

OpenADR and Smart EV charging in Hamburg

Presentation of the
project "ELBE"

15 December 2020

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Project „ELBE“ (Electrify Buildings for Evs)

An overview



Goals

- Promotion of emission-free traffic to improve air pollution control in Hamburg
- Creation of a possibility to establish private charging infrastructure



Funding of charging infrastructure

- Legal entities located in Hamburg
- Construction of up to 7400 charging stations in Hamburg



Efficient integration into the distribution grid

- Grid-compatible and intelligent control of the charging infrastructure
- Development of an IT interface from distribution network operator to charge point operators – for AC and DC
- Secure loading, control and accounting of the charging process via SMGW



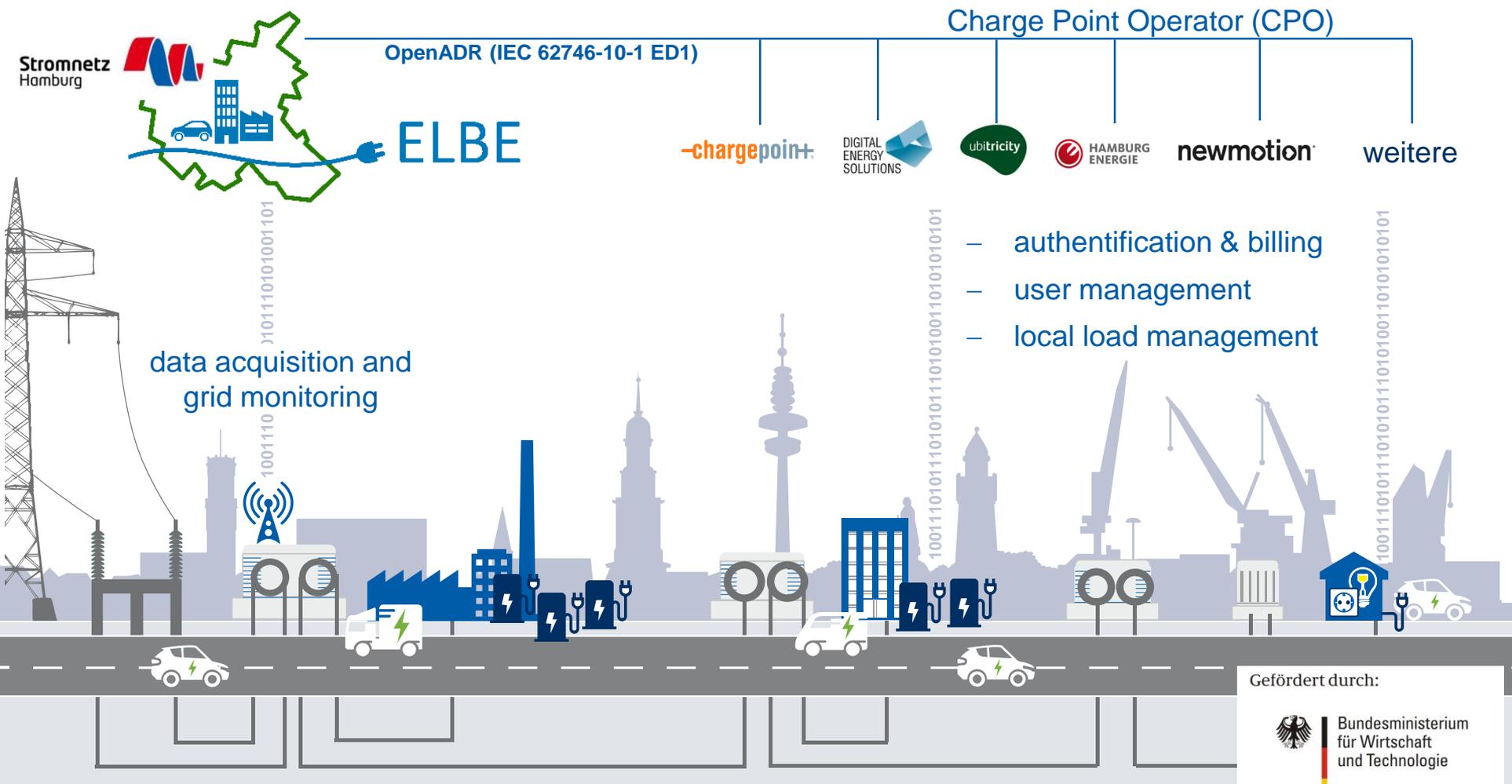
Project schedule

- 12/2018 – 11/2022



Project „ELBE“

The concept



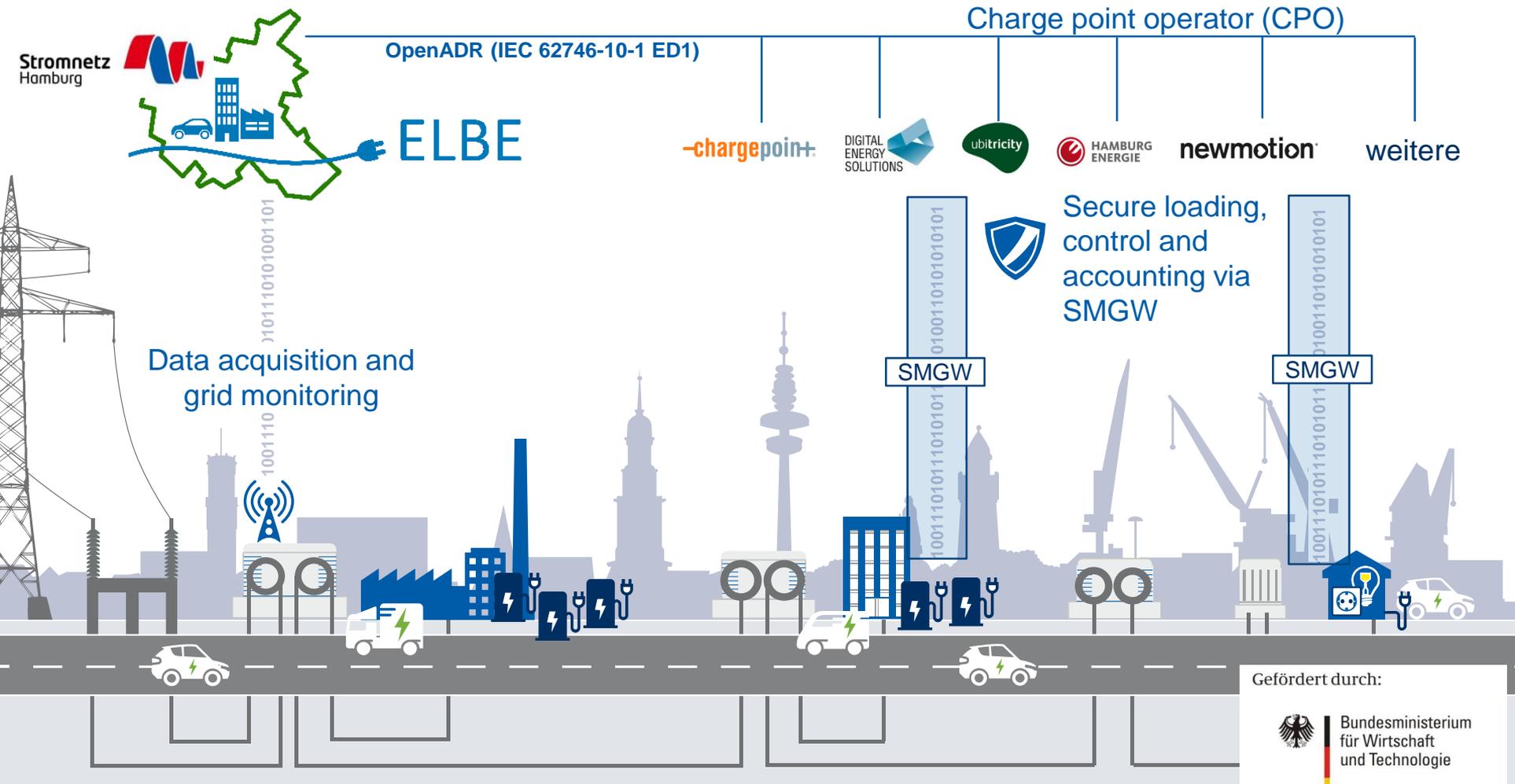
Gefördert durch:



Bundesministerium
für Wirtschaft
und Technologie

aufgrund eines Beschlusses
des Deutschen Bundestages

Project „ELBE“ Extension "ELBEsecure"



Gefördert durch:



aufgrund eines Beschlusses
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Use of OpenADR

- Minimum viable product with Registration Service (EiRegisterParty) and Event Service (EiEvent)
- OpenADR communication to 8 CPOs
 - Utilities: Vattenfall, Hamburg Energie, Stromnetz Hamburg
 - Networks: ChargePoint, Parkstrom, TheMobilityHouse
 - Oil and Gas: Shell/ New Motion; Total/ Digital Energy Solutions
 - Curb side charging: ubitricity
 - Hardware vendors: ChargePoint, KEBA, Alfen, Compleo, NewMotion...

Field tests

- Lab tests Q3/Q4 2019 with > 6 CPOs
- Field tests Q4 2020 + with > 300 ports
- Information to all customers: weekly load reduction for 30min to 50%

ELBE

→ Technical:

- Equipment of local network stations with measuring equipment
- Measurement data acquisition and improvement of the software for grid monitoring

→ Strategic:

- Integration of further flexible “consumers” / add further uses cases (energy management systems, operators of virtual power plants, etc.) → aim for liaison between OpenADR and other communication standards
- Expansion of the concept to the medium voltage level

ELBEsecure

- Coordination of the SMGw architecture with experts from BSI
- Implementation and evaluation of the architecture in the different use cases; differentiation in a precise/non-precise separation of the charging processes

**Thanks for your
attention!**

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