Charging Infrastructure, a New Task for Municipalities

Work-in-Progress-Report of the Berlin Approach

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Topics

1. Background and preliminary remarks
2. What is the role of a municipality in introducing electric vehicles?
3. What is the diffenence between public space and private ground?
4. The Berlin approach

1. Background and preliminary remarks

Situation after several national and EU-funded projects:

1. approx. four operators of charing infrastructure on public ground in Berlin, unknown number on private ground
2. heterogneous user surface, creating bottlenecks:
   - several information platforms (partly static information only)
   - different authentication technologies (several RFID-cards, apps)
   - different processes to use the charging point
   - different business models (closed customer groups, different tarif models)
3. there is no business model for charging infrastructure on public gound up to now (due to fragmentation of the market)
4. in Germany: if there is a political decision to introduce electromobility, public authorities have the duty to offer a sufficient charging infrastructure
5. to offer a sufficient charging infrastructure does not mean, that a municipality has to provide this service by its own

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2. What is the role of a municipality in introducing electric vehicles?

Charging infrastructure in public space means:

- conflicts with other fast growing demands in public space
  (parking of private cars and bikes, car and bike sharing, delivery zones, ….)
- conflicts with the targets of urban planning
  (to reduce technical installations and to limit commercialization of public space)
- conflicts with conservation of cultural heritage
- intensive parking enforcement needed

Conclusion

- high efficiency in the use of public space needs non proprietary infrastructures
- charging infrastructure in public space is relevant for a limited period and a limited number of charging points only
- (fast) charging on private ground is the future in urban areas (type filling station)
- but for fast charging: no intermediary storage of electric energy, no smart charging, high capacities in the grid available

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3. What is the difference between public space and private ground?

- **Public space is (in Germany) defined as**
  - **owned** by the municipality
  - **operated** by the municipality (drainage, lighting, winter service, …)
  - **controlled** by the municipality (parking enforcement, ….)
  - **responsibility** of the municipality (duty of care for traffic safety, permits for special use)
  - **non-discriminatory access** for everybody and at any time

- **legal principles**
  - in **public space** special legal principles of public law must be applied
  - on **private ground** (as well as on „semi-public“ ground) principles of private law and commercial law must be applied

conclusion

- different legal (and political) framework: a charging point in public space is not the same as a filling station on private ground

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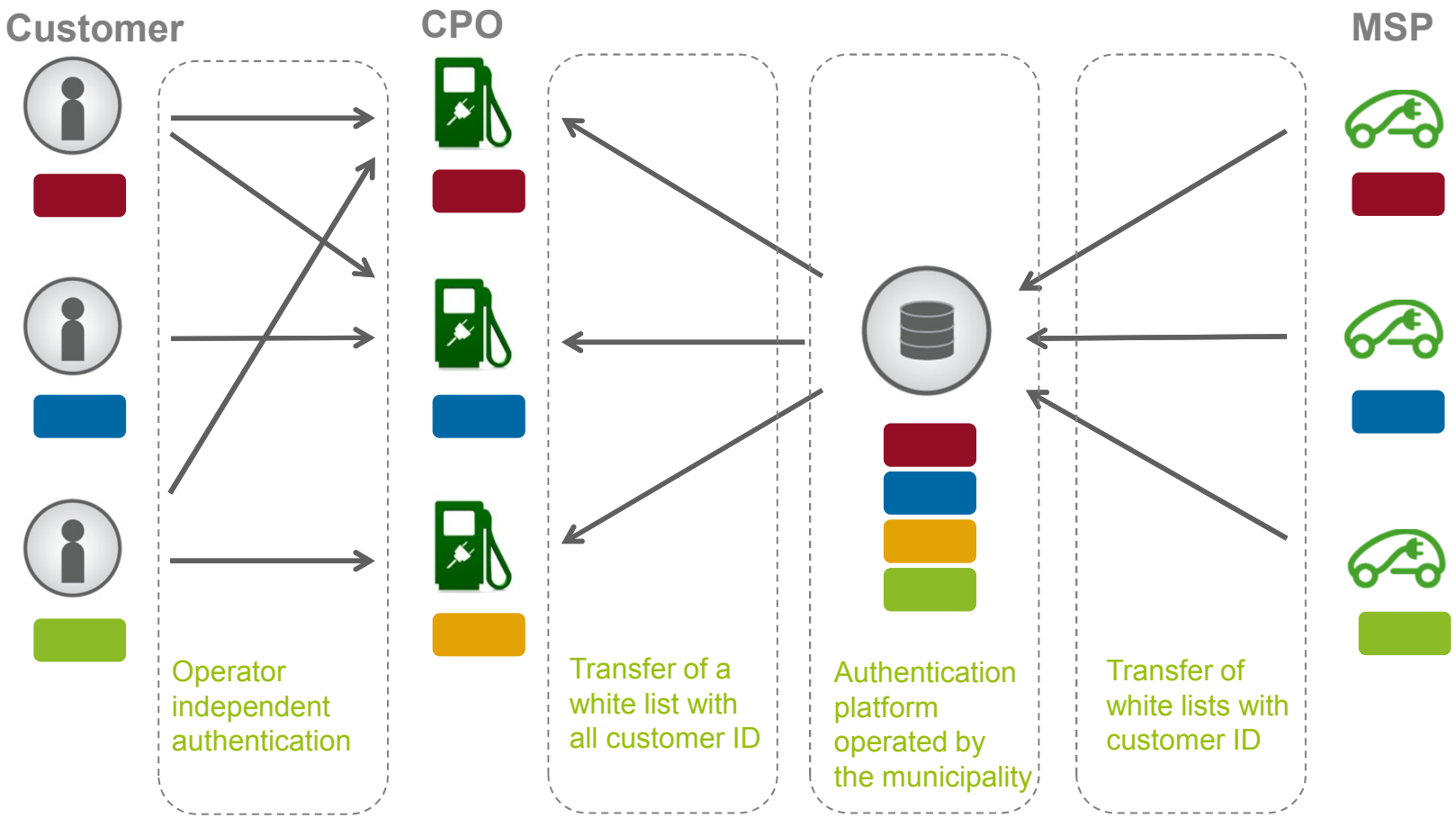
4. **The Berlin approach**
   - **role model**
   - **assessment**
   - **other relevant elements**
   - **implementation**

4.1 The Berlin approach – the role model

objectives: guarantee easy, non-discriminatory access to the charging points of all operators and types of infrastructure, high cost efficiency



CPO: charge point operator MSP: mobility service provider

4.2 The Berlin approach – the assessment

The Berlin Modell defines a framework, that

- consistantly separates the two roles of CPO and MSP (standard in energy sector)
- is open for different CPO, even small companies with few charing points only
- prevents cost intensive roaming models
- is in line with ambitious regulations for data protection / business secrets / privacy (exchange of a customer ID only)

4.3 The Berlin approach – other relevant elements of the Berlin Model

- basic authentication device: electronic ticket of regional public transport (bus & rail, bike-sharing, charging, *cycle garages, car-sharing* => mobility card)
- CPO independent information platform with static and dynamic informations (operated by the city)
- green electricity with defined quality (certificate is not sufficient)
- tarifs based on time, not on energy

4.4 The Berlin approach – the implementation

1. location concept for early adopters with a need to charge on public ground
   - offer oriented phase until June 2016 (340 charging points)
   - demand oriented phase beginning Jan 2016
2. EU-wide tender (started in Oct 2012, dialogue process, finished in Jan 2015)
3. in April 2015: first charging point in line with the Berlin Model
4. in Dec 2015: 75 charing points installed
5. in April 2016: opening of first DC installation
6. in June 2016: all existing charging points have to comply with the Berlin Model
7. include reservation (DC first) and detection asap

Thanks for your attention!

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