

Car Sharing – history and present in Budapest



2017.03.20.

Michaletzky Bálint

Car sharing- history

3 waves of car sharing development

1948

1980



2000



Cost efficiency

Environment

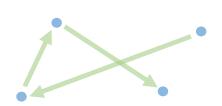
Telematics

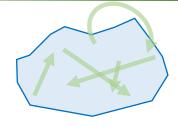
- First car sharing community: Switzerland, 1948, Main reason: cars are expensive
- Modell: people shared their own cars with others - peer-to-peer round trip
- Operated for 50 years
- Role modell for French, Dutch and Swedish car sharing communities

- Environmental consciousness
- University studies and projects on car sharing, how to develop the modell
- Experimental projects started on how to evolve the round-trip modell – station based modell appeared
- Flexcar and Zipcar started in 1998
- Between 1997-2009 out of the 34 car sharing companies that started 15 closed

- Rapid development in IT remote manamegement of cars
- Again, university projects laid the foundation of free floating modell
- Lot of car manufacturers and rental companies have free-floating car sharing services
- All have GPS, mobile data, CAN bus monitoring, etc.



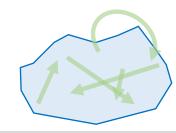




Comparison of modells







Modell

Pick-off dropoff

Car owner

Fleet

Pros

Cons

Round Trip

- At any station or at owner of vehicleVehicle has to be returned to the original spot
- Privately (Peer-to-peer)
- Service provider
- Diverse fleet
- Peer-to-peer version demands low investment
- Low fleet management costs

Inflexible usage and availability is geographically limited

- Station based
- Vehicle picked up and returned to any given station in the network
- Privately (Peer-to-peer)
- Service provider
- Homogeneous or diverse
- Diverse fleet can meet different needs
- Around a station can replace private cars and trips
- High fleet management costs due to imbalance in the distribution of vehicles at the stations
- Inflexible usage and availability

- Free Floating
- Pick-up and drop-off is not limited to specific points but a large area
- Service provider
- Homogeneous
- Flexible and can replace private trips and cars
- Averting needs to public transportation

Regulatory and municipality cooperation required on parking





car2go – 25 cities – 3 continents

Survey conducted by University of Berkeley, 2016 July)

San Diego – Calgary – Seattle – Washington – Vancouver

Shedding effect: car sharing member selling a car

• 1-3 cars

 Supression effect: car sharing member not buying a new/additional car

• 4-9 cars

On average: 7 – 11 cars per car sharing car

Effetc of free floating car sharing

Car sharing – by the numbers

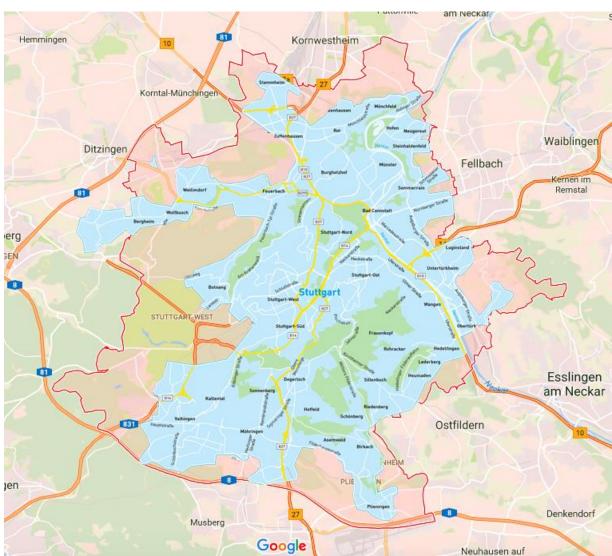


EXHIBIT 1 | More Than 80,000 Car-Sharing Vehicles Were in Operation in 2015 NORTH AMERICA EUROPE ASIA-PACIFIC 1.5 million Users 2.1 million Users 2.3 million Users **Car sharing** Vehicles 22,000 Vehicles **31,000** Vehicles 33,000 5.8 million 2.5 billion €650 million Users Booked minutes Car-sharing revenues per year per year World Sources: BCG research; press search. Note: North America = Canada and the US; Europe includes Russia and Turkey; Asia-Pacific = Australia, China, Hong Kong, Japan, Malaysia, New Zealand, Singapore, South Korea, and Taiwan.

Car sharing example – Stuttgart



Stuttgart



Population 623,000

2,700,000

Area 207 km²

Electric charging points 500+

Car sharing companies

• 1 free floating: 75 km² – 600+ electric cars

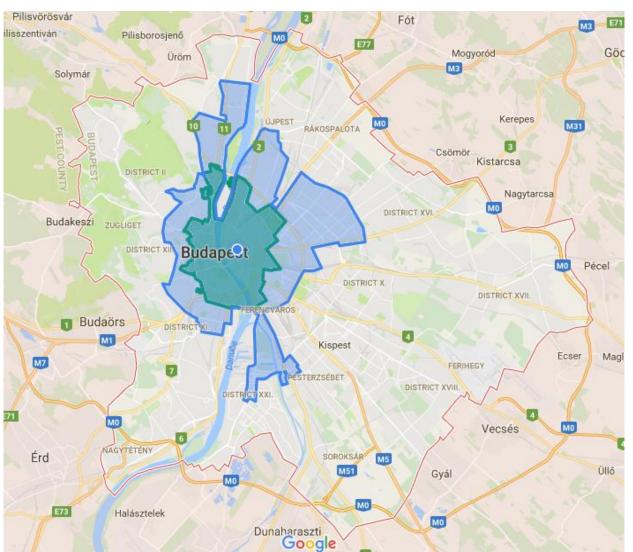
2 round trip 700+ cars

1 peer2peer 100+ cars

Car sharing – Budapest







Population 1,700,000 2,500,000

Area 525 km²

Electric charging points 30

Car sharing companies

• 1 free floating 25 km² 75 electric cars

1 round trip 20+ cars

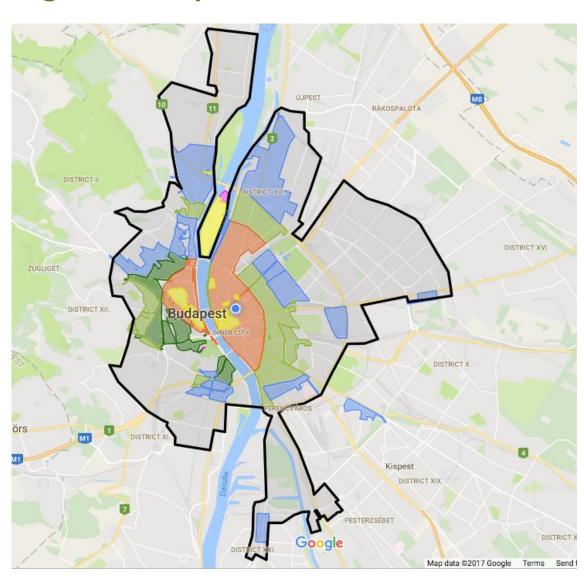
Our goals

- 75-100 km² service area
- 500-800 electric cars
- combined services special cars at stations
- mobility as a service integrated mobile app with other public transport modes (train, trams, buses, BuBi, GreenGo)

Challenges in Budapest







Parking

- fragmented
- ad-hoc pricing

Charging stations = bureaucracy

Difficult to build public charging stations

- municipality
- involved authorities (BKK-Közút, etc.)
- local DSO ELMŰ
- +1 Budapest municipality

at every charging station!

Thank you for your attention!

Michaletzky Bálint

GreenGo Car Europe Kft

balint@greengo.hu

