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
This is what city planners, OEM’s, Customers, Start-ups, Media, Tech and others think it will be...
they think the age of digital mobility is dawning, where the whole of movement is 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 a need 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

74% of trips by Helsinki Whim respondents involved public transport (previously 48%)
…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

- Home
- Drive personally owned car
- Park at the station
- Train
- Take a taxi
- Work

Fuel & Maintenance Providers

Parking Operator

Train Operator

Taxi Driver

Mobility-as-a-Service

- Home
- Ride-share an EV
- Train
- Cycle Hire
- Work

Decision points

Intelligent management

€

€

€
...investors are embracing disruption and the value imperative is going to drive development...

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

<table>
<thead>
<tr>
<th>Category</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>PE/ VC</td>
<td>$53b</td>
</tr>
<tr>
<td>Tech. and engineering companies</td>
<td>$9.3bn</td>
</tr>
<tr>
<td>Automotive</td>
<td>$2.3bn</td>
</tr>
<tr>
<td>Others/ undisclosed</td>
<td>$0.7bn</td>
</tr>
</tbody>
</table>

Corporate investor reality

55% companies should invest in exploring potentially disruptive business models.

67% of investors want companies to undertake potentially disruptive innovation projects even if they are risky and may not deliver short-term returns.

78% of investors say that corporate disruption readiness will become a more important investment decision-making factor over the next five years.

Top disruptive factors over the next decade

<table>
<thead>
<tr>
<th>Investor Type</th>
<th>Percentage</th>
<th>Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investors</td>
<td>57%</td>
<td>Technology innovations</td>
</tr>
<tr>
<td>CEOs</td>
<td>80%</td>
<td>Technology innovations</td>
</tr>
<tr>
<td></td>
<td>46%</td>
<td>New business models</td>
</tr>
<tr>
<td></td>
<td>36%</td>
<td>New business models</td>
</tr>
<tr>
<td></td>
<td>41%</td>
<td>Regulatory changes</td>
</tr>
<tr>
<td></td>
<td>38%</td>
<td>Regulatory changes</td>
</tr>
<tr>
<td></td>
<td>37%</td>
<td>Changing customer behaviors</td>
</tr>
<tr>
<td></td>
<td>52%</td>
<td>Changing customer behaviors</td>
</tr>
</tbody>
</table>
success in 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 for 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
   - Digital currency 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
...if this is realised then the future of mobility may develop as a market in this way...

Source: Boston City, WeForum, BCG, EY analysis
... this represents a fundamental change from a command and control transport system to a fully activated market for mobility with the service providers in a central role...
…so how should you 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.
... but one of the most important observations – one we’re acting on – is to have open dialogue across the mobility ecosystem
Thank you
Use #ANECongress and @EY_Automotive

“I’m in”

www.ey.com/futureofmobility