ASSURED @
Urban Mobility Days 2020

Session: “Smart and electric mobility in cities”
30th September 2020

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About - Video
Today...

- Charging solutions limited up to 450 kW and **without interoperable / standardised interfaces**
- Impact of charging on **battery life time** not well known
- Uncertainty about **grid stability**
- Energy Management and Charging Strategies applied at **vehicle level instead of fleet level**
Enabling large fleet upscale

Key innovations

- Interoperable high-power charging systems
- Charger-vehicle interoperability & standardisation
- Smart tools for fleet optimisation
- Energy storage systems and charging management strategies
Current activities (1)

Standardisation

- Report: Pre-normative roadmap on ASSURED key technological solutions on work
- Continuous support to the Standardisation Committee Bodies

Interoperability

- Definition of test requirements, methodology & set-up for conformance & interoperability tests
- Review of the “Conformance & Interoperability Test Protocols”
The ASSURED project has performed successfully interoperability tests between different vehicles and charging stations.

The ASSURED 1.0 IR describes the standards and definitions used in the 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.
Interfaces covered

Manual connection

CCS combo Type 2 Mode 4 connector
- Up to 200A and 1000V (Cooled version: 500A continuous current)
- Hard-wired power line communication with CP contact pin

Infrastructure-mounted pantograph
- 4 separated mechanical contact points (plus, minus, PE and CP)
- WIFI/WLAN communication

Automated Connection Devices (ACD)

Roof-mounted pantograph
- 4 separated mechanical contact points similar to CCS manual connector
- Hard-wired power line communication with CP contact pin
- WIFI/WLAN communication

Underfloor-mounted ACD
- 3 separated mechanical contact points (plus, minus, PE)
- WIFI/WLAN communication

Alstom SRS
Ground-based system
- Based on APS ground level power supply for trams
- First pilot launched by Alstom in Málaga (Spain), Sep 2019
Interoperability is key!

- The ASSURED 1.0 Interoperability Reference is the first step towards the standardisation of e-bus charging.
- It requires the standardisation of the charging infrastructure and high-quality conformance testing.
- The ASSURED 1.0 Interoperability Reference has been tested successfully to verify interoperability with different brands of e-buses and chargers: it works!
- This is expected to contribute to:
  - Increased acceptance by industry and decision makers, as such a decisive verification tool will finally enable measuring interoperability.
  - Simplified processes for tendering and deployment of charging infrastructure.
Current activities (2)

Interoperability & conformance protocol tests

- Since Nov 2019, buses and chargers are being tested against the ASSURED 1.0 protocol and use cases.
- After testing phase, buses & chargers will be demonstrated in real operation.

Demonstrations in cities

- Interoperability bus/charger in Osnabrück (DE) and Barcelona (ES)
- Charging for solutions bus and truck in Gothenburg (SE)
- Energy management strategies and tools in Eindhoven (NL) and Jaworzno (PL)
And at the end?

• Higher power level charging systems of up to 600 kW
• Charger-vehicle interoperability
• Standardisation on mechanical & electrical interfaces, communication and positioning
• Innovative energy storage systems & intelligent charging management strategies to optimise energy efficiency and TCO
• Smart tools for fleet optimisation and upscaling
Join us at the GOT demo launch!

Save the date!
21st October, 9.00-10.30

More on:
www.assured-project.eu
Thank You!

More info:
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