



UK Opportunities in the Transition to Low Carbon Heavy Transport

Rebecca Advani

Senior Technologist – Connected Places Catapult

LCV2019 Event Sponsor:

GEOTAB[®]
management by measurement

UK Opportunities in the Transition to Zero Emission Heavy Transport

Rebecca Advani, Senior Technologist

CATAPULT
Connected Places

The new name for Future Cities and Transport Systems Catapults

Connected Places Catapult

The new name for Future Cities and Transport Systems Catapults



CATAPULT
Connected Places

Our mission

To help British businesses address the grand challenges of today in order to create connected places, fit for the future.

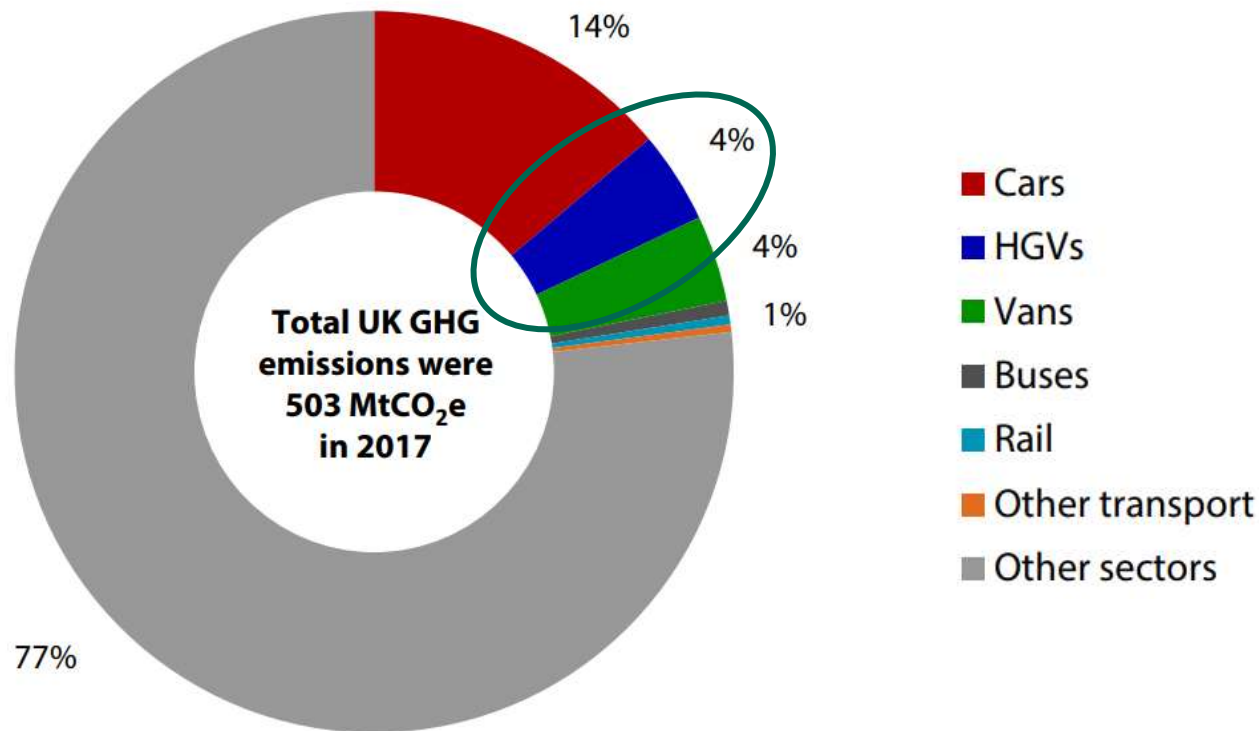
Our place in the market

- Increasing the supply of proven products and services that meet market demand by helping companies to commercialise innovation through demonstration, testing and market exposure.
- Identifying new areas for market making and disruption by stimulating richer engagement between academics and businesses.
- Boosting demand for innovation from intelligent customers by providing joined up support to public authorities.



Net-Zero Changes the Game

“To reach net-zero emissions by 2050 it will be necessary for HGVs to move away from combustion of fossil fuels and biofuels to a zero-emissions solution” - CCC

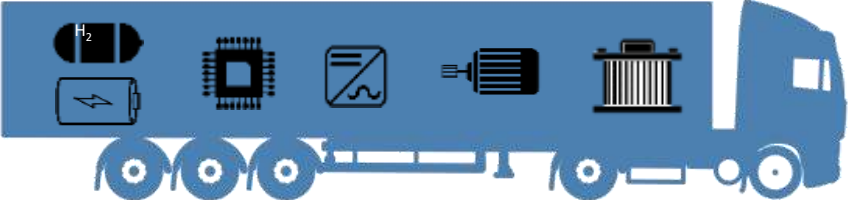


Zero Emission HGV Options

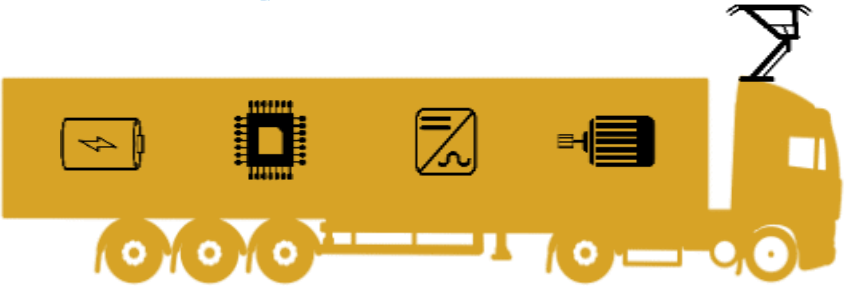
Battery





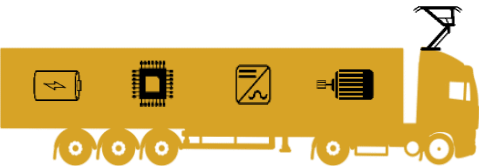
Hydrogen



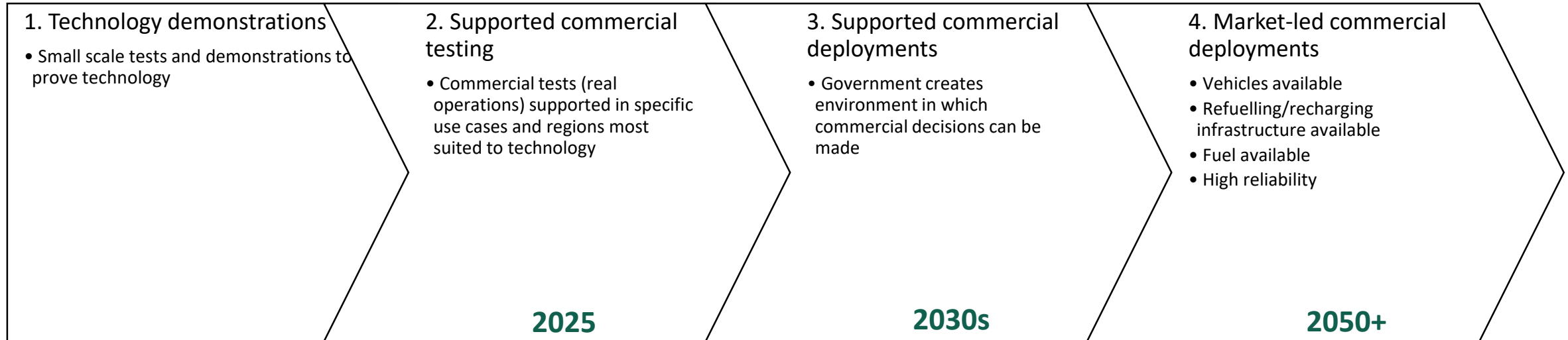
Electric Roads



Long Haul HGVs are Particularly Challenging

Technology	Challenges	System Considerations
<p>Battery</p> 	<ul style="list-style-type: none"> • Size/weight of batteries – reduces payload • Cost of batteries • Recharging time – reduces utilisation 	<ul style="list-style-type: none"> • Power requirement for fast recharging
<p>Hydrogen</p> 	<ul style="list-style-type: none"> • Cost of fuel cells, especially heavy duty • Size of hydrogen storage – reduces payload • Safety e.g. storage of large volumes of H₂ 	<ul style="list-style-type: none"> • Production of low or zero carbon hydrogen • Distribution of hydrogen
<p>Electric Roads</p> 	<ul style="list-style-type: none"> • Infrastructure planning and costs • Disruption during installation • Interoperability 	<ul style="list-style-type: none"> • Supply of electricity to all parts of strategic road network
<p>All</p>	<ul style="list-style-type: none"> • Availability of UK-spec vehicles • Vehicle/infrastructure ‘chicken and egg’ 	<ul style="list-style-type: none"> • International interoperability

Opportunities for the UK



Vehicles for the UK market

- UK supply chain – building on strong innovation base and local collaborations
- Partnerships with international OEMs – building on systems integration strengths

Innovative infrastructure solutions

- Transport and energy sectors working together, e.g. smart energy grids, demand side management

Opportunities for the UK

Large-scale demonstrations

- Opportunity to showcase UK technologies, and develop supporting products and services required, e.g. energy management systems
- Potential for multi-modal collaboration
- For hydrogen, transport demonstrations could link in with regional hydrogen economy initiatives



Industry-government collaboration

- National, regional and local governments need industry solutions to help solve the net-zero challenge
- UK organisations such as CPC can support collaboration



Thank you

rebecca.advani@cp.catapult.org.uk

How to contact Connected Places Catapult

London Office:

1 Sekforde Street
Clerkenwell
London EC1R 0BE

T: +44 (0)20 7952 5111
E: info-ldn@cp.catapult.org.uk
www.cp.catapult.org.uk

Milton Keynes Office:

3rd Floor, The Pinnacle
170 Midsummer Boulevard
Milton Keynes MK9 1BP

T: +44 (0)1908 359999
E: info-mk@cp.catapult.org.uk
www.cp.catapult.org.uk