



# URBAN MOBILITY & DIGITALISATION

Re-Building Europe Deep-dive workshop  
London, 15 November 2023

A spin-off from



# Future of Mobility - Context

- Transport sector is the only sector with increasing emissions since 1990
- **Road transportation** by far has the highest share in transport emissions.
- **Urban Mobility** is the key challenge to solve
- EU committed to a Transport GHG reduction by **60 % by 2050**

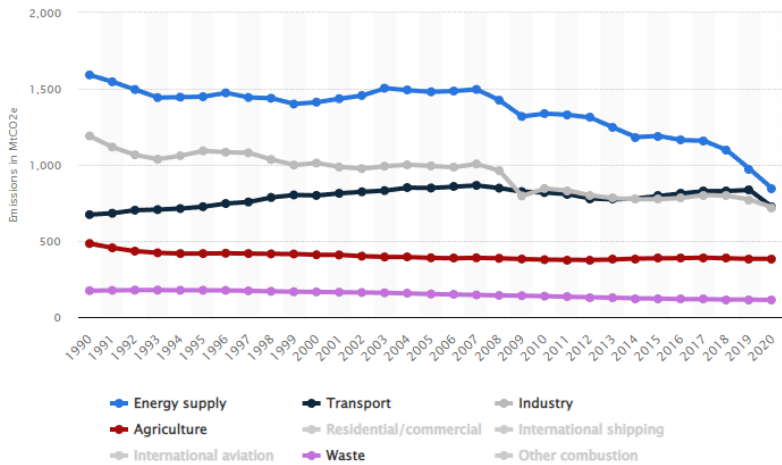
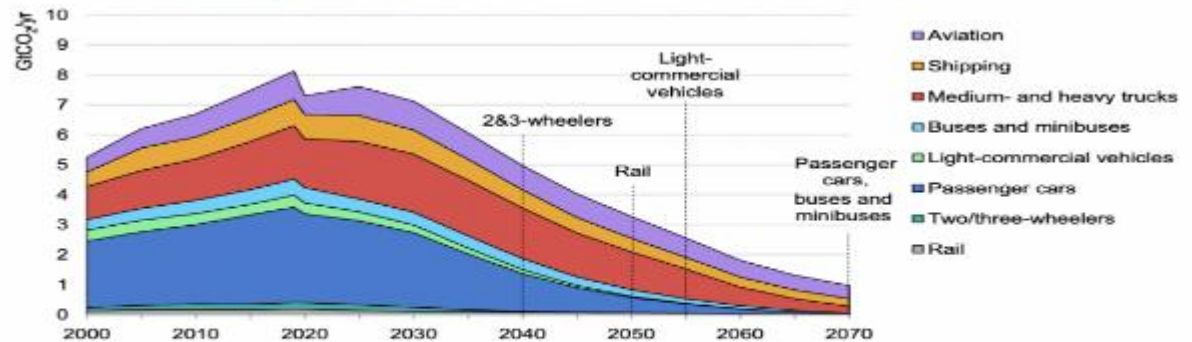
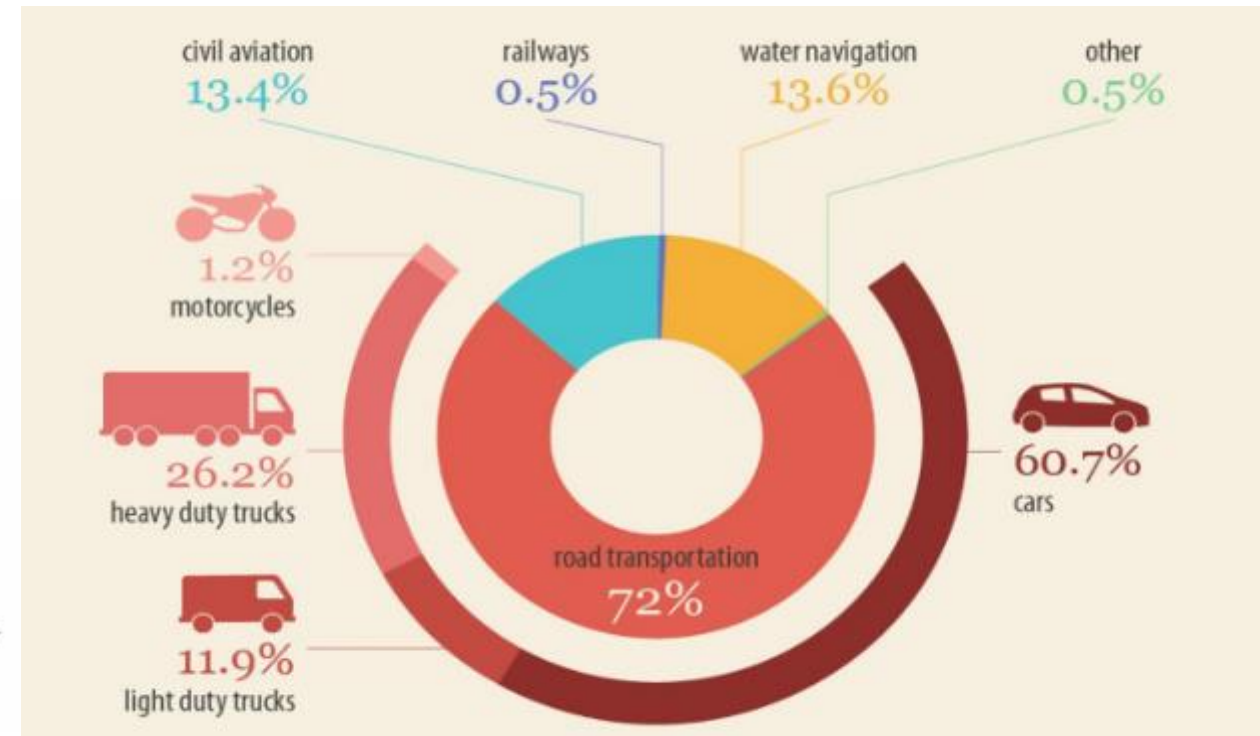


Figure 3.16 Global CO<sub>2</sub> emissions in transport by mode in the Sustainable Development Scenario, 2000-70



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Notes: Dotted lines indicate the year in which various transport modes have largely stopped consuming fossil fuels and hence no longer contribute to direct emissions of CO<sub>2</sub> from fossil fuel combustion. Residual emissions in transport are compensated by negative emissions technologies, such as BECCS and DAC, in the power and other energy transformation sectors.



# Future Mobility - Technological and Social Drivers

- Industry 4.0
- Connected Devices/Cars
- Smart Home/ Smart Grids
- Smart Services
- AR / VR



- Sharing Economy
- Platform Economy
- Collaboration Platforms
- Open Innovation
- User generated services

- Automated driving
- Self-learning robots
- Human- robot cooperation
- Voice- / Facial recognition
- Self learning algorithms
- Edge Computing



- Social Communities
- Start-up Communities
- Business Portals
- Co-Working
- Co-Creation
- Telework

# On-Demand Mobility a.k.a. Demand Responsive Transit, DRT



# Urban Mobility - Key Technologies

(not forgetting changing transport user behaviours and applying New Business Models)



Electrification & alternate fuels

Shared Mobility



Connectivity: 5G, IoT & Autonomous driving

DATA



# Physically tying some of this together: Mobility Hubs - Logistics Hubs

## Mobility Hub features include a.o.:

Bus stop zones (BRT, local), rail/tram

EV charging stations

Interactive kiosks

Amenities for layovers

Micro-mobility parking/rental

Bicycle/car sharing

Wi-Fi service

Smart signage

Energy generation from solar cells

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## Logistic Hub features include a.o.:

SMC EV charging stations (2+ MW)

Personal cabins (shower/toilet)

Interactive kiosks

Amenities for layovers

Cafeteria/Restaurant

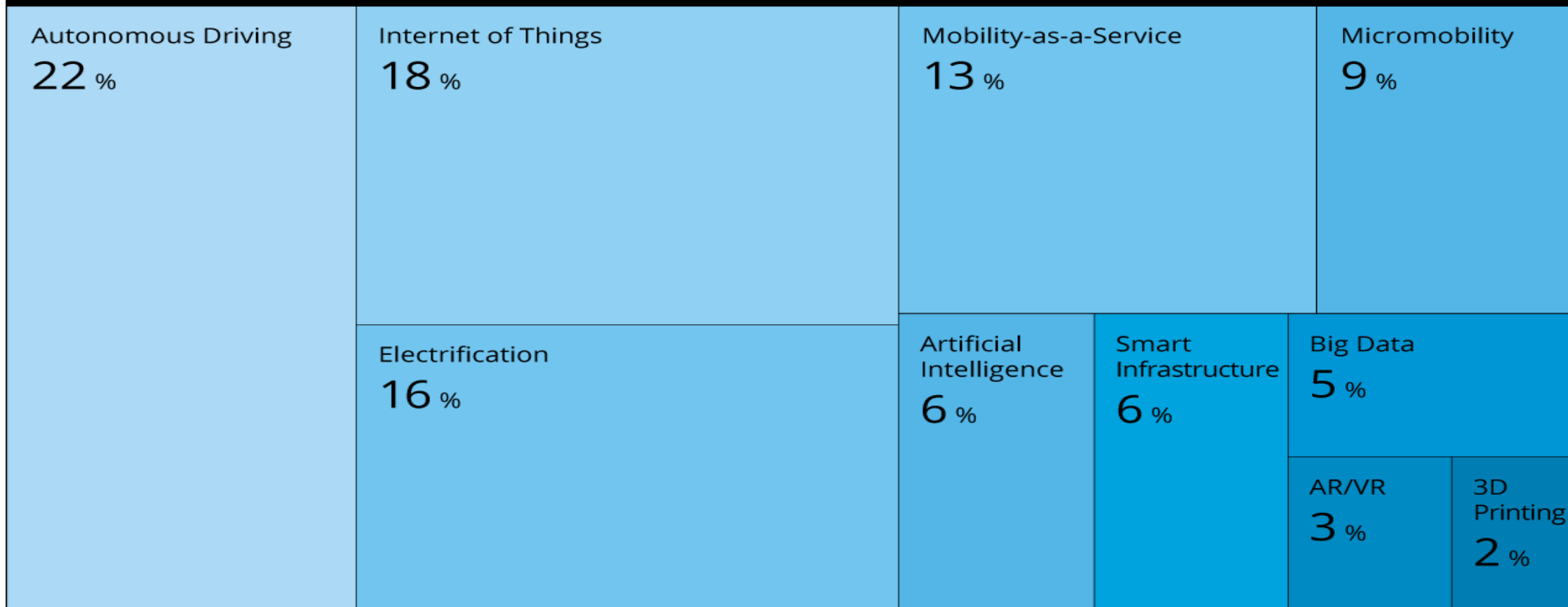
Wi-Fi service

Smart signage

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# Top 10 Mobility Trends & Innovations in 2024



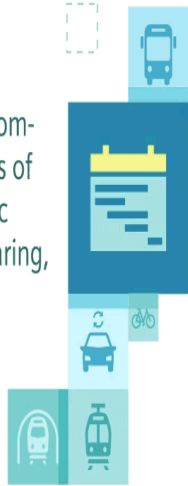
This tree map illustrates the top 10 innovation trends & their impact on the Mobility

# Mobility as a Service (MaaS) – seamless travel



## Variable

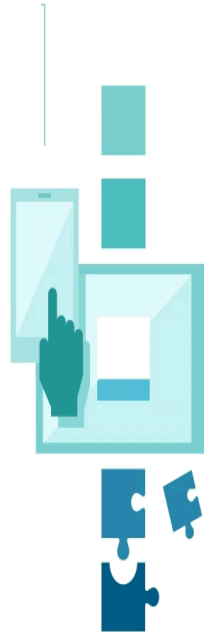
MaaS trip planner combine multiple modes of transport incl. public transit, car-/bike-sharing, carpooling and DRT



## User friendly

User experience is key to an app's success and requires constant development

**MaaS**  
Your guide through the mobility jungle



## Modular

MaaS apps can be implemented in steps due to modular software

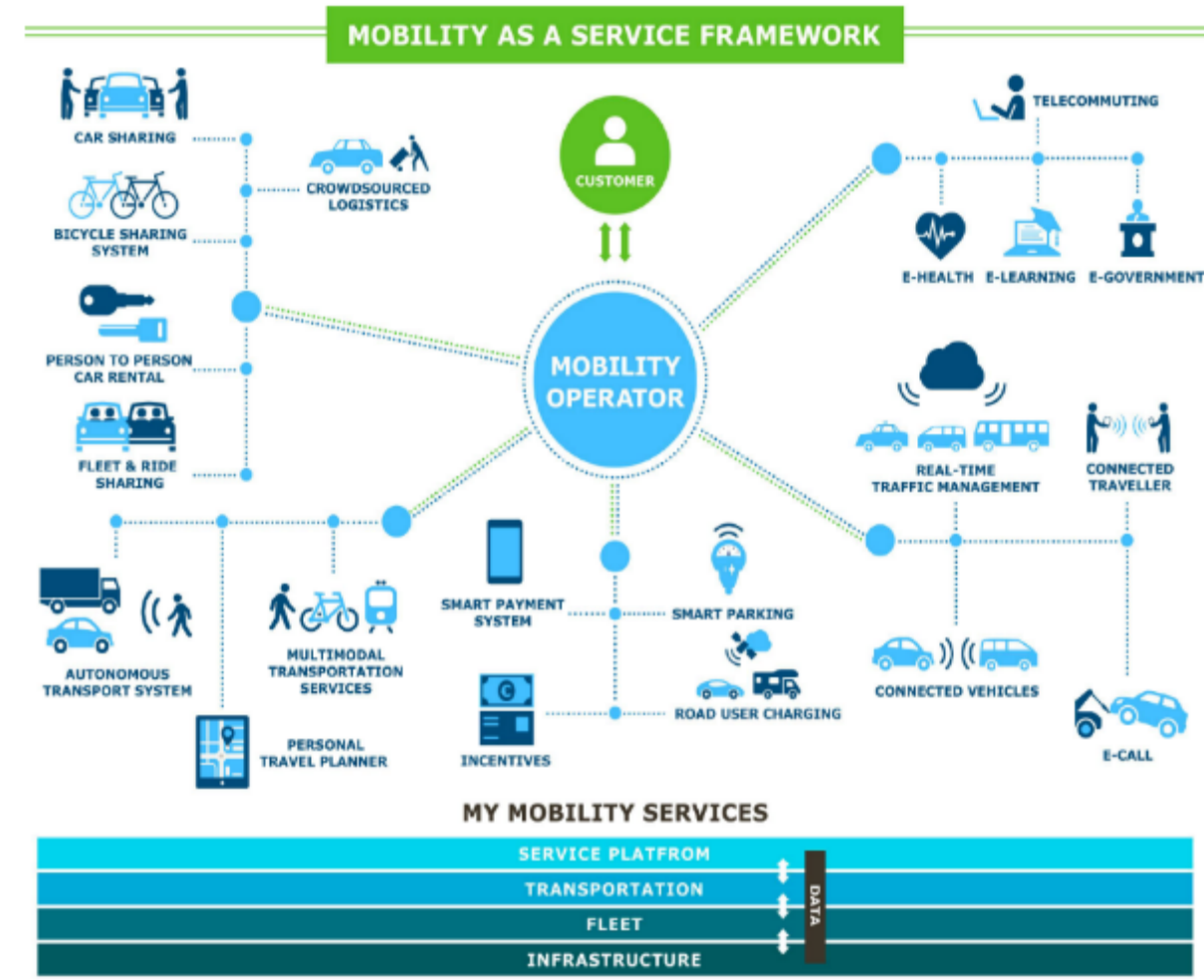
## Dynamic

New mobility services expand the mobility landscape



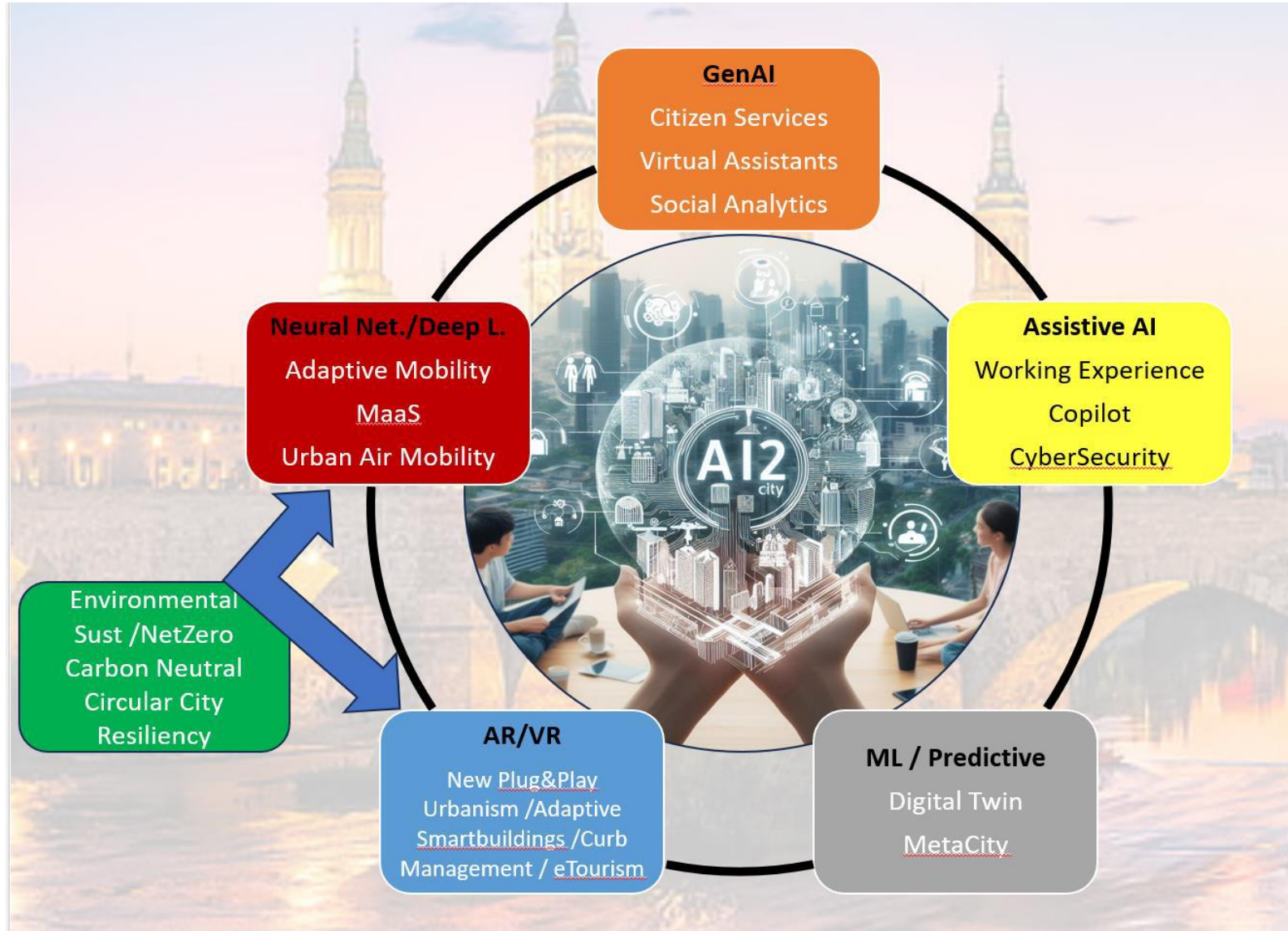
## Sustainable

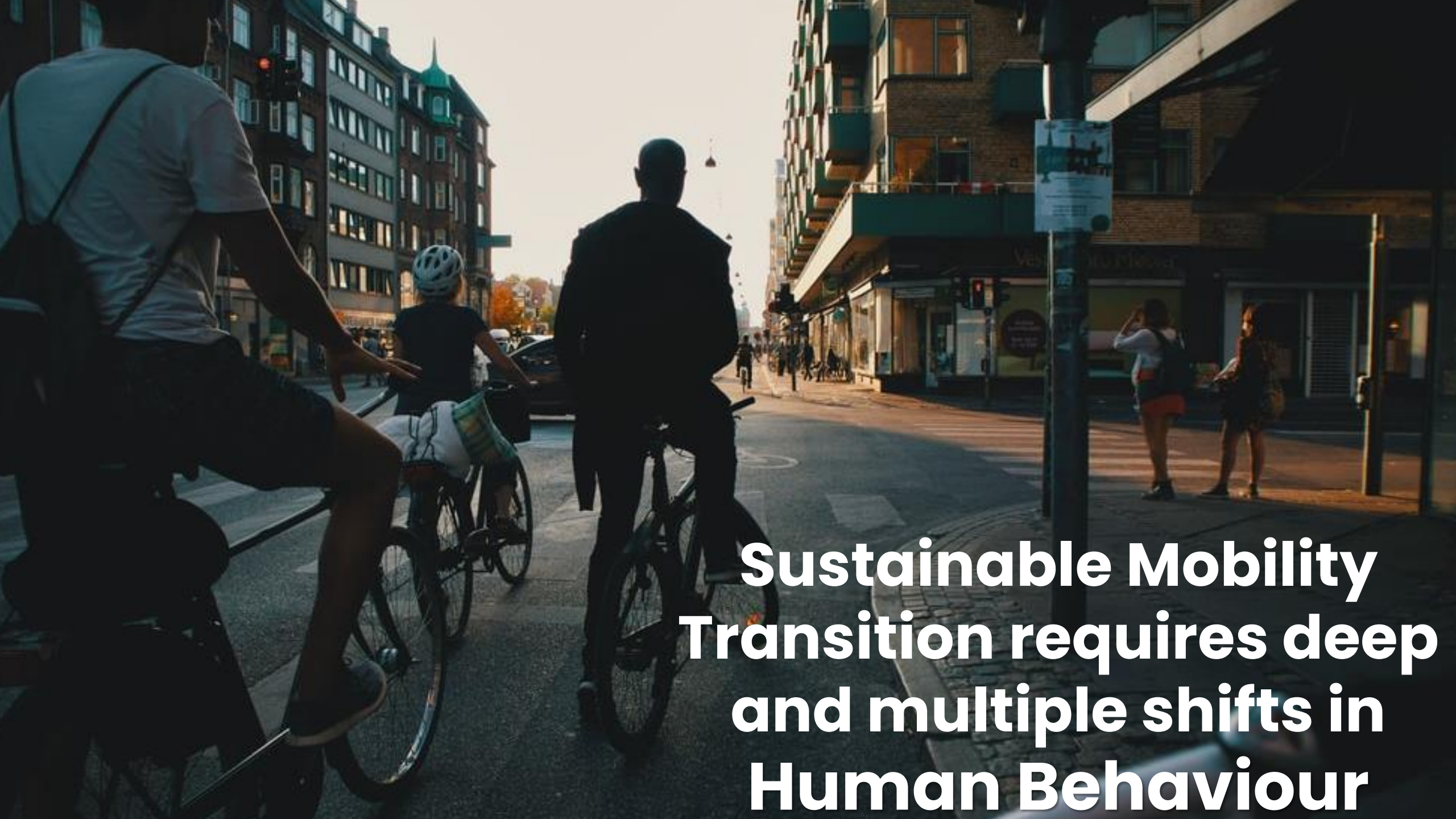
MaaS reduces the carbon footprint with low-emission modes of transport





# AI and Future Mobility





**Sustainable Mobility  
Transition requires deep  
and multiple shifts in  
Human Behaviour**



**Feel free to contact us.  
Whenever you like.**



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