How to speed up investment into mobility innovation in Europe

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Aspectu

From the era of car to the era of mobility

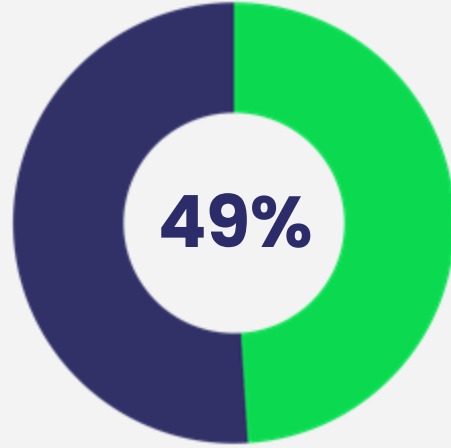Demand exists but the industry is not providing services

People are ready and adjusting to the mobility evolution - but they need tools

81%
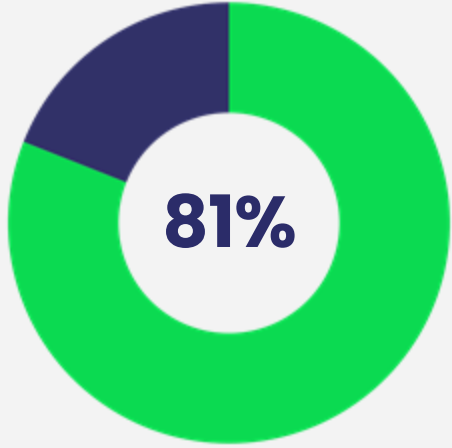
By 2030, I will take **significantly fewer business trips** compared to 2019

49%

By 2030, I will **sacrifice vehicle ownership** to reduce my environmental footprint

87%
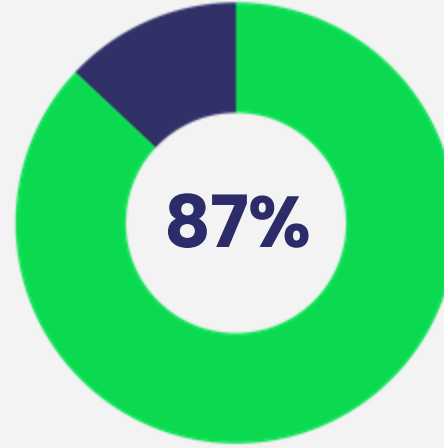
By 2030, I will commute less frequently (e.g. to work) compared to 2019

81%
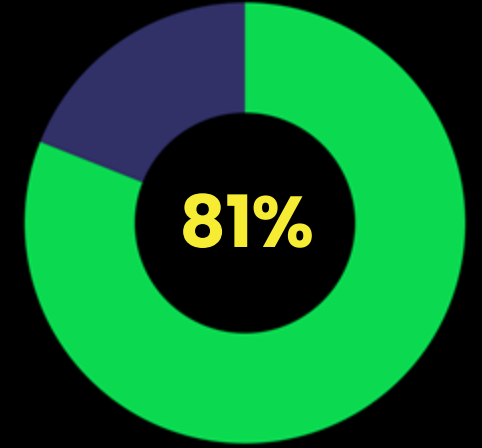
By 2030, I will prefer to **use one single app/platform** for ordering and billing ALL my mobility-related services (e.g. car, bus, train, plane)

EU has what it takes, except for actions

Mobility is facing a tsunami and EU is still sunbathing

- Electrification is not the only disruption that mobility is facing.

- Artificial intelligence, automated vehicles, drones and super-apps will change the scene even more dramatically.

- EU Is ideal for mobility transition due to strong mobility services, advanced consumers, seamless connectivity, strong R&D and strong automotive sector.

- Today EUmarket is uninvestable due to fragmented markets, public sector dominance, lack of BtoC providers of mobility and scattered pilots.

- EU stands now with 11-man defense hoping it would all just go away.

- Taking leadership calls for bold actions.

- How our cities look like in near future is determined by how our freedom of mobility is produced. Without actions it will be dominated by few tech giants that determine how our citizens move around.

How EU can set a global example in mobility innovation

- **Harmonize EU Market Regulations**: Develop unified standards and policies to reduce fragmentation and provide a predictable investment environment.

- **Encourage Scalable Business Models**: Create incentives and frameworks that allow startups and companies to scale effectively. Let companies grow fast.

- **Enhance Regulatory Clarity**: Clearly define stakeholder responsibilities and obligations to reduce uncertainty.

- **Support Interoperability and Innovation**: Foster technology-neutral solutions and improve the interoperability of systems and business models.

- **Reform Public Procurement Practices**: Align and modernize procurement rules to better support innovation and market renewal.

- **Develop Model Markets**: Establish example markets, like Finland, to test and demonstrate successful innovations that can be scaled across the EU.

- **Foster Cross-Sector Collaboration**: Encourage cooperation between public and private sectors to balance roles and create a competitive yet collaborative environment.

We all know this. But what are the actions leading to goals?

Sustainable market model benefits all aspects

USER
freedom, individuality

New mobility

MARKET/BUSINESS
Must make it work to profit

SOCIETY
Less congestation, less space required, less pollution
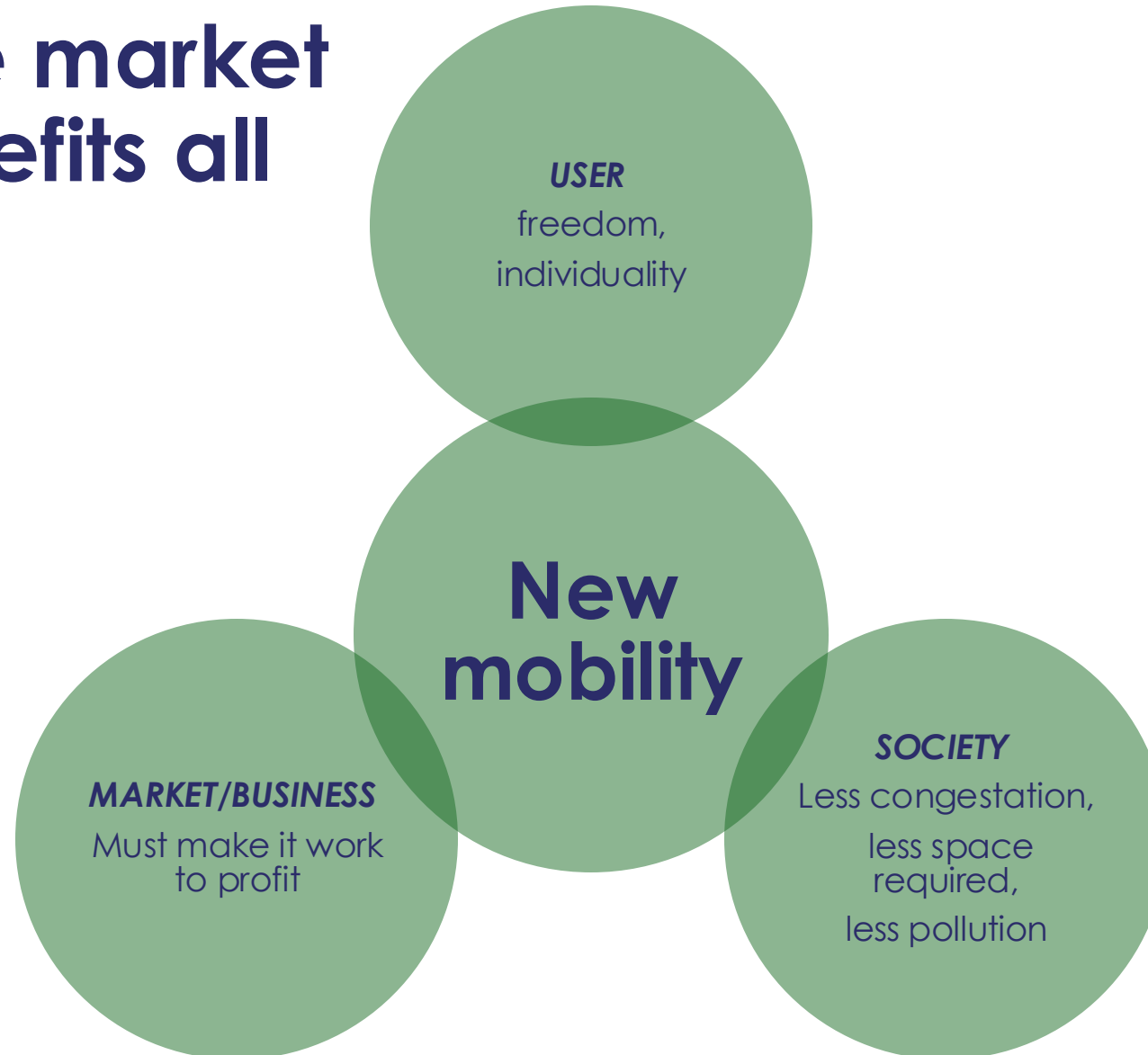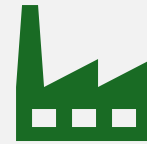
Bold actions to take leadership

Big ecosystem changes need government leadership

1. Create gravity points to mobility

Car manufacturers are national companies, what about mobility?

Mobility 'factories' are also very costly.

What if we would have strong European players combining public and private ownership?

1. Co-invest to create gravity points in the ecosystem

- **The Mobility Ecosystem: A Sleeping Giant in Need of Disruption**

- In Europe, fragmented regulations have created **significant risks for private investment**, discouraging large-scale innovation.

- The European mobility landscape has primarily focused on **defence and incremental improvements**, lacking bold, game-changing visions.

- While the ecosystem hosts **numerous small, innovative companies**, it suffers from the absence of strong **gravity points**—central players or platforms—to drive systemic disruption. True mobility transformation demands **substantial capital** to overcome industry inertia and scaling challenges.

- To break through this **investment barrier**, public-sector leadership must take a more **active role**, mirroring successes seen with **Airbus** in aviation or government-backed automotive industries.

- There is a lot of **sleeping capital** waiting to enter mobility.

- A **strategic public-private partnership** could unlock the potential for Europe to lead the next era of sustainable and integrated mobility.
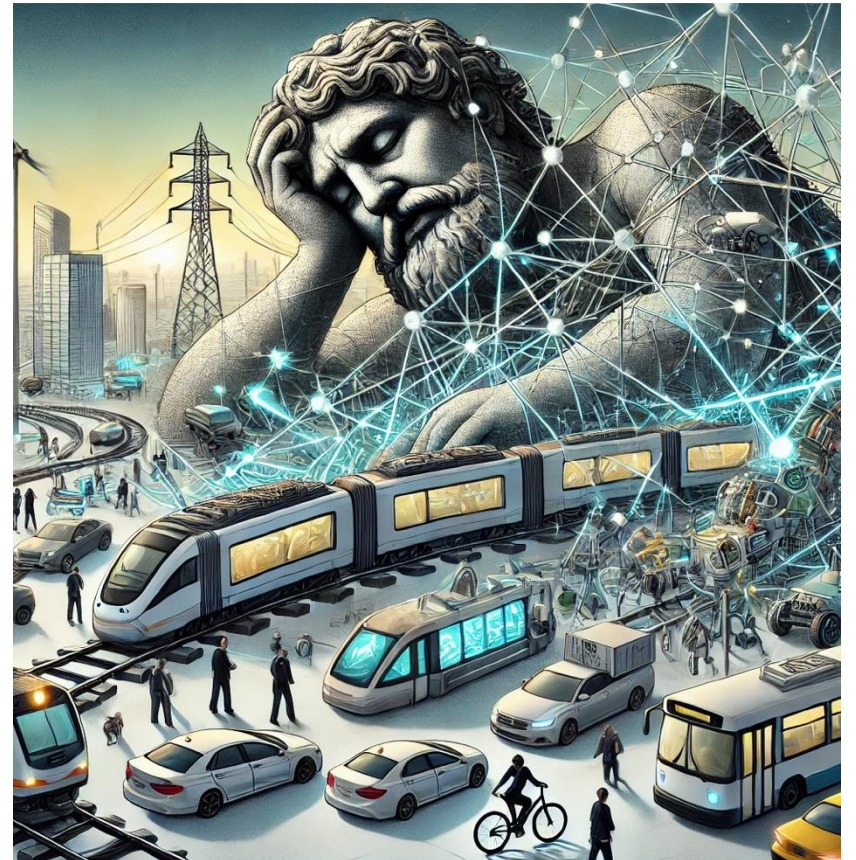
Co-investment actions

1. **Announce a joint investment commitment of 1 billion euro each which should equal maximum of 20 % of total investment.**

2. **Criteria:**
   - Consumer facing multimodal services.
   - Not manufacturing cars.
   - Global scaling.
   - Technology leadership.

3. Investment should bring European **competitive global platforms** with strong presence in AI and automation.

4. **Deploy regulatory measures** to facilitate market entry for innovative mobility services, including:
   - Ensuring fair access to existing transport infrastructure and services,
   - Tax reforms to promote sustainable employee mobility options,
   - Simplified access for new transport services and technologies, and
   - Strategic investments in infrastructure, such as mobility hubs, to improve connectivity and accessibility.

5. **Publish a compelling EU or national vision** that champions freedom of mobility, positioning the region as the global leader in sustainable and innovative transportation solutions for the coming decades.

Steps for creating gravity points by co-investing

1

2

3

Step 1: Publish the intention to invest 1 billion euro into maximum 3 mobility companies

- Public ownership max. 20 %.
- Consumer services.
- Multimodal services.
- Not manufacturing cars.
- Global scaling potential.
- Technology leadership.

Step 2: Establish European mobility services leaders

- Engage actively with potential private investors.
- Publish EU-intentions for industrial leadership.
- Choose best proposals for co-investment
- Opening markets needs to happen simultaneously.

Step 3: Pave the way for success

- Create open and competitive markets in EU in order to benefit from home markets.
- Assess the necessary strategic ownership.
- Actively look for global market regulation to open markets.
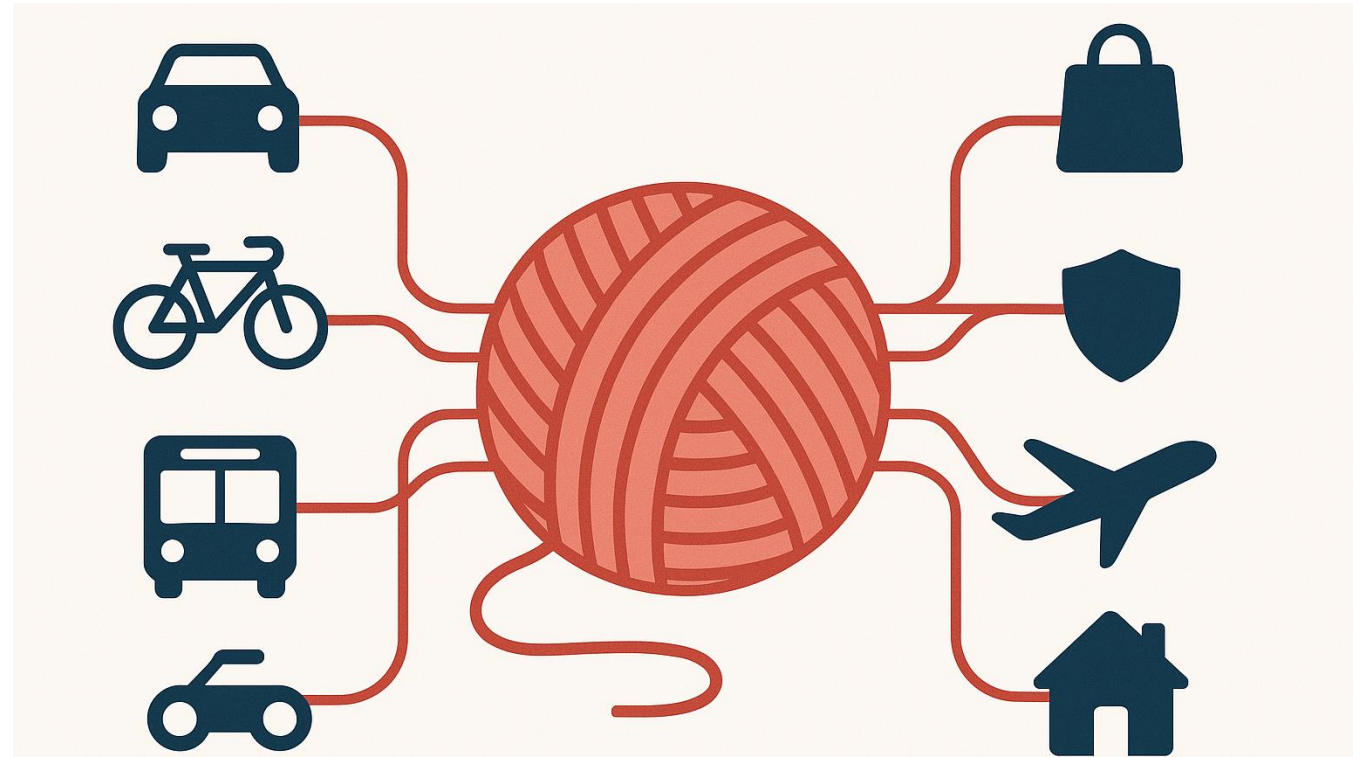
2. The new paradigm for mobility:

Make mobility seamless part of all other sectors, Mobility as a Feature (MaaF)

Mobility needs to be double-integrated

- Transport modes need to be integrated to give consumers convenient access

- Integrated solutions need to be integrated to other sectors to allow using mobility as a driver for innovation in other sectors

Mobility as a Feature

- **What is MaaF?**
  Mobility as a Feature (MaaF) is a concept that integrates mobility services into non-mobility sectors like retail, insurance, events, and more, creating seamless user experiences across industries.
  (https://www.tandfonline.com/doi/full/10.1080/01441647.2022.2159122)

- **Shift from Multi-Modal to Multi-Service Perspective**:
  MaaF moves beyond the traditional multi-modal perspective (focusing on modes of transport) to embrace a multi-service perspective, embedding mobility where people naturally need it.

- **Potential for Sector-Specific Approaches:**
  Given mobility's pervasive influence, there is potential for developing tailored, sector-specific MaaF solutions that address unique industry needs and user preferences.

- **Inspired by Embedded Services in Other Sectors**
  Much like how finance and insurance sectors have successfully adopted embedded services, MaaF leverages mobility's universality to create tailored, sector-specific solutions for various industries.

- **Challenges and Considerations:**
  Implementing MaaF requires addressing challenges such as regulatory frameworks, technological interoperability, and stakeholder collaboration to ensure successful integration and scalability.
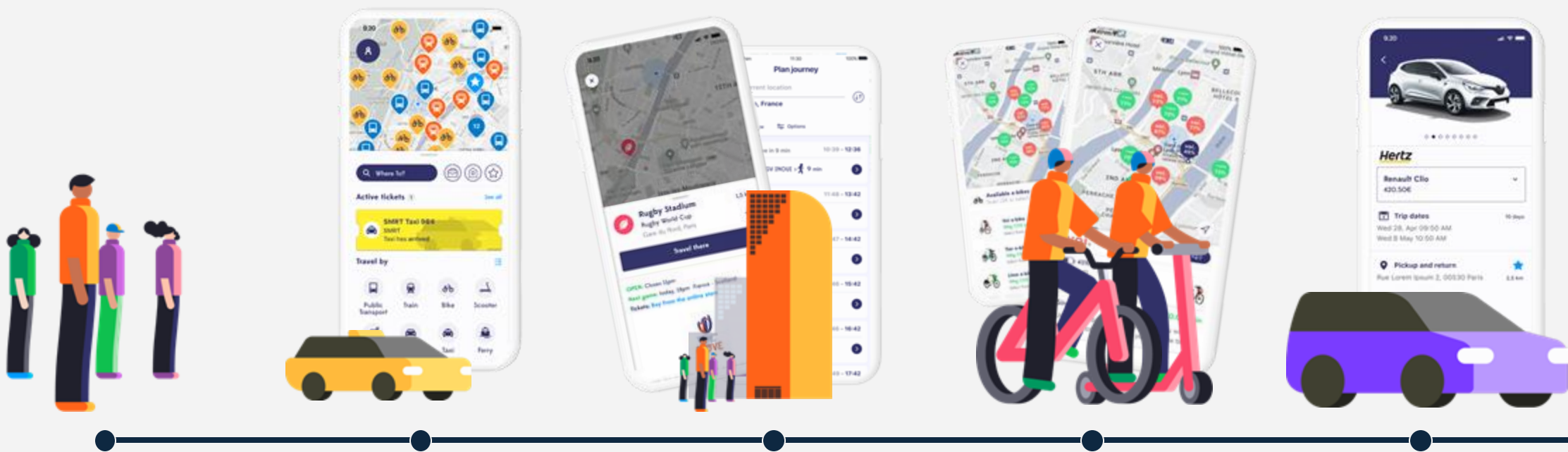
User cases

Mobility as a Feature

Mobility in Rugby World Cup - International Visitor

As a rugby fan and tourist, Peter can get smoothly from the airport to the hotel and continue to the stadium. Premium package can include car rentals

150 € /package

400 € /premium package

1. Subscribe to a package

Peter signs in to the mobile app and finds the package most suitable for his needs

2. Taxi to hotel

After landing in Paris, Peter and his friends take a taxi from the airport to hotel

3. Plan the journey to the game

At the hotel, Peter plans his trip to the rugby stadium for today's game

4. E-bike or scooter to stadium

Friend group decided to get to the stadium by bike - enjoying the city on the way

5. Car rental for the games in other cities

Over the next few days, the friend group is attending the games in a couple of different cities. Hence, renting a car becomes handy

Note: micro-mobility will not be available in certain RWC host cities

Case Study Italy: The economics of courtesy cars

This?

Or all this?

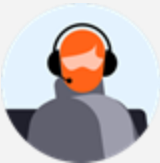|		
Average car replacement days	≈ 8	Average replacement duration is linked to average coverage from contract, which usually is 7 days or above
Average cost per rental day in 2022 [EUR]	≈ 26–28	Vat excluded
Replacements from big cities in Italy	25–30%	Percentage of car replacement demand that can be substituted with MaaS vouchers

Source: Roland Berger

MaaS GLOBAL

Mobility instead of leasing:
Freedom subscription is better than your company car

Freedom of all-inclusive mobility with a monthly carbon budget (50kg CO2) encourages to keep the carbon footprint in a sustainable level.

→

1. Move within the carbon budget

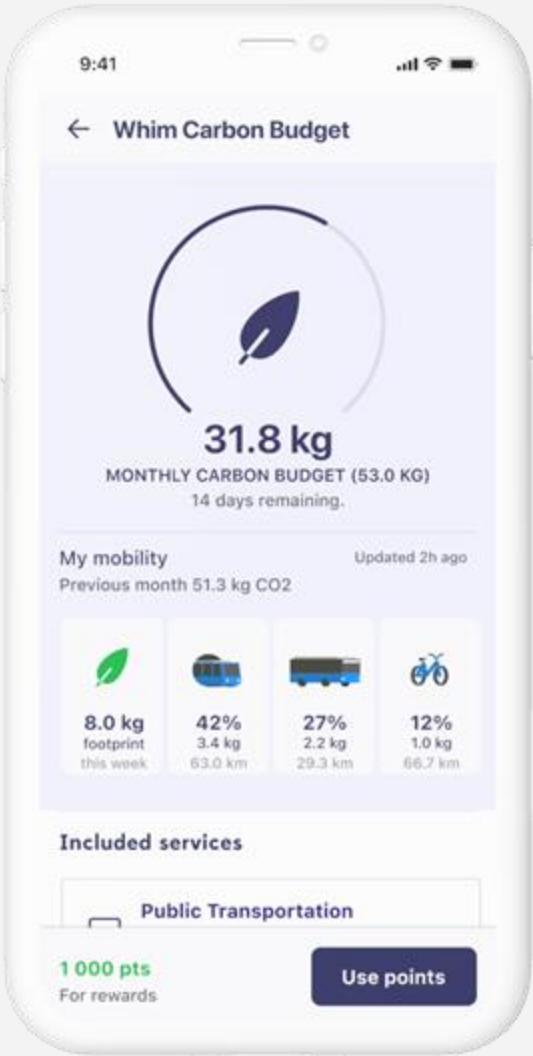Use all the available modes of transport within the monthly carbon budget.

2. Gain rewards of saved CO2

Get upgrade reward points of each saved kg. Exceeding the carbon budget costs 20 CHF / additional kg.

Get assisted
Assistant in all journeys just one click away

Insured journeys
Unified insurance coverage over all modes

Mobility as a Feature
- setting the goal

- **Integrating Mobility Across Society**

- **Current Issue**: Mobility is car-centric, poorly integrated elsewhere, and fragmented.
  - Businesses validate parking but neglect mobility services.
  - A solution must cover **all modes** and regions—not just one city or transport option.

- **Opportunity**: Embed mobility services into sectors, like Klarna did with **embedded finance**.
  - Mobility can be a low-hanging fruit for **sustainability goals**.

- **Key Challenges**:
  - Highly fragmented regulation across modes, cities, and countries.
  - High investment risk due to lack of scalability and integration.
  - No suppliers in the market that could offer embedded solutions.

- **Solutions Needed**:
  - **Easy & fair access** to all transport services.
  - **Public commitment** to drive market evolution.

- **Goal**: Create scalable, integrated "**Mobility as a Feature**" solutions at an **EU-wide level**.

Mobility as a Feature proposal

- Option 1: Incentivize and enforce (Italian/ Australian model as basis)
- Option 2: Create a service provider out of existing public players

Option 1. Incentivize and enforce embedding of mobility to other sectors

- **Create a 'MaaS Office'**: Set up a permanent authority to manage incentive programs, oversee progress, and act as a central contact point for the ecosystem.

- **Embed mobility into key sectors**: Incentivize integration of mobility solutions in industries like retail, housing, events, and tourism.

- **Set bold targets**: Define measurable goals for integrated mobility adoption within selected sectors.

- **Establish an incentive pool**: Create financial incentives to attract and encourage private investments in mobility solutions.

- **Enforce fair access to transport services**: Implement minimum service contracts, conduct regular API checks, and ensure compliance with open-access regulations.

Option 2: Create a service provider out of existing public players

- **Transform publicly owned companies or transport operators into leading mobility as a feature champions** by leveraging their existing infrastructure and expertise.
- **Create a competitive landscape** that enables scaling opportunities, like the telecom industry's evolution. This requires restructuring monopolistic systems to foster innovation and competition.
- **Ensure sufficient access to capital** for these operators, allowing them to invest in technological transformation and service expansion.
- **Redefine public transport markets** by enabling integration from local city networks to national and international levels, creating seamless mobility ecosystems.

3. Public procurement to big market trials
- Intro

- Disruptive technologies like automated vehicles (AV), drones, micromobility and on-demand services are used on the side or as technical trials. With that approach the real impacts are vague and often non-existent.

- Instead of isolated technical trials make a **market trial** for AV's and other disruptive technologies to be used as a **substitute for existing services**.

- **Redirecting** some of the **money** for public transport and infrastructure and appointing it to 1-3 sites to create a credible market trial would open investments and show the real potential of upcoming innovations.

Public procurement to market trials - Proposal

- Create few but big enough market trials to gain critical mass to attract investment.

- Make it truly future reliant so that new innovations are not just add-ons but are truly tried in practice.

- Choose an area where public transport (outside of rail), social transport will be organized with a combination of automated vehicles of different types (taxi, on-demand, routed bus), drones and potentially other suitable cutting-edge innovation.

- Suitable areas could be mid-size cities or large suburban areas with feeder traffic.

4. Create retail markets for trips
Intro

- Today companies basing their business on combining multiple modes cannot function due to lack of supply.
- Worst mode to integrate is city public transport with city-specific policies and non-existing retail markets.
- In mobility data is still seen as a product for people.
- What people want is to be transported, use of data is for the service provider.
- This means having data without the actual trip (including hailing, booking and paying) has very limited value.
- To create multimodal services for the end user, retail market of trips needs to be created.
- We have underlying technology structures but we're lacking hungry companies wanting data.
- **Without functioning retail markets for trips there is no clean and digital transition.**

What needs to happen to enable retail markets

- Technical
  - Standard interfaces.
  - National data quality assurance (continuous checking of API quality).
- Legal
  - **Definition of FRAND and status of retailer** (especially against monopolies).
  - User rights in aggregated services.
  - Potentially national minimum contract.
  - Checking of potential barriers like ticket resell restrictions.
- Commercial
  - Initiating markets with tax and other incentives.
  - Market for lowering emission in similar way as compensation.

Executive Summary

Mobility is facing a tsunami and EU is still sunbathing

- **We are transitioning from the era of cars to the era of mobility.**
  - Industry faces disruptions like electrification, AI, automated vehicles, drones, and super-apps.
  - People are ready to adapt to new mobility solutions with good experience.
  - Creating a global consumer platform in mobility demands big investments.
- **EU has the potential to lead in mobility innovation but lacks bold actions.**
  - Harmonized mobile data roaming enables seamless connectivity.
  - Europe's public transport network is the world's best.
  - Thriving ecosystem of mobility services like car sharing, e-scooters, and ride-hailing.
  - Driven by clean policies and interoperability initiatives like Gaia-X.

- **With all this EU produces no global category leaders that could provide industry leadership in coming decades.**
  - Lack of bold investments in early, category defining stage.
  - European automotive industry is currently not in shape to become leaders of mobility.
  - Scattered pilots do not scale fast enough.
  - EU's fragmented regulations and public sector dominance hinder innovation.
  - Lack of gravity points that move the industry.
- **Taking leadership demands bold visible actions.**
  - Harmonize market regulations and encourage scalable business models.
  - Enhance regulatory clarity and support interoperability and innovation.
  - Reform public procurement practices and develop model markets.
  - Foster cross-sector collaboration.
  - Need for strong market players to utilize coming standards.

Executive Summary
Bold actions to take leadership

1. **Co-invest to create gravity points in the ecosystem**
   - Invest into 3-5 large-scale new companies
     - 1 billion euro each
     - maximum of 20 % of total investment.
   - Done to create globally relevant tech leaders and lead the next era of sustainable integrated mobility.
   - Focus on consumers and multimodal.
   - Generates real use for AI and automation in mobility.
   - Needed to overcome industry inertia and scaling challenges.

2. **Mobility as a Feature (MaaF)**
   - Integrate mobility services into non-mobility sectors like retail, insurance, and events.
   - Create seamless user experiences across industries.
   - Two options for action.
     1. Incentivize and enforce embedding of mobility to other sectors with Italian model.
     2. Create a service provider out of existing public players

3. **Big market trials for disruptive technologies**
   - Creates investable markets for automated vehicles and drones in EU.
   - Launch 2-4 market areas for a true market pilot
     - Public transport and publicly funded trips fully or partially replaced with AV's or drones.
     - Use funds to buy trips from qualified service providers
     - Allow vehicles to be used for other purposes

4. **Create retail markets for trips**
   - Vital for creating scalable and investable market for multimodal services.
   - Define clearly fair, reasonable and non-discriminatory contracts between including minimum commission.
   - Create EU-wide technical standards for data exchange for full integrations.
   - Define clear responsibility for enforcement and create permanent 'MaaS Office' to ensure adoption.