

# Mega trends impacting the future of mobility

**Presented by**

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**Director - CEE**



*Thank you!*



# Changing Urban Demographics

	 <b>Factors</b>	 <b>Impact To Mobility</b>
 <b>Urbanisation</b>	<ul style="list-style-type: none"> <li>Over <b>54%</b> of the World's population lives in cities, expected to rise to <b>67%</b> by 2050; urbanisation exceeds <b>80%</b> in OECD countries</li> </ul>	<ul style="list-style-type: none"> <li>More concentrated density</li> <li>Limited space</li> <li>Increased mobility demand</li> <li><b>Unbalanced Supply &amp; Demand</b></li> </ul>
 <b>Travel Problems</b>	<ul style="list-style-type: none"> <li>Drivers spend <b>50</b> hours per year in congestion which stifles the economy of <b>1%</b> of GDP</li> <li><b>7</b> million lives are lost prematurely each year due to air quality; mobility is the largest sector contributor</li> </ul>	<ul style="list-style-type: none"> <li>Unproductive time spend</li> <li><b>Inconvenience &amp; high costs</b></li> <li><b>Opportunity for innovation in new mobility services</b></li> </ul>
 <b>Insufficient Solutions</b>	<ul style="list-style-type: none"> <li>Private cars are utilised <b>4%</b> of the time and account for <b>29%</b> of transport trips on average, but account for <b>85%</b> of our mobility expenditure</li> </ul>	<ul style="list-style-type: none"> <li>Inconsistent Transport Provisions</li> <li>Multiple apps &amp; fragmented markets with several providers</li> <li>Fixed, inflexible routes</li> <li><b>Lack of information, integration &amp; user experience</b></li> </ul>

**Global transportation market needs new type of mobility services.**

Sources: World Bank, World Health Organisation, Inrix, European Commission, Eurostat

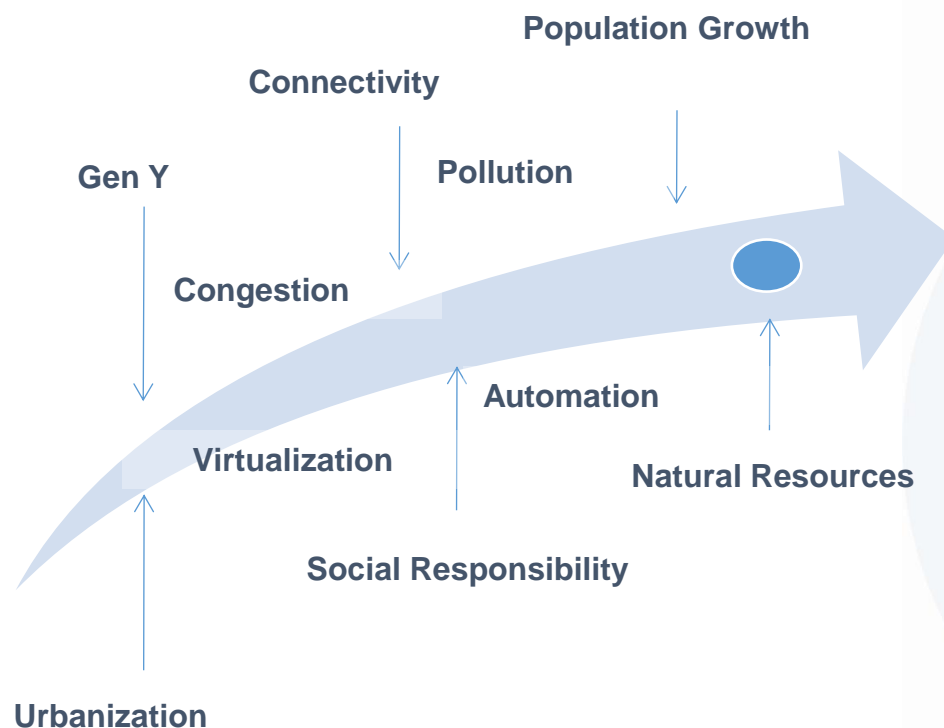
# Paradigm Shift from Vehicle Ownership to Vehicle Usage



## Transport = Private Vehicle

- Freedom
- Convenience
- Status
- Progress
- No Real Alternative

## Mobility Integration: Paradigm Shift from Vehicle Ownership to Vehicle Usage

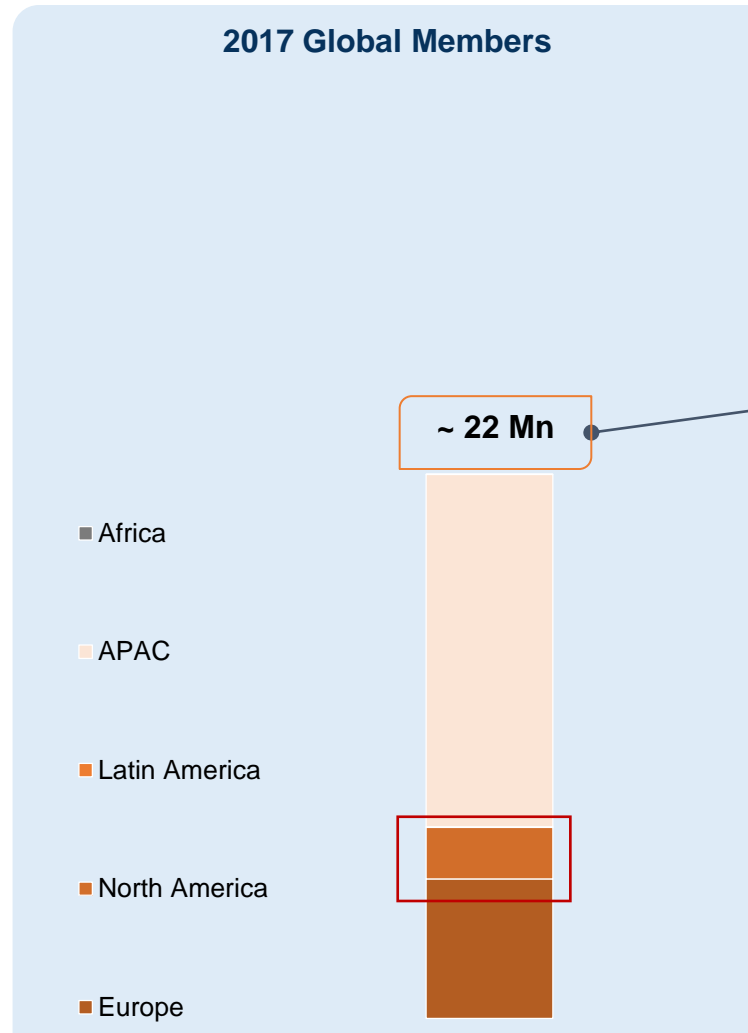


## Transport = Door-to-door Mobility

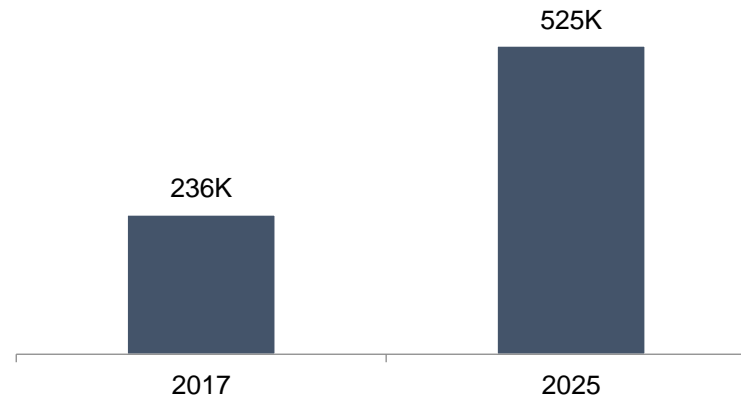
- **New Vehicles:** BRT, EV, High Speed Rail
- **New Business Models:** Vehicle Sharing, Car Pooling
- **Inter- Connectivity:** Inter-modality
- **Urban Planning:** Transport Integration
- **Integrated Mobility:** Mu, Multicity, NS Business Card, Mobility Mixx, Avego

## Market Trends in Traditional Carsharing

Revenue from the global carsharing market is expected to grow at a CAGR of 15% to around \$8 bn in 2025 from the current \$3 bn in 2017.

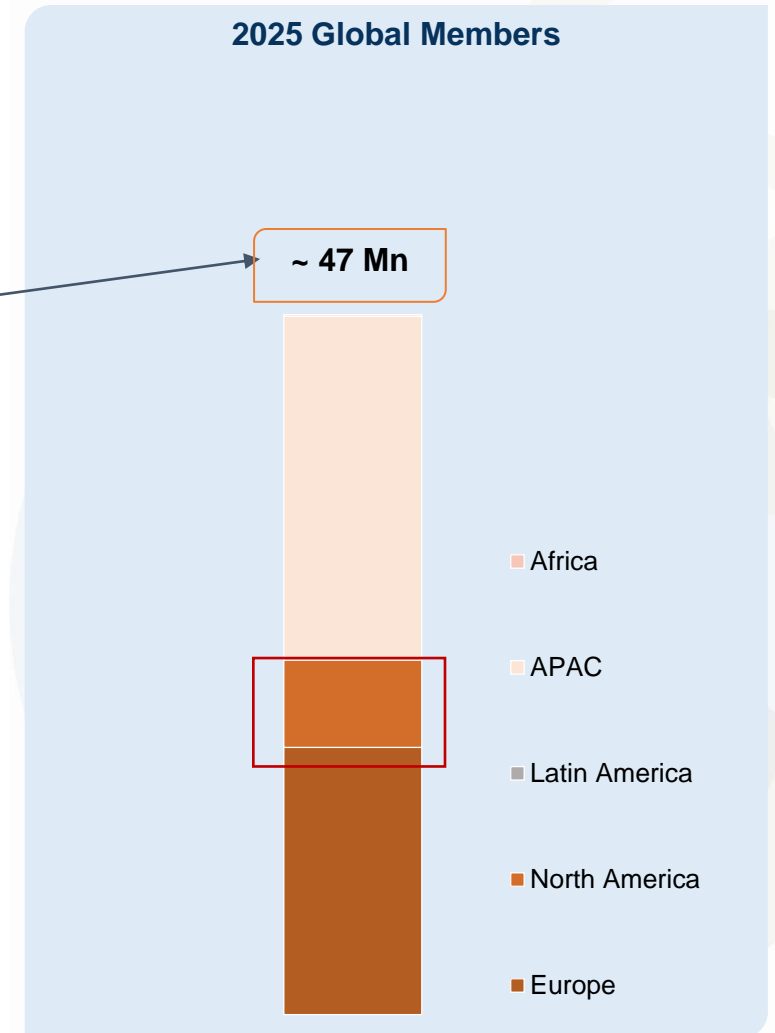


**Carsharing Market: Number of Vehicles, Global, 2017 and 2025**



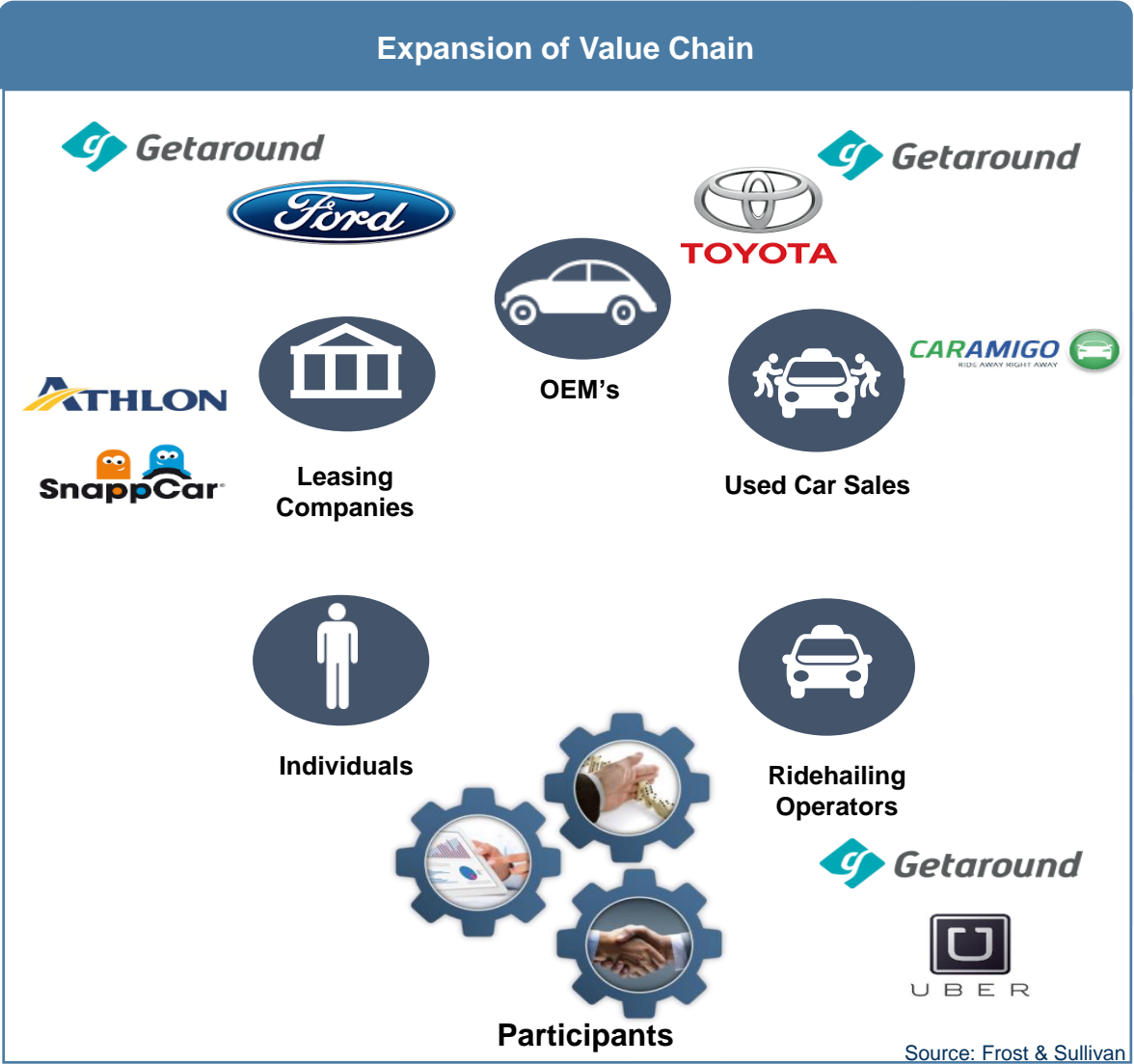
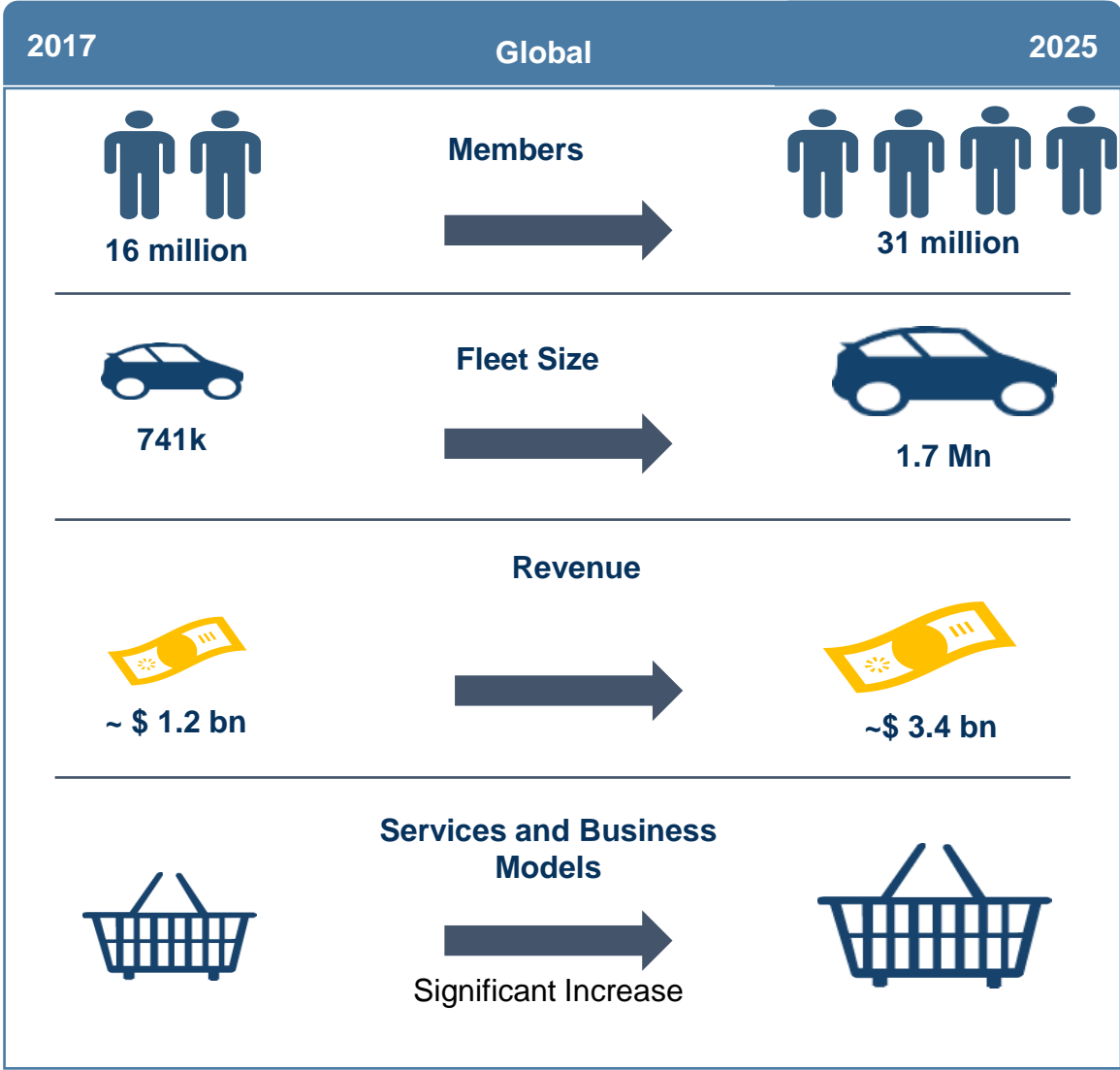
CAGR (2017–2025)

8%



Note: All figures are rounded. The base year is 2017. Source: Frost & Sullivan

# Market Trends in P2P Carsharing



## EV Market Outlook 2017 – Global

China and Europe ACE markets for EVs. Pure Battery EVs still holds fort accounting for 65.5% of total EV sales globally – BEV domination comes from China, supported by government

### ELECTRIC VEHICLE MARKET : MARKET OUTLOOK, GLOBAL, 2017

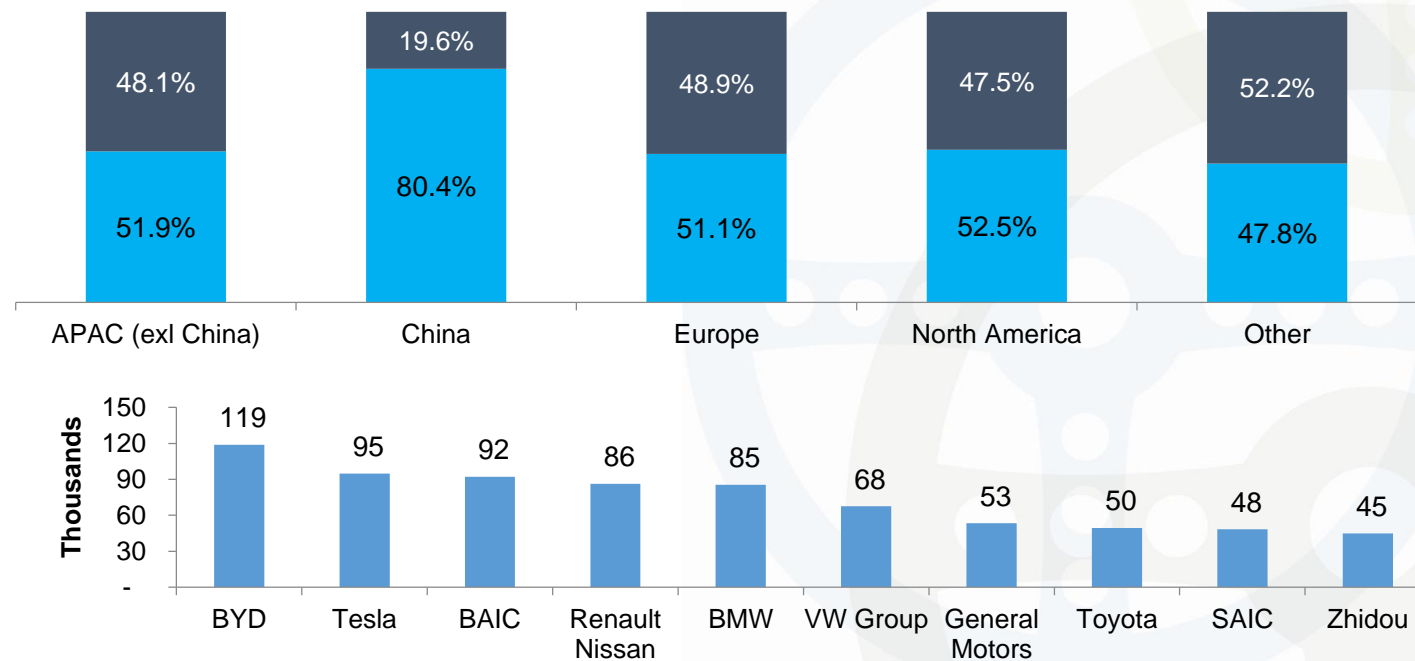
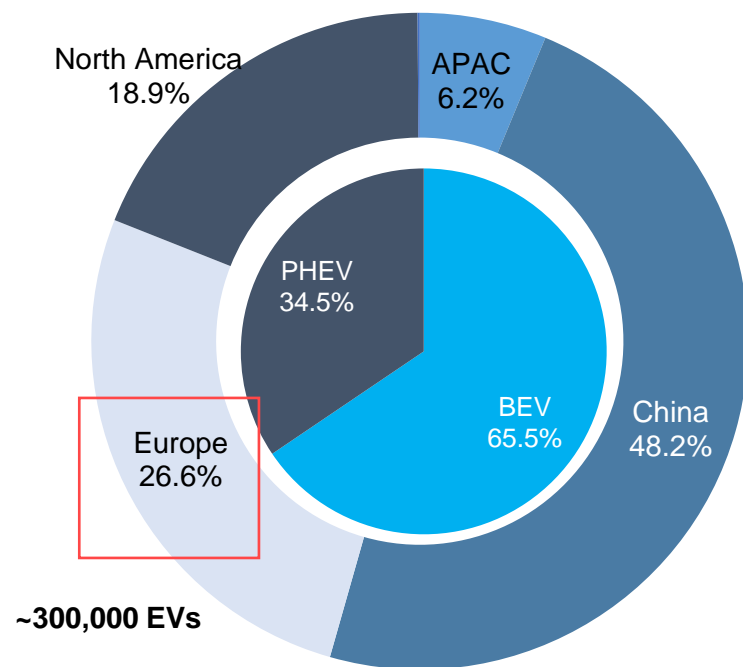
**1,137,046**  
EVs sold in 2017

**165** (109 BEV & 56 PHEV)  
MODELS FOR SALE

**~3,068,699**  
TOTAL EV CAR PARC

**>90,000**  
FAST CHARGING STATIONS

### EV SALES BY REGION AND SPLIT BY EV TYPE, 2017

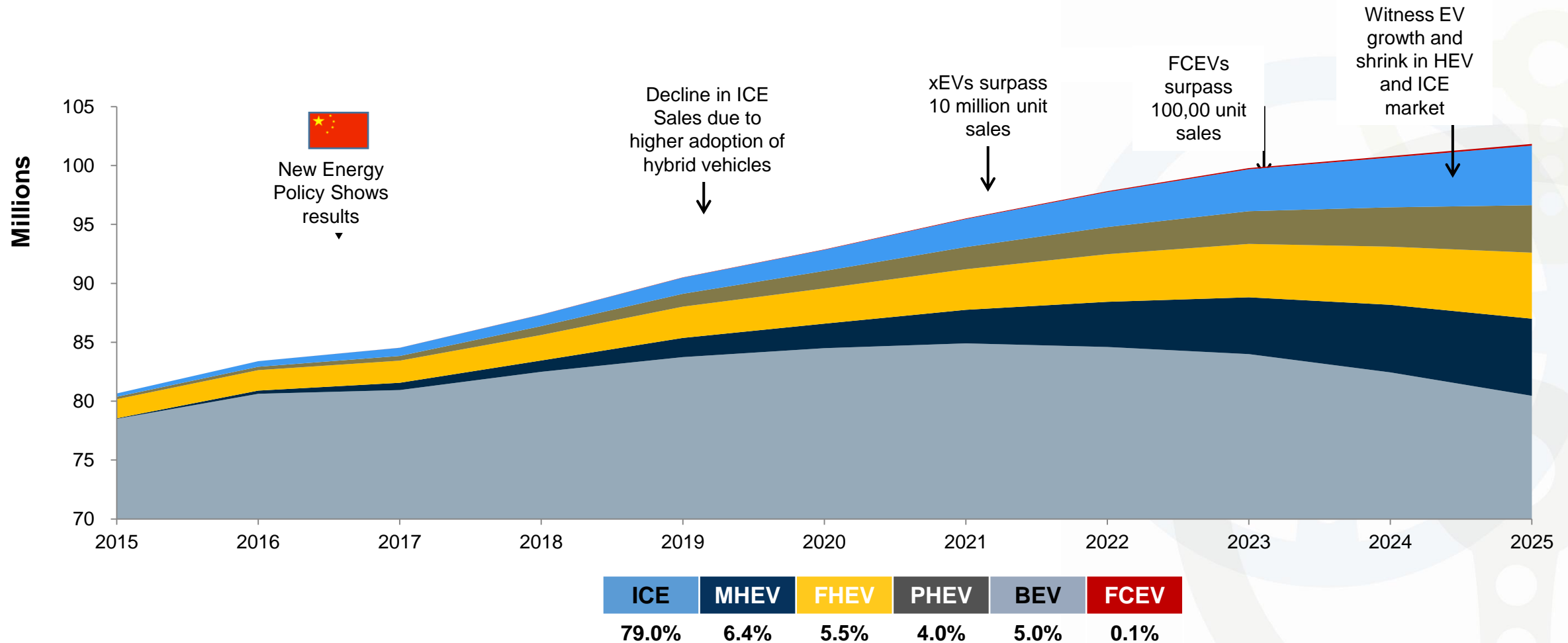




## Hybrid and Electric Vehicle Sales Mix

According to Frost & Sullivan estimates over 21 million xEVs likely to be sold globally by 2025 which will account for approximately 21% of the total passenger vehicle market.

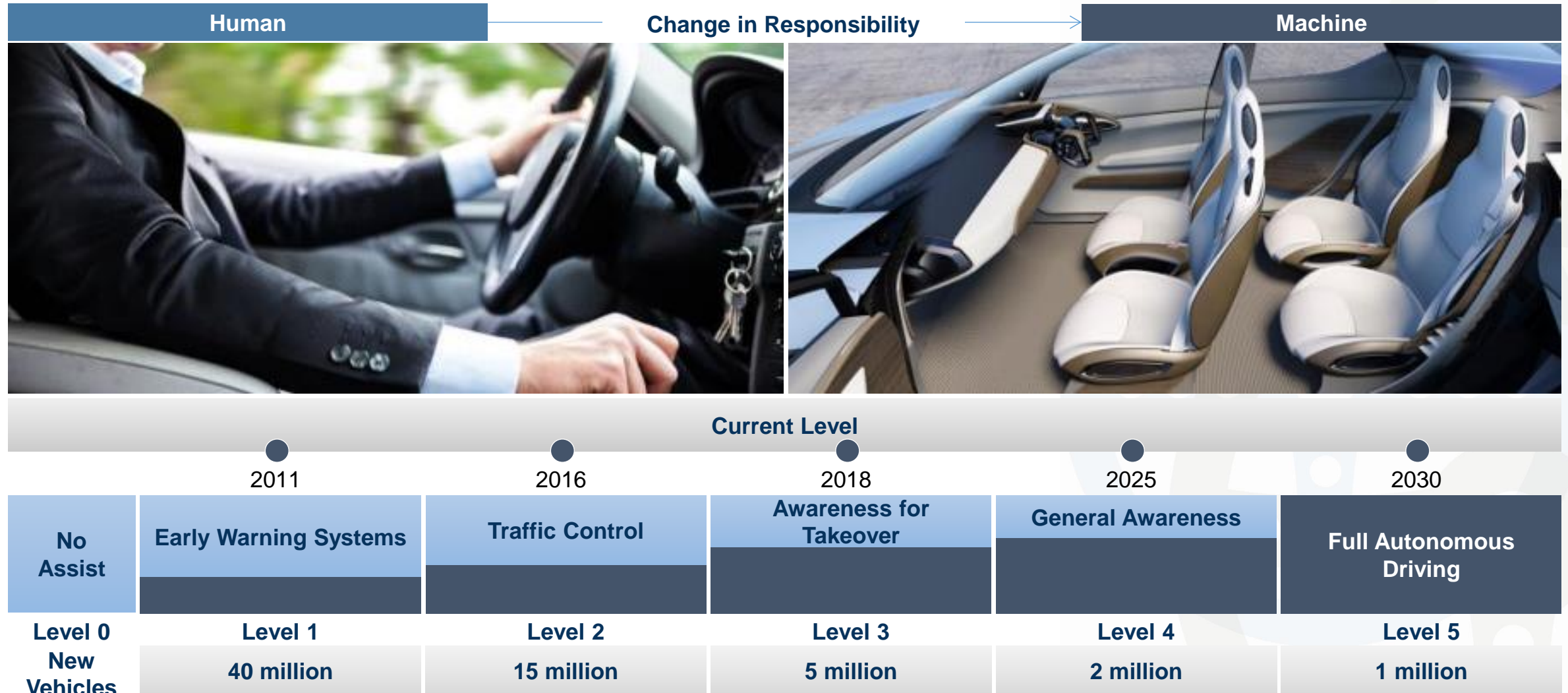
### GLOBAL ELECTRIC VEHICLE OUTLOOK: xEV ESTIMATES, GLOBAL, 2015-2025





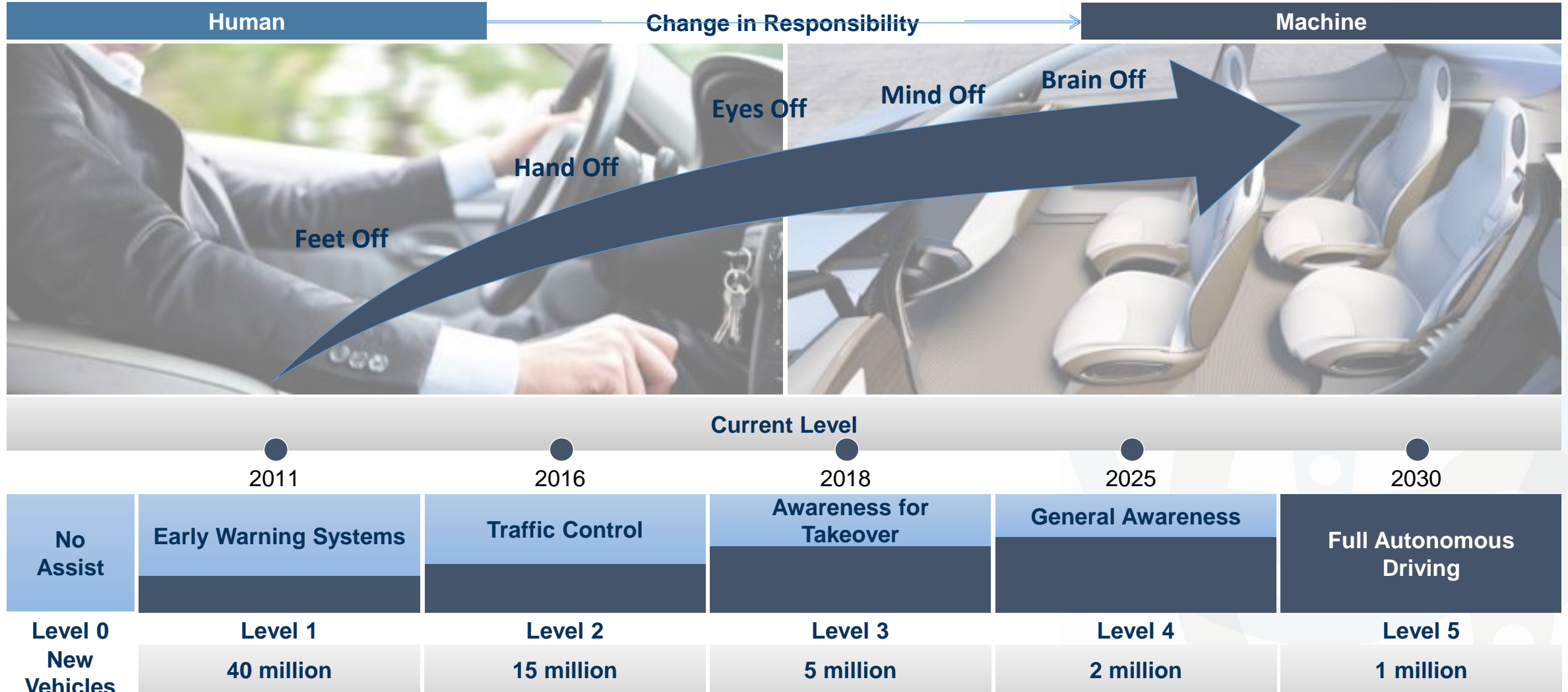
# Autonomous Cars

\$60bn per annum market opportunity in 2030, 50% of which will be in software



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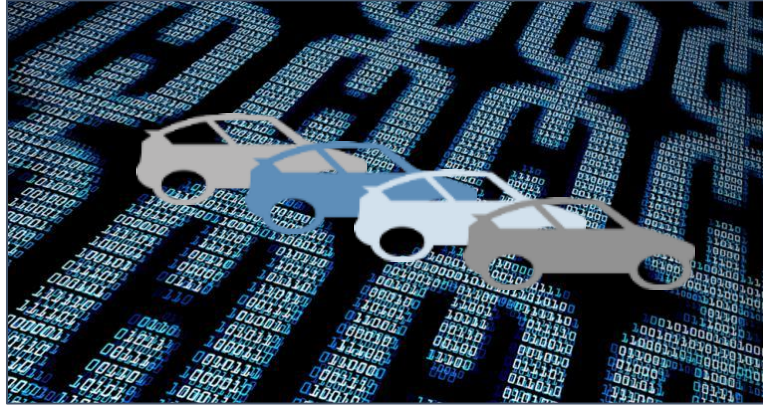




## Fleet Management in Shared Mobility



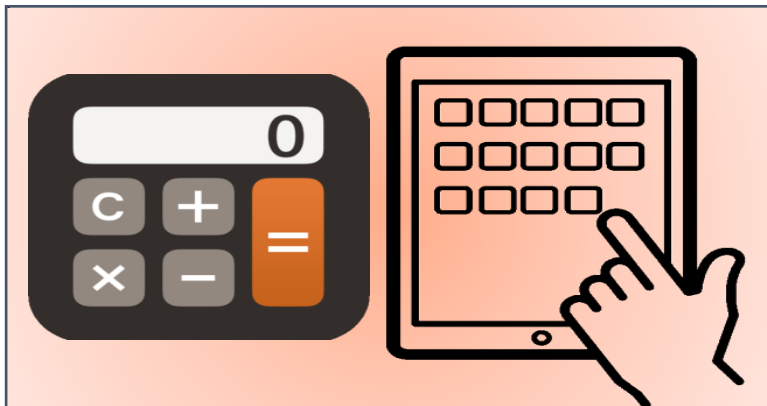
**Streamlined  
Administration/Customization**



**Greater Visibility and Utilization**



**Smarter and Safer Fleets (Data  
Collected)**



**Shifting costs from TCO to TCM**



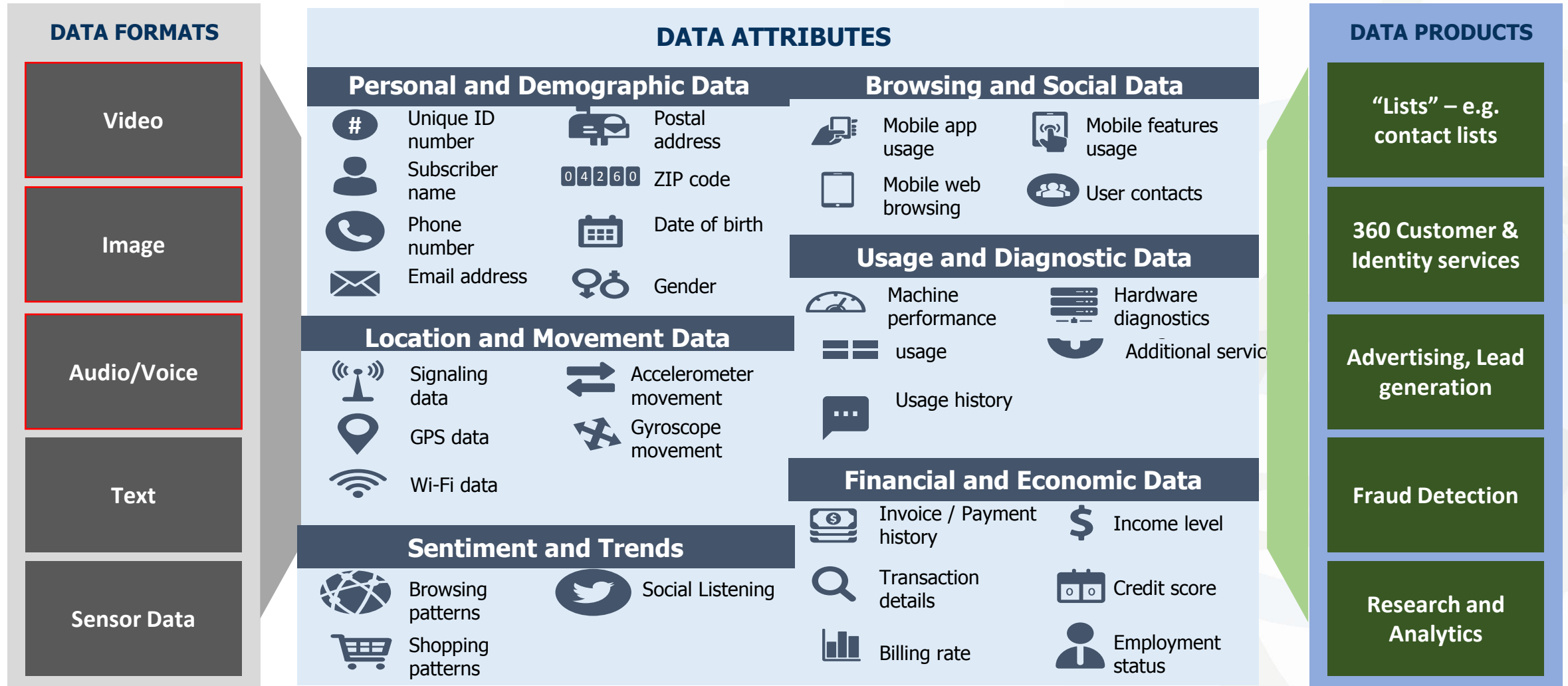
**Predictive Maintenance and Repair**



**Fleet Cycling (Replacement of  
Vehicles)**

# Data Monetisation: Types of Data and Data Productisation

Data productisation takes many formats ranging from aggregated data to individual data and from basic lists to high end analytics for trends forecasting and predictive modelling.



## Data Monetization—Key Consumers and Use Cases

### Fleet Management

- GPS vehicle tracking
- Driver safety
- Operational efficiency
- Asset tracking & management
- Vehicle residual value management
- Value added services

### Energy

- Real time location-based promotion
- On-demand services
- Usage insights
- New Petrol station hotspots
- Electric vehicle(EV) infrastructure optimisation

### Automotive Tier 1 to Tier n suppliers

- New vehicle features
- Design improvement- Performance data from the actual users
- Data-feedback for R&D optimization
- Car battery downtime algorithm

### Insurance Companies

- Usage based insurance(UBI)-  
PAYD/PHYD
- Vehicle usage monitoring and scoring
- Tracking/theft protection service

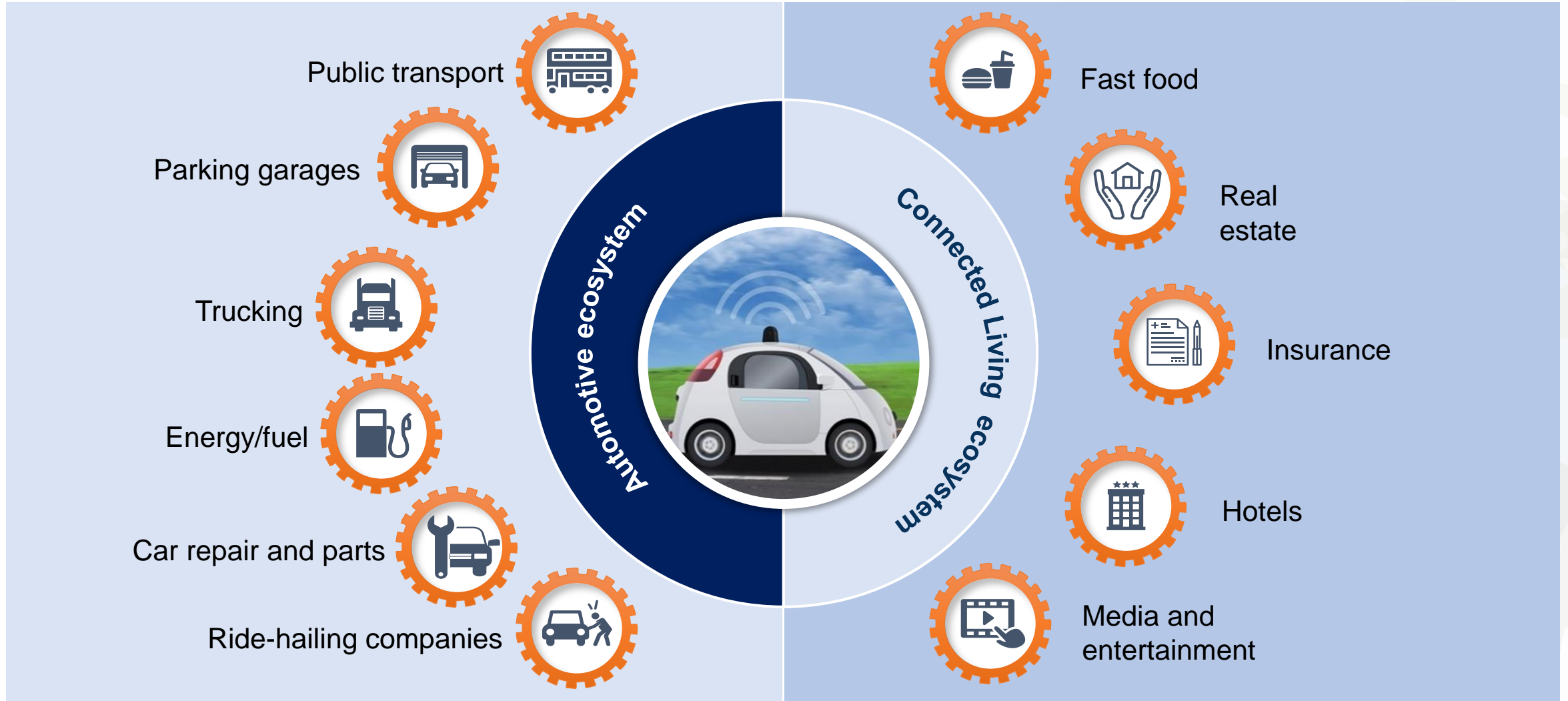
### Retail

- In-car offerings and targeted advertising
- Data analytics for store location and opening hours optimization

### Smart Cities

- Traffic flow management
- Urban planning
- Parking
- Automated road toll or taxation
- Road, infrastructure maintenance & design improvement
- On demand deliveries

## Autonomous Vehicles: Disruptive to industries beyond automotive





## Key Takeaways & Discussion Points

**New Business Models becoming mainstream** - *How can you monetise the car, driver AND the passenger(s) - Data to play a central role*

**Urban logistics spending to boom to \$5.8 trillion by 2020** - Opportunities exist in marketplace strategy, new customer journey and last mile logistics

**Digital technologies are changing consumer experiences across all Industries** *including transportation Industry*

**Urban Mobility Issues to Shift Focus from a Country to City Approach** - *New solutions for longstanding impediments essential and opportune*

**Technologies—Automated, Connected, And Electric—will Be Key To Enabling New Mobility Solutions In The Future**



## Who is Frost & Sullivan?



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Leading Market Intelligence & Business Advisory Firm with a dedicate team of consultants in 43 locations globally



**43 Offices Around  
the World**



**Over 50 years of  
Experience**



**250,000+ Clients  
Worldwide**



**Industry Groups**

**Dedicated Industry Focus  
– Covering 12 Sectors**

### What we offer

**3 Tier Growth System**

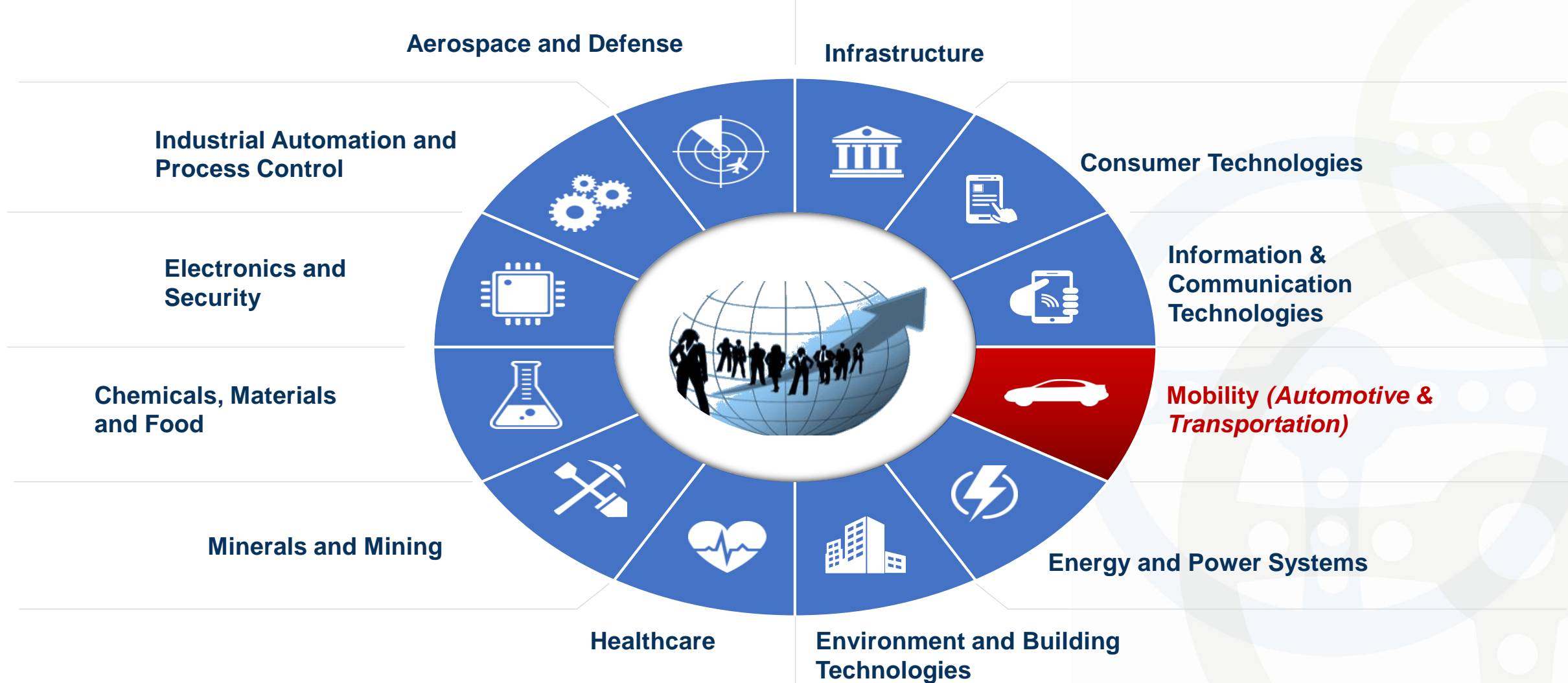
**Market Intelligence/ Research**

**Business Advisory/ Consulting**

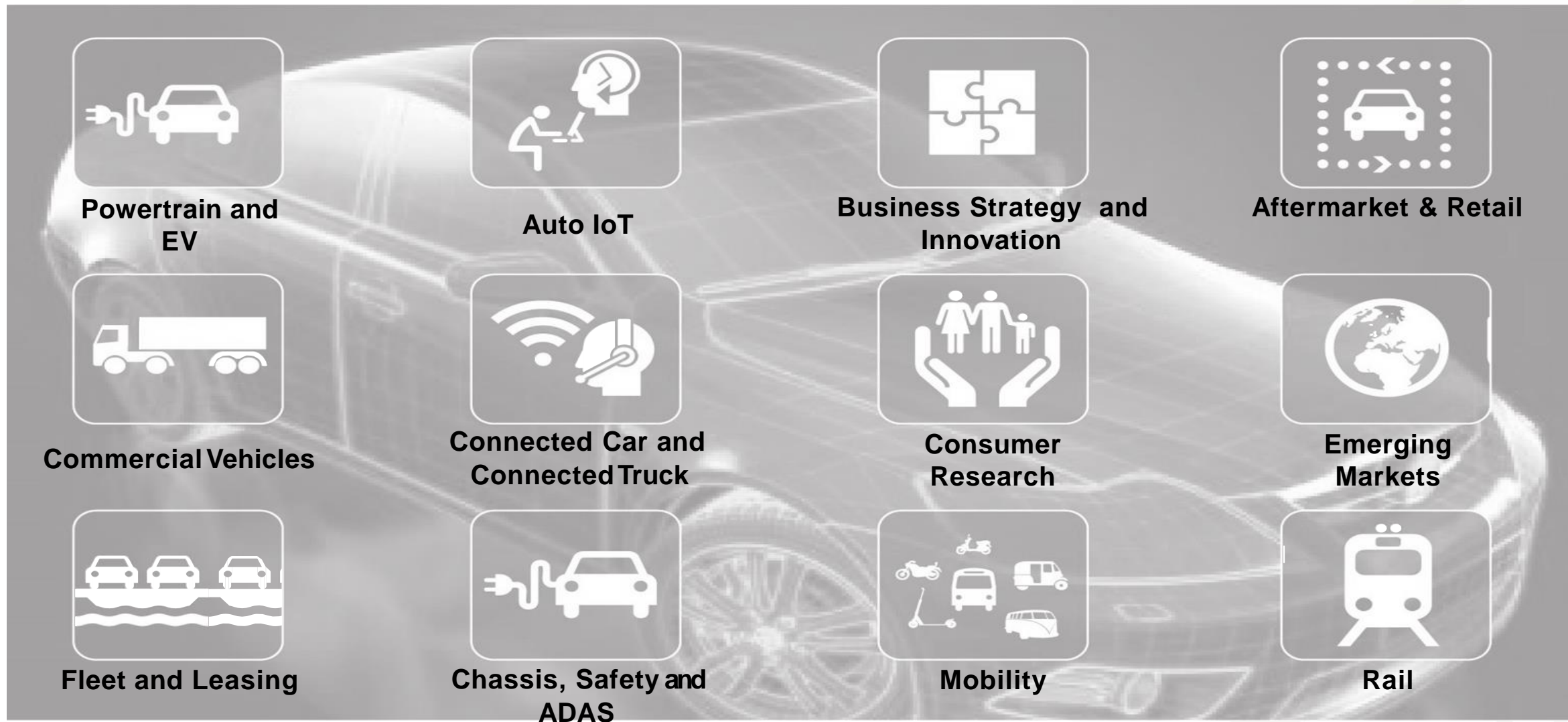
**Growth Implementation**

## Our Industry Coverage

We are working within and across our verticals to converging our global expertise to deliver for our clients



## Frost & Sullivan's 12 Mobility Industry Focused Global Research Programs



***For More Information***

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