

CHAdeMO European Annual Conference 2013
Brussels - 19th february 2013



CHAdeMO

Slow or fast charging, how to choose ?

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ÉLECTRICITÉ RÉSEAU DISTRIBUTION FRANCE



Et l'électricité vient à vous

Issues at stake with power

- **Satisfaction of customer needs, highly variable**

- Battery State of Charge
- Parking time
- Km to be travelled until next stop



Power/needed

- **Best price for customer**

- **Best economy of systems**

- **Maximised revenues**

Power vs Time characteristics



power



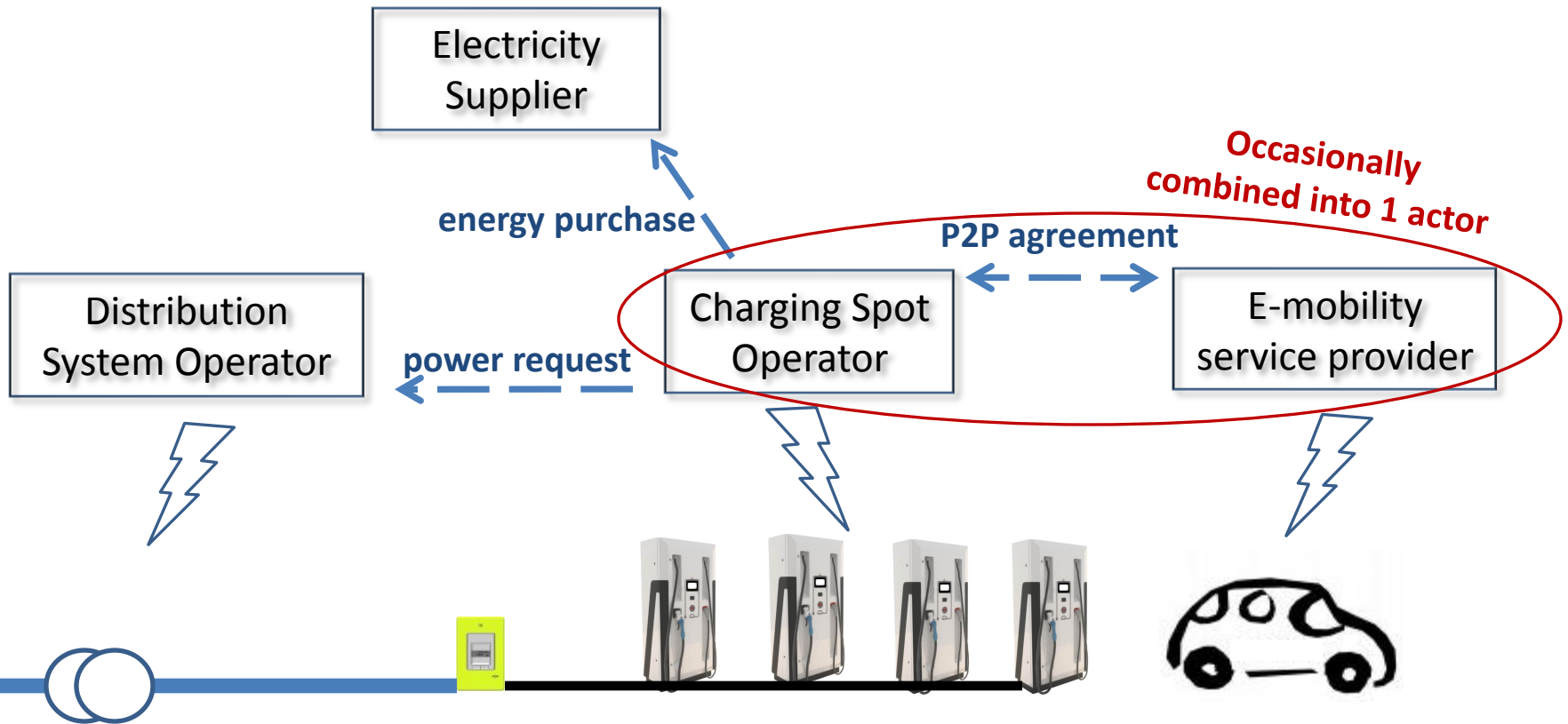


Actors at play

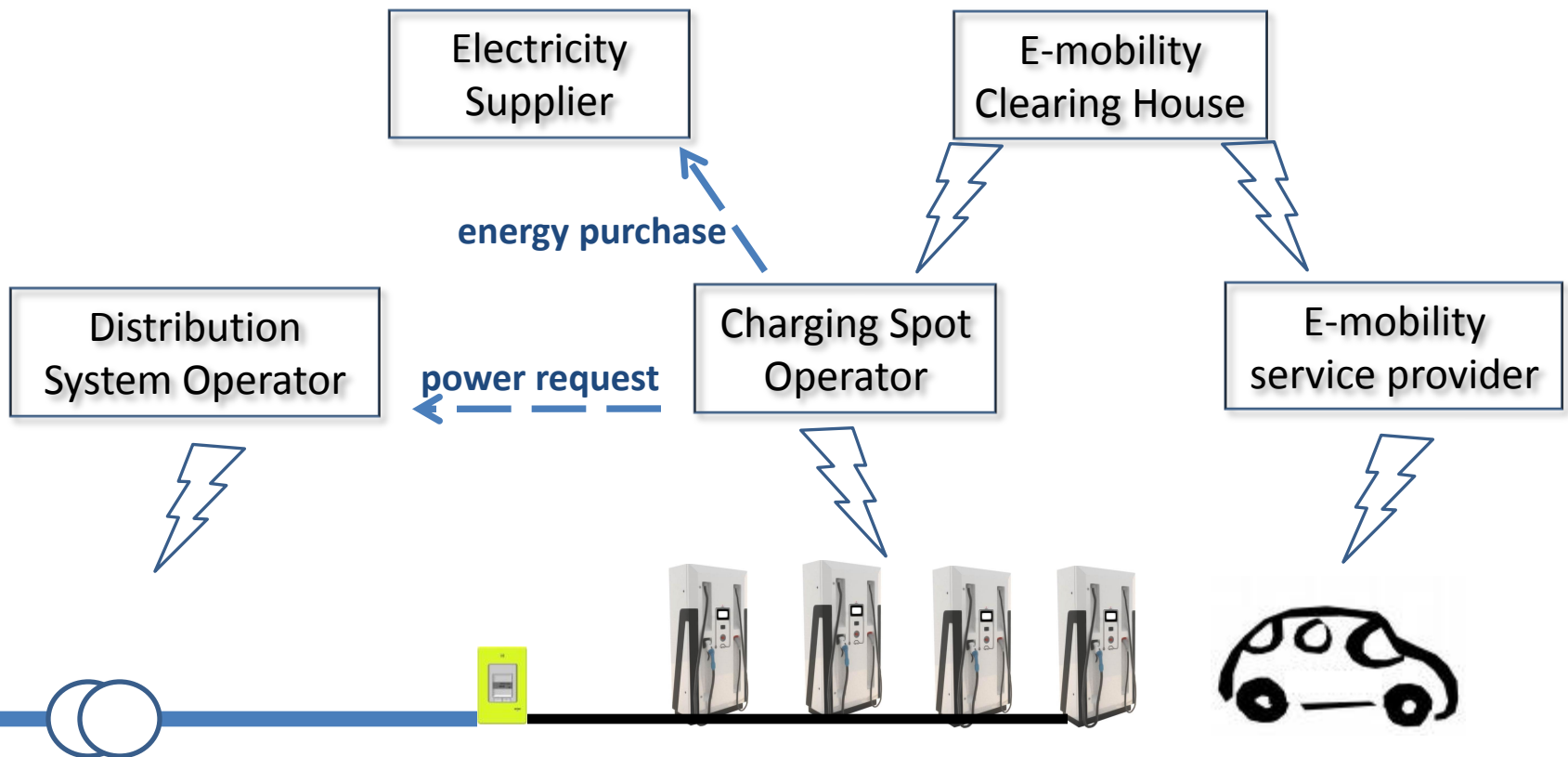
- Customer for travelling
- E-mobility service provider (EMSP)
- Charging Service Operator (CSO)
- E-mobility clearing house (EMCH)
- Distribution System Operator (DSO)
- Electricity Supplier
- Others...

 **How to create best value for customer, with revenue covering costs for everyone ?**

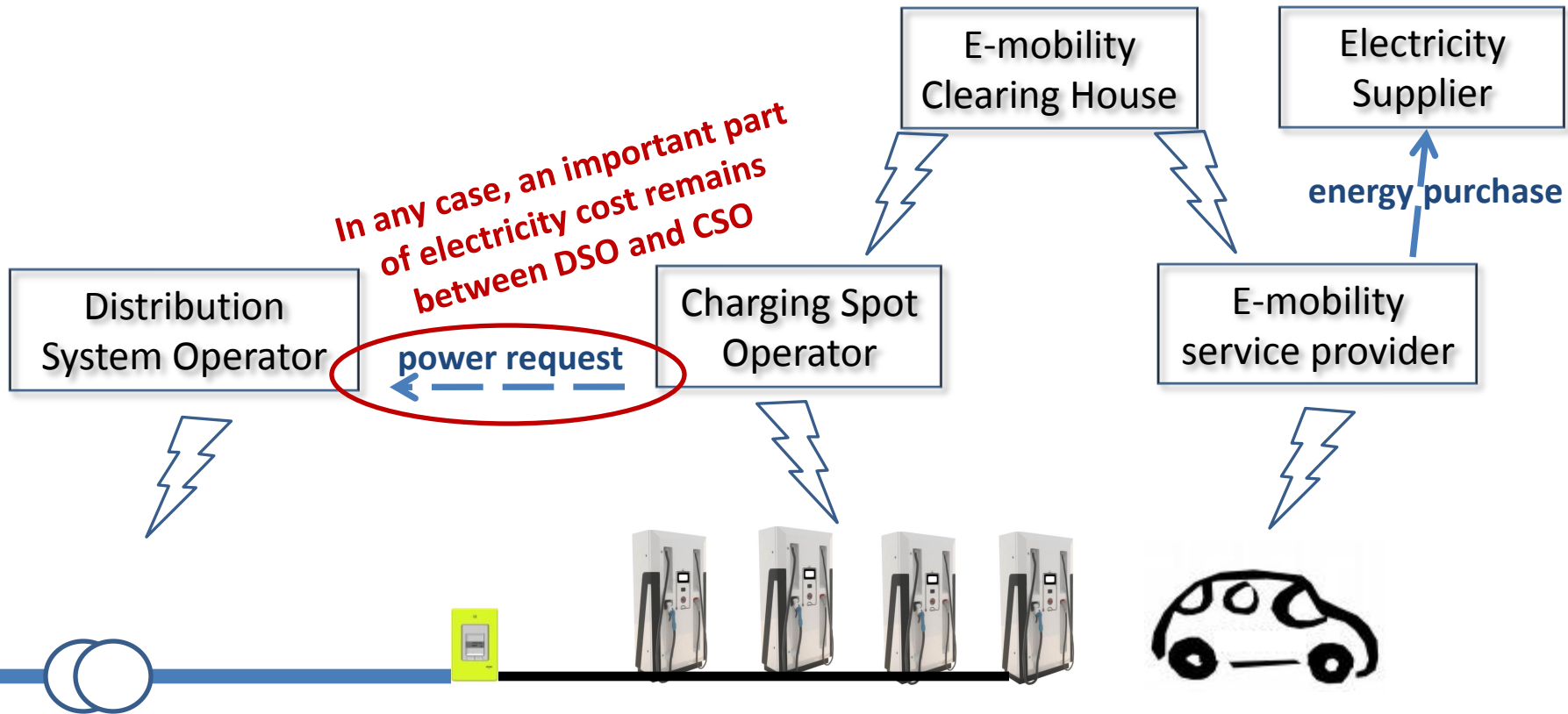
Links between actors : basic situation



Links between actors : roaming of charging services

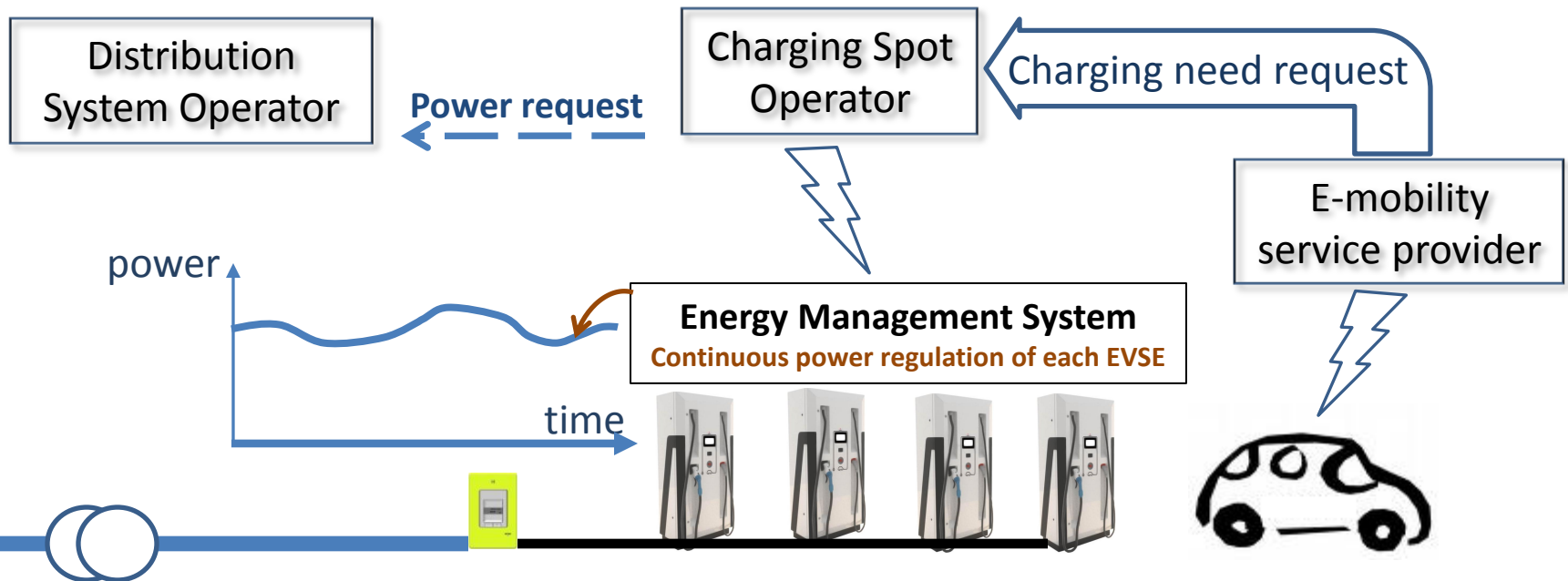


Links between actors : roaming of charging services and of electricity

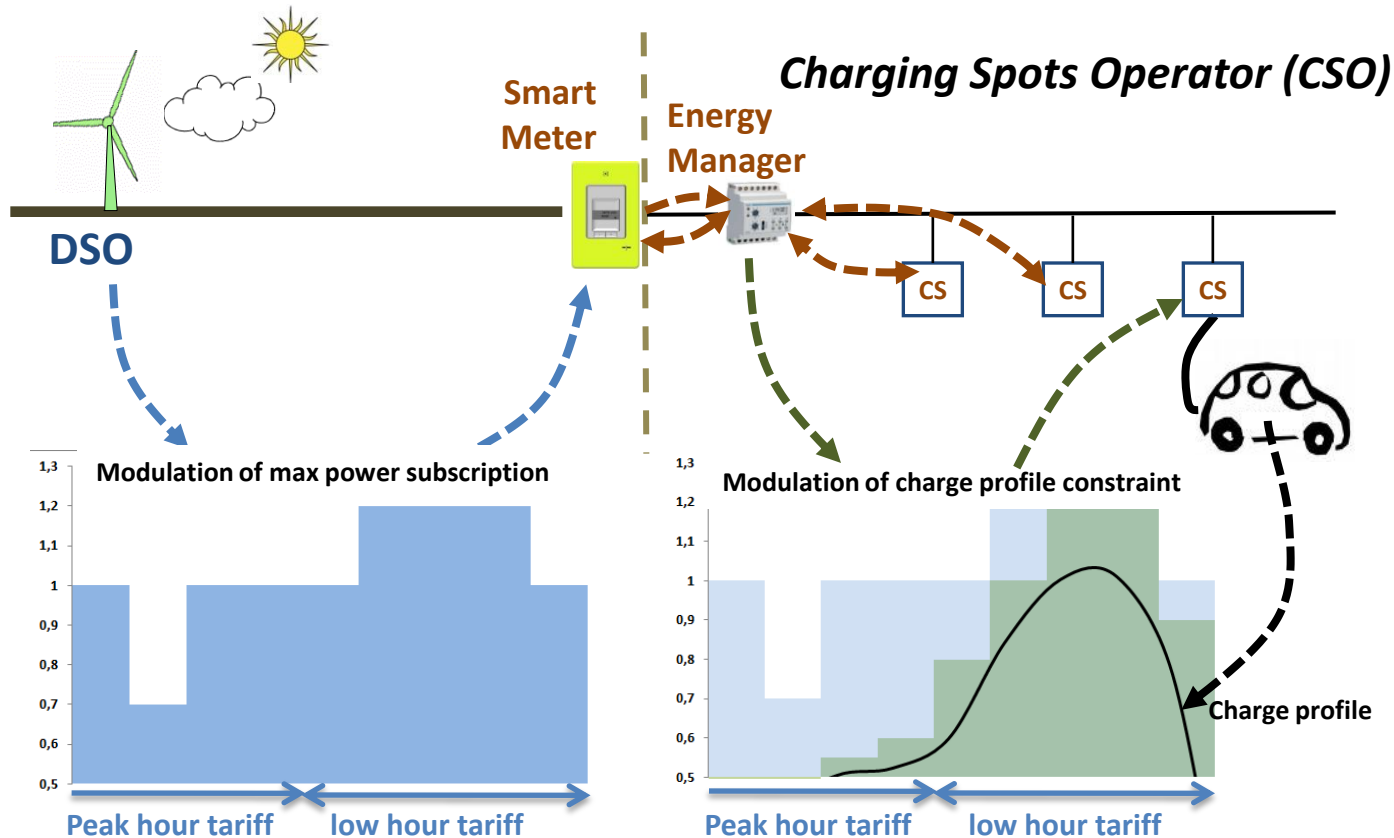


Optimizing power request through **smart charging**

- ✓ Instantaneous power regulation of each EVSE according to customers needs to minimize maximum power demand.
- ✓ Slow to fast smart charging meets customer needs while optimizing costs of networks.



A possible solution for charging load profile control aiming at global economy



DSO modulates (decrease or increase) max power subscription to avoid local network overload and encourage consumption of available local renewable production.

CSO's energy manager modulates charge profile constraint in relation with the price of electricity, the power subscription, and other consumptions in its network (other e-cars to charge, other use, and their priorities).

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Thank you for your attention.

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