



Smart and Inclusive
Solutions for a Better
Life in Urban Districts

Smart City Toolbox

Replicable measure:

Vienna - Logistics at local enterprises

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Logistics at local enterprises

Presentation of the measure

Austrian Post is committed to delivering all types of mail items throughout the entire country in a CO₂ neutral manner. One key factor is to equip the capital city of Vienna with electric powered vehicles in order to ensure delivery in a CO₂ neutral manner along the last mile (actual delivery of the mail items). In turn, this requires the use of e-vehicles in parcel delivery operations. This is being tested within the context of implementing SMARTER TOGETHER, mainly to determine the viability of new vehicle models so that they can be deployed in normal postal operations on the basis of their operating efficiency (loading space capacity, battery capacity, mileage, etc.).

At Siemens, the project goal was to find and implement measures within the industrial location Siemens Leberstraße for the internal transport of the delivered goods. This required a conversion of the forklift truck fleet. To understand the importance of this objective, a brief explanation of the environment is given: A metro wagon consists of up to 50,000 individual components. Siemens produces approx. 200 – 300 wagons per year in Vienna. This means that up to 12 million individual components can be installed per year. According to the latest measurements, this means approx. 100,000 movements of individual goods using a wide variety of logistic transport vehicles. Overall, there are 45 different transport vehicles in action at the site Siemens Simmering. Based on previous experiences diesel-forklifts were mainly used for unloading trucks at the delivery yard, as there were no problems with low temperatures or access times. Negative side effect – high CO₂ output, high diesel consumption, noise and unpleasant odour for neighbours and employees.

After a precise analysis and measurement of the hours of operation from all forklifts and transport vehicles, it has been determined, that Siemens will exchange 6 forklifts for the unloading at the delivery yard. There the highest number of hours of operation can be reached and thus also the highest savings in CO₂ emissions can be achieved.

Budget needed

The Post invested in 2 e-vans, loading stations etc.: 277.000,00 €

Siemens invested in 6 e-forklifts: 1.000.000,00 €

Funding sources

Post: 225.000,00 €. The rest of the costs were covered by SMARTER TOGETHER.

Siemens: funding to be precised at a later stage

Implementation timeframe

Post e-vans:

- 9 months for desk research on available models, contact of the manufacturers, ordering process and delivery
- At least 1 year of testing in the field

Siemens:

- 1 year for desk research on available models, contact of the manufacturers, testing phase, ordering process and delivery

Partners required to implement the solution

Post e-vans:

- Austrian Post
- Iveco – vehicle supplier

Siemens:

- Siemens Leberstraße – local production site

Preparation of the ground to create a fertile ecosystem for this measure to be set up

Austrian Post is committed to delivering all types of mail items throughout the entire country in a CO₂ neutral manner. At the Austrian Post a designated project structure was set up to ensure the efficient and resource-saving implementation of the entire project in the Simmering project area. As a consequence, the necessary decisions could be made quickly and the allocation of costs in the Group were defined and clearly assigned from the very beginning, which in turn enabled an efficient realisation of project goals.

At Siemens, high level of commitment to environmental protection, health management and safety has always been a high priority. Due to the differentiated and independent task and implementation area at SIEMENS (within SMARTER TOGETHER), it was possible to obtain the basis for decisions relatively quickly and the project was also very well supported by the plant and site management.

A precise analysis and measurement of the hours of operation from all forklifts and transport vehicles was carried out.

Step by step approach

Post e-vans:

- Inquiries were sent to suppliers of e-vehicles for the CO₂ neutral delivery sub-project.
- Two vehicles supplied by IVECO Austria Gesellschaft m.b.H, namely the Iveco Daily Electric 3.5t model, have been deployed since January 2017. The two regular parcel carriers in the project area were equipped with these two Ivecos.

Siemens:

- In spring 2016, all well-known suppliers of electric forklift trucks were invited by the Siemens purchasing department to a first bidding meeting. After this, an announcement including all necessary features was created and sent to the supplier. Some suppliers did not fulfil the technical requirements or could not exhibit vehicles for testing.
- In the end, three suppliers were in the process for the test phase and final negotiation.
- All bidders provided test vehicles for one week. These were tested in proper usage from the Siemens staff for a few hours.
- Afterwards, the employees were asked to vote for their favourite forklift.
- Linde was commissioned with the delivery in summer 2016.

Results/benefits available at this stage

Post:

On average, the vehicles cover a maximum distance of 55 kilometres in summer and 40 kilometres in winter (manufacturer declared range of about 80 km) and about 130 parcels are delivered during each day of their deployment. Experience has shown that a loading infrastructure in the project area is not necessary considering that the mileage is about 70 kilometres. The findings gathered will be evaluated next year together with the manufacturer.

Siemens:

The project was also very well received by employees and consequential new additional energy-saving topics were found and implemented.

Total operating hours: 8.592 h for 38.100 km. Charging times: ca. 5 h per charge of ca. 50 kWh

Is this measure a low hanging fruit?

This measure is a low hanging fruit as fossil-fuelled vans can be changed to e-vehicles according to the normal renewal rates.

Lessons learned: enablers, barriers, solutions found

Post:

- The main barrier is the low mileage. As soon as the manufacturer solves this, the usage is feasible.
- The biggest challenge in achieving the designated targets is to get all the players such as the residents, property management firms, public authorities involved and “on board of one shared boat” in order to succeed in reaching these goals.
- Another challenge is to integrate the local Mobility Strategy (municipal authority MA18 in Vienna) and the Mobility Points (NeuMo) for installing the logistics infrastructure in public areas.

Siemens:

- The testing by the employees was of high importance, since the employees have to work with these vehicles on a daily basis. Hence, they can judge the handling better than an employee can from the purchase or logistics department.
- One experience that was made with the charging of the electric vehicles was the right dimension of the electric supply. It is often underestimated how a constant high-power supply is stressing the electric installations. This was also the case at Siemens (they became very hot and fuse broke), so the electric installations had to be changed for the charging as well.

Replicability

E-vans could be certainly used for parcel delivery purposes provided that higher mileage is possible. Austrian Post is continuing to support the expansion and realisation of a smart mobility strategy in the Simmering area.



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Further information

<https://www.smartertogether.at/oesterreichische-post-erhaelt-den-energy-globe-award/>