Cleaner, more efficient ways to deliver goods in Europe's cities

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Credit: Citylog/Citymove

Urban freight transport is a major contributor to traffic congestion in Europe's cities. This in turn slows down deliveries, leading to increased costs for freight transporters and longer wait times for their customers.

The EU is seeking solutions to reduce the problems caused by having too many delivery trucks on the road by funding research projects such as CITYMOVE ('City Multi-Role Optimised Vehicle') and CITYLOG ('Sustainability and Efficiency of City Logistics').

The projects, which work together to find a comprehensive solution, involved a consortium of Europe's leading freight vehicle companies and other key stakeholders. The projects were coordinated by FIAT

Research Centre in Torino, Italy.

The CITYMOVE team developed and tested a versatile delivery vehicle more suited for deliveries in congested areas compared to the general purpose commercial trucks used today - resulting in safer, more efficient deliveries that result in less greenhouse gasses.

The team looked at the use of modular vehicles, with designs involving a chassis that can receive interchangeable load units or boxes, and an optimised structure best suited to narrow city streets. They focussed on improving safety and on reducing pollution, noise, fuel consumption and operating costs.

In parallel, CITYLOG developed logistics technologies to help companies deliver goods in cities more efficiently, while providing a better service and reducing energy use. The team aimed at reducing the number of trucks needed to deliver goods in urban areas.

The technologies included an optimised pre-trip planner which allows companies to organise daily deliveries on routes that take into account the traffic situation at any given time.

The CITYLOG team also developed a dynamic navigation system using a remote server to correct a vehicle's route in real time to avoid unexpected traffic blockages. Digital maps with specific details on physical and legal access limits were created for the pre-trip planner and navigation system.

Included in the package is a parcel tracking component, which sends an SMS message to a recipient's mobile phone to when a delivery is about to be made.

CITYLOG also created prototypes of interoperable vehicles - mainly

medium-heavy trucks and smaller distribution vans that can share and tranship containers. They developed the BentoBox system, made up of a modular pack station with removable trolleys. The system works like an additional urban hub, where deliveries are pooled, and distribution and collection are done more efficiently on a smaller scale.

For example one high-capacity truck working as a type of 'freight bus' could bring several loads at the same time close to a city centre. Smaller vans or cargo bikes would then make the last mile deliveries.

CITYLOG and CITYMOVE created prototypes of the vehicles and logistics solutions. CITYLOG successfully tested its prototypes in major cities, including Lyon, Berlin and Turin says Alessio Corongiu, the project's coordinator.

"The BentoBox concept is a new paradigm for the business-to-business and business-to-customer services, but we have also developed new vehicle technologies and innovative load units to enable loading and unloading functionalities and a new business model for last-mile delivery," says Corongiu.

CITYMOVE received EUR 3.3 million in funding from the EU and involved 15 partners in 6 different European countries. CITYLOG received around EUR 3.6 million from the EU and involved 20 partners from 6 European countries. The projects completed their work earlier this year.

More information: CITYMOVE
www.citymoveproject.eu/

CITYMOVE project factsheet
cordis.europa.eu/projects/rcn/93848_en.html

CITYLOG
www.city-log.eu/en/home

CITYLOG project factsheet
cordis.europa.eu/projects/rcn/93637_en.htm

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