



# Urban logistics in Paris

n°3



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## Logistics: changes are afoot

The urban logistics revolution has started. Solutions are appearing in the city with the arrival of new modes of transport which are cleaner, along with new economic models.

The City is leveraging experiments to accelerate the transformation of last mile logistics. With the support of Paris&Co, several demonstrations are taking place up to mid-2017: for example, the modular electric lorry christened BIL Truck from Liebner and Dascher is being tested in the 14th arrondissement, the connected delivery point tested by FM Logistic in partnership with Egis and Onesitu is being demonstrated in the 6th arrondissement, UPS is demonstrating bicycle delivery with a trailer to enable consolidation in the 2nd arrondissement. We already have operators who are offering to test solutions using autonomous vehicles for deliveries.

This evolution in logistics is also happening via the mutualisation of flows, which is required to reduce the flow of lorries entering the city, and which also facilitates transportation by river and rail. Thanks to the efforts being made by economic actors and public bodies to develop electric and natural gas solutions, and even in some cases hydrogen, the transition towards clean propulsion is accelerating and enabling us to execute our plan to eliminate diesel.

The logistics revolution must be planned at the metropolitan and regional level because it will require the restructuring of logistical infrastructures. We will have to reinvent the network of warehouses within the conurbation. The "Mobility 2030" initiative, which we have launched with the Regional authority, the Greater Paris Metropole and the metropolitan forum, is an opportunity to dialogue with all the local authorities which make up the metropolitan area, as well as with economic partners, in order to design the logistics of tomorrow, to bring clean propulsion into widespread use, and to facilitate green transportation for logistics.

## In the Spotlight

### The City of Paris call for projects: innovative urban logistics projects, in the heart of the dense urban zone.

In recent years, land used for logistics and transportation has largely disappeared from the dense urban zone. Under the pressure of rising land costs and the low cost of transportation, logistics in its different forms (warehouses, city offices, etc.) has retreated from city centres, increasing the distance travelled and the pollutants emitted while reducing the productivity of both transport operators and the city itself.

Logistics up to the final delivery point in the city centre is organised according to several sizes of logistic facilities: logistics platforms and different types of urban distribution spaces.

*The reintroduction of logistics space in the city centre currently represents a key challenge for the City of Paris.*

It requires identifying locations which meet the needs of economic stakeholders (area, access height, geographic location etc.) and the support of innovative concepts such as logistics hotels, which combine complementary functions.

The City of Paris hopes to participate in this effort by continuing to make its land available in order for logistics activities to be developed on it. The sites of Concorde, Saint-Germain des Prés, Saint-Germain l'Auxerrois and Pyramides are still being used for local urban distribution, after more than 10 years of opera- ▶

## News

The APUR has published the first prospective atlas of Major Urban Services in the Greater Paris Metropole. This atlas combines analyses around logistics in particular.

More info >>> [www.apur.org](http://www.apur.org)



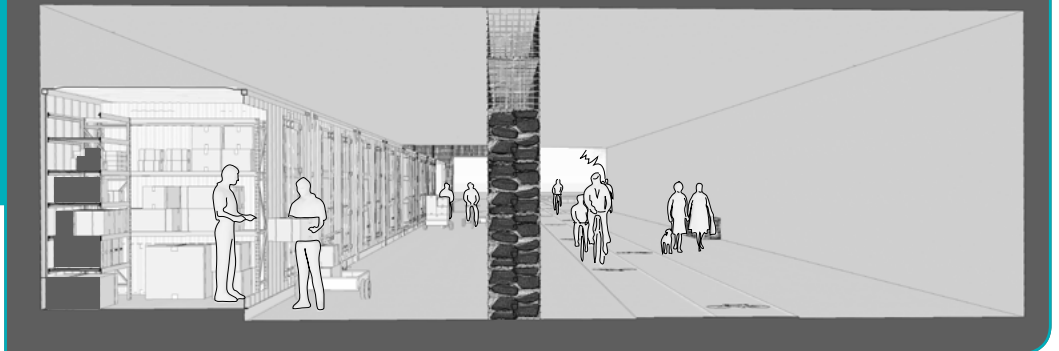


Above: Sogaris project under the boulevard périphérique at the Porte de Pantin

SOGARIS - SVVIL

Opposite: Sketch of the interior of the Passage Forceval

BOITES À VÉLO - ATELIER PLUS UN



tion. It therefore launched an urban logistics call for projects on the 7 July 2016, during a Steering Committee for the Charter for promoting sustainable urban logistics.

The five proposed sites were of all different sizes and spread across the Parisian area:

- **“Outer Champerret”** a disused service station at the entresol of the Porte de Champerret car park, 75017 Paris, on the outside edge of the boulevard périphérique;

- **“Inner Champerret”** a disused service station at the entresol of the Porte de Champerret car park, 75017 Paris, on the inside edge of the boulevard périphérique;

**NB:** This concerns two neighbouring sites, separated by the boulevard périphérique. The City would offer the possibility to use them separately or together.

- **“Les Halles”** Underground space in Les Halles 75001 Paris;

- **“Porte de Pantin”** Area under the boulevard périphérique Porte de Pantin 75019 Paris;

- **“Passage Forceval”** A passage under the boulevard périphérique at Porte de la Villette 75019 Paris, plus nearby premises.

The criteria chosen for the assessment of the applications were of several types:

- **innovation:** new proposals, which offer solutions for the future, which are ambitious in their approach to the operation of the city, innovative in their set up and in the combination of stakeholders from different fields;

- **the vehicles used and the solutions for delivery or pick-up:** including for example, the use of electrically and natural gas-powered vehicles, delivery tricycles, delivery on foot. Each project had to adhere to the Plan for combatting pollution linked to road traffic;

- **usage:** mixed use over time in order to optimise the occupation and the use of the site (to reduce as much as possible times of day which have no activity), pooling resources, vehicles and bringing delivery and return flows closer together, etc.;

- **the project team,** if applicable: forming a project team which supports the project leader, loaders and transporters working together to prepare a proposal.

- **urban integration:** the immediate environment had to be considered and the proposed project had to integrate smoothly while paying attention to aesthetics, especially for ground-level sites.

The economic soundness of the project and the coherence between the nature of the project and the financial capacity of the project leader were also assessed.

The project leaders had until 28 October 2016 to submit their proposal. Selection committees were held and selected three candidates for the negotiation phase. Following the negotiation, the latter had until 10 February to submit their final bid. The selection committee, made up of elected officials, was convened on the 20 and 21 March and drew up the **following classification:**

- at the *Pantin* site: 1: **Sogaris**

- at the *Forceval* site: 1: **Boîtes à vélo**

- at the *Les Halles* site 1: **Seine Express**

This categorisation will be submitted, in September, to a vote at the Paris Council which will vote whether to adopt the occupancy agreement which will be proposed.

The winner will then sign an occupancy agreement for public space with the City of Paris for a period of 12 years.

The authority is endeavouring to create a city made up of diverse components which are vital for its effective operation. The sites occupied by the logistics operators will be reclassified and will enable the redevelopment of the land which has potential as well as a progressive increase in the number of logistics sites. The call for projects has enabled the partners to participate in this challenge to reintroduce urban distribution functions not only in the peripheral areas, but also within the centre. It has also enabled them to demonstrate their know-how in terms of service provision and management of environmental issues.

## Connected delivery areas

Since January 2016, the City of Paris has been testing an innovative service which enables real-time monitoring of the availability of delivery areas. Following an initial pilot project in rue des Pirogues in Bercy, in the 12th arrondissement, the service will now be installed in rue de Rennes, a well-known, busy retail area.

This experiment aims to gauge the interest of transport and logistics professionals in following the availability of delivery spaces in real-time, thereby optimising their delivery routes. Within the context of the call for projects, the City of Paris has allowed a Parisian start-up, **onesITU**, to test connected delivery areas. Following an initial pilot project focussed on connected parking spaces (in Bercy village), **onesITU** has set up, in Cours la Reine, in front of the Grand Palais, a service for monitoring parking spaces reserved for tourist coaches. Equipped with its unique technology integrating a nanoradar and a Bluetooth module in its sensors, **onesITU** has proven to be the organisation most capable of offering an integrated service aimed at transport professionals.

Indeed, the service enables real-time monitoring of available

delivery spaces, but it also includes an automatic identification of transporters, with the aim of effectively professionalising the use of the delivery spaces.

### How does it work?

Nanoradar sensors are set into the pavement, and communicate via the LoRaWAN network (the Internet of Things network). Bluetooth badges are distributed to transporters and a mobile application is made available to them. The latter consult the application to monitor available spaces in real-time, then when they park, they are automatically identified by the sensors via their Bluetooth badge.

It is therefore easy to enable transporters to use delivery areas in an optimal manner.

The experimentation should also enable the evaluation of the rate of rotation of the delivery spaces in order to assess possible needs for additional areas, or even to evaluate the modification of the time slots reserved for delivery. This is also coherent with the idea of facilitating the transportation of goods while limiting its impact on the life of Parisians.

Xavier Richard, OneSitu

## and Elsewhere

### TramFret on track in Saint-Etienne

Real goods, in a real goods tram, were delivered to a real local shop in Saint-Etienne! On the 13 June at 06:13 am, tram no.913, named “**TramFret**” [“FreightTram”] achieved its first success following several years of work. Thanks to a local circulation licence, the project for the delivery of goods via a tram adapted for this purpose has been implemented via a unique experiment!



Tram no. 913 and its freight

Jointly run by Efficacity, the Institute for Research and Development for Energy transition in the city, Saint-Etienne Métropole and the Saint-Etienne Transport Company, the TramFret project has just proved the technical and operational feasibility of a new system of urban goods delivery. For this first experimental phase, the tripartite group linked up with the Proximités arm of the Casino Group.

The operational test undertaken in 2011 between APUR and RATP on the T3 line in Paris, the first loading studies made at

the time, the technological analysis of the rolling stock undertaken during COP21, as well as the studies on the pre-feasibility of certain keystones of the project, all led progressively to the experimentation under real world conditions of TramFret in Saint-Etienne. By making a delivery on the morning of 13 June 2017 at the Casino Shop Bergson on Place Carnot at the heart of the city centre, all the stakeholders mobilised for the occasion have contributed to a huge advance in this project, which was launched some time ago.

Replicated on two other occasions during the same week, the experiment will be run on an even bigger scale during two further weeks of testing between now and the end of July. Other scenarios will be tested (staggered schedules, new unloading systems, multipoint delivery, etc.), in order to gather feedback which will lead to an increased visibility of the system, to initiate its upscaling and to study its long-term implementation and the related economic model.

Open to all sectors and all stakeholders from the spheres of urban logistics, the TramFret project is canvassing other potential customers to enrich its operating methodology, subject to technical and organisational compatibility. From October, the Saint-Etienne experiment will seek to strengthen itself, and will move towards the implementation of a new urban logistics strategy, working closely with local authorities and organisations which transport goods in the city.

Joël DANARD and Kévin JANIN, Efficacity

# interview With: .....

Eric **BALLOT** Mines ParisTech and **Stéphane CREN** GS1



## How do you create efficiency in urban logistics ?

Urban logistics is currently noted for the creation of numerous innovative offers aimed at consumers: shopping delivered within an hour, home restaurants, organic food boxes, etc. To do this, it deploys numerous light vehicles within the city, which generate significant externalities: congestion, accidents, air pollution, noise and global warming. Metropolitan areas such as Paris are caught in a paradoxical situation. On the one hand, logistics services contribute to the economic attractiveness of the City, on the other, they reduce the quality of life there. This problem is widely acknowledged, and several methods for resolving it are equally renowned: less noisy and polluting vehicles, ecological transportation, as well as new ways of undertaking logistics, by pooling the flows via logistics infrastructures (ULA - Urban Logistics Areas - or micro-ULAs) and digital interconnected platforms.

The latter approach proposes a consolidation of urban flows. It is being undertaken as part of the works in Physical Internet<sup>1</sup>,

which aims to offer generic mechanisms required for the widespread application of pooling. This approach is even more logical at an urban level, since the flows are fragmented between multiple origins/ destinations, numerous operators, which are desynchronised and with a strong trend towards the reduction of deadlines. This leads to the use of small vehicles (the least efficient), loading rates often well below 50% and missed deliveries, etc.

To succeed in uniting logistical services to generalise the pooling of flows remains an ambitious work programme. The main obstacle is a cultural one. In this field, new entrants to the distribution market, who do not hesitate to sell logistical services to their competitors in order to maximise their efficiency, are moving the boundaries. Currently, logistics, just like the digital sector, is moving towards a logic of network economies. Furthermore, there is a physical dimension to deal with. It is vital to introduce and achieve widespread adoption of containers for transport and standardised modular boxes for handling, in order to reduce the costs and to improve the protection of goods<sup>2</sup>. In Tokyo, for example, this type of box for urban logistics is already in use.

For this to become a reality, the structuring of a digital standardised interconnected ecosystem is essential. The codification of locations, operations and operators is vital to enable, just as is the case with the Internet, the use of the best services without being bogged down by insurmountable coordination efforts. Work is being undertaken within GS1 in different sectors, with the short term aims of significantly increasing the potential for interconnectivity of urban logistics operators by implementing a digital collaborative traceability platform which will act as a keystone for the dynamic allocation of available resources.

*Imagine for a moment that interconnectivity is available, even in a simplified form, what would that bring to Paris? This would open the way for delivery services where Parisians themselves become directly involved in their deliveries, able to choose an operator and a service level.*

It would enable the operator of the last mile to have a link with the recipients who are customers of the service. It would of course require upstream interconnection sites as well as in the city, to dynamically consolidate flows and thus gain the maximum potential of the most appropriate means of transport. Beyond technology, a change of approach is required to enable this logistics model to serve Parisians and to improve their everyday comfort •

<sup>1</sup> Ballot, E. and B. Montreuil, *L'internet physique : le réseau des réseaux des prestations logistiques*. PREDIT. 2014: La Documentation Française. 232.

<sup>2</sup> This aspect is currently at the heart of the work of a task force of The Consumer Goods Forum.

## Key dates

**On 5 October** a thematic day was organised by the Paris INRS at the offices of the RATP: "Goods transport by road and logistics: a chain of companies from supplier to customer - what are the challenges? What approaches can be used for safety?"

**More info >>>** [inrs-transport-logistique2017.fr](http://inrs-transport-logistique2017.fr)

**From 29 - 30 November**, River Dating is celebrating its 10th birthday. It is the meeting place for European stakeholders in river and multimodal transport and logistics solutions integrating waterways

**More info >>>** [www.river-dating.com/FR/](http://www.river-dating.com/FR/)