

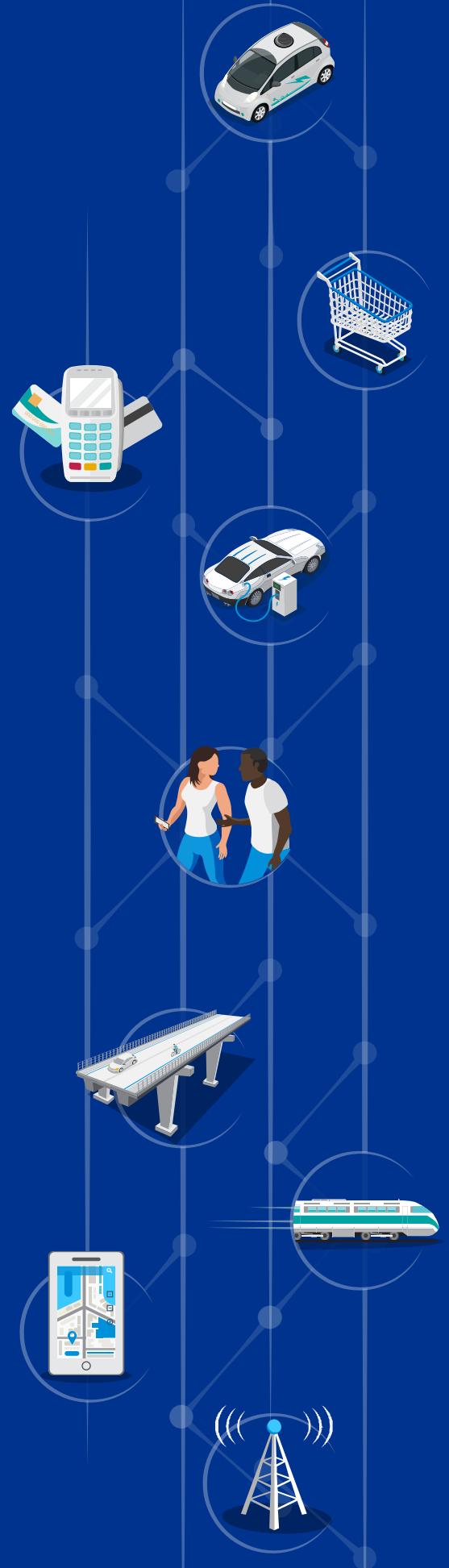


Future of mobility

Opportunities for investment

May 2019

kpmg.com/uk/mobility2030



The mobility disruption is changing how we travel, purchase, and consume

Public health/ environmental policy



2019

deployment of the Ultra Low Emission Zone in central London through to 2021

Decline in aftermarket



~60%

lower repair and maintenance costs over an EV's lifetime compared to ICE

Changing data infrastructure for smarter vehicles



4TB

amount of data generated by an autonomous vehicle per second

'Aggregator' business models will impact downstream value



15x

increase in downstream value pools due to services such as entertainment and retail



New supply chains emerge to support EV, AV and MaaS

50+%

decline in battery costs expected from now until 2030



Fleet operating costs will be optimised

29%

of heavy goods vehicles are currently running empty



On-demand mobility driving the rise of fleets

30-40%

decline in per-mile cost for MaaS vehicles

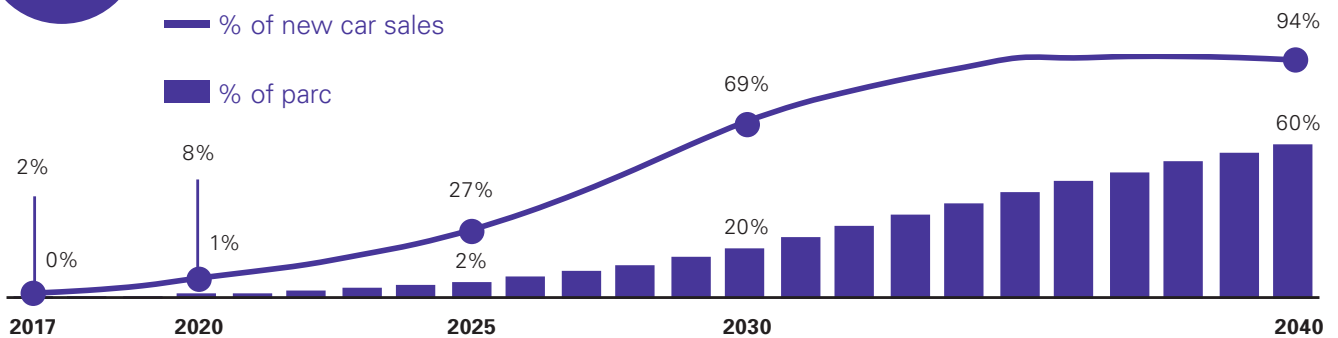
Sources: Intel, Waymo, Bloomberg New Energy Finance, KPMG Mobility 2030 analysis, UBS electric car teardown

Acceleration of EV, AV and MaaS adoption expected from the mid-2020s

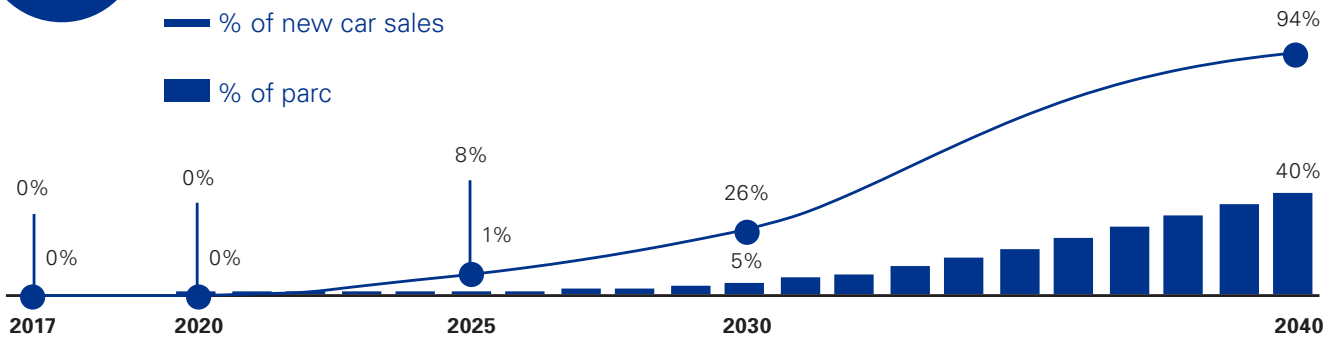
2017-2040 passenger vehicles in UK



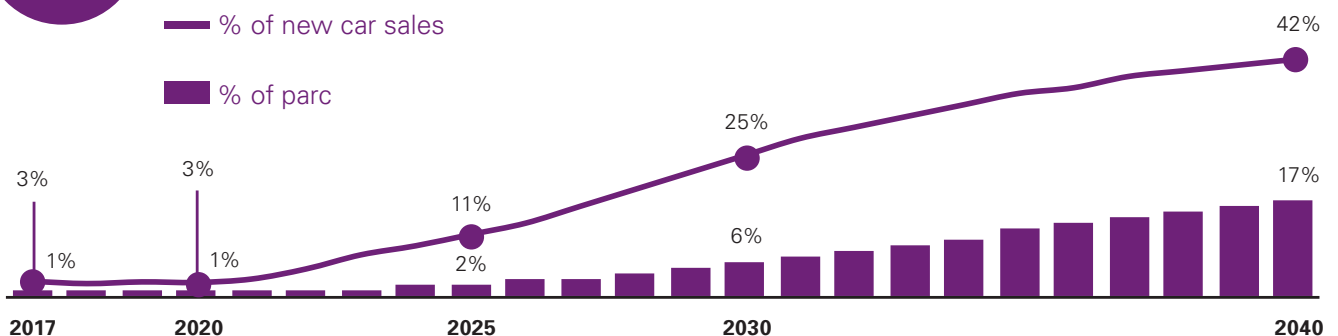
EV penetration



AV penetration



MaaS penetration



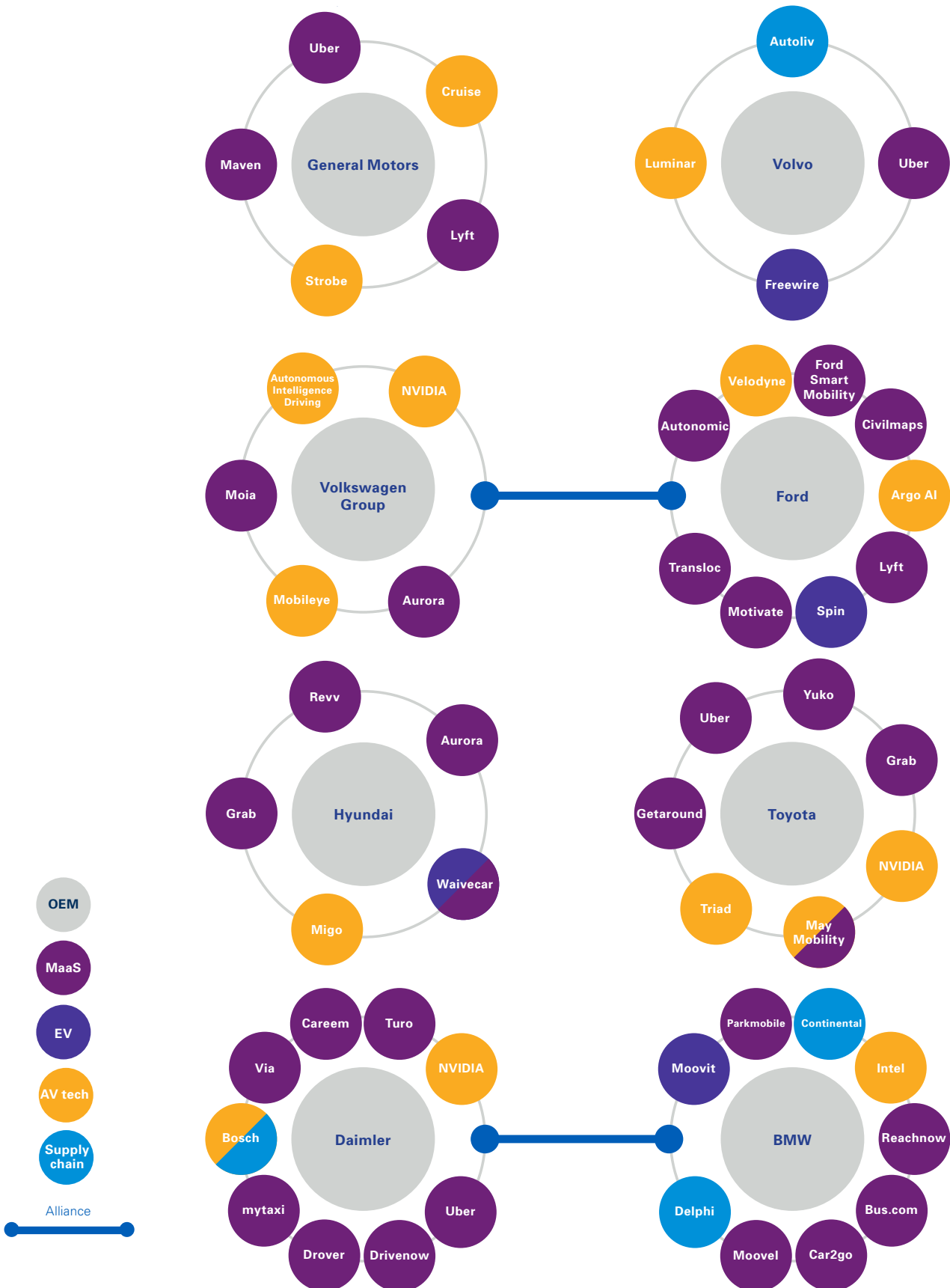
Source: KPMG Mobility 2030 analysis

The mobility disruption is connecting historically disparate value chains



Source: KPMG Mobility 2030 analysis

Indeed, OEMs are starting to gather the key ingredients



Source: KPMG Mobility 2030 analysis

The scale of the investment opportunity has increased exponentially



Historic

A new \$10 trillion industry is attracting significant investment



Smart mobility has attached investment of **\$111 billion** since 2010



The top five ride hailing firms are worth **\$150 billion**



\$90 billion carmakers in Electric Vehicles according to Reuters



The investment opportunity and benefits are significant:



\$9 trillion – potential global market for mobility and related services



\$900 billion– 10% annual global market share of mobility market that Britain could secure within a decade by leading the way...



\$50-100 billion per year of additional estimated social and economic benefits in UK by 2030...



Future (2030)

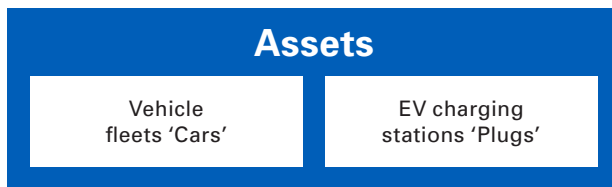
Source: KPMG Mobility 2030 analysis

Investment opportunities exist across the mobility ecosystem

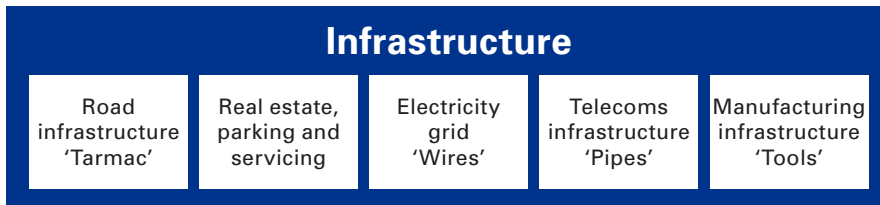
The future mobility ecosystem will consist of...



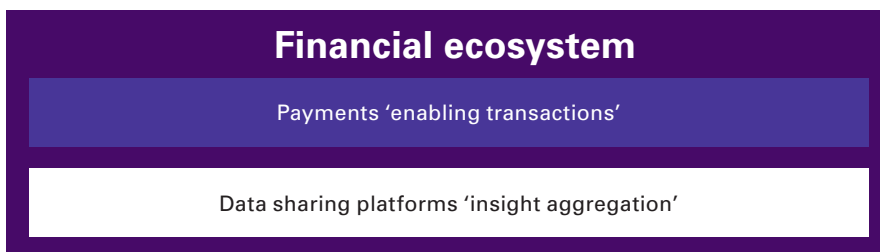
&



... supported by ...



... all underpinned by ...



Example mobility investment types



Emerging business models



Fleet hubs and depots



Batteries and alternative fuels



Autonomy



Data & Connectivity



EV/AF infrastructure



Physical infrastructure



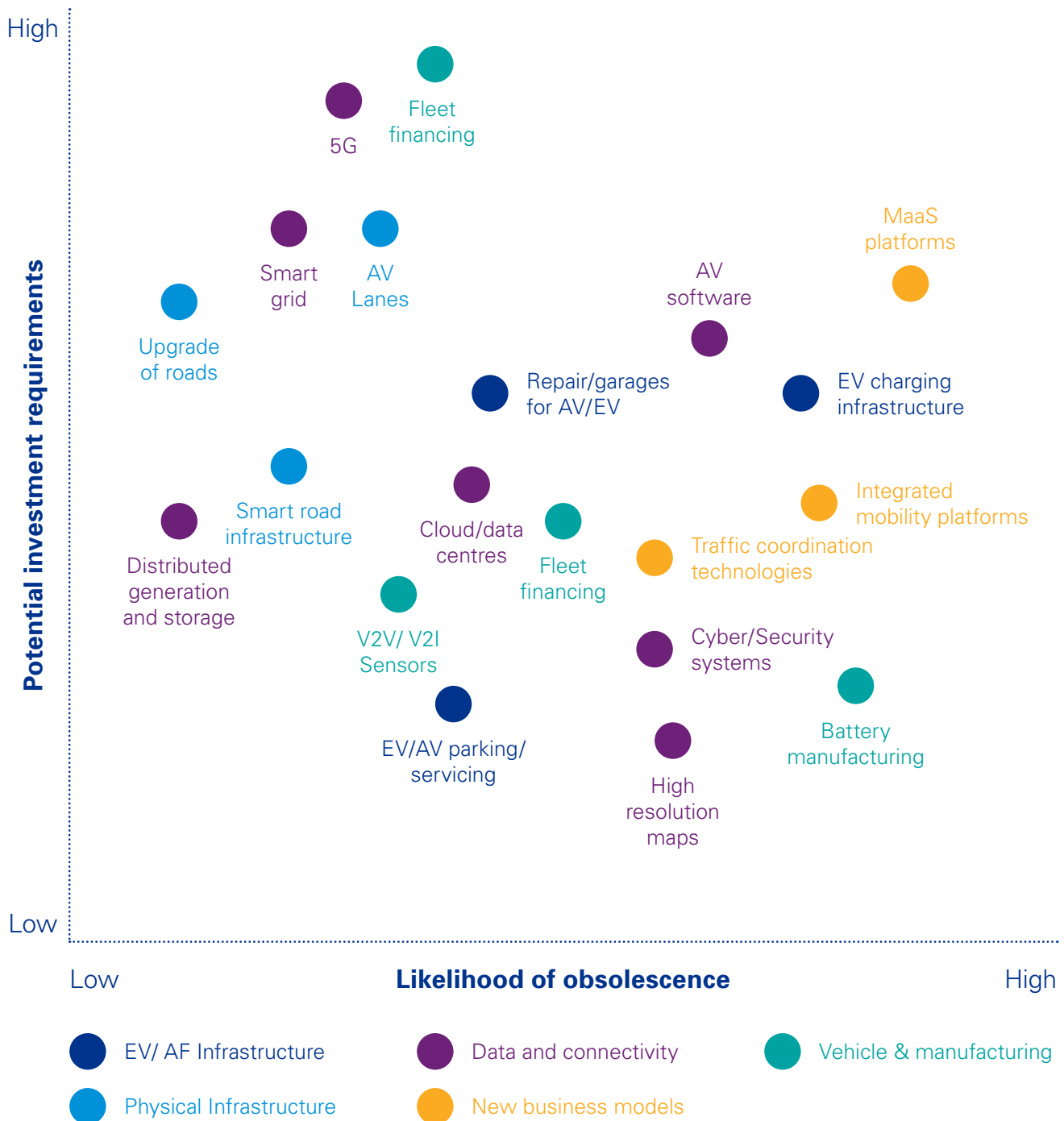
Cybersecurity

- Key
- Companies and technology
 - Infrastructure and assets

Source: KPMG Mobility 2030 analysis

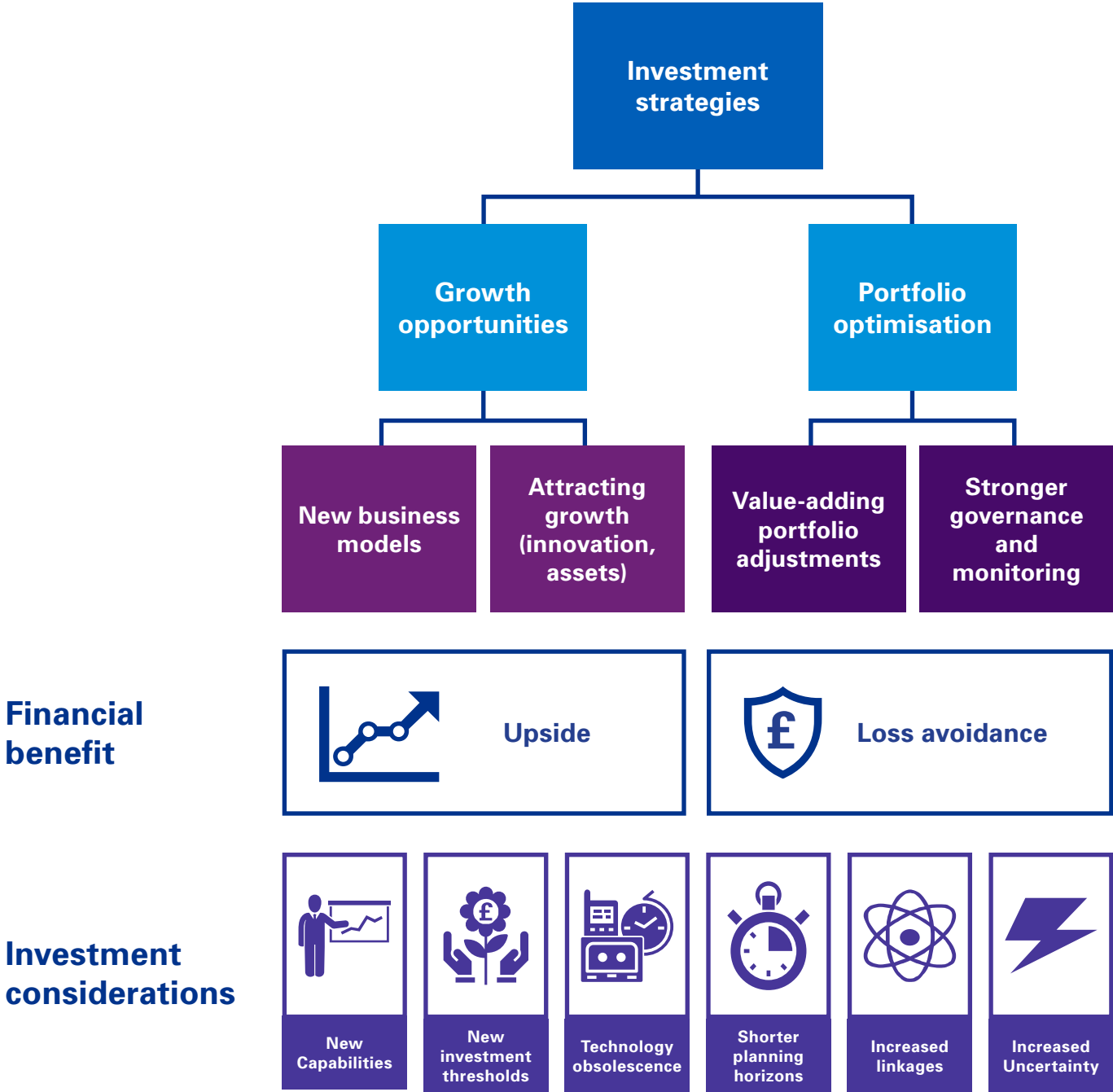
Investments vary by risk and reward appealing to different investor types

Illustrative investment opportunities



Source: KPMG Mobility 2030 analysis

Investment strategies and key challenges



Source: KPMG Mobility 2030 analysis

Do your investments include any of these 'winning ingredients'?



"Think"

1 **Decode disruption** (action paralysis)

Enabling experimentation

- When and how big is the Mobility disruption?
- How do value pools change as a result?
- What are traditional and non-traditional competitors doing?
- How does the disruption impact my portfolio?
- What are my response hypotheses?



"Design"

2 **Fight for the customer**

Getting closer to the customer

- Where should I play in the future value chain?
- How do I retain access to my customer?
- What will my future customer value?

3 **Un-strand assets**

Enabling pivot and transition

- How do I build agility and resilience (future-proof) in my assets?
- In what adjacent markets do my existing capabilities give me a right to play?

4 **Monetise data**

Understanding data

- What do I do with all the data I am collecting?
- How can I leverage my data as a first mover?
- How do I ensure data ownership?



"Execute"

5 **Search for scale**

Developing scale

- How do I scale new business models and/or investment?
- How can I invest in scale alongside ongoing operations?
- How do I agility and flexibility in my operating model?
- How do I create the platform of the future?

Source: KPMG Mobility 2030 analysis

Our Mobility 2030 leadership team can help you navigate these changes



Charlie Simpson
Partner and Head of Mobility 2030
KPMG in the UK
E: charlie.simpson@kpmg.co.uk
M: +44 7500 857 332



Graham Armitage
Partner, co-head of Mobility 2030
KPMG in the UK
E: graham.armitage@kpmg.co.uk
M: +44 7710 808 936



Justin Benson
Head of Automotive
KPMG in the UK
E: justin.benson@kpmg.co.uk
M: +44 7721 968 988



Natasha Patel
Associate Director of Mobility 2030
KPMG in the UK
E: natasha.patel@kpmg.co.uk
M: +44 7824 605 340



Eddie Ataii
Associate Director of Mobility 2030
KPMG in the UK
E: edward.ataii@kpmg.co.uk
M: +44 7717 693 651



Edwin Kemp
Associate Director of Mobility 2030
KPMG in the UK
E: edwin.kemp@kpmg.co.uk
M: +44 7733 308 169

kpmg.com/uk/mobility2030

The information contained herein is of a general nature and is not intended to address the circumstances of any particular individual or entity. Although we endeavor to provide accurate and timely information, there can be no guarantee that such information is accurate as of the date it is received or that it will continue to be accurate in the future. No one should act on such information without appropriate professional advice after a thorough examination of the particular situation.

© 2019 KPMG LLP, a UK limited liability partnership and a member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative ("KPMG International"), a Swiss entity. All rights reserved.

The KPMG name and logo are registered trademarks or trademarks of KPMG International.
Designed by CREATE | CRT107766A | April 2019