



## Validating Freight Electric Vehicles in Urban Europe

### **D2.2 Demonstrator Progress Review**

#### **Publishable Summary**

#### **Month 36**

Work package: WP2 Demonstrators

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Author(s): Tanja Dalle-Muenchmeyer, Sergio Fernández Balaguer, Paolo Campus, Sture Portvik, Nuno Sardinha, Jos Streng and Eva Sunnerstedt



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## Executive summary

The future uptake of electric freight vehicles will depend on the demonstration of their financial, technical and operational effectiveness, in addition to their environmental benefits. Initial activity under FREVUE is promising for a project that is testing such a diverse range of EFVs in a variety of geographical, socio-cultural and logistical environments. The project is giving effect to the European Commission's Roadmap to a Single European Transport Area, which seeks to achieve CO<sub>2</sub> free city logistics by 2030.

This report explores the progress made in each of the FREVUE demonstrators throughout the first three years of the project (March 2013 to March 2016) and presents an overview of the current status in each of the demonstration cities. This is the fourth demonstrator progress review, with subsequent updates of this report to be produced at six monthly intervals until the completion of the demonstration aspect of the project.

As of March 2016, a total of 77 EFVs have been procured and are operational across the FREVUE demonstrators, compared to 55 in September 2015 when this report was issued last. All charging infrastructure has also been procured with only one fast charger in Stockholm still outstanding. Based on the positive experience of early FREVUE vehicle deployment, a number of operators have decided to further increase their number of EFVs and to integrate them into their mainstream operations. Lisbon partners in particular, have increased their EFV fleet by 13 vehicles over the last six months. The increase in fleet sizes also means that four FREVUE partners now deploy different vehicles types for the same operations at the same location, which allows for interesting comparisons.

No further vehicle procurement is now foreseen by any of the existing FREVUE partners. However, at the partners meeting in Oslo in April 2016, the FREVUE team will propose to add two new partners to the Consortium who would procure additional vehicles of 18t and above.

Even though some of the logistic operators have been delayed in the procurement of their vehicles, it is still expected that most demonstrations will last for 18-36 months. However, it is also clear that not all vehicles will be operational in all sites for this entire duration due to staggered delivery times or incremental upgrading of the charging infrastructure. Furthermore, a small number of vehicles are only deployed intermittently, due to prolonged breakdowns or changes in routes/distances and payload requirements of the operator.

In line with the progress made in procuring vehicles, monitoring and data gathering has significantly increased over the past six months. The FREVUE research partners currently receive dynamic data from 58 vehicles, compared to 34 vehicles at the last edition of this report. However, time periods covered continue to vary and the operational parameters covered remain less than expected.

While some operators have experienced numerous problems with their EFVs, most have been able to fully integrate the new vehicles in their operations without any complications. Drivers' feedback remains very positive across the range of vehicles deployed. Safety issues were reported by one operator linked to sudden and unexplained breakdowns of vehicles

that put the drivers in dangerous situations on motorways. No safety issues were reported that were linked to the lack of noise the EFVs emit.

Initially perceived issues such as range and charging times could, in reality, be well accommodated for as part of overall operational planning. As such, the need for advanced ICT tools to address this perception has diminished within the context of the FREVUE project. While load capacity has been no issue for some operators, for others the limited availability and high procurement costs of larger EFVs, especially those over 7.5t, has proven a real challenge.

Consolidation centres (CCs) and distribution centres (DCs) are established and operating well in five FREVUE cities (London, Madrid, Milan, Stockholm and Rotterdam), with Stockholm about to open an urban consolidation centre (UCC) in addition to their construction consolidation centre (CCC). Beyond the FREVUE project, two further CCCs are being developed in Stockholm inspired by the CCC at the Royal Seaport development with other Swedish cities looking to implement something similar soon.

Over the next six months (April 2016 to September 2016) the project's focus will lie on the further improvement of data collection and monitoring as well as the potential additional vehicle procurement should the new partners be voted in at the Oslo partners meeting.