**NAME OF CASE**

*Electric vehicles use in parcels deliveries in Stuttgart-Ludwigsburg*

**KeyWords:**
Implementation of low emission technologies; Innovative vehicles; Transport management; fleet management; Environmental standards and policy.

**Description:**
As part of the IKONE project, about 50 Mercedes-Benz Vito E-CELL transporters powered by electricity are used by selected partners and the large German parcel logistics service provider DPD in the Stuttgart region. Their field of application involves various commercial activities and delivery tasks. The Stuttgart region has a very difficult topography (situated in a basin) and the field test focused on the analysis of the vehicle use in these specific conditions.

**Starting Point/Objectives/Motivation:**
What was the main problem, idea or motivation that led to the development and introduction of the new practice?
This field test is supposed to show if and how electric vehicles can be used in the delivery process of large courier, express and parcels service providers. A special focus has been put on financial, technical and environmental issues.

What was the common practice before the implementation?
Before, only conventional vehicles were used, powered by diesel engines. But the consumption of diesel fuel in stop-and-start traffic conditions is very high and research has shown that electric vehicles have clear advantages in this situation.

What was the purpose and the sustainability objective of the case?
The main goal in this field test was the minimisation of the environmental impacts of delivery vehicles and to implement the use of electric vehicles in the sector of urban delivery and transport under real business conditions.

**Solution**
The conclusion of this field test is that the use of electric vans in normal urban delivery conditions and daily business is beneficial. This long-term test was so successful that the solution has also been implemented in the regions of Munich, Hamburg, Rhein-Ruhr and Rhein-Main by DPD.

**Benefits:**
- Reduction of CO₂ emissions: about 100 kg per month per vehicle
- Savings of about 40 litres of fuel per month per vehicle
- Reduction of traffic noise
- Better quality of life in urban areas
- Improved image of distribution activity

**Success Factors:**
- No emissions at source and no additional energy consumption due to urban stop-and-start traffic conditions.
- Tests in hilly area show no disadvantages for the electric vehicle compared to conventional diesel vans in terms of engine power.
- Electric vehicles are clearly usable in standard distribution situations, working best in recurring, fixed trips.

**Supported Strategic Targets:**
- Improved image
- Reduced pollutants emissions
- Reduced greenhouse gas emissions
This long-term-field test demonstrates that the Vito E-CELL battery-electric van is usable for urban transport and delivery in large cities and city-regions. The electric vehicle solution is operational and this trial can be viewed as a step on the way to developing a large scale industry of a standard battery-electric van. Its use is applicable in the context of - and for the business purposes of – parcel deliveries, courier and express services, tradesmen, city services and service companies operating in urban areas. As long as the driving range (130 km) and the maximum speed (80 km/h) of the delivery transporters are restricted, the solution cannot be used beyond urban areas and the nearby surroundings.

So far, it has not been fully assessed if the electric vehicle running costs and operations can be financially competitive, when compared to those of the conventional transportation vehicles. In 2012, full service leasing costs were 1,699€ (Vito E-CELL) compared to 600 - 900€ for a normal Mercedes-Benz Vito. As of mid-2013, a total of 230 Vito E-CELL vans are in use in the regions Berlin and Stuttgart for demonstration purpose for a duration of four years. This trial was started in 2011. The initial years of the trial proved to be commercially and technically successful, so greater numbers of the electric van havenow been produced and deployed in 15 European countries.

Contact details:
Peter Hirsch
DPD GeoPost (Deutschland) GmbH
Transportleitung
Carl-Benz-Straße 17, 71634 Ludwigsburg
Deutschland
Tel. +49 (0) 71 41 30 03-500
Fax +49 (0) 71 41 30 03-9500
e-mail: peter.hirsch@depot171.dpd.de

Main actors involved:
• Directly involved in this field test are Daimler who provide the Mercedes-Benz Vito E-Cell and DPD who use them in their daily operational business
• The project is partly funded by the German Federal Ministry for Transport, Building and Urban Development

© DPD 2011