

# **GROWTH POTENTIAL:** AUTOMOTIVE, TRANSPORT, AND LOGISTICS



## Key circular economy strategies

- Design vehicles and mobility infrastructure for shared use, adaptability, disassembly and recyclability, accompanied by a shift to electrification
- Keep materials in use by remanufacturing and upgrading of parts, vehicles, and infrastructure
- Diversify modes of transport and operating models (e.g. multimodal public transport-as-a-service)
- Plan cities and regions to optimise mobility (including freight), and enable effective reverse logistics and resource flows

## Drivers of circular economy growth potential

- **High** potential for growth in the short-medium term
- **Increasing** potential for growth in the short-medium term
- **Emerging or limited** potential for growth in the short-medium term

Innovation and corporate action	
<b>Established circular practices</b>	<ul style="list-style-type: none"><li>• Second-hand car market is already well-established, with car manufacturers often refurbishing and reselling</li><li>• Car manufacturers have started to launch their own car-sharing programmes with varying uptake</li></ul>
<b>Innovation</b>	<ul style="list-style-type: none"><li>• Further shift towards and innovation into electrification of mobility</li><li>• Ongoing innovation in autonomous driving and connected vehicles, but feasibility of implementation at scale is still uncertain</li><li>• Development and implementation of digital solutions that optimise logistics and support the consolidation of freight services and reverse logistics, including local 'last mile' solutions</li></ul>

## Policies and regulation

<b>Increasing policies and regulation</b>	<ul style="list-style-type: none"> <li>• Increasing regulation on emissions restrictions, design with recycled content, end-of-life vehicle reuse and recycling, rechargeable batteries, product-as-a-service mobility solutions (e.g. Reusability, Recyclability, and Recoverability Directive 2005/64/EC, which requires that new vehicles to be sold in the EU be designed so that minimum thresholds of parts and materials may be reused, recycled or recovered at the end of a vehicle's use-cycle,<sup>255</sup> EU circular economy Action Plan)</li> <li>• Increasing regulation on smart mobility (e.g. EU circular economy Action Plan)</li> </ul>
<b>Incentives</b>	<ul style="list-style-type: none"> <li>• Incentives for car-sharing (e.g. Chinese central government and local municipalities have issued multiple policies to encourage car-sharing, which is expected to grow rapidly in China)<sup>256</sup></li> <li>• City planning to ease congestion and air pollution is changing approaches to transport in cities, including walking and cycling action plans (e.g. London's Walking Action Plan and 450km of new Cycleways planned by 2024; Seattle, Brussels, and Milan are all limiting car use and developing dozens of miles of bike lanes following the Covid-19 lockdown)</li> </ul>

## Customer preferences and macrotrends

<b>Changing preferences and behaviour</b>	<ul style="list-style-type: none"> <li>• Increasing demand for electric vehicles (the global EV market is forecasted to grow by 21% annually between 2019 and 2030)<sup>257</sup></li> <li>• Changing customer preferences towards access-over-ownership (e.g. car-sharing market exceeded USD 2.5 billion in 2019 and is estimated to grow at 24% annually between 2020 and 2026)<sup>258</sup></li> <li>• Rapid growth in online shopping, including food and grocery, increasing required logistics and reverse logistics capacity (e.g. online spend in UK grew by 13% year on year (YoY) in July 2019),<sup>259</sup> accelerated by Covid-19 crisis (online YoY revenue growth for US retailers was up 68% as of mid-April 2020)<sup>260</sup></li> </ul>
<b>Changing demographics</b>	<ul style="list-style-type: none"> <li>• Rapid urbanisation, with 68% of world's population expected to live in cities by 2050, shared multimodal public transport becomes increasingly viable<sup>261</sup></li> </ul>

## Types of circular economy opportunity areas



Circular design and innovation



Circular business models



Reuse, repurpose, and redistribute



Repair, remanufacture, and refurbish



Collect, sort, and recycle



Regenerative and renewable practices and materials



Enabling digital technologies

## Current circular economy opportunity areas



**Remanufacturing of spare parts and recycling of materials**



**Circular business models including car-sharing, ride-sharing, logistics and freight load-pooling, mobility/infra-as-a-service, and multimodal integrated public transport, accompanied by a shift to EVs**



**Digital platforms that enable circular businesses such as sharing models**

## Examples: Large corporates

### Renault

has increased the use of recycled materials in their vehicle design, as well as used vehicle collection, dismantling, reuse, and remanufacturing, the recycling of components, batteries and vehicles, and it launched ZITY, an all-electric car-sharing service

### DHL

has introduced modular delivery 'Cubicycle' units which can be loaded onto electric cargo bicycles for last mile inner-city deliveries in Frankfurt and Utrecht

### Toyota

has launched initiatives to establish certified automobile dismantling facilities and has rolled out car-to-car recycling technologies globally

### Daimler and BMW

have formed a joint venture, Share Now, which offers 'mobility-as-a-service' car-sharing in urban areas

### LKQ Corporation

recovers, recycles, refurbishes or remanufactures parts from trucks and cars to produce spare parts which can be used to repair and upgrade vehicles

## Examples: Innovators

### Whim

offers access to (almost) all types of transport through an integrated mobility-as-a-service scheme in Helsinki, the West-Midlands, and Antwerp

### BlaBlaCar

enables car-pooling, using spare capacity in private vehicles on existing journeys

### Convoy

is a platform that enables local freight drivers to pick up additional jobs en route and utilise empty load capacity

### Connected Energy and Powervault

use second-life EV batteries for energy storage systems

### Mobike

offers a bike-sharing service using IoT technology in dozens of cities across the world

### Pony

operate a shared micro-mobility rental scheme with decentralised vehicle ownership

### Black Bear Carbon

turns used tyres into a raw material called 'carbon black' which can be used in a range of products, including pen ink, smartphone covers, and new tyres

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## **Financing the circular economy**

Capturing the opportunity

