

**Technology field:**

*Support systems for regulation schemes*

**Specific technology / solution:**

*Parking management / charging systems*

**Description of the technology / solution:**[STRAIGHTSOL] EMEL Lisbon: Municipal regulation of loading and unloading of freight

The City of Lisbon has currently growing problems with unregulated loading/unloading activities, with road congestion and often blockage of roads (when trucks stop on narrow streets for quick loading/unloading activities) and illegal parking (like trucks and vans parked on sidewalks, double-parked, or parked on places for private cars, and private cars parked in places for freight operations). Furthermore there is no national legislation to regulate loading/unloading activities, nor efficient enforcement to regulate the traffic and parking. As a consequence, significant conflicts exist between the urban freight operations, pedestrians, private car users and public transport.

In this context, there is the need to find a new solution that helps mitigate or solve the problems identified above. The purpose of the EMEL's demo was to help find solutions by:

- Testing and identifying technologies for controlling and monitoring cargo activities (loading/unloading) in the urban context;
- Providing evidence and the grounds for developing the Municipal Regulation on loading and unloading operations;
- Applying the chosen technology to the rest of the city.

The demonstration tested two technological based schemes:

- Adapted Parking Meters that issue special tickets for 30 minutes of unloading/loading operations when the users expose a contactless card that activates the system;
- Loop Vehicle Detection sensors that will be installed on the ground; these sensors detect the presence of a vehicle in the parking places and send a message to EMEL's control centre,

which then gives the operator 30 minutes to finish the operation and leave the parking place.

The demonstration took place in avenue Guerra Junqueiro, chosen due to its great diversity of shops (small and large) and of loading and unloading methods. It started on Dec 5th 2011 and lasted until March 2012. The two technological schemes were applied simultaneously on the same street.

### **Main applications:**

The main application of this solution is to regulate the loading and unloading of freight. This solution tries to solve the problems like:

- Road congestion and often blockage of roads;
- Illegal parking;
- Double-parked, or parked on places for private cars;
- Private cars parked in places for freight operations.

### **Use and results of applicationsdone:**

EMEL expected to reach the following results:

- a strong reduction in the number of parking infractions;
- a reduction in the average duration of freight operations;
- an increase in transport operators' satisfaction;
- an increase in shopkeepers' satisfaction;

EMEL found the following conclusions:

- The Adapted Parking Meters (APM) proved to be functional, although it doesn't allow optimizing surveillance operations unless the communication happens in real time
- The Vehicle Detection Sensors (VDS) installed on the ground detects the arrival and the departure of a vehicle, enables the calculation of the time spent and the issue of a manual or automatic alert to the enforcement officer on duty in that area, in real-time

- Most of the deliveries take 5 to 10 minutes to complete, but there are also a lot of delivery vehicles parked for more than 30 minutes
- The number of deliveries remains fairly constant throughout the working week, with a sharp decrease on Saturday
- There is a peak of deliveries in the morning (at around 11 am) and a more spread peak in the afternoon, from 3pm to 4pm
- Illegal parking remains almost constant throughout the day, with a slight increase towards the end of the afternoon
- The enhancement of the road markings in the parking spaces for loading and unloading did improve legal parking in the demonstration area
- The demonstration also enhanced and validated the need to adapt the technology to the legislation, including regulating the supervision activity. The enforcement activity involves legal requirements which make the presence of an enforcement officer compulsory.

#### **Perceived potential:**

The findings of the demonstration allowed the Lisbon City Council to propose a new Municipal Regulation for Parking which considers loading and unloading activities and which is already in force. The main challenge in the near future is the implementation of a new control system for the management of loading/unloading operations in the city of Lisbon. The system to adopt should have the following features, which were defined based on the demo results:

- Be user-friendly for freight operators;
- Be fully reliable;
- Have a centralised management system.
- Allow communication in real time of the required operational information.

#### **RTD activities in progress**

EMEL launched a tender for the development of a new technological solution for the management of freight operations in Lisbon.

Although it was decided not to use exactly the same technologies used on the demo, the specifications on this tender were done based on the findings of the demo, namely those regarding the issues of verification of the parking space occupancy and the real-time communication with the control centre.

EMEL are running “stress tests” in order to assess the robustness of the solutions submitted by technology suppliers.