A view towards the horizon: The mobility landscape today and a view towards the horizon.”

@ Taxi & Mobility Update 2018 19th April 2017

Shwetha Surender, Industry Principal, New Mobility
**The Future of Mobility - Trends, Services & Convergence in New Mobility Business Models**

The development of New Mobility solutions - deep dive into market size, trends and future outlook

- car sharing
- car pooling/ridesharing
- e-hailing
- demand responsive transit
- integrated mobility/mobility as a service

Impact of automation on shared mobility market - CASE maturity roadmap and implications to shared mobility
New Business Models in Mobility
Automotive revenue growth in future will come from downstream services driven by platform approach

- **Vehicle services - €1.3 trillion**
  Revenues from sale of parts, vehicle maintenance and repair (retail revenue)
  - 8% CAGR

- **Driving services - €0.12 Trillion**
  Revenues from Infotainment, Navigation, Driving Analytics, Road Assistance, Concierge
  - 11% CAGR

- **Financial services - €0.54 Trillion**
  Revenues from interest and other services in financing new and used cars
  - 5% CAGR

- **Mobility services - €1.0 Trillion**
  Revenues from car sharing, ride sharing, bike sharing, ride hailing, smart parking
  - 12% CAGR

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*Source: Experian, Company Reports, Frost and Sullivan Analysis*
Revenue from the global carsharing market is expected to grow at a CAGR of 17%. It is forecasted to reach around $9 bn in 2025 from the current $2 bn in 2017.

**2017 Global Members**
- Africa
- APAC
- Latin America
- North America
- Europe

**2025 Global Members**
- Africa
- APAC
- Latin America
- North America
- Europe

**Carsharing Market: Number of Vehicles, Global, 2017 and 2025**
- 2016: 180K
- 2025: 460K

Note: All figures are rounded. The base year is 2016. Source: Frost & Sullivan
P2P Carsharing Market Overview

Integration of ridesharing and carsharing platforms with P2P carsharing can be expected to boost member growth in future.

<table>
<thead>
<tr>
<th>Year</th>
<th>Europe</th>
<th>2022</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Members</td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td>~ 4 Mn</td>
<td>~ 8 Mn</td>
</tr>
<tr>
<td>2022</td>
<td>~ 400k</td>
<td>~ 220k</td>
</tr>
<tr>
<td></td>
<td>Vehicles</td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td>~ 220k</td>
<td>~ 400k</td>
</tr>
<tr>
<td>2022</td>
<td>~ €370 Mn</td>
<td>~ €830 Mn</td>
</tr>
</tbody>
</table>

Key Trends

Focus area for VW
Corporate Carsharing Market Overview
For leasing companies, partnering with corporate carsharing technology companies is a quicker route to market rather than going for in-house IT development.

Corporate Carsharing Fleet Size, Europe

- 2016: ~4k
- 2022: ~64k
- CAGR (2016–2022): 67%

Corporate Carsharing, Ecosystem Mapping, EU

- AlphaCity: 39%
- Arval: 4%
- Athlon Car2Use: 4%
- Others: 3%
- Mobility Carsharing: 29%
- MOBILITY: 12%
- ALD Sharing: 9%
- Ubeeqo: 4%
- OFT Aftermarket

Leasing Companies/ Car Rental Companies/ OEMs/ Corporate CSO

- Factory Installed
- Proprietary Aftermarket
Business Users Adopting Shared Mobility?

Although company car is still “king” in the short term, the market shows an increasingly higher levels of interest amongst businesses for corporate car sharing and car pooling.
Ridesharing—The Next Hot Social Transportation Trend

**Europe**
- 35 million Members
- 700,000 Members
- 700 Corporates

**North America**
- 350,000 Members
- 130 Corporates
- 400,000 Members

**Asia**
- 50,000 Members
- ~ 1 million members

**Business Model Innovation**
- **heetch**
- **spiri**
- **LaZooz**

**Partnerships**
- **BMW**
  - Strategic partnership
  - Investment through BMW iVentures
- **GM**
  - Investment through GM Ventures (GMV)
- **FCA**
  - Corporate carpooling pilot
- **InMotion Ventures**

Source: Frost & Sullivan
Ridehailing is expected to penetrate the taxi market, catalyzed by growing online population, government initiatives, and evolving regulations, offering convenience and bundled services.

Ridehailing Market: Members and Vehicles, Global, 2017 and 2025

2017 Global Fleet Size

- Africa: 6.5mn
- APAC: 0.7mn
- Latin America: 2mn
- North America: 1.4mn

2025 Global Fleet Size

- Africa: 18mn
- APAC: 1.2mn
- Latin America: 3.2mn
- North America: 1.9mn
- Europe: 18mn

Ridehailing Market: Revenue, Global, 2017 and 2025

- 2017: 345 bn
- 2025: 865 bn

Note: All figures are rounded. The base year is 2016. Source: Frost & Sullivan
Robotaxi – Global Snapshot
Mobility companies, OEMs and driverless technology platform providers together have pioneered significant advances in deep learning and AI bringing expertise for autonomous taxi and hailing services

Source: Frost & Sullivan