



Berlin Extension
Innovation Ecosystems and Sustainable Mobility
Wednesday, September 21, 2016



How to address the electromobility ecosystem ?

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Agenda

- ▶ With a chair on Electromobility
- ▶ Emergence of the electromobility ecosystem
 - ▶ Electromobility is a promising bride...
 - ▶ ...with many pretendents
- ▶ Research agenda on the conduct of the electromobility ecosystem

An academic partnership

- **Electromobility** : The use of electric powertrain technologies, in-vehicle information, communication technologies, and dedicated infrastructures to enable the use of personal or collective Evs (full electric, hybrid, plug-in hybrids, hydrogen fuel cell...)

Energy, infrastructure & technologies

- EVs & grids (V2X & V2X2V)
- Recycling
- Valuation methods

Public policies

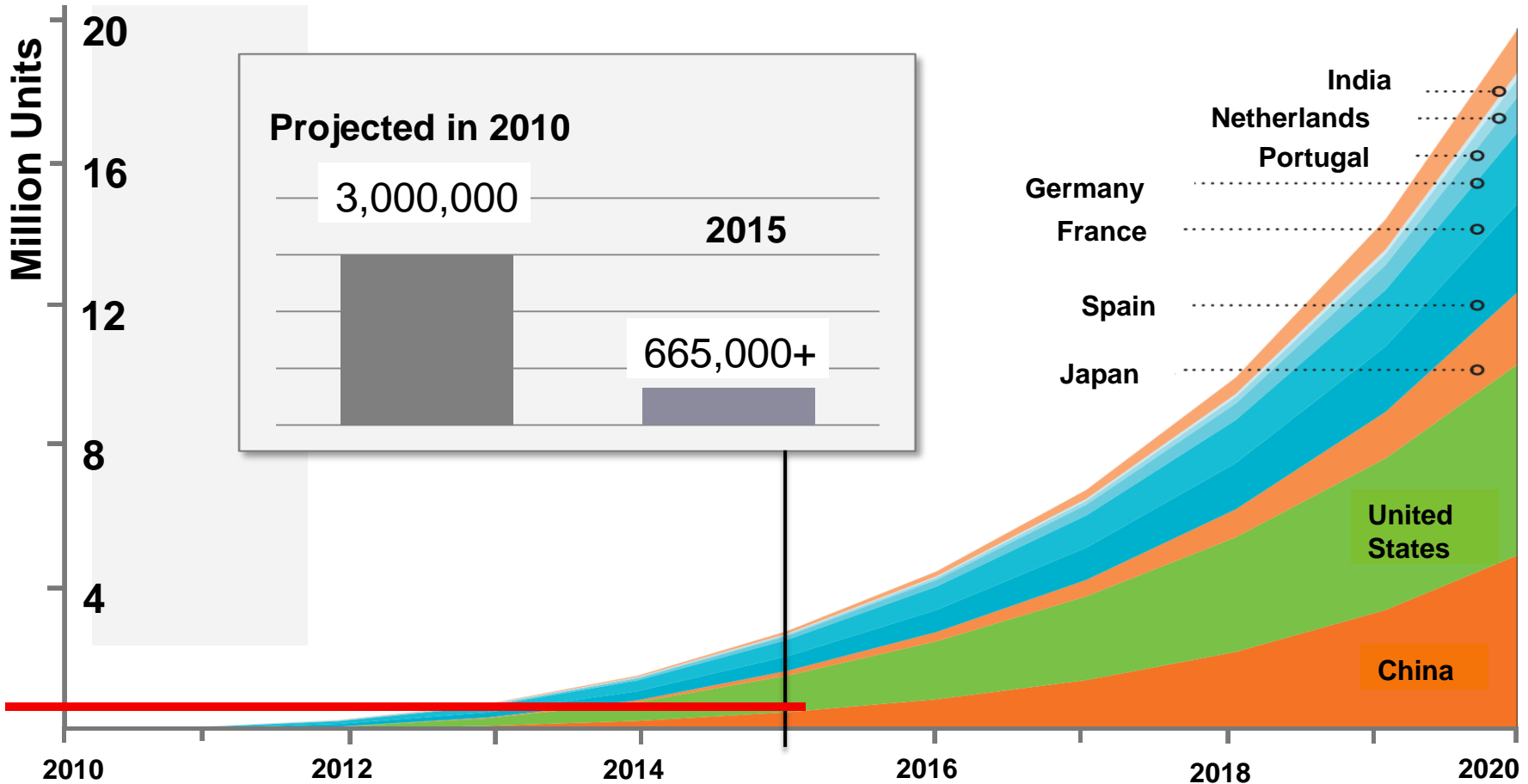
- Incentives for EVs
- Regulation & Standardization

Economics & business

- Industry evolution and conditions for growth (emergence)
- Dominant design, product architecture (modularization, integration)
- Value proposition, business models
- Partnerships

Statut quo in 2015

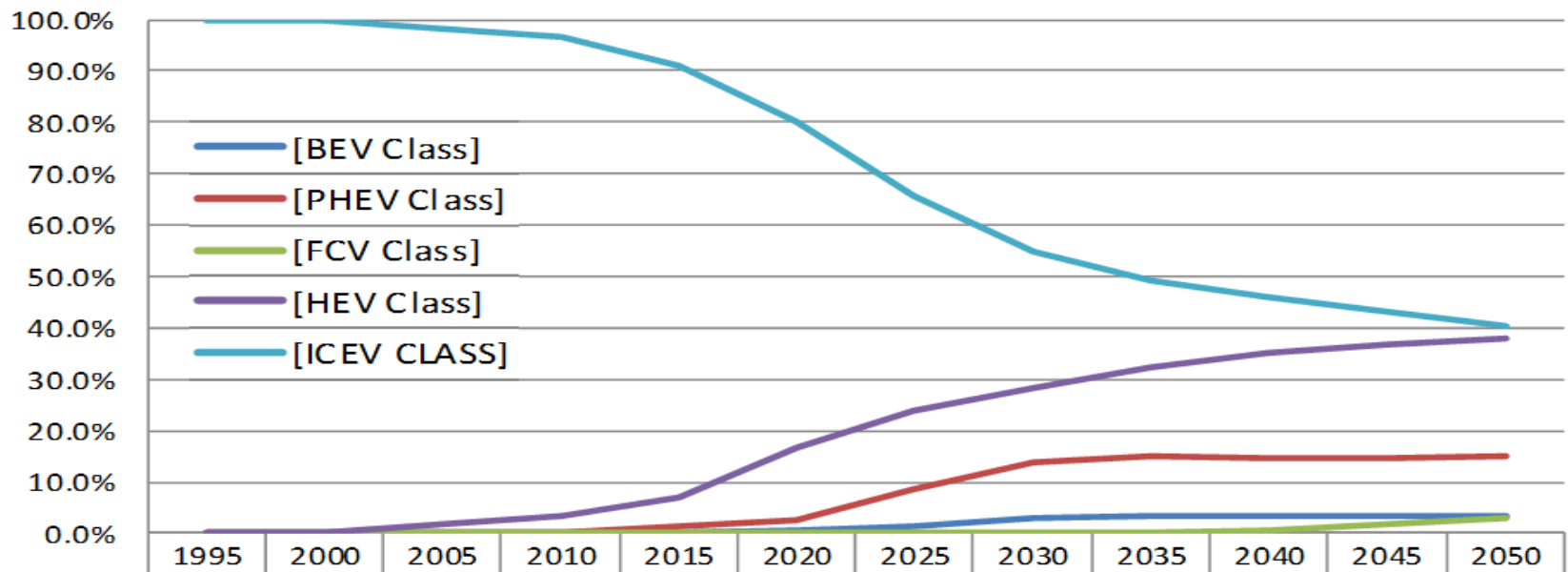
EVs



Still a strong belief in the 'beauty of the bride' (\$100-400 b)



Power-train Class Market Share



Source: Conference paper (2014). Model based analysis of policy options for E-mobility and related infrastructure in the EU

Driven by the request to solve environmental, energy, economic and social issues

A high ambiguity characterized by

- undefined or fleeting organisational structures
- unclear or missing product definitions
- a lack of a dominant logic to guide actions

(Santos and Eisenhardt , 2009)

Indeed

Markets are hesitant with spectacular successes and failures



Production performs on too small volumes

Technological advances and infrastructure development are the driving factors



Investment amounts are enormous

Industry dynamic is disorganized



Value chain is not stabilized and new players challenge incumbents

Because of this high ambiguity external help is required



Public policies are under pressure



The 'TANK' is more problematic than the 'ENGINE' – Range anxiety & Time consuming issues

Charging infrastructure
has to be implemented **first**.

Evs have to be on the roads **first**.

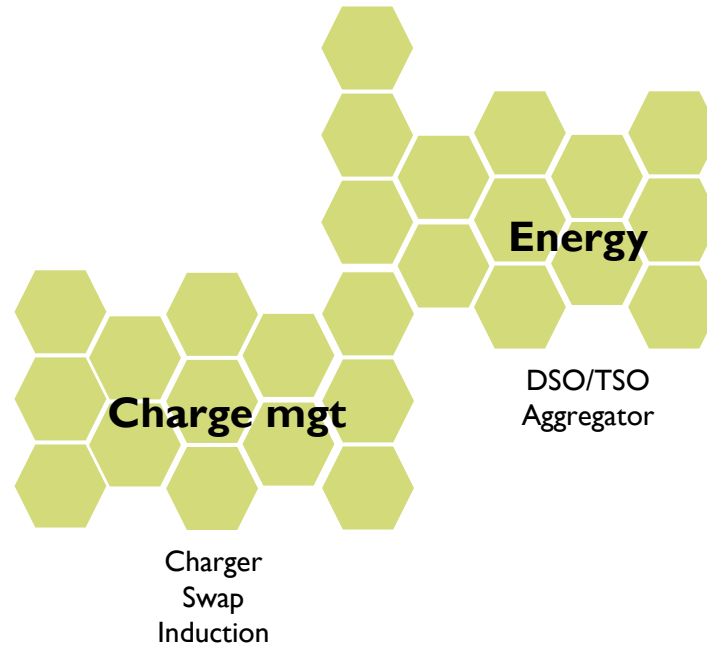
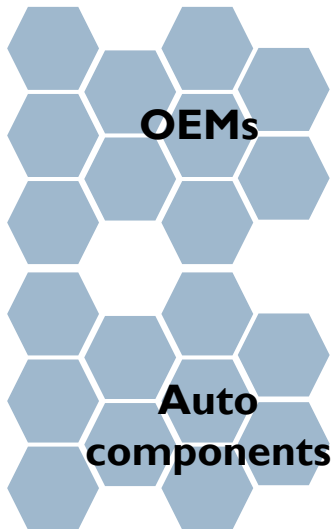
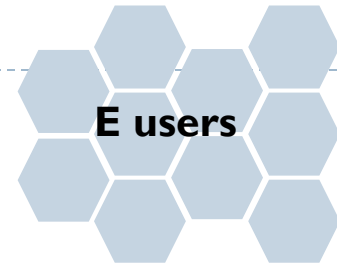
The logic of the auto players

- The early stages of the market, need more charging stations than EVs initially.
- Charging stations will provide a necessary signal to the market that the infrastructure is there to support EV drivers.
- As drivers start to see more charging stations, they will become more comfortable with the idea of driving EVs and will become more likely to purchase them.

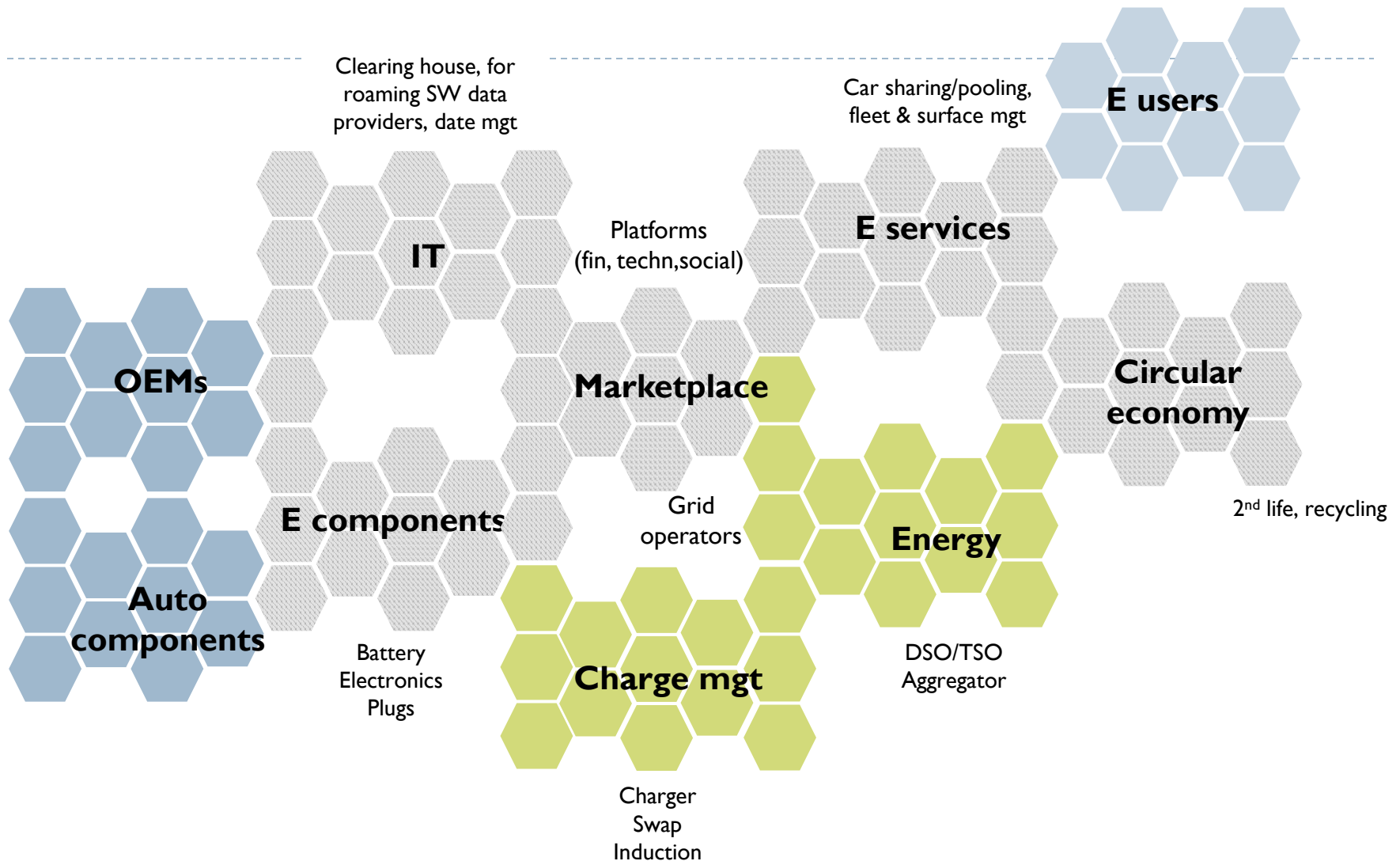
Logic of the energy players

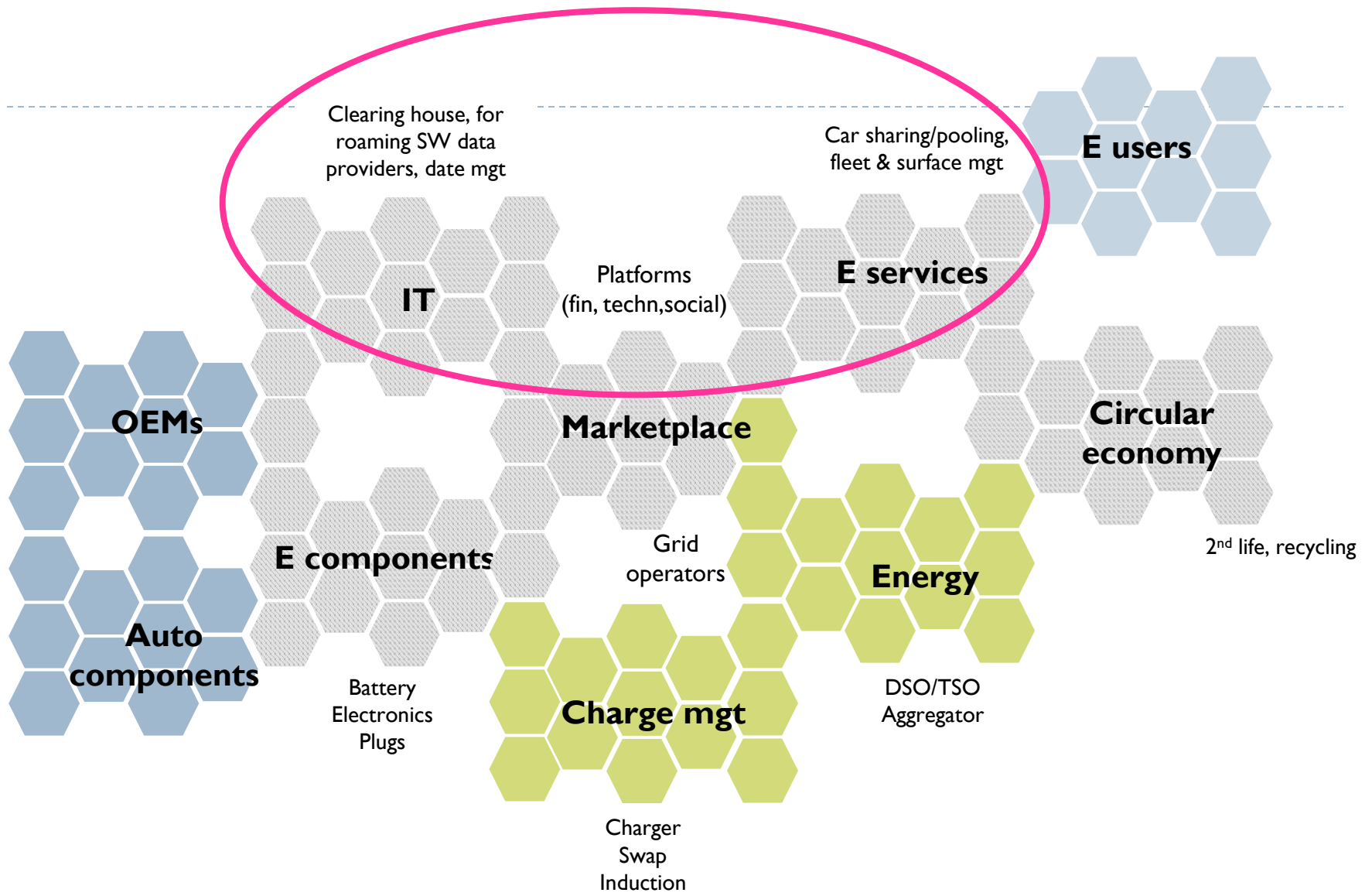
- Charging stations require a certain degree of usage to become financially viable.
- Private sector is interested in building up charging infrastructure if this degree of usage is ensured.
- Once enough electric vehicles are on the road, opportunities for business development in the charging infrastructure sector emerge.

2 parents for the bride

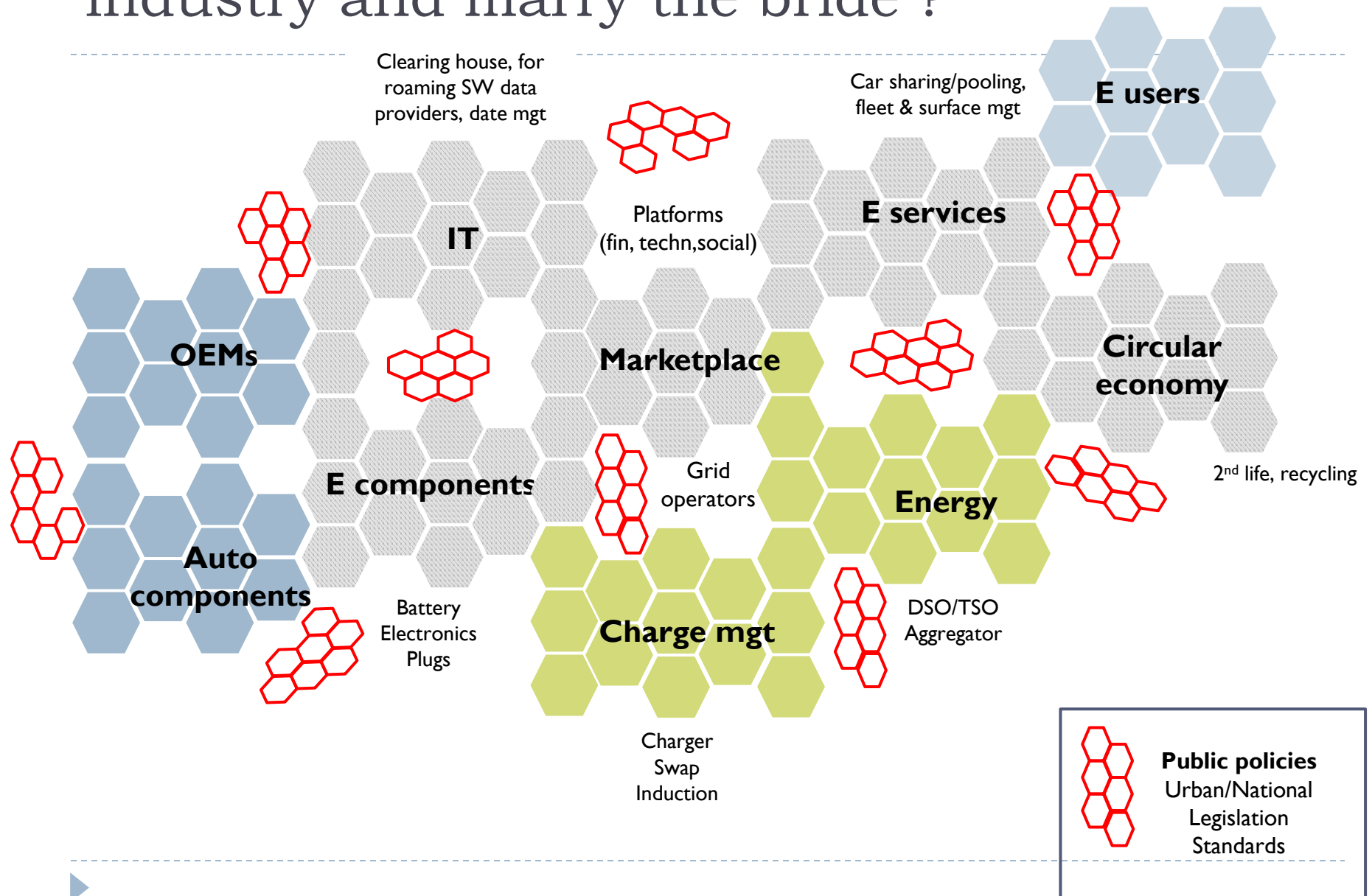


The bride has many pretenders





How be on pole position to drive the industry and marry the bride ?

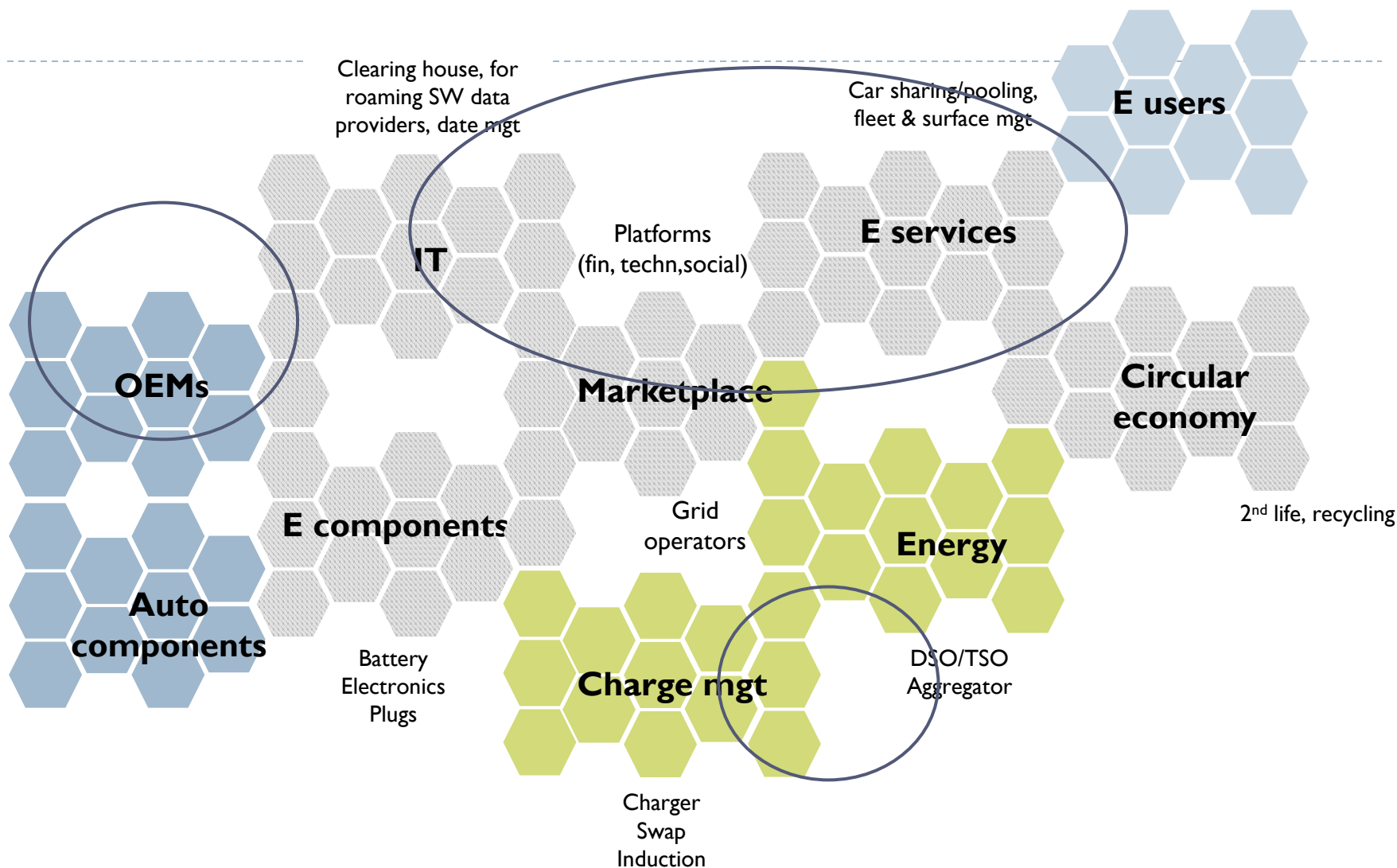


Research agenda : Marketing and customer Approach

PI. The closest to the customer

« The closer to the customer knows how to satisfy it »

« The closer to the customer knows how to create 'customer for life' and therefore value for life »

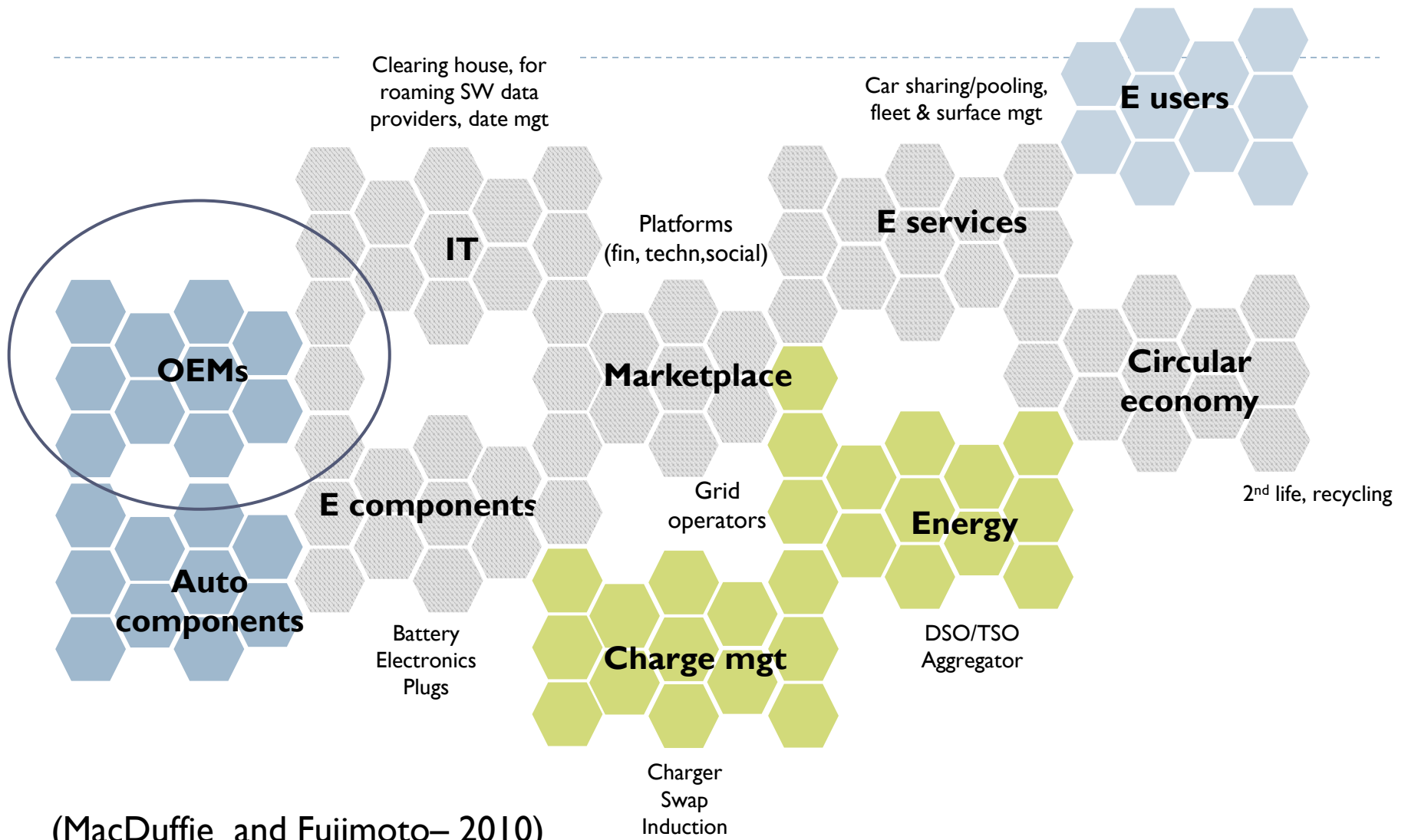


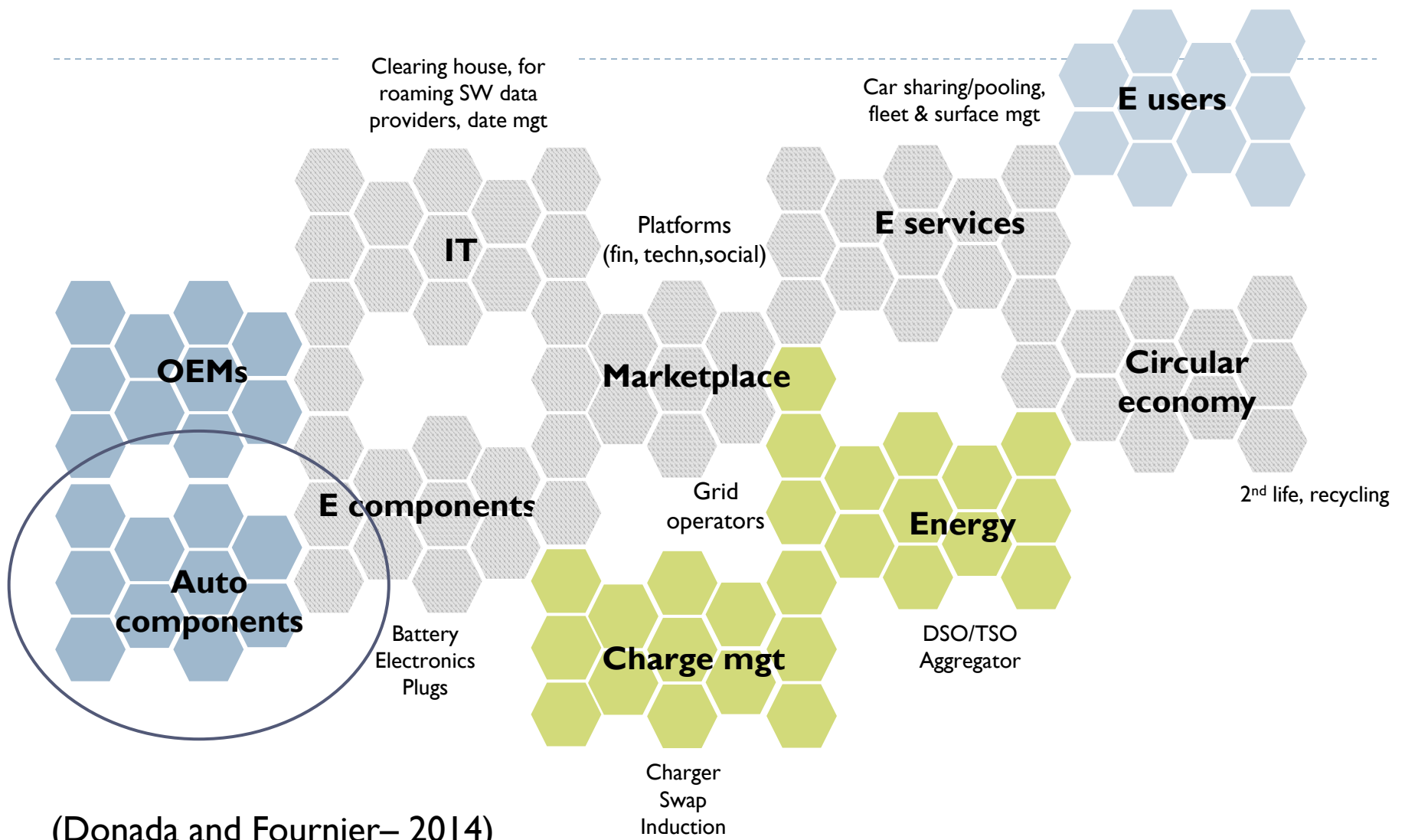
A strategy based approach

P2. The best integrator

« The **hardest companies to replace** in a value chain are the «'system integrators' » (Jacobides and MacDuffie – 2013)

- Secure the value chain central position
- Control of resources to eliminate rivalry and bargaining power
- Execute the right modularization / integration strategy





Integrated value chain

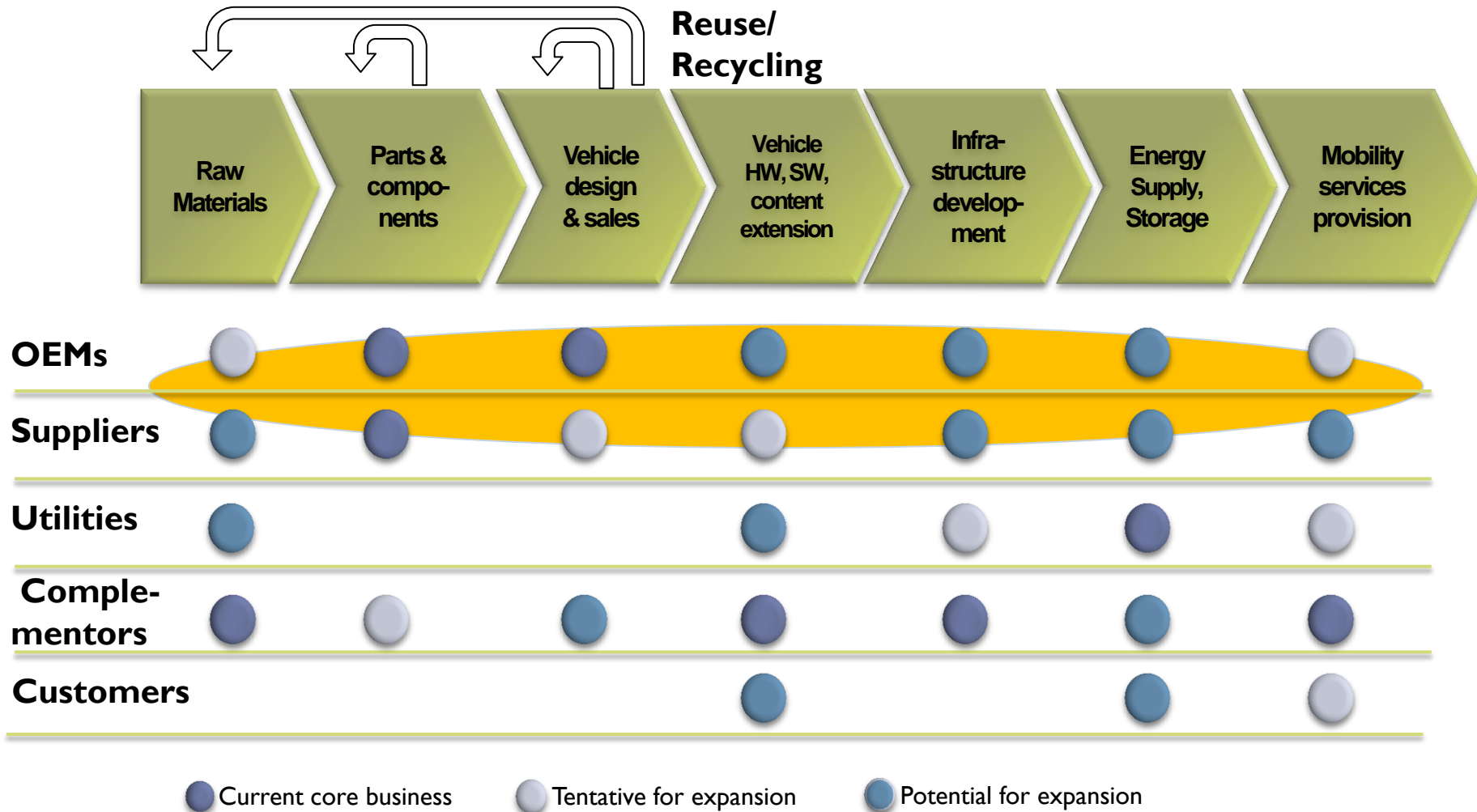
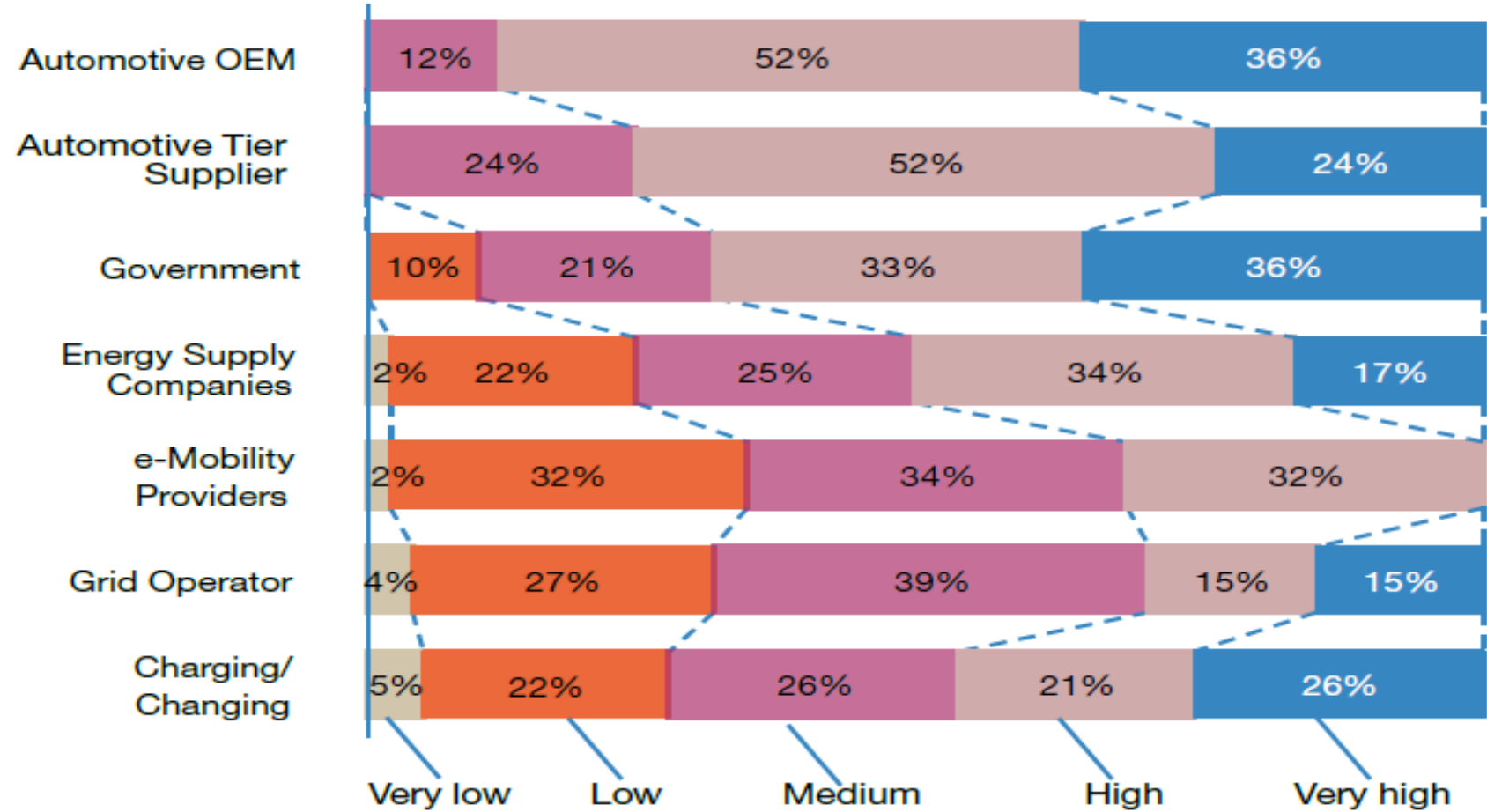


Figure 2: Automotive Industry Will Drive e-Mobility – The influence of different players in the e-mobility network



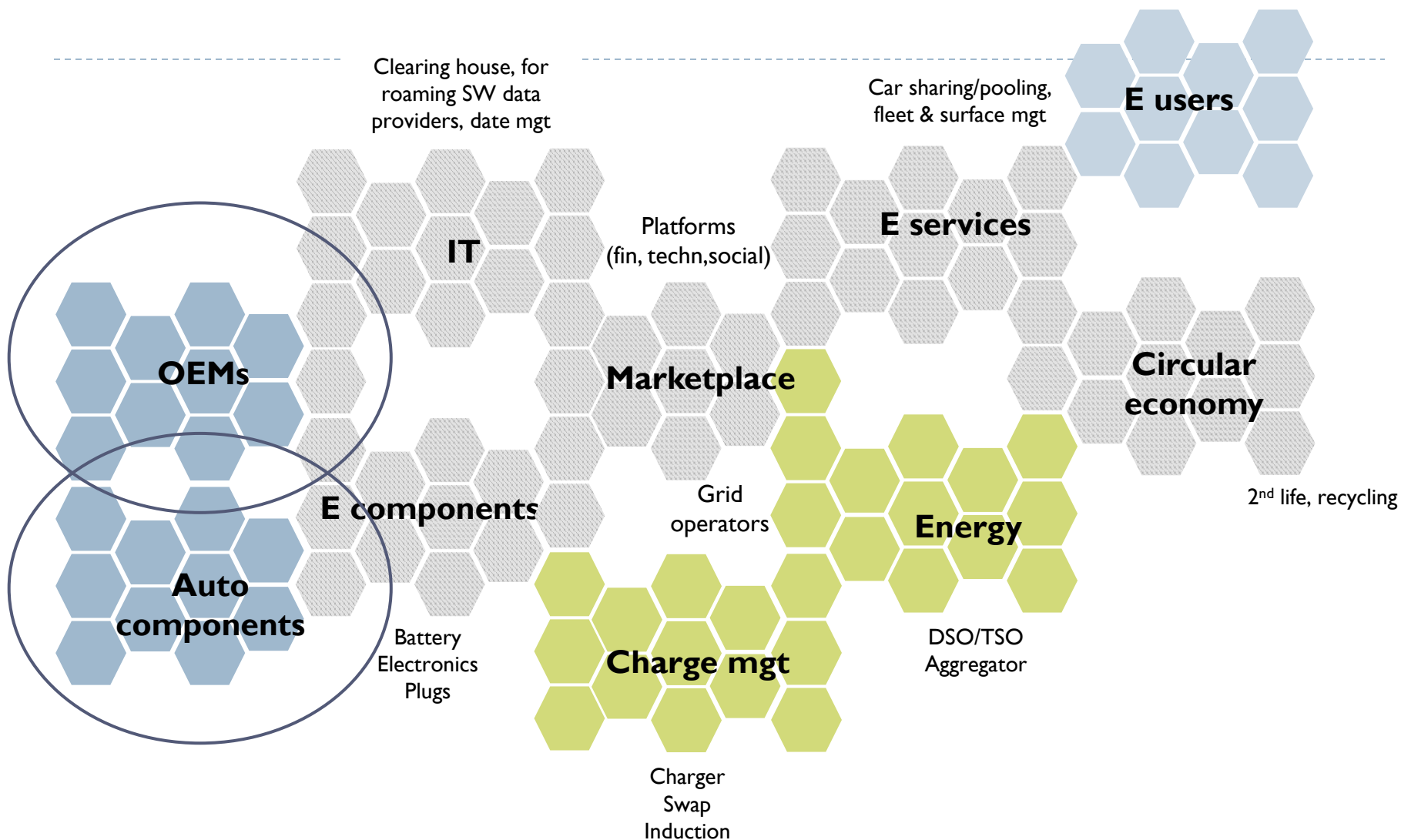
Source: Capgemini

A strategy based approach

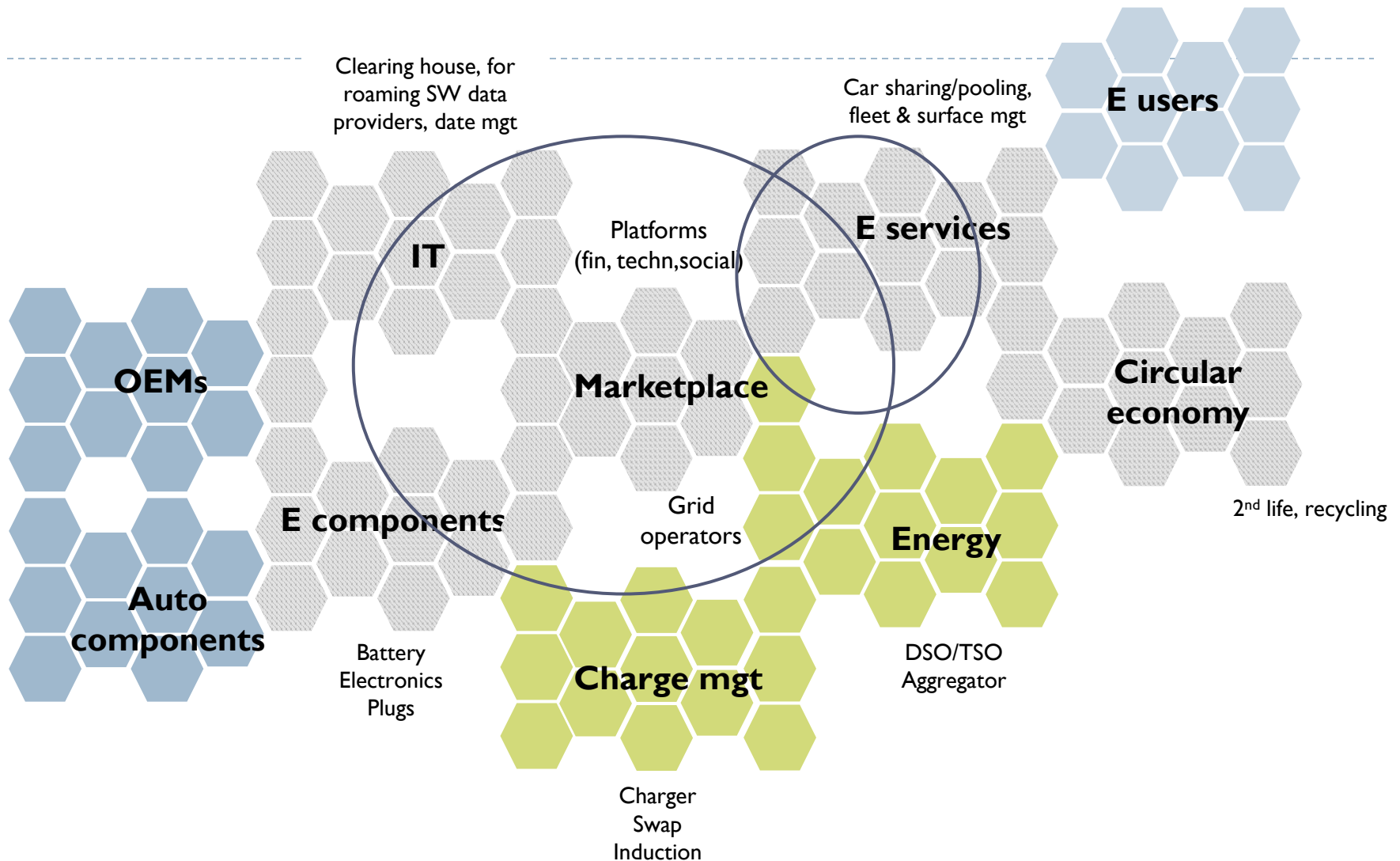
P3. The innovator

« Those who can create products in the absense of markets » (Midler et al. 2012)

- Dynamic capabilities for innovation
- Management technology and knowledge



and mainly



A strategy based approach

P4. The coordinator

« Those who have amassed the systematic knowledge to **coordinate all the work and the many partners involved** » (MacDuffie and Fujimoto – 2010)

Coordination is a strategic driver because it is « the end of competitive advantage » (McGrath, 2014) and the time for « collaborative advantage » (Dyer, 2000)

- Alliances with complementors
- Inter-organizational management control systems
- Organizational boundary spanning issues

Remind us the Santos and Eisenhardt (AMJ, 2009) framework

When they explored how economic actors create nascent markets, as well as achieve dominance in them with 3 actions

- 1) **Claiming the market:** *actions for becoming a cognitive referent for the customer*
- 2) **Controlling the market:** *actions for eliminating competition*
- 3) **Demarcating the market:** *actions for orchestrating industry roles and relationships*

Join our team to address the issues of the electromobility ecosystem



26-28 October 2016

University Paris
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**V2X technologies
Regulation issues &
Business Models**

IEA INTERNATIONAL ENERGY AGENCY

TASK 28



Home Grids and V2X Technologies



*to read our papers and
special issues*

Google chair armand peugeot
to find the program