



Sustainable and Innovative Personal Transport Solutions - Strategic Analysis of Carsharing Market in Europe

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F R O S T & S U L L I V A N

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About Frost & Sullivan

Research Objective and Scope

Objective:

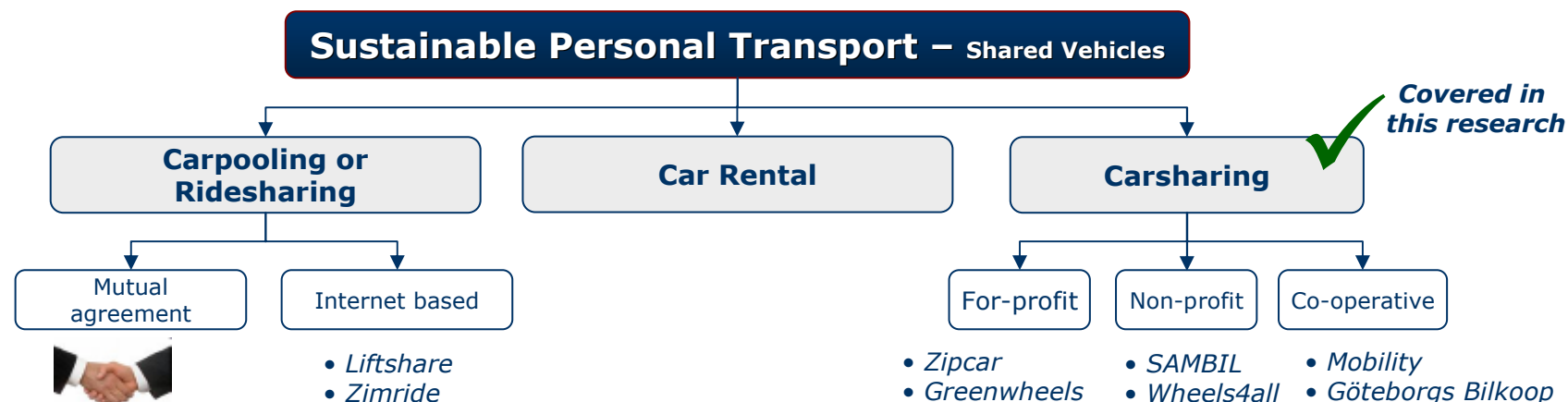
This study focuses on the evolution of sustainable personal transportation market, especially the carsharing market in Europe. It provides an overview of market trends, types of services, their impacts and carsharing operators' strategies along with an analysis of vehicle manufacturers entering into the European carsharing space.

The key focus of this research is to analyse:

- Market overview and trends
- Business model analysis
- Stakeholder opportunity analysis
- Market size and forecast assessment
- Regional differences
- Customer profile and their preferences
- Participants strategies
- Best practices case studies

Geographic Coverage	Europe - EU-15 + 1 (Switzerland)
Base Year	2009
Forecast Period	2010 to 2016
Transport Solution(s) Covered	Carsharing
Services Considered	<ul style="list-style-type: none">• Traditional carsharing services• New services including cars-on-demand, one-way trips, peer-to-peer carsharing and open-ended reservations
Limitations	<ul style="list-style-type: none">• Carsharing is not carpooling or ridesharing• Carpooling members are not carsharing members• Short-term rental from car rental companies are not carsharing services• Rental companies must have carsharing/short-term rental subsidiaries• Forecast based on several assumptions summarised in the scenario analysis

Carpooling is Less-organised and Car Rental Competing with Public Transportation; Carsharing has the Largest Potential



Solutions Attributes	Carpooling or Ridesharing	Car Rental	Carsharing
Ownership	Retained	No ownership	No ownership
Organisation	Non-profit	For-profit	For-profit, Non-profit and Co-operative
Mobility Service	Shared mobility with different time arrangements	Usually daily and longer	Hourly and daily shared mobility
Vehicle Type	Any vehicle that can be shared	A large variety of vehicles	Majority are smaller, fuel efficient vehicles

Source: Frost & Sullivan

Research Methodology

Frost & Sullivan's research study is based on both secondary and primary research data.

Secondary Research: This form of research involves extraction of information from existing studies and project materials within Frost & Sullivan databases, to include data and information gathered from technical papers, specialised magazines, seminars and Internet research.




Primary Research: Over 25 interviews have been conducted over the phone by senior consultants/industry analysts with carsharing operators, public transportation authorities, federal agencies, vehicle manufacturers and end-users. Primary research has accounted for approximately 80% of the total research.

Partial List of Industry Participants Interviewed

Companies/Organisations Interviewed	
Ford	PSA
Nissan	Zipcar
Mobizen	Car City Club
Cambio	Hertz
Sunfleet	Better Place
Wheels4all	Avancar
Non-profit organisations promoting carsharing in Germany, UK, Sweden and Belgium	
Federal Agencies in Germany, Italy, Sweden, Belgium and the United Kingdom	
Road transportation authorities in the United Kingdom, Sweden and Belgium	

Several Factors Impact the Carsharing Market – Scenarios and Key Assumptions Used in this Research Service (1/2)




Market for Carsharing: Key Assumptions for Scenario Analysis (Europe), 2009-2016

Factors Scenarios	 Government support and initiatives	 Mobility management	 Customers
	<ul style="list-style-type: none"> • Limited integration of carsharing with housing development in new satellite cities across big-5 Western European countries by 2014. • Only national level policies and support for carsharing in big-5 Western European countries by 2014. 	<ul style="list-style-type: none"> • National mobility management integration for carsharing, carpooling or ridesharing with public transportation in big-5 Western European countries by 2013. • Regional mobility passes/joint ticketing for carsharing with public transportation in big-5 Western European countries by 2014. 	<ul style="list-style-type: none"> • Generation Y customers (aged 18-30) likely to be the highest target group due to the use of Web2.0 and mobile2.0 platforms by carsharing operators (CSO) for marketing and technology by 2014. • Major expansion to university campuses by CSOs.
	<ul style="list-style-type: none"> • EU wide definition, support and legal policy on carsharing services and other sustainable modes of transportation by 2014. • Large scale carsharing integration with new housing developments and satellite cities across EU-15. 	<ul style="list-style-type: none"> • National mobility management integration for all EU-15 members by 2015. • EU level policies directing carsharing as a sustainable mode of transportation. 	<ul style="list-style-type: none"> • Large scale adoption by business users due to introduction of carbon tax for firms using traditional transportation fleets by 2014. • EU wide road user charging schemes by 2014, similar to the Netherlands' proposal, expected to drive further membership.
	<ul style="list-style-type: none"> • Low support for carsharing integration, with government supporting only electric vehicles (EV) as sustainable mobility. • Only regional, local level policy framework and support for carsharing. 	<ul style="list-style-type: none"> • National mobility management network integration only in France, UK and the Netherlands by 2014. • Active two-wheeler promotion (Cycle and Electric bikes) instead of carsharing. 	<ul style="list-style-type: none"> • Less growth for fleet vehicles or business customers. • No major expansions to university campuses.

Source: Frost & Sullivan

Several Factors Impact the Carsharing Market – Scenarios and Key Assumptions Used in this Research Service (2/2)

Market for Carsharing: Key Assumptions for Scenario Analysis (Europe), 2009-2016

Factors Scenarios	 Vehicle manufacturers	 Services offered by CSOs	 Rental companies and competition
Frost & Sullivan Scenario	<ul style="list-style-type: none"> • Association with CSOs for marketing and around 4 major VMs offering carsharing services themselves including Daimler's Car2go in Europe. 	<ul style="list-style-type: none"> • Open-ended reservations and one-way trips common across most major CSOs. • Integration with different carpooling customers by most major CSOs. • Peer-to-peer carsharing to be limited until 2013 due to security reasons and cars-on-demand schemes by most CSOs. 	<ul style="list-style-type: none"> • Expansion of rental companies through carsharing subsidiaries to all major EU countries and their major cities by 2013. • Technology, marketing and branding co-operations with all new carsharing firms enabling quick start of operations.
Optimistic Scenario	<ul style="list-style-type: none"> • Most VMs (atleast 2 premium and 4 volume VMs) offering carsharing services as a form of new business model, corporate social responsibility and as a branding exercise. 	<ul style="list-style-type: none"> • Open-ended reservations and one-way trips adopted commonly across all CSOs. • Cars-on-demand and peer-to-peer carsharing to be adopted across all CSOs. 	<ul style="list-style-type: none"> • Acquisition of carsharing organisations by rental companies to enter new markets and support larger target bases. • Merger of most smaller CSOs and acquisitions by larger national operators to cater to rural areas.
Conservative Scenario	<ul style="list-style-type: none"> • Only Daimler offering carsharing services in Europe. • Only marketing associations by vehicle manufacturers with CSOs. 	<ul style="list-style-type: none"> • Few operators offering open-ended reservations, cars-on-demand and one-way trips due to logistical problems. • No peer-to peer carsharing in Europe. 	<ul style="list-style-type: none"> • Rental companies expand their carsharing bases and locations slowly only in EU Tier-1 cities. • No new CSOs or rental firms entering carsharing in Europe.

Source: Frost & Sullivan

Executive Summary



Carsharing – Definition and Market Overview



DEFINITION

A mode of transport where vehicles are owned by a separate firm or an organisation and shared between a number of different people at different times. Carsharing can also be considered as an organised short-term car rental where users access a firm's vehicles that are maintained in a nearby network of vehicle locations called "**Pods**".

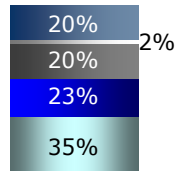


REVENUE POTENTIAL

(based on Frost & Sullivan Scenario)

**Revenue CAGR :
43.3%**

**0.22
billion €**



2009 ^{★ estimated}

2016

Key:



Note: All figures are rounded; the base year is 2009. Source: Frost & Sullivan



WORKING CONCEPT



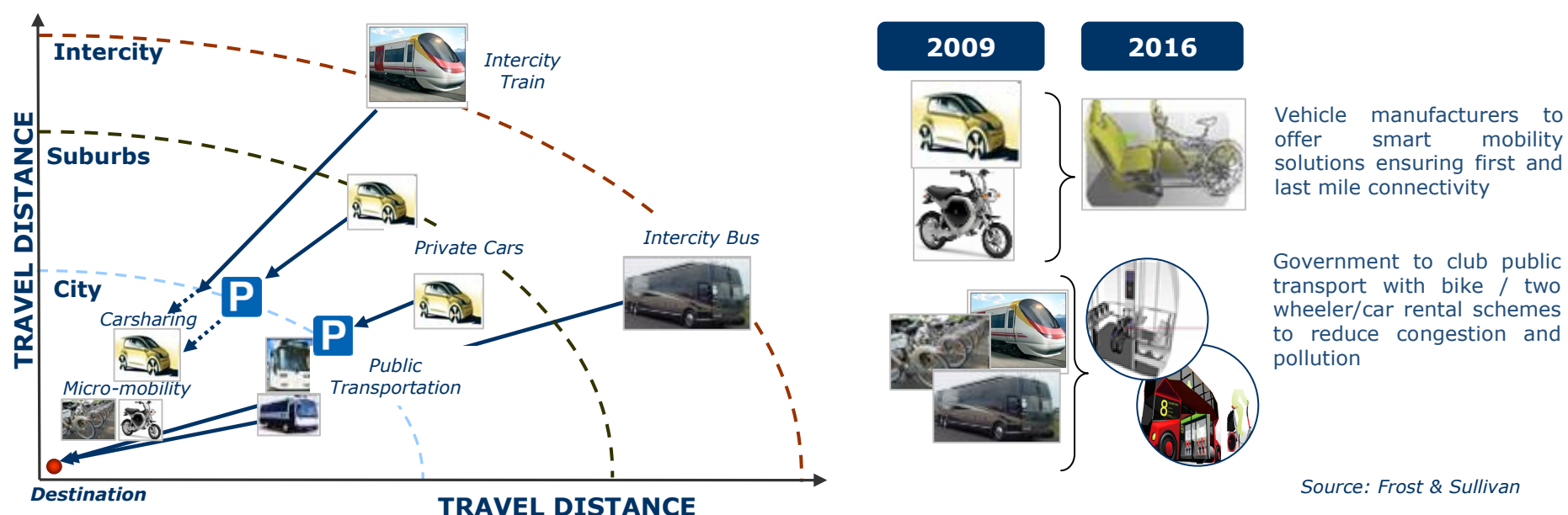
OPPORTUNITIES

1. Cost savings for individuals on vehicle's fixed cost
2. Reduced parking costs and hassles associated with it
3. Reduced congestion and emission due to shared-use of vehicles
4. Efficient transportation through inter-modality and multi-modality
5. Freedom to use a diverse fleet of vehicles

Source: Frost & Sullivan

Carsharing to Provide Last Mile Connectivity Until Micro-mobility Solutions Gain Acceptance

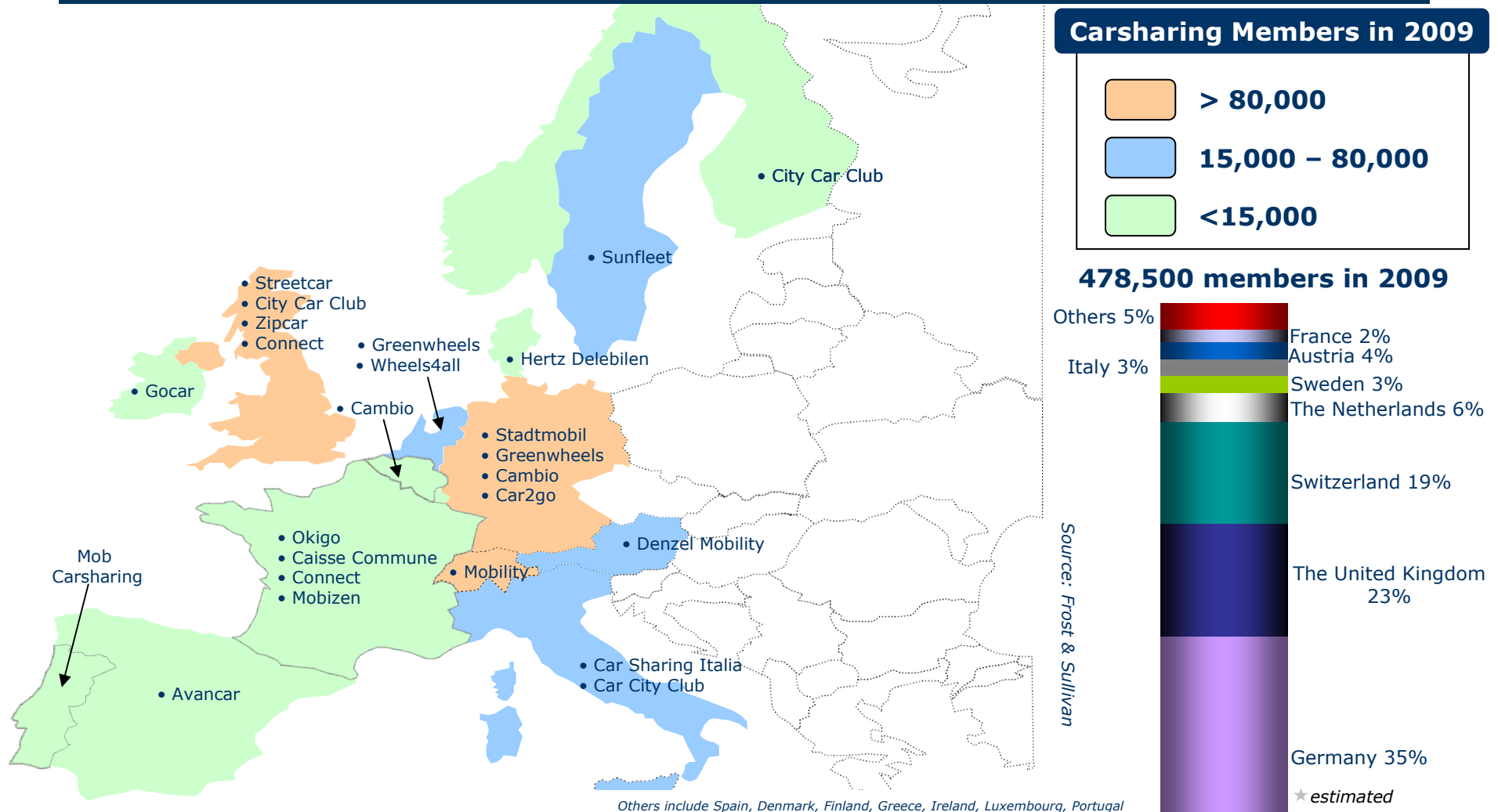
Market for Carsharing: Development and Integration of Sustainable Mobility (Europe), 2009 and 2016



- **Governments are expected to adopt federal level policy and support for smart/sustainable mobility solutions and promote zero-emission vehicles (ZEV).** Development of satellite towns around mega-cities offer new opportunity for carsharing in housing development (For example, cities of Vienna and Bremen).
- **Micro-mobility solutions such as electric two-wheelers (E2W)** are at a nascent stage in Europe. Hence, carsharing is an ideal solution to provide the first and the last mile connectivity (For example: The partnership between Better Place and Danish Railway) for the medium term.
- **Vehicle manufacturers (VMs) have started offering sustainable mobility solutions to provide integrated mobility through a single service provider and also as a branding/marketing exercise** (For example, Mu by Peugeot and Car2go by Daimler).

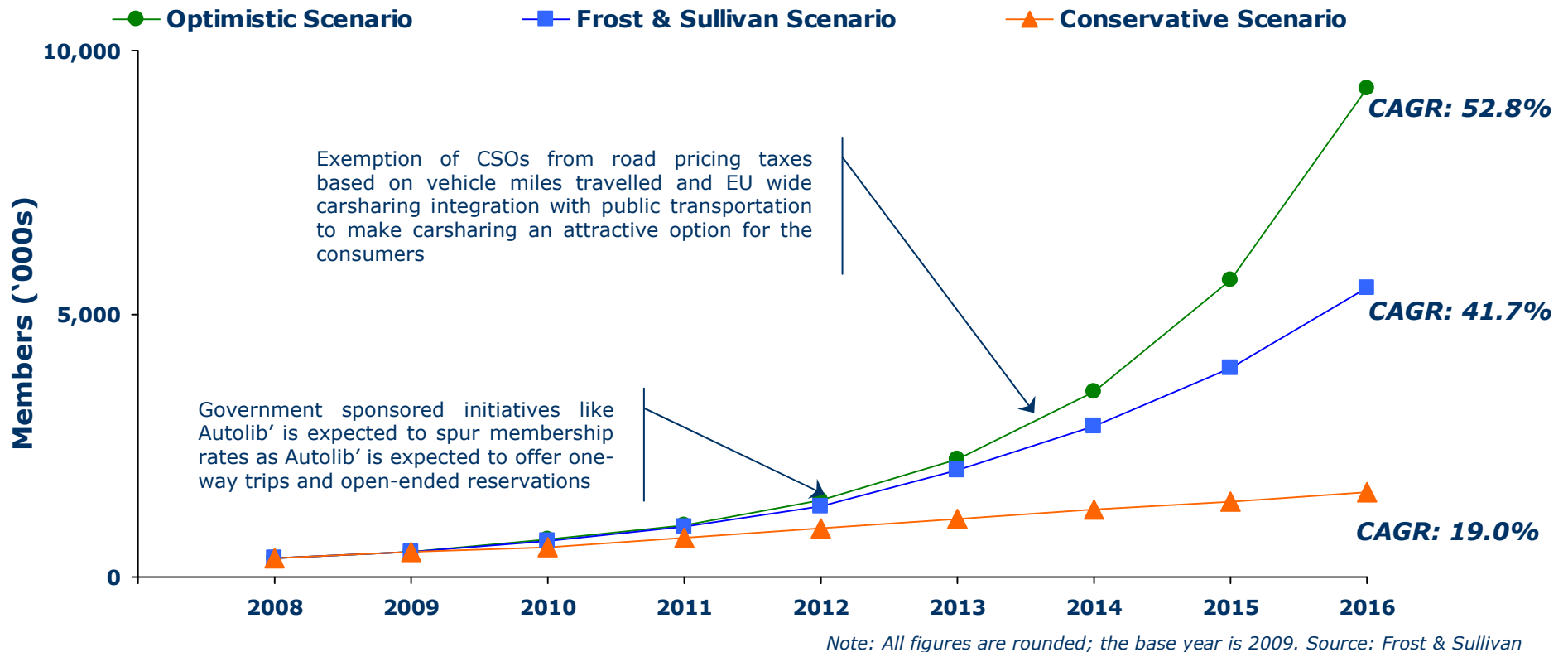
Germany, UK and Switzerland Currently Hold Around 75% of the EU Carsharing Members

Market for Carsharing: Key Carsharing Organisations and Membership by Country (Europe), 2009



Carsharing is Expected to Garner More than 5 Million Adopters in EU by 2016 in the Frost & Sullivan Scenario

Market for Carsharing: Scenario Analysis for Carsharing Members (Europe), 2008-2016



- The depth of support from various stakeholders in the community will impact carsharing adoption and drive forward membership growth.
- **EV carsharing programs similar to Paris' Autolib' are expected to be introduced in the United Kingdom and Spain** around 2014 to reduce transportation emissions and to promote green mobility to the last mile.

North American Market Snapshot: More than 150,000 New Members Joined the Carsharing Programs During the Current Economic Recession

Market for Carsharing: Regional Dashboard (North America), 2009 and 2016



Members

United States: ~398,500
Canada: ~55,000



Vehicles

United States: ~8,200
Canada: ~2,000

New services launched include **Car2go in Austin** and **Peer-to-peer carsharing** (For example, Relayrides)

2016 Potential

More than **\$ 3.3 billion in revenues**



More than **4.4 million members**



More than **72,000 vehicles in carsharing**

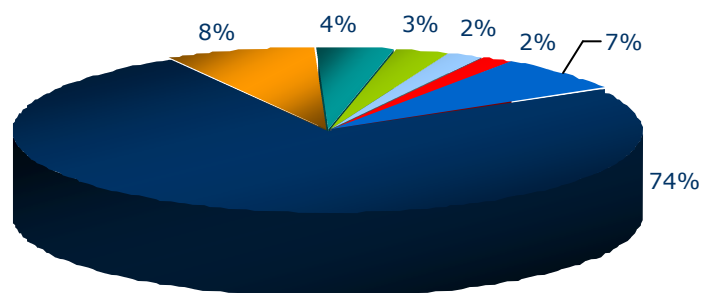


1 in 10 carsharing vehicles to be a battery powered EV



For-profit business to hold for 93% CSOs

Market for Carsharing: Market Share of CSOs – Members (North America), 2009



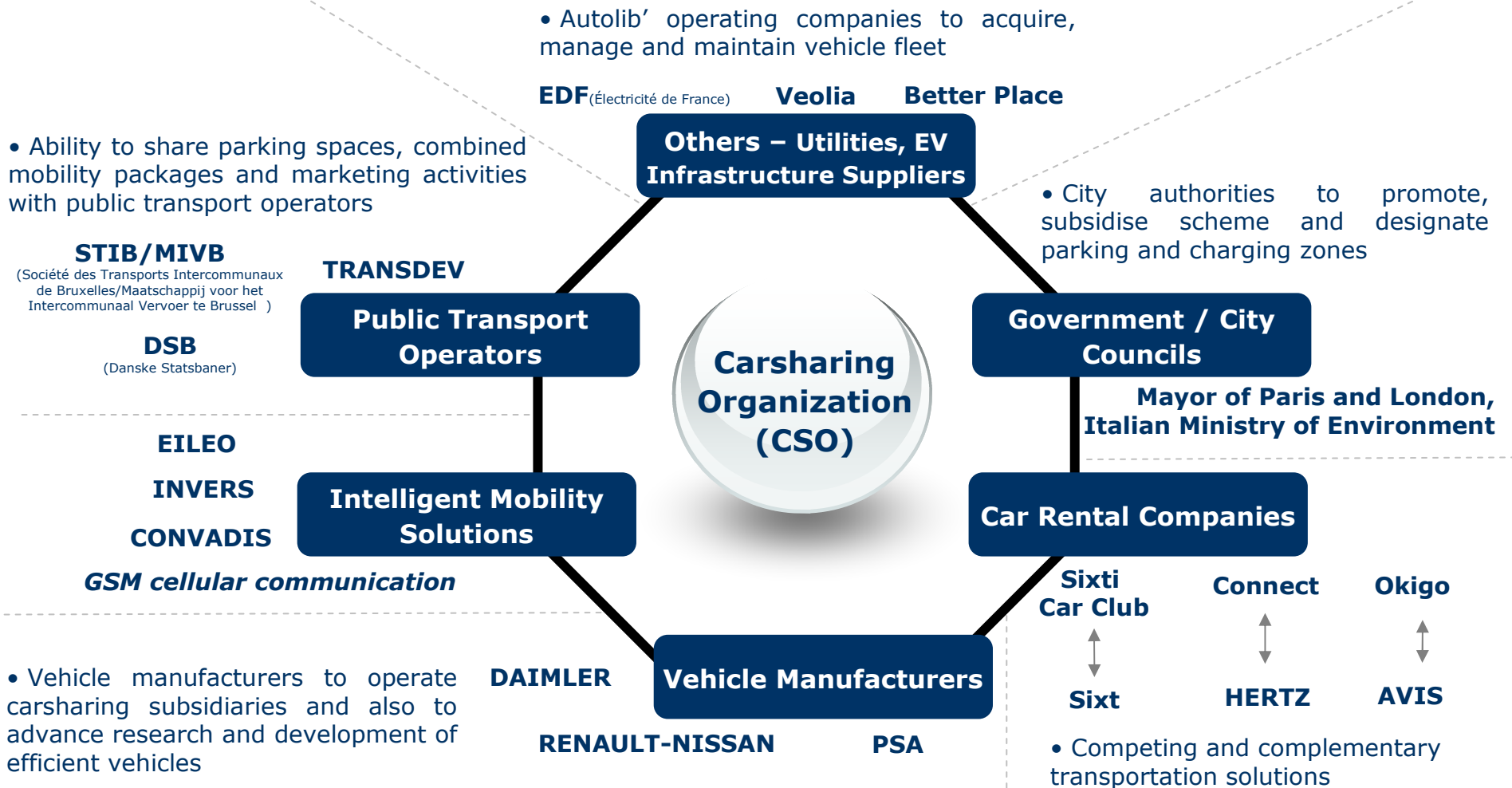
- Zipcar
- PhillyCarShare
- Communauto
- City CarShare
- I-GO Car Sharing
- Connect by Hertz
- Others

Note: All figures are rounded; the base year is 2009. Source: Frost & Sullivan

Source: Frost & Sullivan

Carsharing is the Focal Point of Many Industries with Long-term Synergy having the Potential of Additional Business

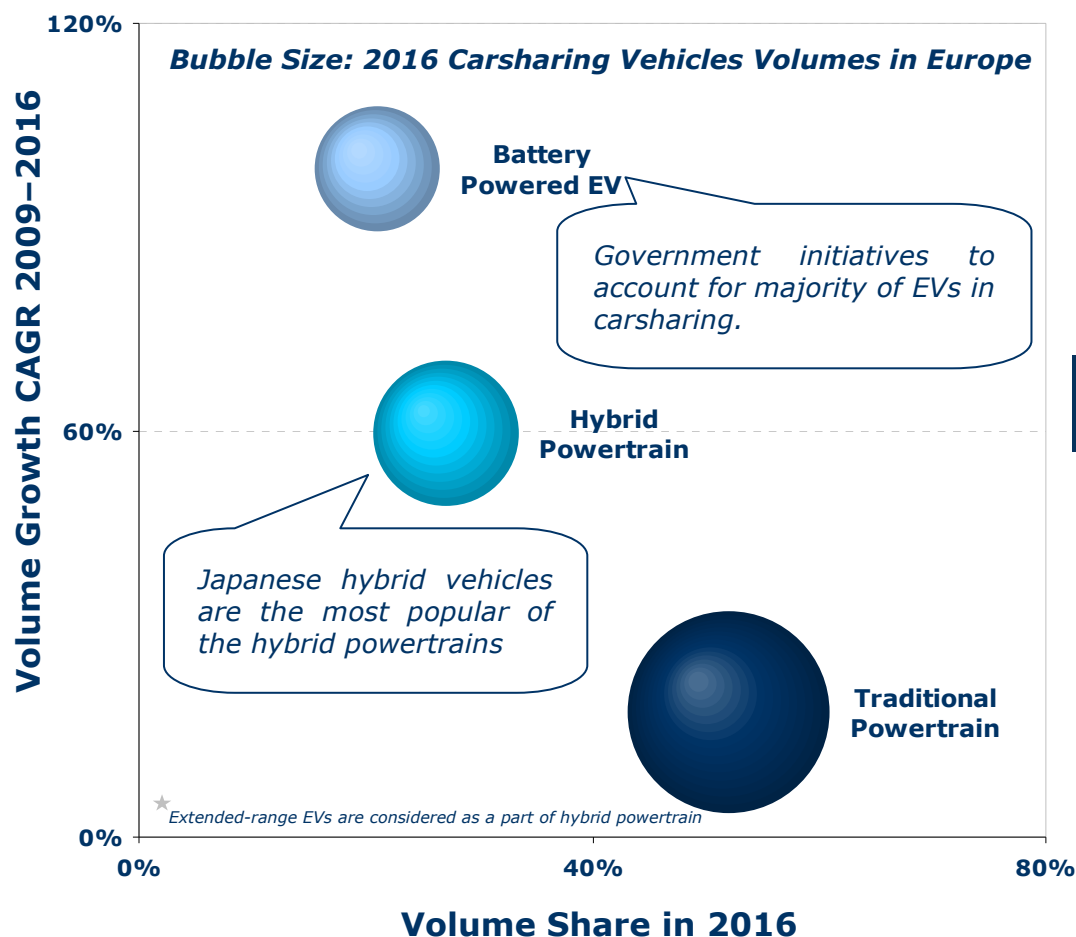
Market for Carsharing: Key Stakeholders in Carsharing Business Model (Europe), 2009



Source: Frost & Sullivan

High Purchase Cost and Low Consumer Driving Experience are the Main Hindrance for Hybrids and EVs in Carsharing

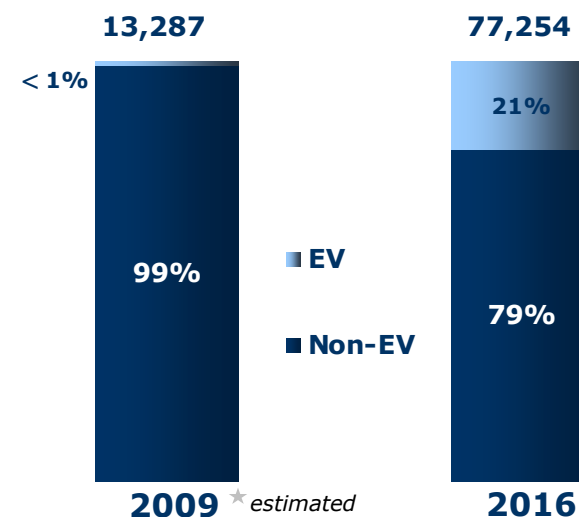
Market for Carsharing: Market Share and Forecast of Powertrain Technologies in Carsharing (Europe), 2009 – 2016



Note: All figures are rounded; the base year is 2009. Source: Frost & Sullivan

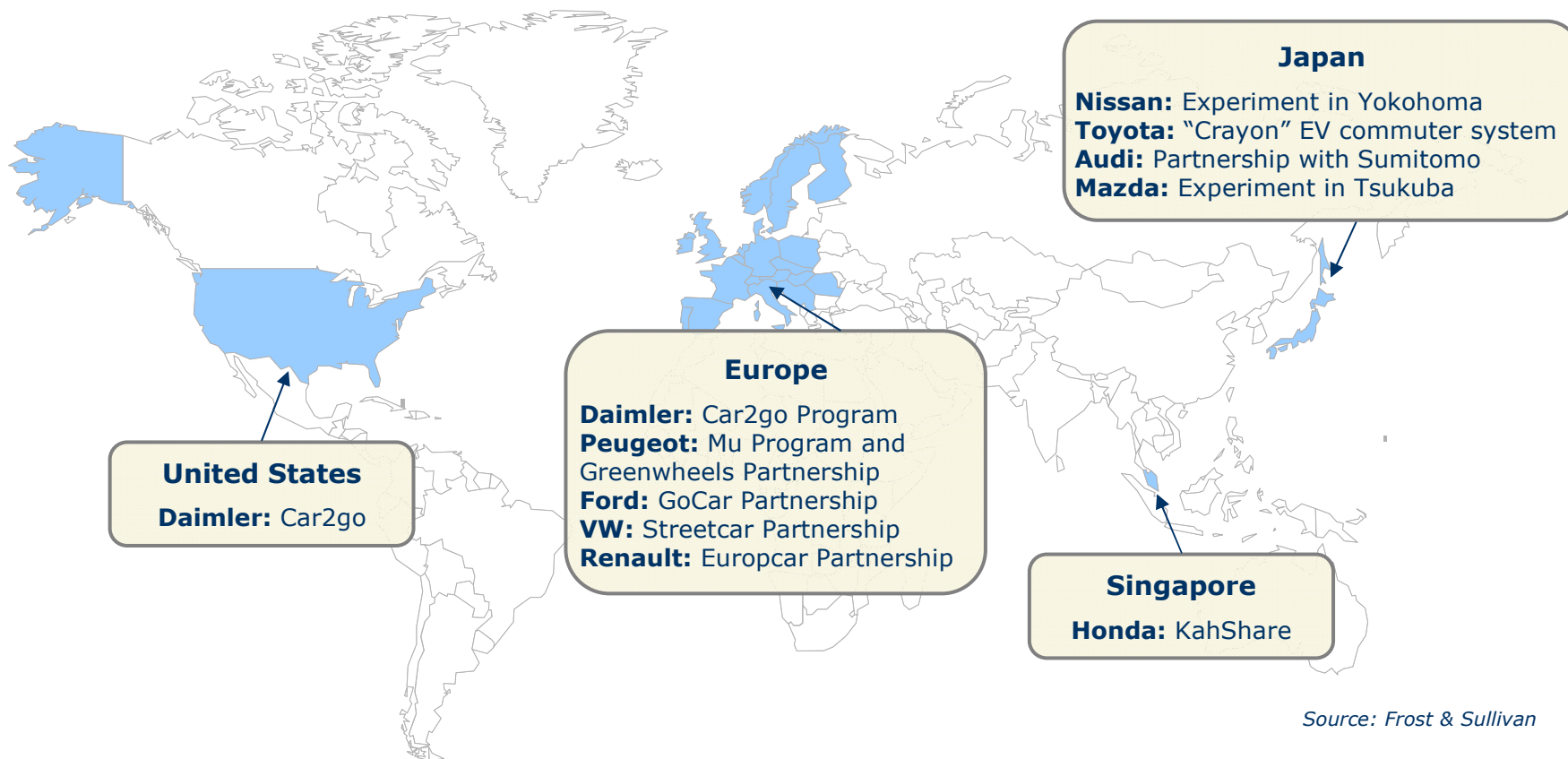
- The dominant powertrain in the European carsharing fleets are the traditional powertrains (Diesel followed by gasoline).
- Alternative fuels such as bio-diesel or E-85 are also popular in Europe. Ethanol based flex-fuels are dominant in Sweden whereas bio-diesels are favored in Spain.
- By 2016, 1 in 5 vehicles of the carsharing vehicle fleet is expected to be a battery powered EV.

Market for Carsharing: Percentage of Battery Powered EV in Fleets (Europe), 2009 and 2016



For Vehicle Manufacturers, Carsharing Provides a Variety of Interesting Propositions

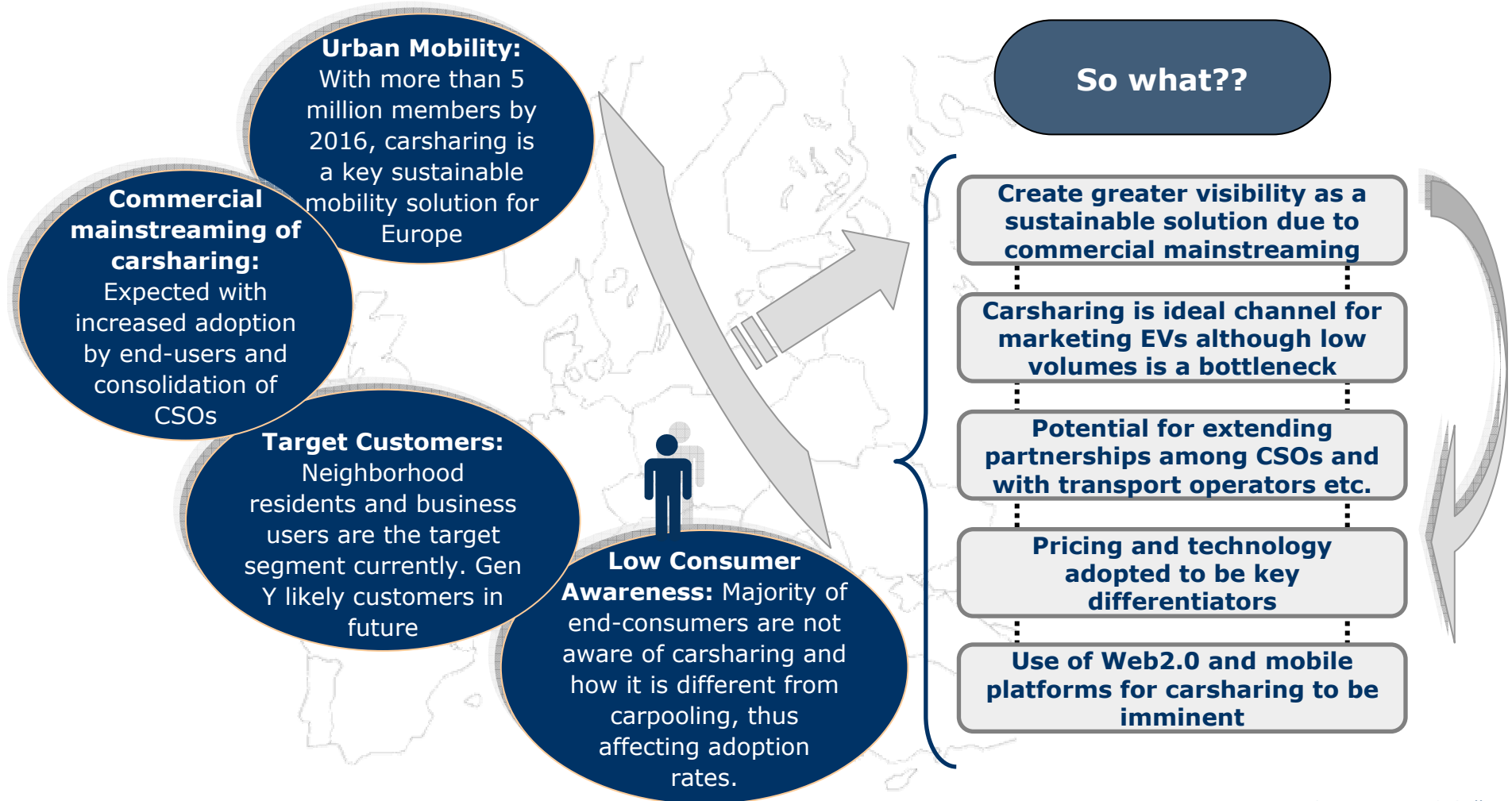
Market for Carsharing: Major Vehicle Manufacturers Present in the Carsharing Market (World), 2009



- Along with **marketing and corporate social responsibility (CSR)**, Carsharing serves as a very good test-bed for vehicle manufacturers to **experiment their strategies/technologies and determine consumer perceptions and attitudes**.

Key Conclusions and Takeaways - Cost Savings and Low Carbon Mobility to Drive Adoption of Carsharing

Market for Carsharing: Key Conclusions (Europe), 2009



Source: Frost & Sullivan