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
Electrified urban commercial vehicles integration with fast charging infrastructure
Charging infrastructure

1. Charging solutions are limited to relatively low figure of kW
2. No interoperable/standardized interfaces
3. Operators are bound by specific technology solution. No flexibility
4. Impact on the grid is still now known
5. 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
ASSURED is aimed at boosting the electrification of urban commercial vehicles and their integration with high power fast charging infrastructure.

**Scope**

- ASSURED

**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

WP1 Coordination and Project Management

WP2 WP3
Operational specifications & requirements and city needs
PHASE 0

WP4 WP5 WP6
• Standardization support & Development of Conformance/Interoperability Test
• Interoperability and conformance tests of charging solutions
• Energy management, TCO optimization, charging strategy
PHASE I

WP7
Use cases
PHASE II

WP8 WP9
• User Acceptance & Demonstration in Cities
• Evaluation of Use Cases and Demonstration
PHASE III

WP10 Business models and exploitation

WP11 Dissemination, collaboration and networking
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)
2\textsuperscript{nd} and 3\textsuperscript{rd} pillars e-truck & e-van

Munich

Gothenburg

Turin
## Innovation: 3 Demonstrators for User Acceptance (Phase III)

<table>
<thead>
<tr>
<th>Demonstration</th>
<th>Description</th>
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<tbody>
<tr>
<td><strong>Barcelona &amp; Osnabruck</strong></td>
<td>• Interoperability between buses and chargers of different brands, on vehicles in real operations</td>
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<tr>
<td><strong>Goteborg</strong></td>
<td>• Interoperability between bus and urban trucks</td>
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<tr>
<td><strong>Eindhoven &amp; Jaworzno</strong></td>
<td>• Smart charging for fleet upscale</td>
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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

**Project Coordinator**
Prof. Joeri van Mierlo
Vrije Universiteit Brussel
[Joeri.Van.Mierlo@vub.be](mailto:Joeri.Van.Mierlo@vub.be)
+32 629 28 01

**Project Manager**
Sabina Asanova
Vrije Universiteit Brussel
[Sabina.Asanova@vub.be](mailto:Sabina.Asanova@vub.be)
+32 478 99 10 47

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assured-project.eu
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