

better place 



Better Place: Next Generation Mobility - Challenges and Opportunities

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ISR Robotics
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How do you make the world a better place by 2020? ♻️

End dependence on oil...

Accelerate the transformation to a sustainable electric automotive solution



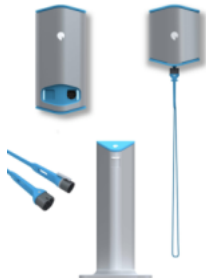


The Better Place Solution

Better Place solution elements



At home and out and about: charge spots and battery switch stations



Access to charging when and where you park

Ability to drive long distances by providing fully charged batteries on the road



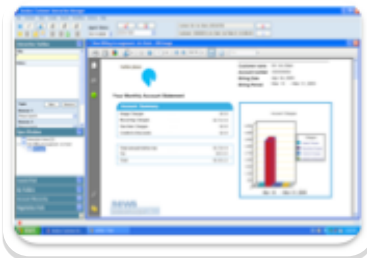
In hand, in the car: driver services



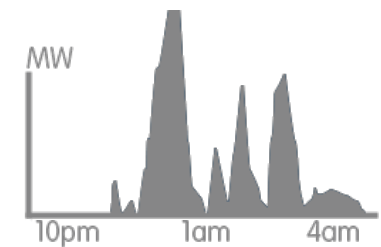
In-car and remote access to your EV's energy information, trip planning and other services



Behind the scenes: managed EV services



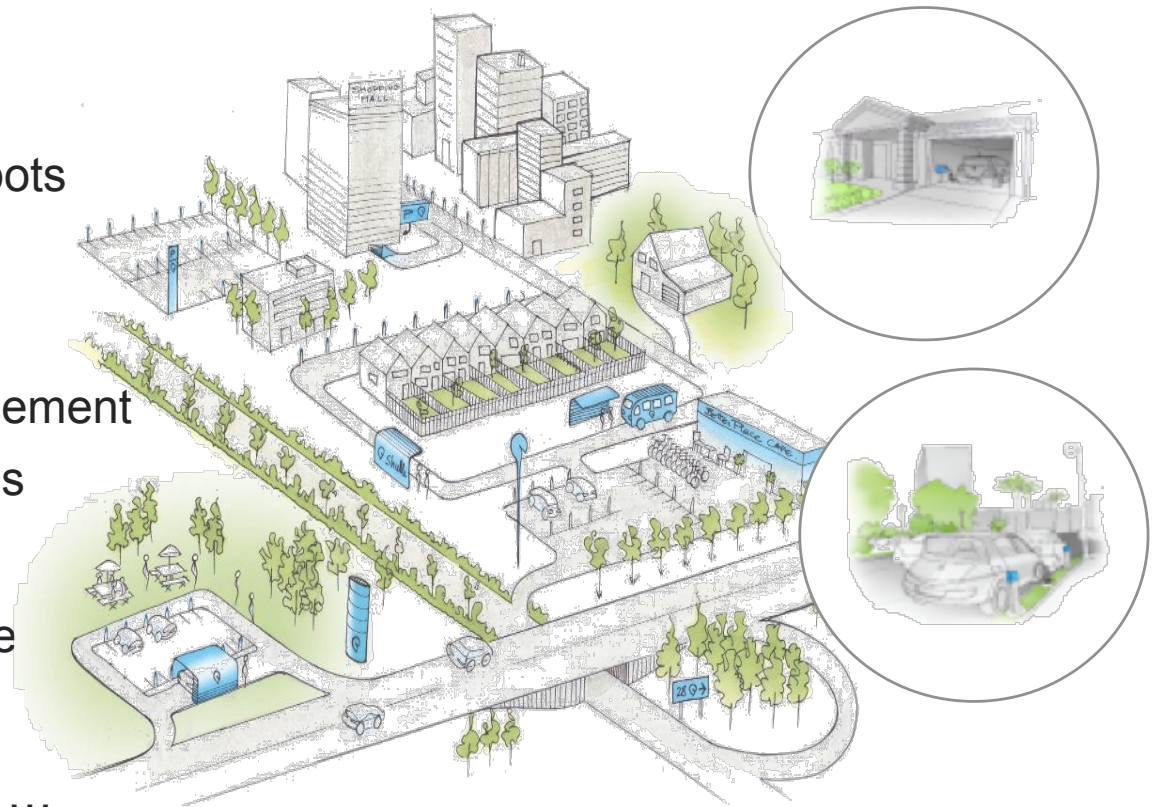
Working with utilities and customers to monitor and manage energy supply and demand



Better Place operating company business model

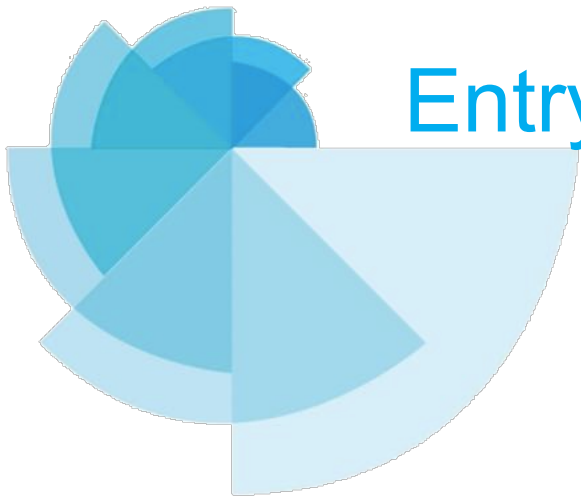
Better Place will offer subscription packages to EV drivers for charging and other services

- Charging
 - Personal and public charge spots
 - Battery switch stations
- In-car services
 - Energy monitoring and management
 - Information and media services
- Customer care
 - Roadside and other assistance
- Integrated mobility concepts
 - Railway systems, car sharing, ...





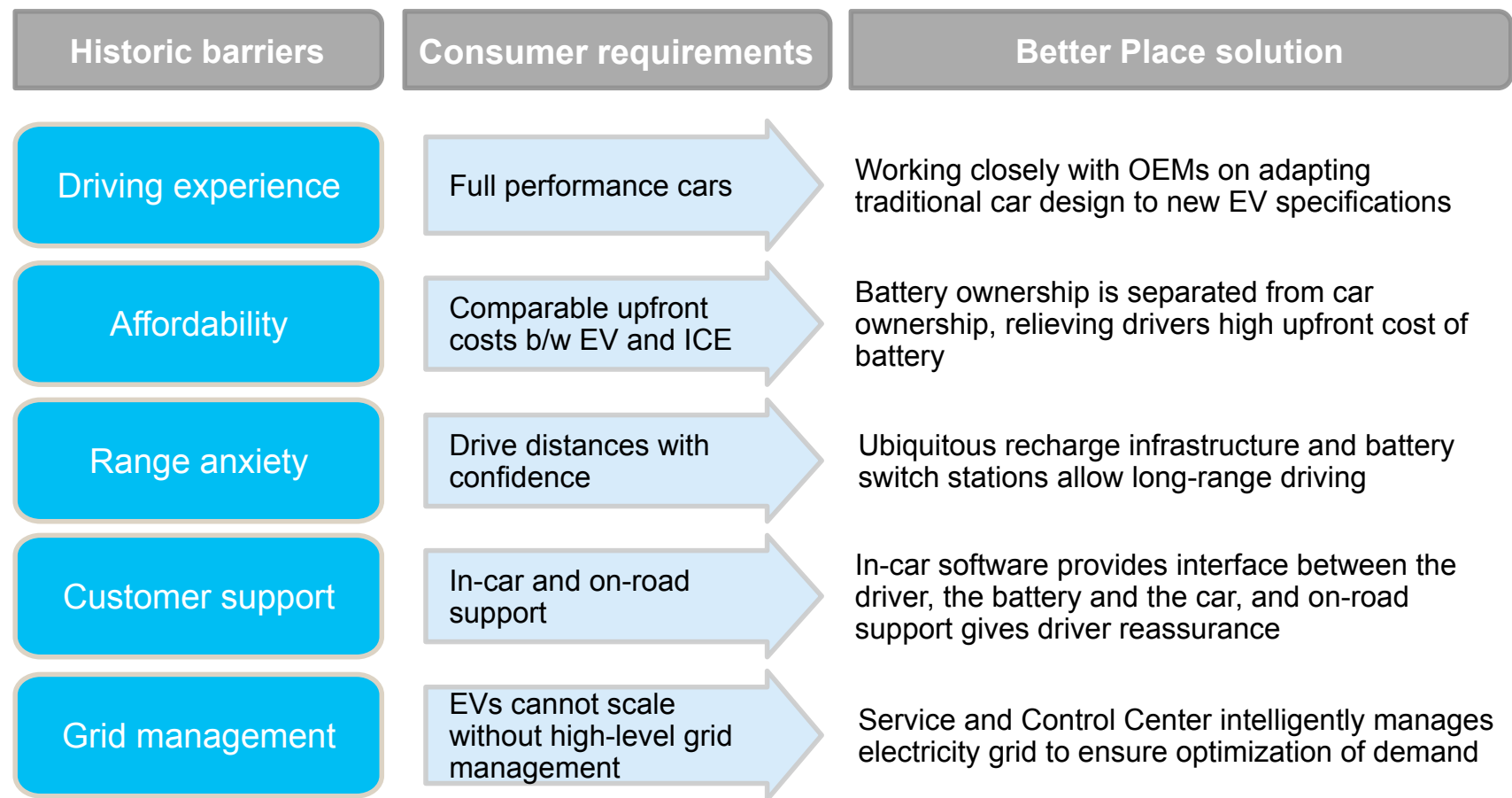
Entry barriers



Better Place addresses historic barriers to EV adoption



Mass adoption of EVs will not happen without a solution which provides an economically attractive and convenient infrastructure platform



Battery Switch Technology

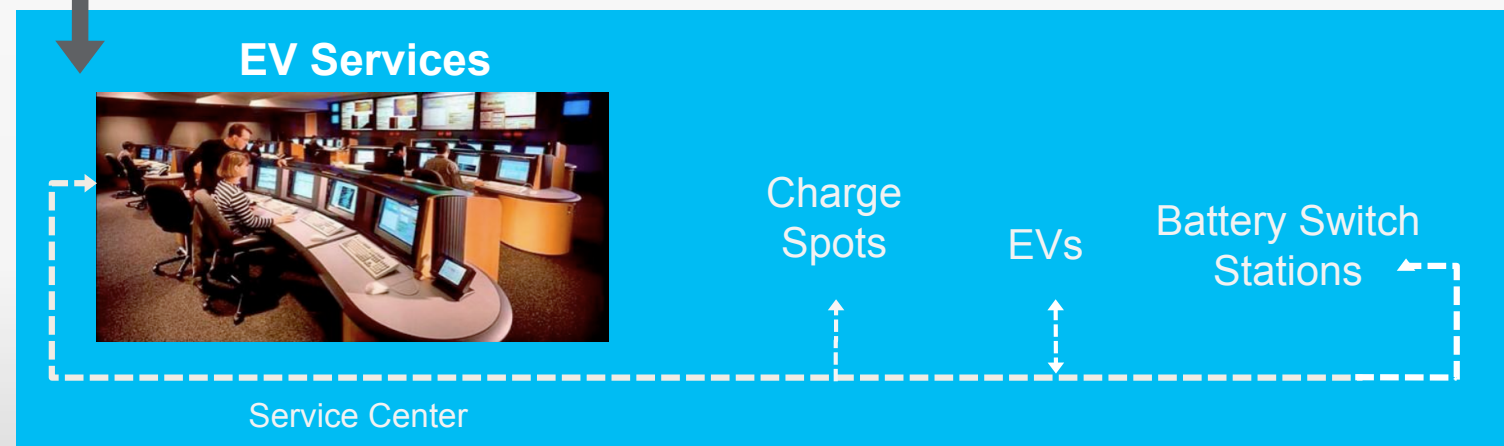


Central, smart Energy Management



Service and control centers enable optimization of supply and demand:

- Peak shaving
- Demand side management
- Ancillary services
- Future vehicle to grid (V2G)



Battery Switch Technology in context of Renewable Energy and Grid Infrastructure



- Battery Switching Technology leverages renewable energy sources in an optimum way
- Only 1% of additional batteries would be needed for the switch stations
- In 99% of all hours per year the batteries in Switch Stations leverage renewable energy sources
- For a similar effect with FCS, four times more renewable energy would be needed
- This effect could also be further optimized by a higher renewable energy portion in the mix and batteries with higher capacities than 24 kWh
- What about the comparison of infrastructure costs with the costs of range extender solutions?

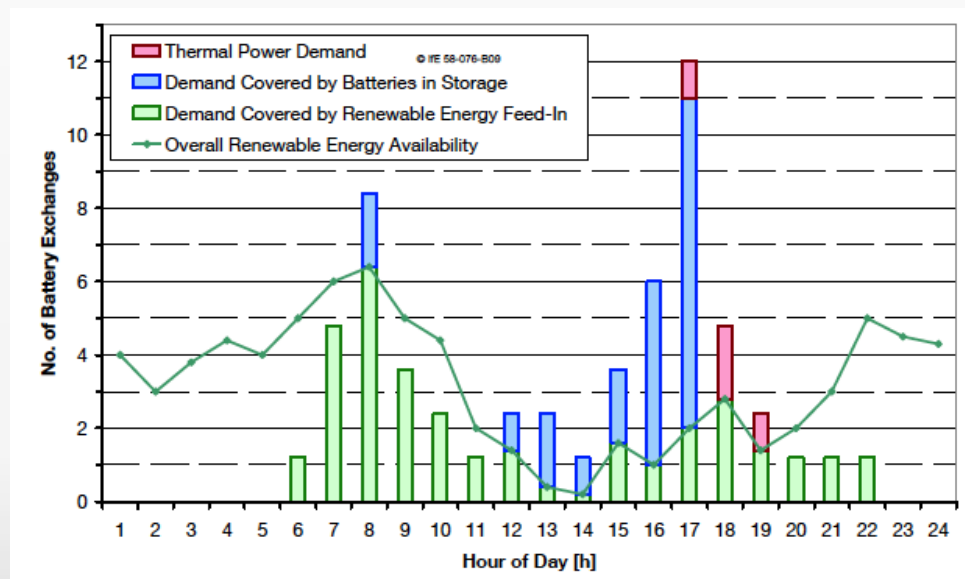
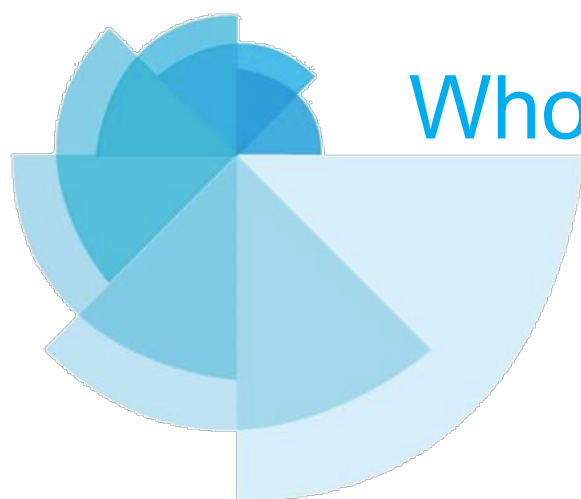


Figure: Power Supply Composition of a Single Swapping Lane over an Day

Source: Research Report - Analysis of Renewable Energy Power Demand for Specifically Charging EVs. TUM, August 2009



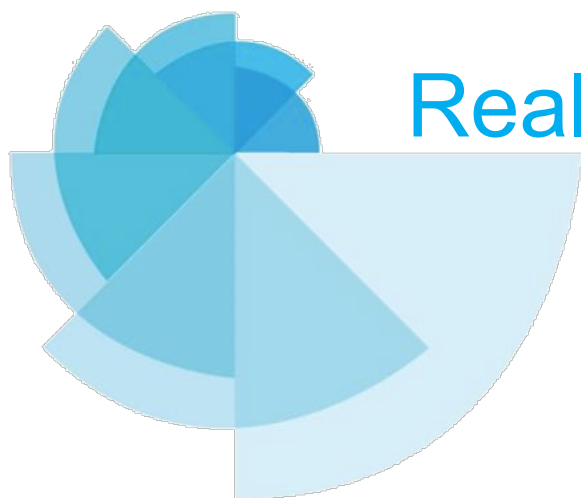
Who will be the key-player?

...the consumer!

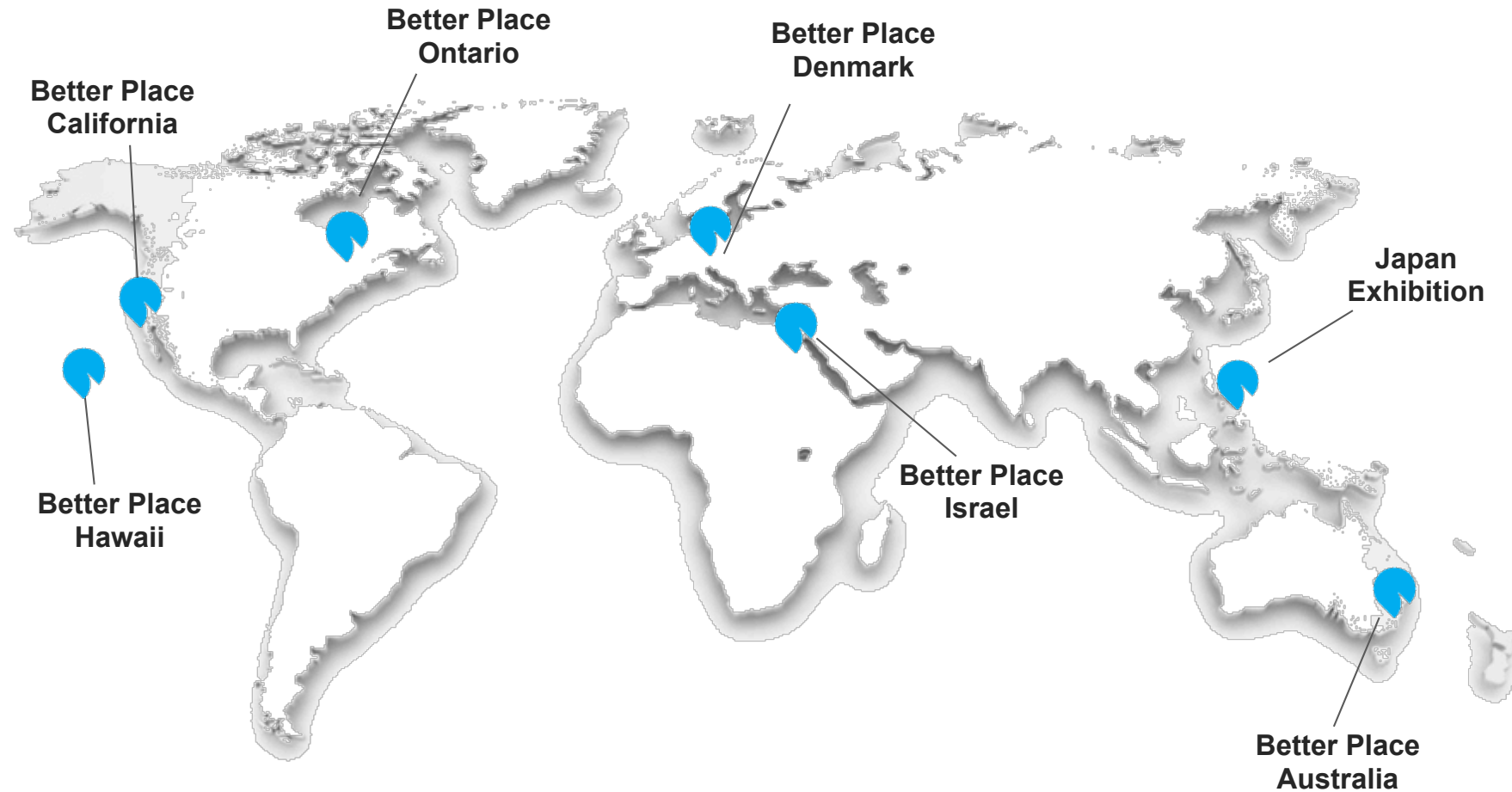




Reality check



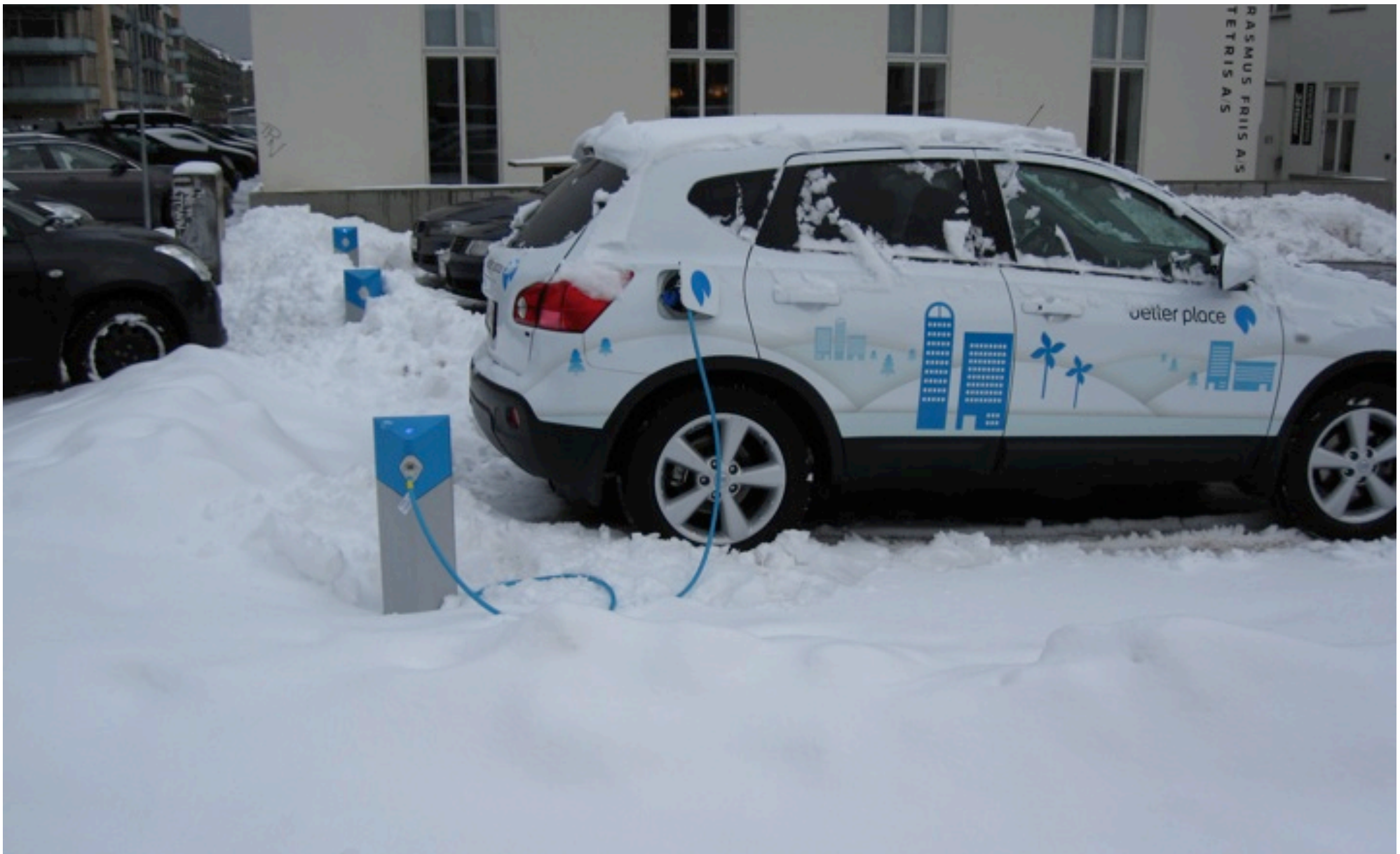
Better Place has a global reach



REAL market deployment in Israel



REAL managed networks in Denmark



REAL electric cars – the Renault Fluence



REAL customer experience



REAL electric mobility business in Tokyo



REAL electric mobility business in Tokyo

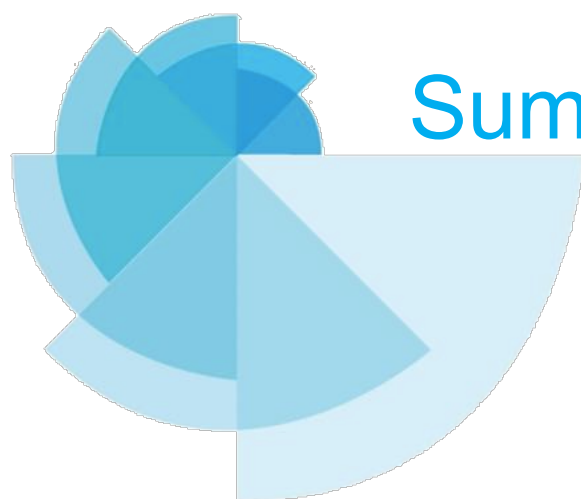


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Tokyo Electric Taxi Project



Summary



Summary: Switch the way you think...



Old

vs.



New

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