In order to replace the use of standard diesel trucks, GEODIS, a large road transport operator, is testing Urban Consolidation Centres (UCCs) and electric vehicles in a large scale trial in France.

In the project (called Distripolis) new, small UCCs (blue points in the picture to the left), are located in the city centre of Paris, and receive goods from a central depot (located in Bercy) by Euro 5, Hybrid or CNG trucks. From these UCCs, the final deliveries are performed with low emission vehicles (battery powered - electric vans and tricycles) on short distance trips.

Benefits:

- Reduced congestion
- Reduced pollutants emissions
- Reduced greenhouse gas emissions
- Reduced noise pollution
- Improved image
- Quality of services
- Help GEODIS to achieve its sustainability targets.

Success Factors:

Distripolis has only commenced recently: its operational and financial success has not yet been fully assessed. It will depend on:

- The evolution of environmental regulations concerning urban freight
- The long run costs and technical efficiency of electric vehicles
- The support of the municipalities to find suitable places for urban consolidation centres.

Supported Strategic Targets:

- Increased efficiency of sustainable logistics processes
- Increased competitiveness
- Improved image
- Limited climate change
- Reduced emissions
- Conservation of resources (fossil energy).
Before Distripolis was implemented in Paris, parcels and pallets were delivered separately by the three GEODIS subsidiaries: three networks each with its own distribution centre using "conventional" (internal combustion engine) vans and trucks. In Distripolis, specific battery-electric vans have been jointly developed by Gruau and Fraikin for urban deliveries (picture below left). The van fleet is increasing and 81 battery-electric vans are running on the road in summer 2013.

Vehicle capacity by weight is one tonne, with a volume of 20m³ Gross Vehicle Weight: 3.5 tonnes
Range is limited by battery charge: 105 to 155 km limit
Top speed: 90 km/h
Charging time: 6 to 8 hours.

In addition to the electric van fleet, power-assisted tricycles have been designed for deliveries to be used by Distripolis in the city centre (picture below right). These cycles can access cycle lanes and semi-pedestrian zones.

Technical specifications of the electric cycles are:
- Capacity: 180 kg - 1.5m³
- Average speed: 20 km/h
- Range: 50 kilometres
- Gradients of up to 8% are feasible.

Paris is the first city where the Distripolis concept has been implemented. Distripolis is planned to be transferred to other cities in France and in Europe. The main challenges for transfer to other cities are to find suitable places for the urban consolidation centres, the lower volume of goods flows in smaller towns and the (future) regulation of urban freight.

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Transport mode or supply chain elements:

Modes: Road trucks, battery-electric vans and tricycles
Supply chain elements: a new integrated IT solution helps to optimise the rounds and to improve the service provided to the customers. The first tests show that the new system reduces by 5 % the distance travelled by the vehicles used for delivery, when compared to previous scheduling systems used in separate trip planning of the 3 GEODIS subsidiaries.

The new trip scheduling system and database is accessible to the driver, allowing him a better control and timing adjustments; it is completed by a tool (navigator) which allows the driver to enter data updated in real time on the conditions of delivery.

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