



***ASSURED Workshop
'From governance to operations:
Innovating sectors and services for the full deployment of e-trucks in
urban logistics'***

Sabina Asanova - VUB

28 September 2019

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 769850.





Electrified urban commercial vehicles integration with fast charging infrastructure



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Charging infrastructure

1.



- Charging solutions are limited to relatively low figure of kW
- No interoperable/standardized interfaces
- Operators are bound by specific technology solution. No flexibility
- Impact on the grid is still now known
- Energy supply chain is not flexible



Battery

2.



Impact of charging on battery is relatively unknown



Range anxiety






Strategies

3.



When introducing/upscaling e-fleet

-  Deployment strategies (lines, charging poles,...)
-  Energy management strategy (optimized battery charging)
-  Business models



Scope

ASSURED is aimed at boosting the electrification of urban commercial vehicles and their integration with high power fast charging infrastructure.

Duration

Oct 2017 – Sept 2021 [48 Months]

Budget

€ 23.64 million supported by € 18.65 million EU funding

Coordinator

Vrije Universiteit Brussel (VUB)

Partners



What is ASSURED about?

1



INTEROPERABILITY

2

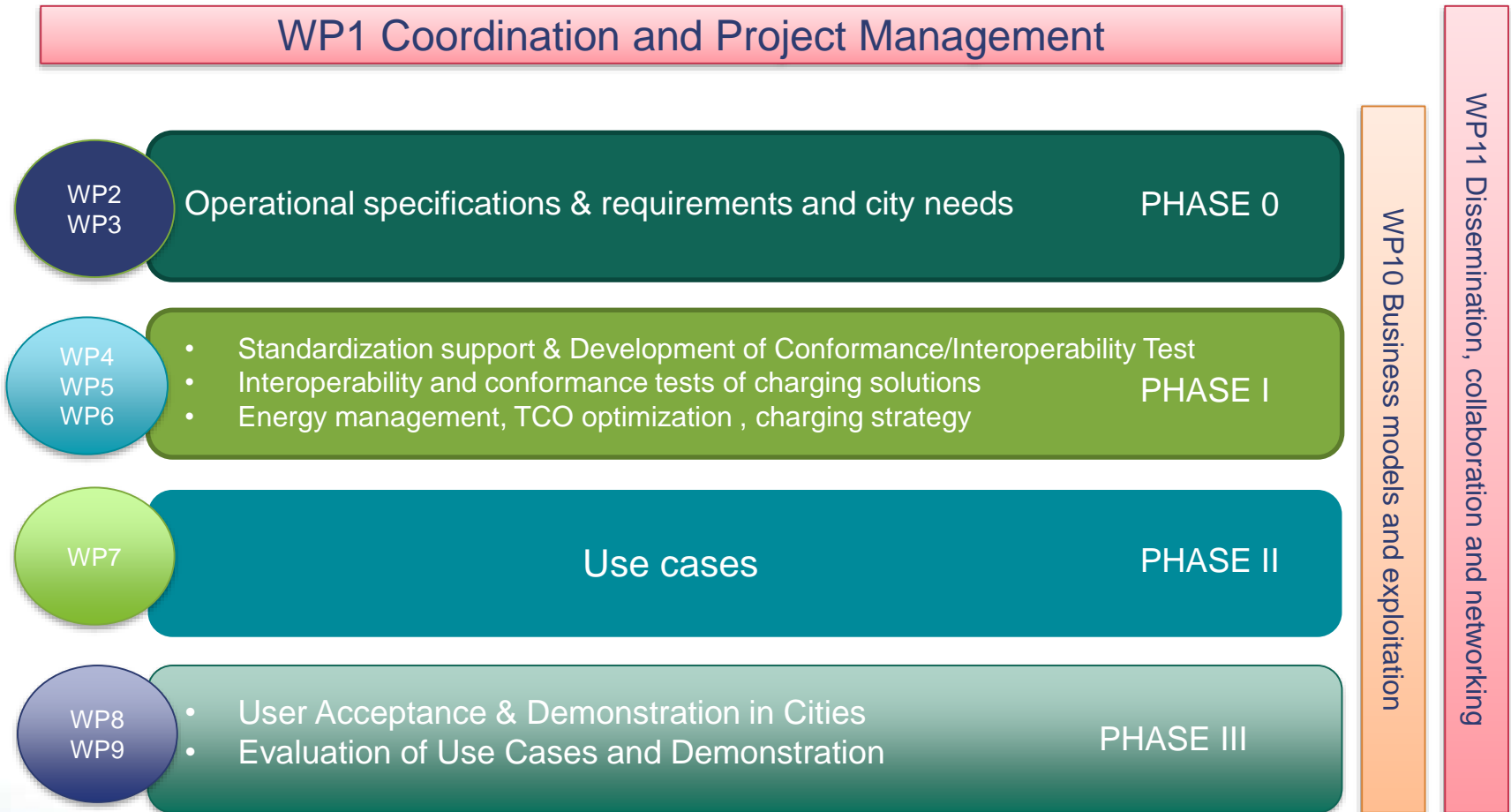


FAST-CHARGING

Project Objectives

- Development of
 - ✓ **interoperable** and **scalable** high-power charging solutions (*up to 600kW*)
 - ✓ **innovative charging management strategies**
 - ✓ **efficient wireless charging solutions**
 - ✓ standardised **conformance and interoperability test protocol**
- Evaluation and improvement of the cost, energy efficiency, impact of grid
- Demonstration of 8 Use Cases distributed in 3 Pillars (e-bus, e-truck, e-van)
- **Support to the standardisation bodies** (*i.e. CEN-CENELEC, ISO, IEC*)

Phases of the project





Achievements - Phase 0

- ✓ Close interaction with PTO's/PTA's, OEMs, CSP
- ✓ Future PTO's and PTA's needs

Achievements –Phase I

Standardisation



The ASSURED 1.0 Interoperability Reference describes the standards and definitions that are used in the ASSURED project for conformance and interoperability testing of vehicles and chargers. As the standards related to the testing are not yet finalized, or are lacking definitions of some of the parts required for successful interoperability, the report is used to define the missing requirements



Achievements - Phase I

Workshop on DSOs views – February, 2020

Now that interoperability and test protocols are ready

Due to a lot of interest:

1. External review on 24 October 2019
2. Actual testing site at IDIADA is ready and testing will start in +/- 4 weeks



Achievements - Phase I

Workshop on DSOs views – February, 2020

- Questionnaire on the fears and challenges to charge HD vehicles and future considerations among Belgian Distribution System Operators was conducted by Engie Laborelec
- Now, we want to get views of European DSOs
- Developing of the mitigation strategies
- More information will follow in the next months

Innovation (Phase II)

1st pillar e-Buses



Iveco
Rorthais



Volvo
Gothenburg



Irizar
Bayonne



VDL
Helmond



Vectia-CAF
Castejón



Innovation (Phase II)

2nd and 3rd pillars e-truck & e-van



Munich



Gothenburg



Turin



Innovation: 3 Demonstrators for User Acceptance (Phase III)

Barcelona
& Osnabruck

- Interoperability between buses and chargers of different brands, on vehicles in real operations

Goteborg

- Interoperability between bus and urban trucks

Eindhoven
& Jaworzno

- Smart charging for fleet upscale

Innovation (Phase III)

Business models

- ✓ Development of business models taking into consideration social, economical and environmental impact.
- ✓ Development of effective and efficient Deployment Strategies – as guidelines - for cities, PTO's and PTA's for large fleets





Contact

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