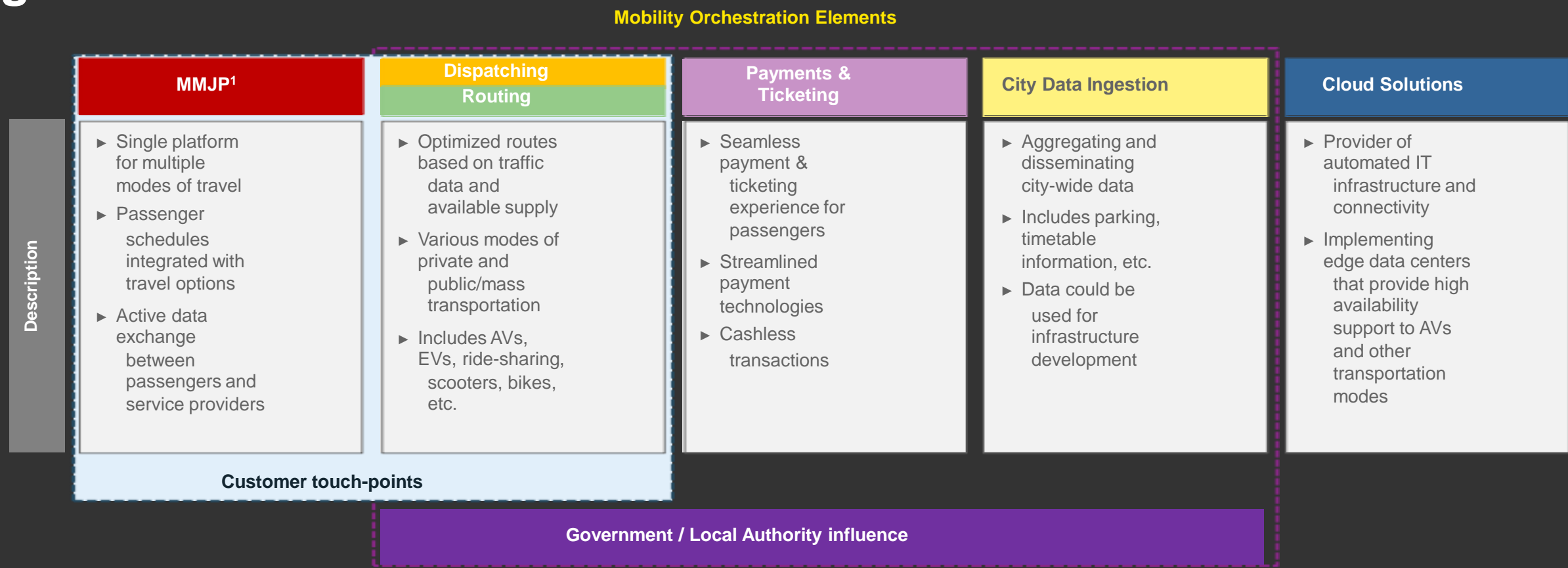


## Mobility-as-a-Service



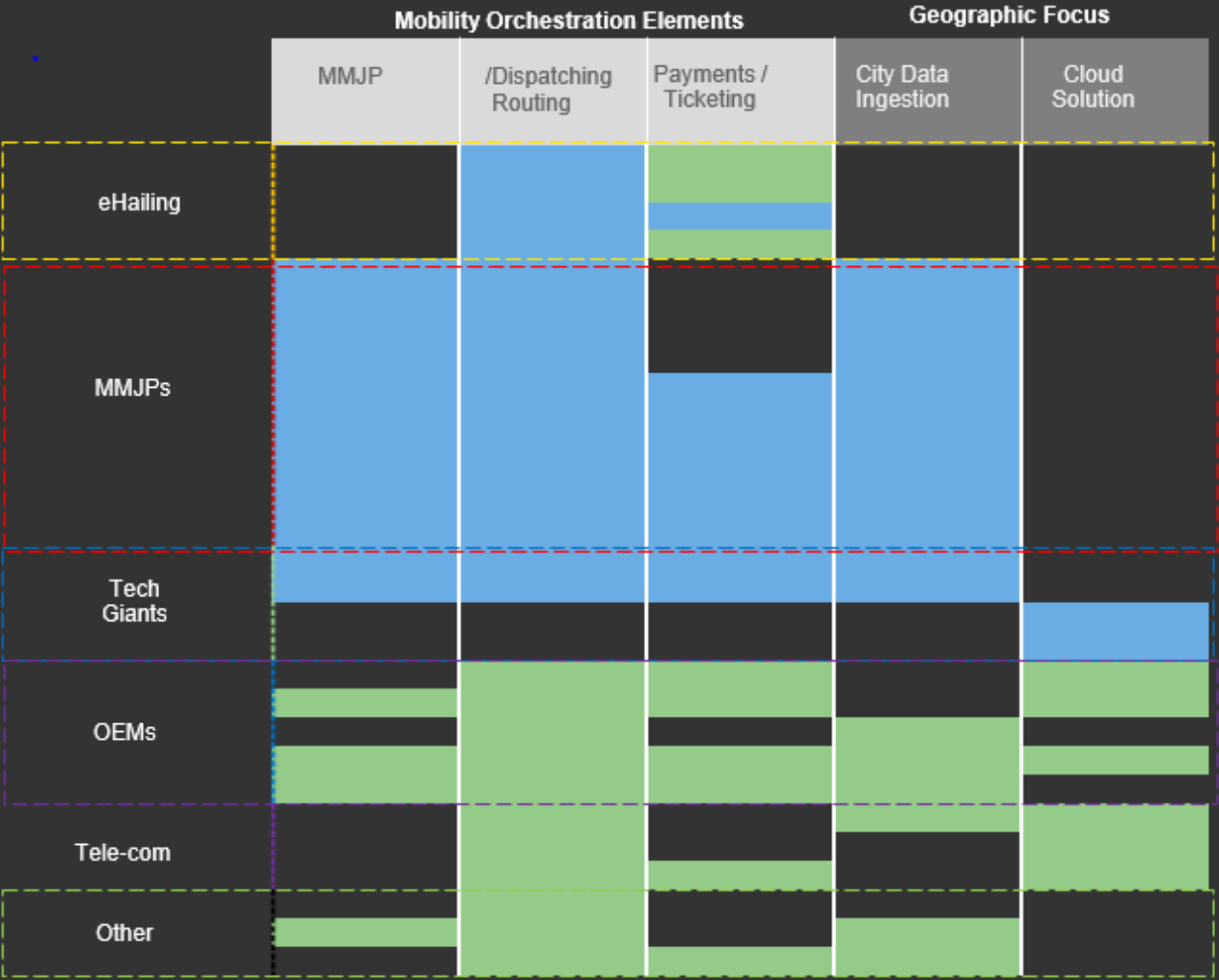
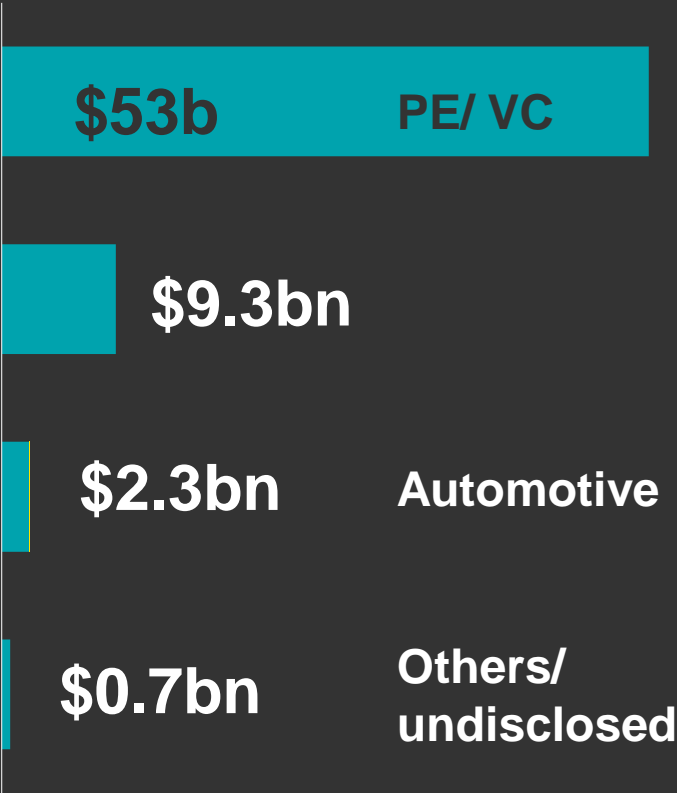


# ...this smart mobility stack comprises various mobility orchestration elements: power resides with the customer and government



# Investors are seeing the opportunity and are playing across the MaaS spectrum

On-demand mobility & mobility integration investments by investor type (in US\$B)



1) Not exhaustive; 2) MMJP level defines the level of integration across the various elements (0 – no integration, 4 – full integration)

Investment or partnership

# The Road to MaaS





...but successfully developing this market will require four fundamental challenges to be piloted...

1

Navigating scalability

2

Data integration  
and monetization

3

Ownership of the customer

4

Establishing trust-based  
solution to risk and security

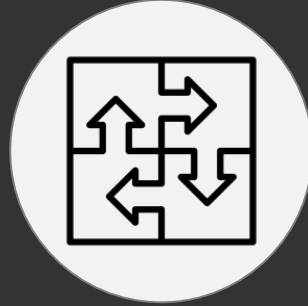
...technology in the form of blockchain presents unique value in solving these challenges...



**1** Navigating scalability

**Distributed ledger**

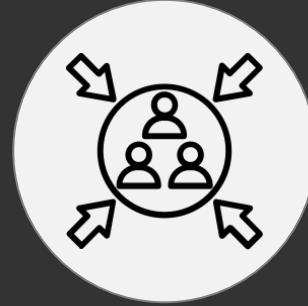
Secure, validated data  
eases sharing concerns



**2** Data integration  
and monetization

**Cryptocurrency  
capability**

Automated payments to  
cross border / modal  
transport operators



**3** Ownership of the customer

**Open source  
design**

Enables brand  
customisation on white  
label platforms



**4** Establishing trust-based  
solution to risk and security

**Smart  
Contracts**

Defines and tracks  
liability points across  
journeys

...Tesseract is a blockchain based MaaS solution that we are exploring to develop the backbone technology that enables MaaS...



Ethereum based Smart Contracts have been compiled



White label platform for client customisation



In experimentation, supporting 500 users



Being developed using our cross sector network and experience



# ... how should players approach this opportunity to shape the future?

Some observations from experience...

- ▶ Approach **cities as customers and partners**.
- ▶ Understand how they will be **market developers** and regulators, and work with them to **experiment** with new mobility service solutions.
- ▶ Develop a strategy for **bold investment**, embracing the **ethos of being disruptive** rather than just doing innovation.
- ▶ Shift the organizational mindset from **doing to being** – treat digital or innovation as part of a **holistic business perspective**.
- ▶ Develop a process to ensure the **business model is central** to all initiatives
- ▶ Ensure you have the plans, processes and corporate mechanisms to be **human-centered** in developing new business models.



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# Thank you

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[www.ey.com/futureofmobility](http://www.ey.com/futureofmobility)