

**DELiPOP**

**INSIGHT REPORT**

**SUSTAINABILITY  
IN THE LAST-MILE  
DELIVERY OF  
GROCERIES**

on the example of Grand Paris

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# EXECUTIVE SUMMARY

E-commerce is growing rapidly and customers are looking for fast and convenient ways to be delivered a wide range of affordable products. The Covid-19 pandemic has fueled this growth. It is estimated that e-commerce will grow substantially year by year and by 2025 it will be worth 7,385 trillion US dollars globally (source: eMarketer). The demand for last-mile delivery is soaring and is expected to grow by 78% worldwide by 2030<sup>1</sup>.

While demand for online sales could grow without limits, our planet and current infrastructure cannot handle the increased volumes. According to the World Economic Forum, by 2030 growing demand for e-commerce delivery will result in 36% more vehicles in inner cities, a rise in CO<sub>2</sub> emissions by 6 million tons and 21% higher congestion<sup>2</sup>. Big cities already suffer from a rise in CO<sub>2</sub> emissions, pollution, traffic, congestion and noise caused by an increased volume of deliveries.

The authors of *The Future of the Last-Mile Ecosystem* study (World Economic Forum, January 2020) analyzed multiple new solutions for last-mile delivery and their impact on ecology, cities, delivery costs and consumer convenience, i.e. drones, electric cars, trunks delivery, autonomous vehicles, office delivery, parcel lockers and multi-brand parcel shops.

According to this analysis, the only really effective solution available at the moment for cities is multi-brand pick-up hubs. They should become the delivery infrastructure of the future and ensure sustainable growth of e-commerce and e-grocery.

Multi-brand networks based on the hub effect are the way to make delivery, including its last-mile, more sustainable and better for the planet, cities, people and market players. A universal network of multi-brand hubs seems to be the best remedy for problems of the last-mile delivery for all parties:

- The planet – by limiting greenhouse gas emissions.
- The cities – by securing fresh air and less congestion, at the same time ensuring the architectural urban tissue is not destroyed.
- The people – by giving them easy access to affordable shopping and more free time.
- The market players – big retailers and local businesses – by making e-grocery profitable for all of them, so that consumers can profit from its benefits.

We compared the environmental impact of different e-grocery delivery options in Grand Paris: home delivery, hypermarket shopping and delivery in the Delipop model.

**The home delivery model** is characterized by an almost zero distance-time

to travel and a willingness to pay for the service, the goods are delivered to the customer's home.

**The hypermarket model** is characterized by a willingness of households to travel more kilometers for lower cost products.

**The Delipop model** – first universal network of fully automated pick-up points, dedicated to collect e-grocery purchased from several retailers, local stores and small businesses. The Delipop network was created as a response to the growing demand for online shopping for groceries as well as changing needs of modern consumers who are looking for practical, quick solutions.

According to calculations made by the authors of this report, the Delipop model reduces the greenhouse gas emissions per order by 77% compared to the home delivery service and by 92% compared to the hypermarket purchases. Moreover, the Delipop model reduces the traveled kilometers per order by 92.5% compared to the home delivery service and by 98.5% compared to the hypermarket purchases.

That means that the Delipop Network will save more CO<sub>2</sub> emissions than are absorbed by all 500,000 trees growing in Paris. In comparison to the home delivery model it can generate "savings" of 536,000 trees

<sup>1</sup> World Economic Forum: *The Future of the Last-Mile Ecosystem*, January 2020.

<sup>2</sup> Ibid.

<sup>3</sup> Delipop web panel, 06.10.2021–24.02.2022.

<sup>4</sup> Ibid.

<sup>5</sup> Stated by consumers at the end of the process at the machine from the opening, to 28.03.2022.

<sup>6</sup> Delipop web panel, 06.10.2021–24.02.2022.

and in comparison to hypermarket shopping, the “savings” are even 3 times bigger and comparable to a forest of over 1.8 mln trees.

The Delipop model is a sustainable solution for urban logistics in big cities. Delipop aims to deploy a network of multi-stakeholder automatic pick-up points. At one and the same place, consumers will be able to pick up their groceries purchased online from one or more retailers. The Delipop model is based on the consolidation of order flows in warehouses located outside the city and on order delivery to mutual pick-up points in urban areas.

Automation helps to reduce operating costs, which are the main obstacle to a sustainable business model of pedestrian drives. By 2026, Delipop plans to open 1,000 pick-up points in France, including 350 in the Grand Paris and Île-de-France area. Delipop can help big cities to build a bridge between traditional commerce and its sustainable future in a time of booming e-commerce.

Delipop is based on robotic Arctan technology and a specialized information system. Thanks to the internal robotization system, pickup points can accommodate hundreds of orders and handle 2–3 customers at the same time. Every Delipop consists of two modules with 2 climate zones (4 and –18°C), containing from 94 up to 200 logistic bins and 28 frozen lockers. The collection process is

very fast – a typical order can be picked up by the customer in 1 minute and 30 seconds, with the collection time of one bin in less than 30 seconds. Customers who have questions during the pick-up can contact Delipop Friends – a customer service assisting them in real time.

Multi-brand hubs substantially improve the effectiveness of couriers and vans used. Thanks to the hub-effect we can immensely lower the number of vans used in the distribution – lowering CO<sub>2</sub> emissions accordingly, lowering the costs and congestion.

#### **Consolidation and massification in the Delipop model:**

- Preparation of orders at different retailers’ warehouses.
- Consolidation for city distribution.
- Massification – distribution to multiple Delipop robotic pick-up points.

#### **Hub effect in e-grocery:**

- **Home delivery:** 1 courier can deliver 14–25 orders (the Paris average is 14-15).
- **Multi-brand hubs - the Delipop Network:** 1 courier can deliver 200–300 orders thanks to the hub effect.
- This means that one courier can be even 20 times more efficient in the Delipop model in comparison to the home delivery model.
- The bigger the hubs capacity, the bigger the positive impact of the model.

#### **Key benefits of the Delipop model**

**ECO** – for the Planet and cities:

- Even 91% fewer greenhouse emissions in the last-mile.
- Green zones are easier to introduce.
- 15 times fewer kilometers driven = fewer cars, no blocked streets, no double parking.
- Supporting demotorization of cities.
- **The Delipop network will save more CO<sub>2</sub> emissions than it is absorbed by all 500.000 trees in Paris.**

**SOCIAL** – for citizens and communities:

- Choice of multiple retailers and local stores – all at one nearby location.
- Reducing the price gap between purchases in city centers and suburbs.
- Less time shopping = more time enjoying life.
- Supporting implementation of the 15-minute city concept.
- Recruiting and engaging people from the communities.

**ECONOMIC** – for retailers and local businesses:

- Lower delivery costs = profitable e-grocery and better offer.
- Access to Delipops for local businesses.
- Increased employee efficiency.
- Access to new customers.
- Payment per order, OPEX instead of CAPEX.

The model was proven during a 5-month pilot project – the first Delipop pick-up point was opened in Paris on 6 October 2021, at 194 avenue de Versailles in cooperation with the first retailer who has joined the network – Carrefour.

In June 2022 also Monoprix signed for a partnership, making Delipop the world’s first multi-brand e-grocery pick-up network.

38% of users placed their orders 3 times or more. Most of them were very enthusiastic about the concept.<sup>3</sup> The Delipop model has very loyal customers. Some of them managed to pick up even 30–50 orders within 5 months.<sup>4</sup> The general satisfaction level of service is very high: 4.45/5.<sup>5</sup> What attracts the most consumers:<sup>6</sup>

- Proximity to their homes.
- Free delivery.
- Great customer experience.
- Price advantage.
- Wide range of products.

**Let’s build a new last-mile delivery infrastructure - ensure sustainable growth, save our planet and our cities, support citizens and secure the prosperity of market players.**



# FOREWORD

We can't imagine our lives without consumption, and consequently, without commerce. Trade and consumption are inherent to human activity. Depending on the era, their various incarnations include craftsmen, local traders, supermarkets, hypermarkets, dark stores for quick-traders, and drive or home delivery.

Each era has its own success story. Each era has its own commercial revolution and... its driving force. For a long time, costs and price were the sole compasses of traders. And rightly so, since such was the social expectation. From now on, externalities are more integrated. And that's a good thing given the challenges, especially environmental ones (climate, quality of life in the city, etc.). It is in this sense that this report can (or must?) feed the reflection of the "last-mile" actors in terms of urban commerce. Whether they are brands, logisticians or, of course, public authorities.



**Olivier Dauvers**

Publisher and chief editor of Grande Conso,  
retail expert

**01**

# **BIG CITIES ARE FACING SERIOUS PROBLEMS**

They are caused by changes in consumer habits and thus by booming e-commerce and increased volumes of deliveries.



**We need to start a public debate on sustainability in the last-mile delivery.**

Consequently, we urgently need to find and deploy sustainable solutions. It is important for mayors of the cities and districts, the administration, retailers, logistic providers and for media and consumers – to take part in it.

**Why is it so important and urgent?**

As e-commerce is booming, customers are looking for fast and convenient ways to be delivered a wide range of affordable products. As a result, the scale of delivery is increasing to numbers never seen before, causing air pollution, greenhouse gas emissions and congestion. The Covid-19 pandemic has fuelled this growth. Our shopping habits have changed for good and so are changing the cities.

**In the face of global climate change and the growing threat of its disastrous consequences, our environmental awareness is growing.**

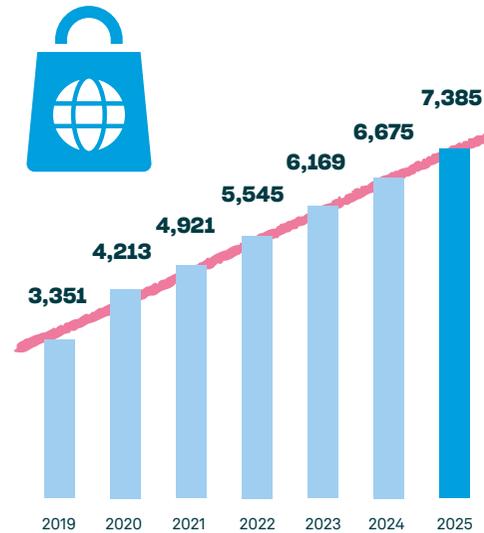
As the population of the earth increases, more and more people live in cities. According to the UN Habitat, urban areas produce more than 60% of greenhouse gas emissions<sup>1</sup>. Fewer green spaces exacerbate the problem.

That is why the need for the green transformation of cities is gaining supporters among politicians, local leaders and citizens. Mayors and administration draw ambitious visions and urban plans, while consumers favor sustainable services.



**75% OF PARISIANS SAY THAT GLOBAL WARMING AND THE NEED TO COMBAT IT - IS AN IMPORTANT TOPIC FOR THEM**

Source: qualitative research report "Drive Pietons in Paris", COGISION, 2021.



**Global e-commerce sales growth from 2019 to 2025**

Sales in trillions U.S. dollars.  
Source: eMarketer, insiderintelligence.com



<sup>1</sup> According to the 2018 Revision of World Urbanization Prospects by the Population Division of the UN Department of Economic and Social Affairs (UN DESA).

**While demand for online sales could grow without limits, our planet and the current infrastructure cannot handle the increased volumes.**

- Can our cities handle the growing number of delivery cars, which are double- or even triple- parking on our streets and blocking them? Will there be enough space for increased congestion?
- Can our planet survive the growth of CO<sub>2</sub> levels?
- Shall we have enough couriers to make deliveries?

**Negative impact on the city**

The question of urban logistics in general and e-commerce especially often arises when dealing with problems of modern cities. In fact, most of the time transport and delivery are perceived as a source of inconveniences<sup>2</sup>.

However, delivering spaces, whether urban or more rural, are essential. While the transport of goods is crucial to operate cities, it is also perceived as a source of problems:

- Traffic and parking congestion: a flow of vehicles occupying the roads (time and space).
- Increased greenhouse gas emissions and local pollutants: the number of kilometers driven by vehicles delivering goods to shops as well as the kilometers driven by households to collect their purchases is considerable.

- Increased noise: deliveries of goods are most often made by motorized vehicles. Parking lots can be inconvenient for the operation of the road system and generate congestion, loading/unloading causes noise pollution.
- More accidents, particularly with the development of soft mobilities.

The contribution of e-commerce deliveries for traffic congestion is emphasized because the loading/unloading areas are not adapted to the actual habitat. As a result, a home delivery vehicle rarely finds a place to park near its place of destination.

The Paris Agreements aim to reduce greenhouse gas emissions by 40% in 2030 compared to 1990. Today however, on the national level and in all sectors, only a 16.6% decrease in emissions has been observed. This reduction is mainly due to industry but emissions from the freight transport operations and especially from the last-mile deliveries increased overall between 1990 and 2017:

- +19% for all road freight transport,
- +38% for light commercial vehicles.

Therefore, cities and their residents have difficulties accepting this, especially with the parallel development of soft mobilities and the need for a peaceful city, as shown in the evolution of regulations.

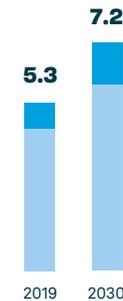


**GROWING DEMAND FOR E-COMMERCE DELIVERY WILL RESULT IN 36% MORE DELIVERY VEHICLES IN INNER CITIES BY 2030**



**Delivery vehicles**  
(million)

**+36%**



■ Freight



**Emissions**  
(million tons)

**+6 Mt**

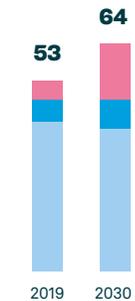


■ Parcel



**Congestion**  
(average commute\*, minutes)

**+21%**



■ Last-mile

\* Average commute for representative city.  
Note: Top 100 cities globally only.

Source: World Economic Forum: The Future of the Last-Mile Ecosystem, January 2020.

### Regulations are changing

Today, many tools are available to cities to improve urban logistics and reduce the impact of deliveries on the city. In particular, there are some regulations that are evolving to control the most damaging effects of urban logistics while ensuring efficient supply to households and businesses.

- The development of Low Emission Zones is planned in 43 French cities with 150,000 plus residents (climate law).
- Numerous guidelines in urban planning documents to integrate urban logistics into planning tools to promote the ecological transition: for example, incentives for modal shift and the consolidation of flows.
- Involvement of market players and support for private initiatives: for example logistics guidelines.

### There are also other problems:

- City centers are often inhabited by elderly people or students without big incomes. They do not have cars and thus often **do not have access to affordable shopping** with a large range of grocery products (80% of Parisians who live in the city center do not own a car).

- **Retailers cannot offer the lowest prices to the city center inhabitants in home delivery, because the delivery costs are often over €23** and they are usually not covered by the consumers or the margins on the products. And in cases of substantial growth of the demand (as happened during the Covid-19 pandemic) – there are not enough “time slots” for home delivery. Retailers need ways to lower the delivery costs to serve their customers in the best way possible.
- The best solution is a pick-up point where consumers can go on foot or by bicycle to collect the food bought on the Internet. **However, of each retailer has its own network of pick-up points, then supplying these points generates a lot of traffic**, not to mention operating costs for the retailers.
- There are also **local businesses** (pâtisseries, butcher shops, fisheries, etc.) that also need to thrive as they are the backbone of the city's atmosphere and social bonds. They also need access to customers and new ways of delivery in order to survive.

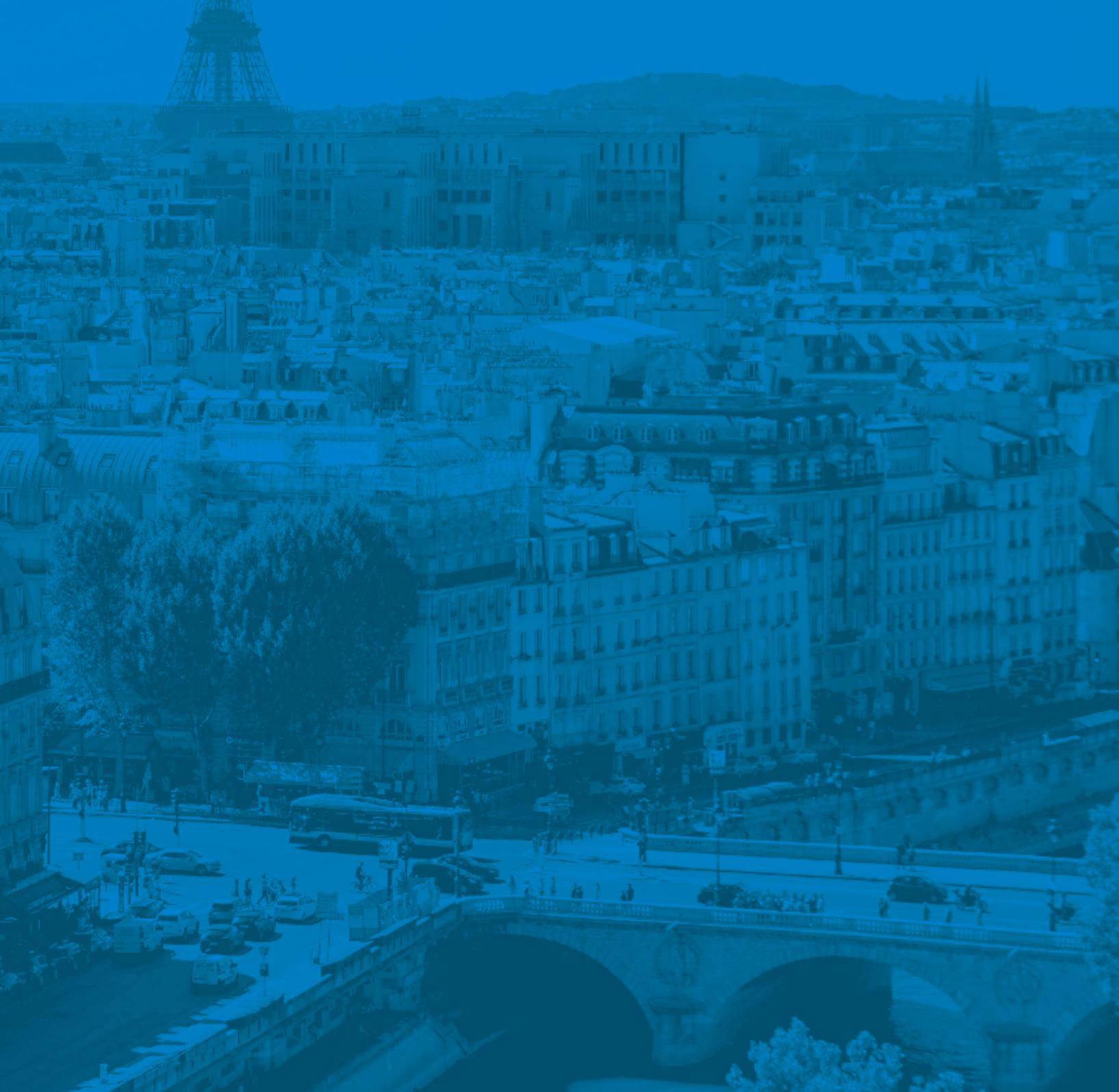
## We need to change our perspective.

The change in our shopping habits should not interfere with our cities' infrastructure. **Tradition must be connected with the future of retail in a sustainable way.**

The authors of the report “Sustainability in the last-mile delivery of groceries” believe that we need a new delivery infrastructure which will address the challenges we are facing now.

**The purpose of this report is to start a discussion and eventually to help create positive, enduring change in the world.**





Urban delivery is essential for the functioning of a major city. If the flows of goods are multiple, those concerning consumer products constitute the most visible part. However, the growing awareness of the environmental impacts of deliveries requires new solutions for consolidating flows and better modes of transport.

In addition, the rapid evolution of purchase patterns in large cities, in connection with a decreasing number of people who own a car, requires better organization of deliveries of consumer products.



**Jérôme Libeskind**

Expert in urban logistics and head of Logicités –  
a consultancy which specializes in urban and last-mile logistics



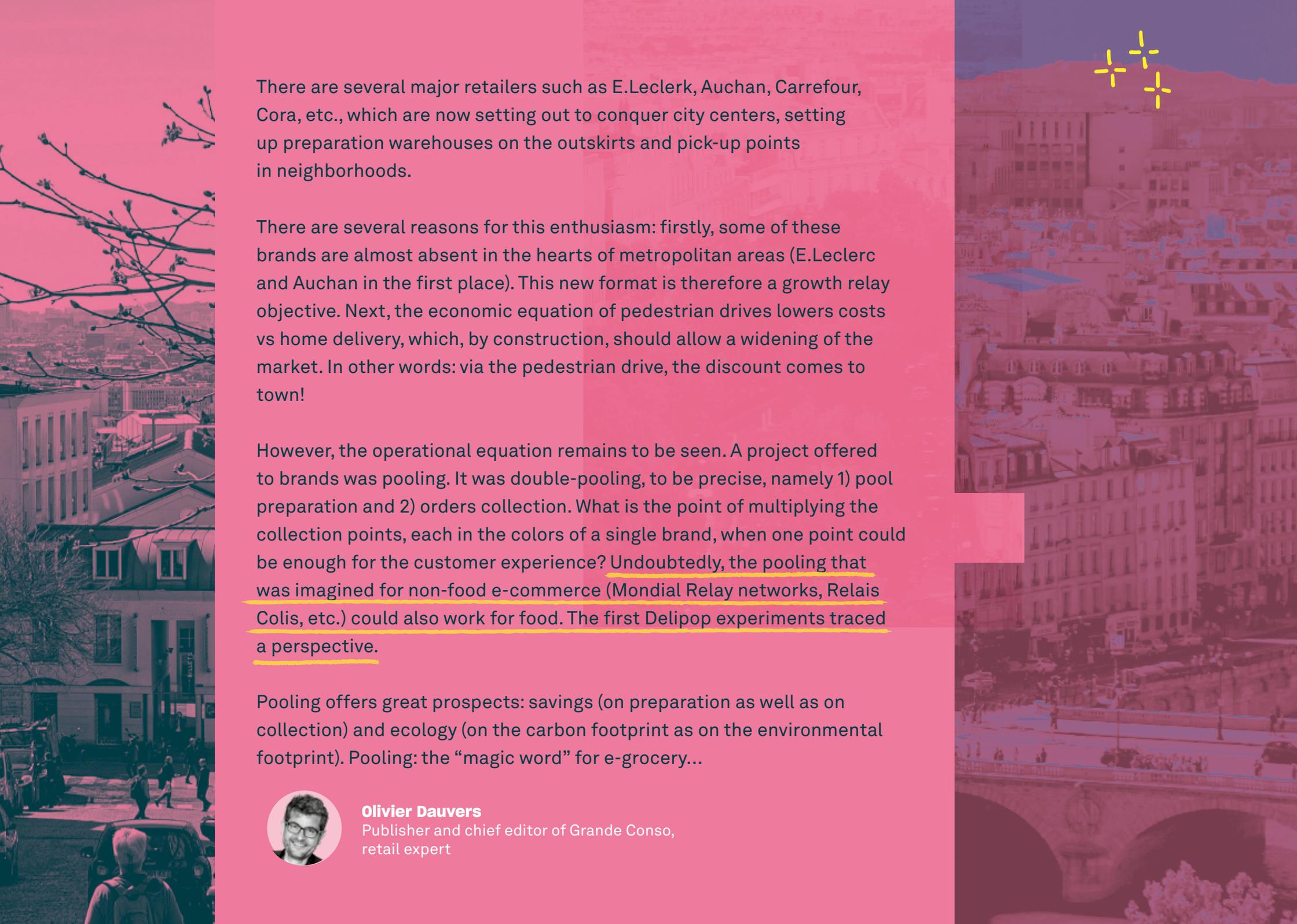


# FOR E-GROCERY THE STORY HAS ONLY JUST BEGUN

Initiated in the 1990s (via the Minitel and Télémarket), e-grocery only really took off in the 2010s with the development of drive-thru, along with the democratization of the internet. Until then, the additional cost of home delivery confined this market to a niche of consumers, capable of "investing" €15 to €20 in additional cost (displayed or hidden in the price), precisely linked to home delivery. With the drive, the consumer ensures (voluntarily) this delivery and, above all, demonstrates that the principle of online grocery ordering is not an obstacle (in any case for the most "drive-permeable" product categories ) while the additional cost of delivery is.

The history of the drive-thru is now being written at high speed: more than 10 billion euros in turnover in 2021, and, for certain families of items (baby or children's products, heavy products, etc.), a market share already between 15 and 20%. However, this story... has only just begun. First, the drive-thru is still attracting new consumers who are barely discovering this "new" way of shopping for food (about a third of French people are customers). Then, the drive has not yet penetrated the metropolises. And for a good reason... Since fewer people own a car there, the parking capacities are more constrained. In short, a pedestrian click&collect in city centers (aka "pedestrian drive") must be added to the classic drive on the outskirts.





There are several major retailers such as E.Leclerc, Auchan, Carrefour, Cora, etc., which are now setting out to conquer city centers, setting up preparation warehouses on the outskirts and pick-up points in neighborhoods.

There are several reasons for this enthusiasm: firstly, some of these brands are almost absent in the hearts of metropolitan areas (E.Leclerc and Auchan in the first place). This new format is therefore a growth relay objective. Next, the economic equation of pedestrian drives lowers costs vs home delivery, which, by construction, should allow a widening of the market. In other words: via the pedestrian drive, the discount comes to town!

However, the operational equation remains to be seen. A project offered to brands was pooling. It was double-pooling, to be precise, namely 1) pool preparation and 2) orders collection. What is the point of multiplying the collection points, each in the colors of a single brand, when one point could be enough for the customer experience? Undoubtedly, the pooling that was imagined for non-food e-commerce (Mondial Relay networks, Relais Colis, etc.) could also work for food. The first Delipop experiments traced a perspective.

Pooling offers great prospects: savings (on preparation as well as on collection) and ecology (on the carbon footprint as on the environmental footprint). Pooling: the “magic word” for e-grocery...



**Olivier Dauvers**

Publisher and chief editor of Grande Conso,  
retail expert



02

## ONLINE GROCERY – CHANGE OF HABITS

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For a long time, the purchase of consumer products on the internet was considered irrelevant because of:

- Temperature constraints
- Low unit cost of products
- Low margin in the distribution
- The weight of the products
- Fragility: challenge of delivering potato chips at the same time as fresh products and fruits/vegetables.

Many of the early experiences failed due to the lack of a viable business model.

Except for a few pure players, most of the e-commerce of consumer goods was and is done by click & collect (drives). But the business model of these drives, which are more than 5,729 in France, including collection points, is not profitable yet. Additionally, they are addressing the needs of a motorized peri-urban clientele but not of urban customers, especially "grand parisienne".

Models based on product delivery from a warehouse or store remain complex. Even if this service is necessarily useful, especially in large agglomerations consisting of many old buildings without elevators and consumers not all motorized, the true price of this delivery is rarely accepted by the customer.

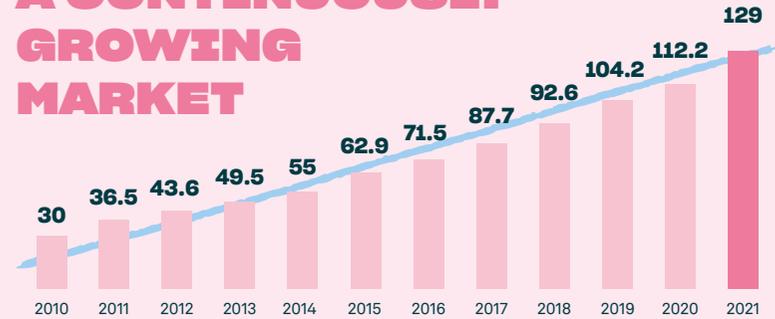
The COVID-19 crisis has profoundly changed the situation. For the first time, e-commerce for consumer goods has experienced a huge acceleration: +42% in just one year (2020). Data for 2021 confirm a continuous progression with 7% in 2021. 11% of household consumer goods purchases are now made on the internet compared with only 8% before the COVID-19 crisis. However, this already high rate is lower than that observed in the UK (nearly 14%), suggesting that the growth of e-commerce in this sector will continue in the upcoming years.

The COVID-19 crisis has definitely accelerated e-commerce purchasing practices and going back seems difficult. However, e-commerce is still sometimes perceived as a competition to traditional city center shops. We are probably now in a transition phase – these commercial offers are complementary, but urban logistics seeks to optimize itself.

**Context:**

- **Banalisation** of online purchases
- **Development** of e-grocery (11% of consumption in 2020 vs 8% in 2019)
- **Growth** in drive and click & collect
- **Rising demand** for short supply chain and convenience

**E-COMMERCE IN FRANCE: A CONTINUOUSLY GROWING MARKET**



**Turnover in e-commerce (goods and services)**

Turnover in billions of Euros. Source: eMarketer, insiderintelligence.com

**14.2%**   
Average annual growth in e-commerce since 2010

**32%**   
Product sales growth in 2020 (and 7% in 2021)

**15.1%**   
Growth of e-commerce in 2021

**42%**   
FMCG e-commerce growth in 2020

**Impacts on logistics**

-  The level of service required
-  Employment and the social model
-  Flow fragmentation
-  Increase in traffic and increase in local pollutant emissions and GHG emissions
-  Impacts on congestion, noise, accidents



03

## 15-MINUTE CITY CONCEPT CHALLENGE

One of the initiatives to make the city sustainable is the 15-minute city concept developed by Professor Carlos Moreno, which is now being introduced in Paris.



**The 15-minute city concept has gained popularity and it is placing Paris at the forefront of the green revolution.**

Also, the C40 Cities Climate Leadership Group adopted it in response to the climate crisis and the post-COVID-19 recovery, as the pandemic has transformed the way people work, travel, shop and interact with each other.

According to C40 studies the 15-minute city offers 4 upshots:

- A boost to the local economy
- A more equitable, inclusive city and a stronger sense of community
- Better health and wellbeing
- Lower transport emissions and better air quality.

**In the 15-minute city, everyone can fulfill life necessities within a 15-minute walk or bicycle ride from home.** Therefore, each district should have access to housing, workplaces, healthcare, education, recreation and culture. It is the easiest way to reduce the use of motor vehicles and hence the fossil fuel consumption, carbon dioxide emissions and air pollution.

Additionally, in order to protect cities and secure space for their inhabitants – mayors start introducing **low emission zones<sup>1</sup>** and reduce the space for the cars on streets.

The concept of the 15-minute city has the effect of organizing the urban areas with all necessary services. **One of these services is an easy access to everyday necessary products, particularly food.** Easy food access is generally in hypermarkets, which are far away from centers and are often only accessible by car.

E-commerce makes it possible to buy products in hypermarkets without physically traveling there by car. But the consequences are multiple home deliveries that generate costs, increased environmental impact and additional traffic. At the same time, **low emission zones limit the access to traditional delivery** in many areas of the biggest cities.



# IN FEBRUARY 2022 THE MAYOR OF PARIS ANNOUNCED THE PLAN TO CREATE A GREEN ZONE IN 2024<sup>2</sup>



<sup>1</sup> Also called low-emissions zones and pedestrian zones.

<sup>2</sup> It will include the center of Paris (districts 1 to 4 and part of the left side of Paris (Quartier Latin)).

**04**

**FUTURE OF DELIVERY -  
MULTI-BRAND PICK-UP  
HUBS VERSUS DRONES,  
SELF-DRIVING CARS AND  
AUTONOMOUS ROBOTS**



**In January 2020 World Economic Forum published a paper “The Future of the Last-Mile Ecosystem” – Transition Roadmaps for Public and Private Sector Players.**

The paper highlighted that issue as it was estimated that “the demand for last-mile delivery is soaring and is expected to grow by 78% globally by 2030”.

**The authors analyzed multiple new solutions for last-mile delivery** and their impact on ecology, cities, delivery costs and consumer convenience, i.e. drones, electric cars, trunk delivery, autonomous vehicles, office delivery, parcel lockers and multi-brand parcel shops.

**According to this analysis, the only really effective solution available at the moment for the cities are multi-brand pick-up hubs.** To start building delivery infrastructure for the future of retail delivery, which will ensure its sustainable growth.

**Delivery options like drones, autonomous cars and delivery robots on the streets are creating even more traffic and their possible implementation is limited.**

We need solutions which are freeing the space for the citizens, creating a hub-effect and providing sustainable options for all: people, cities, retailers and the planet.

**A universal network of multi-brand hubs seems to be the best remedy for problems of the last-mile delivery for all parties:**

-  **The planet** – by limiting greenhouse gas emissions,
-  **The cities** – by securing fresh air and less congestion, at the same time ensuring the architectural urban tissue is not destroyed,
-  **The people** – by giving them easy access to affordable shopping and more free time,
-  **The market players** – big retailers and local businesses – by making e-grocery profitable for all of them, so that consumers can profit from its benefits.

Universal network of multi-brand hubs is the ultimate solution for the problem of increased demand for delivery.

Drones, autonomous cars and delivery robots are great for some specific purposes, but they are not a mass solution that will save us. Who would like thousands of drones carrying kilograms of our everyday shopping – covering the sky above us? It’s great for rural, low-inhabited areas but not for the cities.

It’s cool to meet a delivery robot on the pavement, but we want to expand our living space and not reduce it. Electric, autonomous vehicles are great for lowering costs and CO<sub>2</sub> emissions but what about congestion and our goal to reduce the space for cars?



**Marek Piotrowski**

Chief Marketing & Experience Officer  
at Delipop and Retail Robotics





# 16

ARRONDISSEMENT

# DELIPOP MULTI-MERCHANT PEDESTRIAN DRIVE

It was created as a response to a growing demand for online shopping for groceries as well as changing needs of modern consumers who are looking for practical, quick solutions.

The aim is to provide local customers with all the products that they need, from various retailers, at affordable prices, available to collect an order from a Delipop point at a walking or biking distance. The majority of Delipop locations will be open from early morning till late evening, so customers can choose the most convenient time slot for pick-up.

**Front view of Delipop**  
at 194 avenue de Versailles  
in Paris in the 16<sup>th</sup> arrondissement.



**Delipop is the first universal network of fully automated pick-up points, dedicated to collecting e-grocery purchases from several retailers, local stores and small businesses.**

**The scheme of the network operation is simple and transparent:**

- 1.** A customer places an order through the retailer's website and selects the delivery option to the specified Delipop pick-up point.
- 2.** The order is completed in the retailer's warehouse and collected with other orders in the Delipop hub outside the city operated by a logistics partner.
- 3.** Couriers deliver orders to multiple Delipop points.
- 4.** Customers pick up their order using a code at the chosen location, close to their home or workplace.



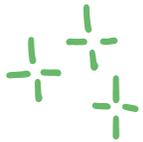
**05**

## **GROCERY DELIVERY OPTIONS AND THEIR ECOLOGICAL IMPACT - ON THE EXAMPLE OF GRAND PARIS**

It is important to understand the purchase behaviors of the Parisians and then to compare the different available purchasing models in Paris with the Delipop automated pick-up point concept (drive piéton multimarchands).

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**Île-de-France residents make quite frequent purchases, in a short duration of time and nearby:** they devote 12% of their trips to shopping, 8% of their travel time and 7% of their driven kilometers (Omnil study 2018). Regarding online shopping, the purchases increased sharply in 2020 (FEVAD 2021) and the Covid-19 crisis has undoubtedly initiated practices that can become persistent.

Thus, **home delivery, pick-up points and click & collect are the services used most often by households for online purchases**, also in Paris. Walking is the first travel mode in Paris and the inner suburbs (52%, +9%), followed by private cars (37%) and travel by public transport (12%).

**The majority of Île-de-France residents make their purchases quite frequently, between 3.7 times a week, for an average distance of 2.6 km and an average travel time of 16 minutes.**

The store and services used by the Parisians depend on the place of residence: the closer to the inner-city area the Parisians live, the more often they go to small and medium shops (55%). **In addition, the motorization rate of Parisian households is quite low, which means that trips to hypermarkets are probably less frequent.**

For financial reasons or space and storage issues, households might fragment the frequencies of purchase and fragment the volumes of purchases.

### Different purchasing mobility behaviors according to age

Traveling for shopping by Parisian on an average day of the week

	25-65 years 57% of Île-de-France residents	≥ 65 years 12% of Île-de-France residents
Shopping	<b>3.7</b> per week	<b>5.3</b> per week
Average time of trip	<b>16 min</b>	<b>15 min</b>
Average distance	<b>2.6 km</b>	<b>1.8 km</b>
Type of shop (small & medium or hypermarkets)	<b>55%</b> <b>45%</b>	<b>61%</b> <b>39%</b>
Transport	<b>48%</b> <b>14%</b> <b>38%</b>	<b>60%</b> <b>9%</b> <b>31%</b>

### Travel for purchases in Île-de-France area

Zone	Mostly frequented type of shop	Transport	Average distance	Average time	Mostly frequented type of shop	Transport	Average distance	Average time
	<b>61%</b>	<b>76%</b>	<b>1.4 km</b>	<b>16 min</b>	<b>58%</b>	<b>76%</b>	<b>1.4 km</b>	<b>18 min</b>
	<b>55%</b>	<b>53%</b>	<b>2.1 km</b>	<b>16 min</b>	<b>51%</b>	<b>43%</b>	<b>2.7 km</b>	<b>17 min</b>
	<b>61%</b>	<b>60%</b>	<b>3.6 km</b>	<b>16 min</b>	<b>57%</b>	<b>71%</b>	<b>4.4 km</b>	<b>17 min</b>

Source: DRIEA Île-de-France: Comment les Franciliens se déplacent-ils pour réaliser leurs achats? May 2019.

**Different available purchasing models in Paris compared with the Delipop automated pick-up point model.**

The following existing purchasing models in Paris have been compared with the Delipop automated pick-up point model on greenhouse gas (GHG) emissions and on traveled kilometers:

→ **The home delivery model** is characterized by an almost zero distance-time to travel and a willingness to pay for the service, the goods are delivered to the customer's home. Someone must be at home to receive the order during 2 hours' delivery waiting time.

The home delivery model generates – delivery rounds are done by professionals: an average round trip is 50 km (approach distance+ tour) with multiple delivery points + on-street parking.

→ **The hypermarket model** is characterized by a willingness of households to travel more kilometers for lower product costs.

The hypermarket model generates on average: Departure Home – Average of 15 km empty trip – Shopping time 2 hours – Return home – unloading time.

→ **The Delipop model** is characterized by a reduced distance-time to be covered for households. The so-called "pick up of groceries at the metro exit" makes it possible to optimize the roundtrip on foot. The model makes it possible to merge orders from different retailers together. So, we have a model of both pooling and massification. However, basket diversification is undoubtedly not a response to a pre-existing demand but rather a complementary service offer.

The Delipop model generates: massification of products + direct traces to the places of instructions, with pick up of groceries by households on foot.

**To make a relevant comparison, "order" is used for all models as a standard measure and the following assumptions have been made**

An average order: 1 order is equivalent to 2 Delipop bins for all models.

**Basic assumptions for the study of Delipop Model in Grand Paris\***

**350** pick-up points

**4** retailers

**180** logistic bins per point

**3** logistics hubs outside Paris center

**2** time slots a day (in the future **3** slots a day are planned)

\*These are the assumptions for calculations made in the report. The final number of retailers and partners (local shops and small businesses) will be much higher as Delipop concept is open to all the market players.



↑ Delipop point in Bezon



## GREENHOUSE GAS EMISSIONS PER ORDER

The CO<sub>2</sub>e emissions for home delivery in planned trips have been calculated to an average amount of 800 g per order. Home delivery is already more efficient than taking the car for shopping in a hypermarket, which results in a CO<sub>2</sub>e emissions of 2,343 g per order.

This is explained by the consolidation done by the transport operator, which arranges grouped deliveries in the same geographical sector and is able to organize planned trips.

The CO<sub>2</sub>e emissions for the Delipop automated pick-up point model have been calculated to an average of 186 g per order. This result is based on the massification/pooling model used to deliver to the pick-up points with a single vehicle for the same number of orders and where the customer will collect their purchases using soft modes (on foot, by bike...).

### First & last-mile

In this present study, the "first-mile" can be identified as the inbound transport from a retailer's warehouse to the flow consolidation hub. The "last-mile" is the final transport between the flow consolidation hub and the Delipop pickup point.

15x fewer kilometers driven = fewer cars, no blocked streets, no double parking.

The Delipop model reduces the greenhouse gas emissions per order by 77% compared to the home delivery service and by 92% compared to the hypermarket purchases.<sup>3</sup>



**Marek Piotrowski**  
Chief Marketing & Experience Officer at Delipop and Retail Robotics



**Jérôme Libeskind**  
Expert in urban logistics and head of Logicités

### Greenhouse gas emissions per order



According to the calculation, the Delipop model reduces the greenhouse gas emissions per order by:

- 77% compared to the home delivery service,
- 92% compared to the hypermarket purchases.

### Traveled kilometers per order



According to the calculation, the Delipop model reduces the traveled kilometers per order by:<sup>4</sup>

- 92.5% compared to the home delivery service,
- 98.5% compared to the hypermarket purchases.

Note: by taking a private car equivalent ratio (1 truck = 2 cars), the reduction the reduction is 97%.

1 Household purchases from a supermarket have probably a much higher volume as the Delipop model (equivalent to 4 bins = 4.686 g CO<sub>2</sub>e per order).  
 2 Household purchases from a supermarket have probably a much higher volume as the Delipop model (equivalent to 4 bins = 30 km per order).  
 3 According to the assumptions described on page 26.  
 4 According to the assumptions described on page 26.

Source: Sustainability in the last-mile delivery of groceries on the example of Grand Paris, 2022.

Concerning home delivery, this service is very constrained by the delivery times/slots but also by the parking obligations. These constraints lead to a lower filling rate of the delivery vehicles, frequent stops, generate urban congestion (double-queues) and ultimately increase the number of vehicles on roads.

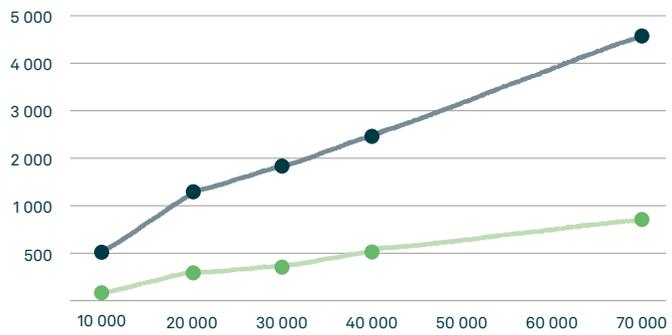
The results of a **77% reduction in greenhouse gas emissions and 92,5% of traveled kilometers** compared to home delivery can even be improved if the first-miles (distance between the retailer's warehouse and logistics hub) is reduced, which is a possible improvement within the model.

With the assumptions described above, the Delipop network considerably improves the last-mile, which is most problematic in inner-city areas. Merging volumes and massification is efficient in terms of emissions, road occupancy of delivery vehicles and number of vehicles.

In this sense, Delipop provides an answer for all inner-cities problems with urban congestion.

This graph shows the potential reduction in vehicles depending on the number of e-commerce orders in the Delipop model versus the home delivery model. The positive environmental impact of Delipop is even bigger when we take into account not only the occupation of the roads by delivery vans during driving but also during parking. This last point is a crucial part of the positive impact of the Delipop model.

Most of the deliveries in Paris (about 2/3) are done in double lanes and disturb the other daily Parisian activities. For home deliveries, this ratio is probably even more important because delivery spaces are located close to shops and office buildings but not often close to apartment buildings.



**Number of daily delivery vehicles in the city depending on the model**

- Home delivery
- Delipop model

Source: Sustainability in the last-mile delivery of groceries on the example of Grand Paris, 2022.

Delipop reconciles a considerable reduction in greenhouse gas emissions and vehicles in circulation generated by daily household purchases with a local service to residents. The concept responds to the political objectives of urban logistics, which aim to better consolidate flows and avoid unnecessary movements of commercial vehicles.

Delipop is a local service to residents, an environmental response to urban logistics objectives and a solution to encourage the demotorization of households.

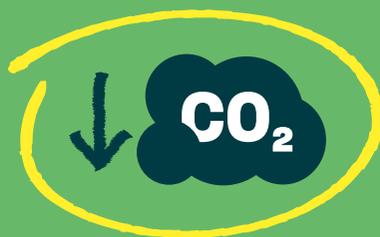


**Jérôme Libeskind**  
Expert in urban logistics and head of Logicités





# DELIPOP NETWORK WILL SAVE MORE CO<sub>2</sub> EMISSIONS THAN ARE ABSORBED BY ALL 500,000 TREES IN PARIS



350x



500



Approximately 500,000 trees are growing in Paris now and the city plans to plant 170,000 more to make it breathe better.

As far as CO<sub>2</sub> emissions are concerned, the Delipop Network in Paris can generate “savings” of 536,000 trees. That is only in comparison to home delivery.

In comparison to hypermarket shopping – the “savings” are even **3x bigger** and comparable to a forest of over 1.8 mln trees!



**Marek Piotrowski**

Chief Marketing & Experience Officer  
at Delipop and Retail Robotics

## How is it possible?

- Calculations made by comparison of CO<sub>2</sub> emissions of e-grocery deliveries to Delipop Network (186 g per order) and home delivery (800 g per order). “Savings” are 614 g CO<sub>2</sub> per order. Annually Delipop Network of 350 points can serve 18.3 mln orders.
- A fully grown tree absorbs approximately 21 kg of CO<sub>2</sub> annually.

06

## DELIPOP MODEL - SUSTAINABLE SOLUTION FOR URBAN LOGISTICS IN BIG CITIES



Delipop Team ↑

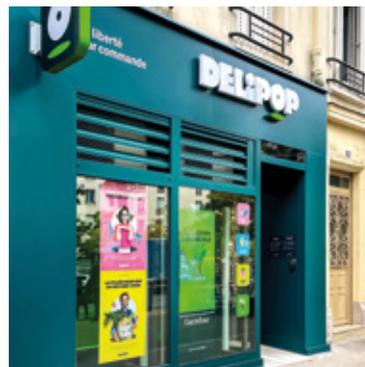


## A MULTI-STAKEHOLDER SYSTEM

Delipop aims to deploy **a network of multi-stakeholder automatic pick-up points**. At one and the same place, the consumers will be able to pick up their groceries that they purchased online from one or more retailers.

The Delipop model is based on the consolidation of order flows in warehouses located outside the city and on the orders' delivery to mutual collection points in urban areas.

By **2026** Delipop plans to open **1,000** pick-up points in France, including **350** in the Grand Paris and Île-de-France area.



↑ Delipop point on d'Orsel street and on avenue de Versailles.

Friendly from the outside – with transparent windows surrounded by parisian green, topped with a playfully designed shop sign, fitting into the architecture of the city.

Friendly from the inside with joyful pick-up machines using colors and sounds to smoothly guide the consumers through the process. With friendly people waving from the screens to invite interaction and the sounds of a park to make it even more enjoyable.

Inside, consumers will find benches with containers dedicated to recycling the paper bags... and a mural on the wall presenting the most important places in the neighborhood.

Delipop can help big cities to build the bridge between traditional commerce and its sustainable future in a time of booming e-commerce.



**Marek Piotrowski**

Chief Marketing & Experience Officer at Delipop and Retail Robotics



## A multi-stakeholder system - consolidation and massification

The Delipop model is based on the consolidation of upstream logistics flows in order to allow retailers to reduce costs of transport and commercial area. Automation helps to reduce operating costs, which are the main obstacles to a sustainable business model of pedestrian drives.

## Game-changing robotic solution

Delipop is based on robotic Arctan technology and a specialized information system. Thanks to the internal robotization system, pick-up points can accommodate hundreds of orders and handle 2–3 customers at the same time. Every Delipop consists of two modules with 2 refrigerating zones (+4 and -18°C), containing from 94 up to 200 logistic bins and 28 frozen lockers.

The collection process is very fast – a typical order can be picked up by the customer in 1 minute and 30 seconds, with the collection time of one bin in less than 30 seconds. Customers who have questions during the pick-up can contact Delipop Friends – a customer service assisting them in real time.

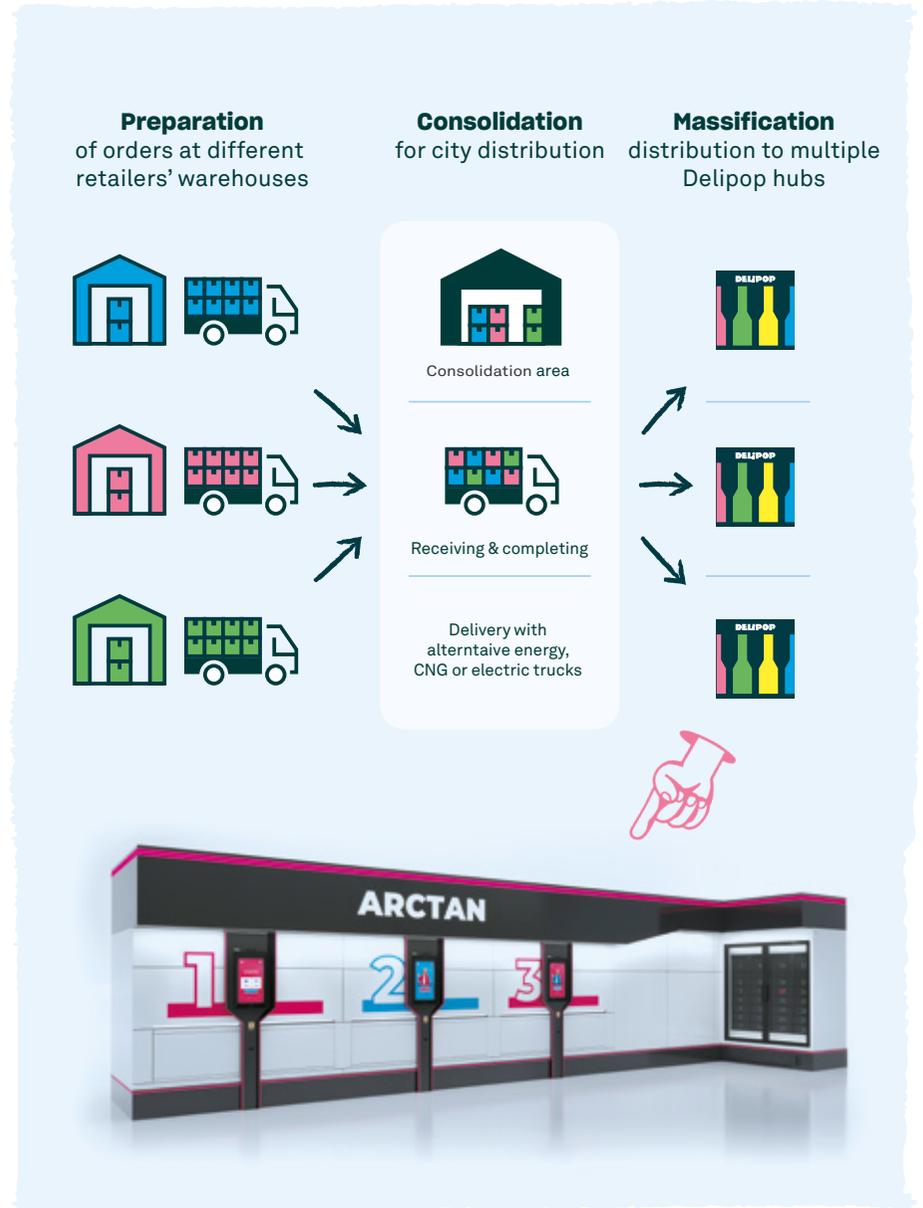


### Consolidation & massification in the Delipop model



### Arctan.156

is one of the models of the Arctan machine. This model has a capacity of 156 cooled logistic bins and 28 freezer lockers.



# HUB-EFFECT IN E-GROCERY

**Home delivery**

vs

**Multi-brand hubs  
Delipop Network**

1 courier can deliver:



**14-25**  
orders

(in Paris the average is 14-15)

1 courier can deliver:



**200-300**  
orders

thanks to the use of hubs

**Multi-brand hubs substantially improve the effectiveness of couriers and vans used.**

Thanks to the hub-effect we can immensely lower the number of vans used in the distribution = reduction of CO<sub>2</sub> emissions, delivery costs and congestion.



**1 courier can be even 20 times more effective!**

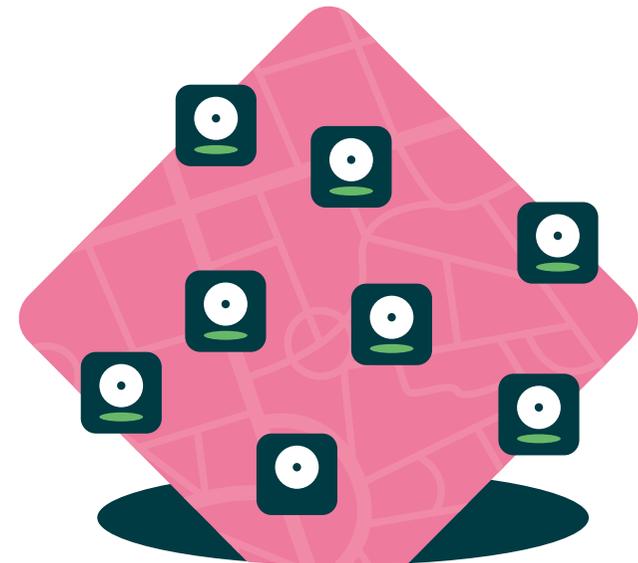
The bigger the capacity of the hubs, the bigger the positive impact of the model.

Delipop provides a new solution that combines consolidation of flows by grouping the flows of several brands and a walk-in pick-up point, which avoids individual deliveries. Therefore, there are fewer vehicles in the city and a local service for the inhabitants is available.



**Jérôme Libeskind**

Expert in urban logistics and head of Logicités



## FLows IN DELIPOP MODEL



**Collection** of orders made by households via an application bringing together different retail brands.



**Preparation** of orders by e-commerce warehouses of large retailers. The distribution warehouses located in the northwest of Paris deliver to the Gennevilliers site. The warehouses in the northeast and east of Paris deliver to a site located on the A1 axis. Warehouses in the south of Paris deliver to the Orly site.



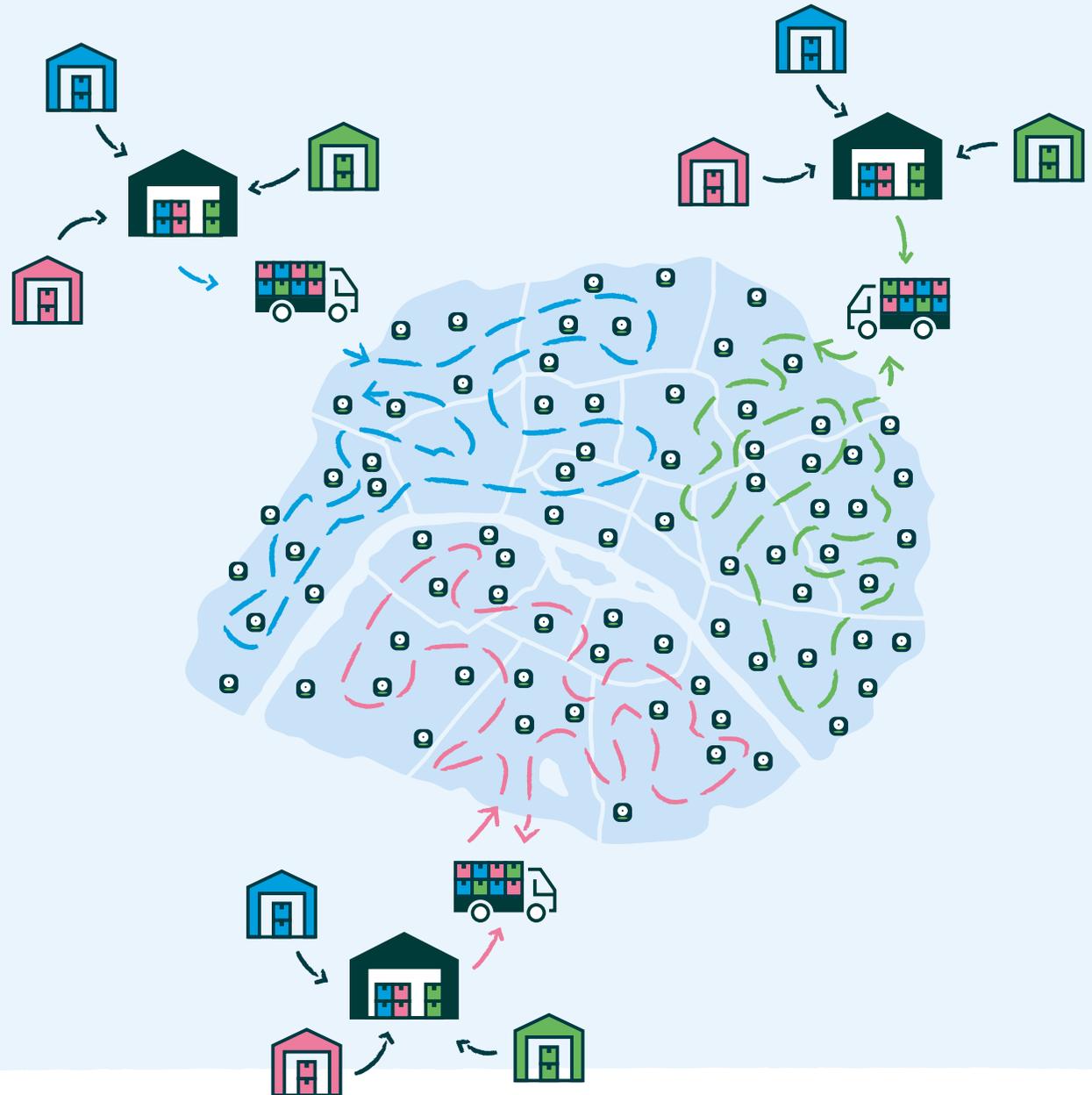
**Unbundling of bins** containing orders from retailers. Constitution of delivery rounds allowing a massification of orders in warehouses.



**Realization of delivery** rounds of Delipop collection points from Gennevilliers, Orly or sector A1. Loading of bins from different brands into the machine located in the collection point, collection of empty bins.



**Collection of the order** by the customer at the Delipop pick-up point of their choice (near home, work, metro exit, etc.).



## Comparison between hypermarkets purchases, home delivery and Delipop model

Delipops	350	250	100	50
Average				
<b>First km</b>				
CO <sub>2</sub> e	2920971.00 g 2.92 t	1669126.29 g 1.67 t	834563.14 g 0.83 t	417281.57 g 0.42 t
Per bag	58.53 g	58.53 g	58.53 g	58.53 g
Per order	117.06 g	117.06 g	117.06 g	117.06 g
<b>Last km</b>				
CO <sub>2</sub> e	18398663.80 g/d 1.84 t/d	997471.69 g/d 1.00 t/d	474298.13 g/d 0.47 t/d	228509.03 g/d 0.23 t/d
Per bag	37.09 g	35.25 g	33.58 g	32.40 g
Per order	74.18 g	70.50 g	67.16 g	64.80 g
Number of vehicles inside Paris	593	350	175	88
<b>Total</b>				
CO <sub>2</sub> e	4760834.08 g/d 4.76 t/d	2666597.98 g/d 4.46 t/d	1308861.27 g/d 2.21 t/d	645790.60 g/d 1.09 t/d
Per bag	95.62 g	93.78 g	92.11 g	90.93 g
Per order	191.23 g	187.56 g	184.22 g	181.86 g
Dont first km	61%	62%	64%	64%
<b>Compared to home delivery</b>				
CO <sub>2</sub> e g/order	800	800	800	800
Number of vehicles	3150	1800	900	450
	Average CO <sub>2</sub> emission per order (g)		Average number of vehicles per day (inside Paris)	
<b>Home delivery</b>	800		1575	
<b>Delipop</b>	186	x 4.3	302	x 5.2

We have modeled GHG emissions according to the number of Delipop units deployed.

The table shows that on average, the CO<sub>2</sub>e emissions per order fluctuate relatively little. Only the filling rate of vehicles has a real impact. Regardless of the number of orders and due to the linearity of the model, the variation of GHG emissions compared to the order is small.

Thus, an order issued by Delipop (2 bins) generates around 186g CO<sub>2</sub>e, with an average of 63% generated by the first kilometer and 27% by the last kilometer.

The calculations show that the model is already optimized with 50 Delipop deployed in inner Paris. With 50 Delipop, the trucks are already full and the model is very efficient. It also shows that the main environmental impact is found in the last-mile, which is the most problematic part of transport in the main cities.



**Jérôme Libeskind**

Expert in urban logistics and head of Logicités





## **DELIPOP UNIVERSAL NETWORK IS BASED ON 5 PILLARS**

**1**

**The consolidation of orders (Hub Effect)** makes the delivery less expensive and reduces the number of vans used, which helps avoid the last-mile delivery problem.

**2**

**Automation of collection points** reduces the costs of delivery and customer handover.

**3**

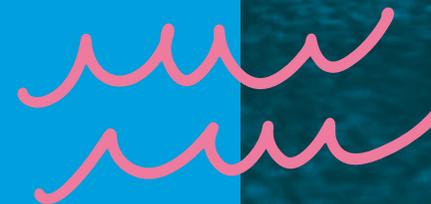
**Accessibility for consumers** is bigger once there is a universal network with several retailer partners.

**4**

**A variable cost for retailers** is the basis of using this network.

**5**

**High-quality unique customer experience** Simplified interface, bright colors, gentle sounds, lights, and even smells.



**07**

## **BENEFITS OF THE DELIPOP MODEL**

The Delipop automated pick-up points model presents many advantages from different points of view.

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**Eco  
Social  
Economic**

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## ECO: FOR THE PLANET AND OUR CITIES

### For the City:

- **Consolidation of the flow** on a single delivery point to considerably limit the movements of private and delivery vehicles.
- Multi-stakeholder pooling/sharing **limiting delivery vehicles** in the major cities particularly during loading/unloading. The Delipop model is aligned with the political guidance and regulations to raise consumer awareness of “pooled” deliveries.
- **Better route optimization** and higher filling rate of vehicles.
- **Centralization of warehousing outside cities**, in the near periphery, avoiding multiple storage points.
- **No blockage of streets by home delivery trucks.** Less double parking. The uncontrolled parking in front of apartment buildings causes inconveniences.

- **Easy to integrate into the city architecture** (graphics, music...) due to the aesthetics of the automated pick-up point.
- Delipop points are close to the customer’s home – this eliminates the necessity to take/to buy a private car and **supports demotorization of urban inhabitants.**

### For the Planet

- Reduction of environmental impact. **Even 91% less greenhouse emissions in the last-mile!**
- **Green Zones** are easier to introduce without sacrificing the well-being of the citizens. The Delipop model is suitable for regulatory developments of the **Low Emission Zones** in all major French cities.
- Deliveries are made in reusable bins, which reduces the amount of packaging.
- Deliveries and maintenance are made by **gas and electric trucks.**

## EVEN 91% FEWER GREENHOUSE EMISSIONS IN THE LAST MILE!



## SOCIAL: FOR THE PEOPLE AND OUR NEIGHBORHOODS

### For the people:

#### → **Affordability.**

Offer access for residents is almost equivalent to hypermarkets (range, prices) in the city center, facilitating the life of families. By reducing the price gap between purchases in city centers (often of a high price) and those on the periphery, Delipop model supports the social family policy. Retailers can offer better prices as they save money on delivery costs. This is especially important for the many low-income inhabitants of city centers, including elderly people and students.

#### → **Access to a wide offer.**

You can choose from a huge range of products, which you can order from multiple retailers and local stores and pick up from Delipop point nearby. As the network becomes denser the process becomes even more convenient – there are numerous pickup points and wide time intervals for order collection.

#### → **Accessibility.**

Delipop wants to be also easily-accessible to everyone. People with disabilities can experience a smooth pick-up – points are designed to accommodate the needs of people in wheelchairs.

→ **The city center is once again becoming the place of life** in which the inhabitants do 100% of their shopping without the obligation to move and to have a car. This is the concept of the 15-minute city.

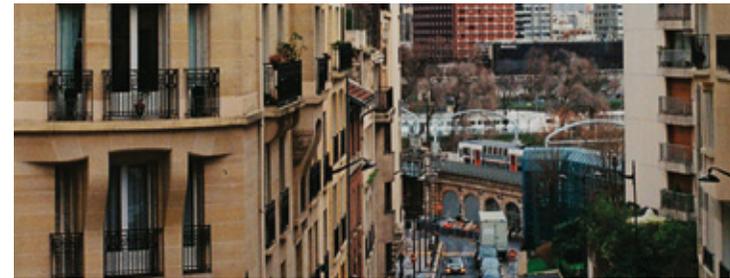
→ **Time-saving and simplified service.** A solution that fits into the life of the customer who comes to pick up his groceries when he comes home from the office, or when he picks up his children from school... (virtuous circle).

→ **The inhabitant spends less time shopping** and more time within their communities (sports, social & cultural life).

→ **Long opening hours** (or even potentially 24/7) offer greater freedom for the customers to pick up the orders and adjust to their rhythm of life.

→ **In line with consumers' need to act on green solutions.** All Delipop users can contribute to the sustainable development of the city and supporting the planet.

## REVITALIZATION OF LOCAL AREAS



### Revitalizing the neighborhood:

→ By allowing customers to **stay in their neighborhood** and spend as little time as possible shopping, it helps revitalize the local area. People who use Delipop will quickly pick up their groceries on their way back from the office and spend more time on neighborhood activities (sports, walks in the park, cafes).

→ Delipop also aims to **recruit local people** to carry out the cleaning work of the collection or handling points. It is also an opportunity to give work to people in the neighborhood in low-skilled positions, and also to retired people. Delipop already cooperates with Regies du quartier and "Passerelles" Association and plans to start a cooperation with others in the near future.



## ECONOMIC: FOR THE RETAILERS AND SMALL BUSINESSES

Delipop is neutral and does not favor anyone. This is a very important upgrade for growth of the cities and ensures healthy competition in comparison to pick-up networks concentrated on one brand only.

### Positive savings for retailers:

- Consolidation, massification and the increase of staff effectiveness – **lower the delivery costs**. This makes e-grocery finally profitable and lets retailers offer more affordable shopping to city centers.
- Delipop extends distribution channels for retailers and brands, that allows them to maintain and/or increase their market share.
- It contributes to the food business that is a stable market segment: there will always be a need in dense urban areas.
- **Retailers do not have to invest in building their own costly network** – they pay per order. No CAPEX – only OPEX<sup>1</sup>.

### Positive growth for local businesses:

- As the network grows, Delipop intends to develop **cooperation with local businesses** such as greengrocers, patisseries and fish or butcher shops to support, to support small shops and preserve the local spirit of the neighborhoods. Small local retailers will be able to book slots at Delipop locations and load them using a dedicated application – to provide an afterhours pick-up service for their clients.
- This allows small local food shops to **increase their turnover by having access to very active customers** who do not necessarily have the time to make their purchases close to home.
- Additional access to Delipop delivery through local marketplaces.

## DELIPOP IS OPEN TO ALL RETAILERS, SMALL BUSINESSES AND STORES. IT INCREASES EFFICIENCY AND LOWERS DELIVERY COSTS



<sup>1</sup> Capital expenditures (CAPEX) are major purchases a company makes that are designed to be used over the long term. Operating expenses (OPEX) are the day-to-day expenses a company incurs to keep its business operational.



Delipop is an answer to the legitimate requirement of the city inhabitants to spend less time on their shopping. Consumers, following the Covid-19 crisis, have increasingly become e-consumers, using e-commerce to find solutions to get access to a wider range of products for a better price and to gain time which will be used for cultural or leisure activities and spending quality time with their families. But e-commerce has to find integration in the city, in its architecture, in its lively aspects that we all expect to maintain.

Quick commerce implies quick deliveries without any consolidation, which means individual, fragmented flows which create a new form of congestion by individual means of delivery.

Delipop is exactly the contrary. The model is based on flow consolidation and not on individual deliveries. It's based on relations between retailers and local shops with local communities. In quick commerce, often called the "lazy economy", the consumer stays at home and waits for his everyday shopping to be delivered to his place.

In the Delipop model, the consumer picks up the goods he ordered close to his home, on foot, by bicycle, or using public transport. He can do this during chain trips, which include shopping in a physical shop, traveling back from work or school.



**Jérôme Libeskind**

Expert in urban logistics and head of Logicités

08

## **THE MODEL ALREADY PROVEN DURING THE 5-MONTH PILOT PROGRAM**

The first Delipop pick-up point was opened in Paris on 6 October 2021, at 194 avenue de Versailles in cooperation with the first retailer that has joined the network – Carrefour.

In June 2022 also Monoprix signed for a partnership, making Delipop the world's first multi-brand e-grocery universal network.



## DESCRIPTION OF THE 1<sup>ST</sup> LOCATION:



The space is less than 45 m<sup>2</sup> and is 2.95 m high. It offers a bench and an indoor bin for depositing packaging. Accessible for people with disabilities.



It takes about 1/2 hour to fill the machine with the customer orders.



Delipop inside consists of 2 pick-up stations – it takes approximately 1 minute to collect an equivalent of 2 bins. The operation is very visual and intuitive.



The current opening hours are 8 am–10 pm. As the network grows, they can be extended to 24 hours a day.



Offering a choice of 14,000 product references available on [carrefour.fr](https://www.carrefour.fr) website. It allows customers to pick up their orders on the same day.



Inside you can find a painting on a wooden wall – showing the most important highlights in the district – to build a connection with the surroundings.





**MATTHIEU S.**  
46 orders

I am very happy with Delipop service because I am a fan of this new technology – and the fastest way to collect my order. I pay attention to my "score" each time I collect the order – how much time it takes. I am always under 1 minute!



**EVA L.**  
38 orders

I am a mother and live near Delipop, it is convenient for me and my children. I found the concept ingenious.



**CLÉMENTINE B.**  
26 orders

I live over Delipop and it has changed my life. It is very helpful when I run out of some products.



**38%**

**38% of users placed their orders 3 times or more.** Most of them were very enthusiastic about the concept.<sup>1</sup>



**30-50 x**

The Delipop model has very loyal customers. Some of them managed to pick up even **30-50 orders within 5 months.**<sup>1</sup>



**4.45/5**

The general satisfaction level of service is **very high.**<sup>2</sup>

**What attracts the most consumers:<sup>1</sup>**

- **Proximity** to their homes
- **Free** delivery
- **Great** customer experience
- **Price** advantage
- **Wide range** of products

<sup>1</sup> Delipop web panel, 06.10.2021 – 24.02.2022.

<sup>2</sup> Stated by consumers at the end of the process at the machine from the opening, to 28.03.2022.

## ENVIRONMENTAL EFFECT

Positive environmental effects already visible in one location. The environmental results of Delipop are conditioned by the growth of the network, which will be built progressively.

However, the analysis of the first Delipop pick-up point helps us also understand what the social and environmental impacts of Delipop will be. **The analysis performed in a single delivery point makes it possible to already avoid 29% of greenhouse gas (GHG) emissions compared to home delivery<sup>1</sup>.** So, the positive impact is immediate, even before a dense network is built.

Avoided GHG emissions grow progressively with the development of the network, up to 77% for approximately 50 Delipop points. After that, the rate of 77% is linear because the delivery vehicles are fully used. It may even be slightly better depending on the retailers' locations vs the Delipop's consolidation centers.

This figure shows that, during the period of developing the whole network and obtaining the final calculations mentioned above, the existing result is already positive. The difference that will make it possible to obtain 80% to 90% GHG emission reductions compared to home delivery will be:

- The development of the network and the consolidated delivery of several Delipop pick-up points at the same time.
- The consolidation of several retailers, which was not the case in the beginning.
- The global volume of orders.

As far as the kilometers and in particular, delivery stops, are concerned, which make a real problem in the cities, the impact of the first Delipop is immediate. The only stop is to deliver the bins to the machine, during a time of approximately 30 minutes. There is no individual stop as exists in the model of home delivery.

**ONE DELIPOP LOCATION ALREADY SAVES 29% OF THE GREENHOUSE GAS EMISSIONS COMPARED TO HOME DELIVERY**

<sup>1</sup> Sustainability in the last-mile delivery of groceries on the example of Grand Paris, 2022.

**09**

## **INFRASTRUCTURE FOR THE FUTURE CITIES**

Delipop is planning to grow a network of at least 1,000 locations in France to support the cities, planet, and consumers. Engagement of administration and market players is needed to achieve great results as soon as possible.

With the support of cities and market players we can build together a much bigger network, which will bring even more profits to the world.

**LET'S BUILD  
A BETTER  
FUTURE  
TOGETHER**

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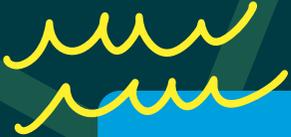
**to ensure  
sustainable growth**

**to save our planet,  
our cities**

**support citizens**

**and ensure  
the prosperity  
of the market players**

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Delipop wants to be the interface between all the main players in the city and offers a virtuous solution throughout the food e-commerce chain.

Retailers see a solution that achieves their growth and profitability goals, local merchants get a new service that allows them to increase their sales and their trade perimeters, whereas consumers find a simple, fast solution that allows them to save time and have access to a unique product offer. Finally, city authorities see a solution that limits traffic, urban congestion in cities and fits perfectly into the ecosystem.

Delipop is one of the e-commerce operational solutions that will naturally prevail in urban areas.



**Stéphane Legatelois**  
Chief Executive Officer  
at Delipop France



**Marek Piotrowski**  
Chief Marketing & Experience Officer  
at Delipop and Retail Robotics



**Jérôme Libeskind**  
Expert in urban logistics  
and head of Logicités



This multi-brand network for e-grocery delivery is the best currently available solution for the sustainable growth of cities – covering ecological, social and economic aspects. This study is based on Grand Paris but it is applicable in all French cities and beyond.

Delipop is the first player to propose this solution. We do hope that all the readers of this report will support us in letting it grow for the sake of all of us.

We are open to suggestions and cooperation. Let's build a better future together.

Delipop has many positive environmental and social impacts. The consumer target is not only high-income inhabitants but all of them, particularly those who consider the high prices of products in the city center as a difficulty in everyday life.

The modern, architectural and attractive pick-up up points make it a local service, part of the 15-minute city scheme. The relations with local shops easily integrate Delipop with the local services around the main residential areas.

The supply chain organization of Delipop, based on flow consolidation, is the key environmental issue. It is completed by the use of non-diesel vehicles. So the Delipop model perfectly fits urban freight policies in major cities.





# 5 PILLARS FOR SUSTAINABLE DELIVERY INFRASTRUCTURE

1

## **Ecological**

less CO<sub>2</sub> emissions,  
less pollution, less traffic

2

## **Local**

open for everyone,  
accessible and affordable

3

## **Urban**

respecting traditional commerce  
and architecture, open to all market players

4

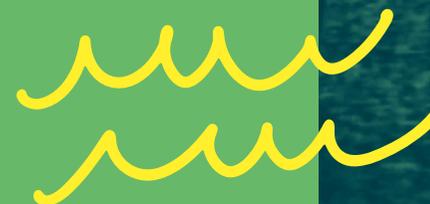
## **Futuristic**

deploying smart, robotic solutions  
supporting city evolution

5

## **Efficient**

multi-brand networks  
based on the hub effect



# AUTHORS

## Jérôme Libeskind

An expert in urban logistics, last-mile delivery, real estate logistics, implementation of multimodal and urban logistics platforms, urban distribution of goods and logistics services in e-commerce. He is the head of Logicités – a consultancy which specializes in urban and last-mile logistics. He supports many public and private players, in particular local authorities, in understanding the challenges of urban logistics, analyzing solutions and their operational implementation. Jérôme Libeskind is an author of several books on urban logistics: "La logistique urbaine – les nouveaux modes de consommation et de livraison" (Editions FYP – March 2015), "La logistique urbaine au Japon" (September 2018) and "Si la logistique m'était contée" (Editions FYP – April 2021). He is a lecturer in urban logistics and e-commerce at the Ecole Supérieure des Transports and at the Master TLTE Paris Sorbonne and conducts numerous conferences on this subject.

## Olivier Dauvers

An agricultural engineer by education, Olivier Dauvers, has been following distribution for 31 years. After having been an editor-in-chief of Lineaires (1994–2001) and Rayon Boissons (1993–1996) he has been a publisher specializing in retail and mass consumption since 2002. A leading player in info-retail, he stands out for its unique multimedia approach: monitoring (Vigie Grande Conso, Les Essentiels, Consoscopie, etc.), books (Penser-Client, Image-Prix, etc.), studies (Distri Prix, Promoflash, Drive Insights), videos (Vidéo Grande Conso), podcasts (Les Voices De La Conso, Café Conso) and, of course, the olivierdauvers.fr blog, as well as Twitter and LinkedIn feeds. As such, he has created a community of more than 80,000 subscribers.

## Stéphane Legatelois

He is CEO of Delipop France, responsible for the growth of the network and cooperation with retailers. An expert in logistics and e-commerce operations. Before joining Delipop, he was Director of Logistics Operations for Rakuten in Europe and Director of Operations and Supply E-commerce for Carrefour in France. Throughout his career, he has been very involved in the search for ecological and sustainable solutions in last-mile logistics. He was one of the founders of the company The Green Link, which was one of the first actors of urban delivery by cargo bike and also one of the founders of Urbantz, which offers a solution for optimizing delivery routes.

## Marek Piotrowski

An expert in marketing and user experience (UX). As Chief Marketing & Experience Officer at Delipop, he was responsible for the launch of the network in France. When Delipop was created he joined the team to build a strong brand in retail delivery with very deep engagement in sustainability issues, and great customer care. Since 2019, he has been a partner and CMO at Retail Robotics, the world leading producer of parcel lockers solutions. His goal was to create and develop a remarkable brand of game-changing solutions with great usability, design and positive influence on the environment. Prior to his career in tech, Marek was the CEO of interactive and advertising agencies for 20 years, working globally for top brands like Nike, Orange, Sony, P&G, Samsung and GE. He is an advocate of new tech, longevity, growth mindset and great design.

**About the report Sustainability  
in delivery of groceries**

In the report *Sustainability in the last-mile delivery of groceries, on the example of Grand Paris*, together with retail and logistics experts, we analyze the current situation of the e-grocery market, purchase patterns, environmental, social and business challenges they create, and possible solutions. We focus on the multi-brand hub solution and analyze it on the example of Delipop – a concept of a multi-brand universal e-grocery click & collect network, which opened its first location in Paris in October 2021.

**About Delipop**

Delipop Drive Piéton Multimarchands is the first fully automated e-grocery pick-up universal network based on robotic machines. It is fully mutualized and serving several retailer brands. It was created to meet the growing demand for online shopping, give customers the best possible experience, and let our planet breathe. The network is a French startup founded in 2021 as a joint venture between Łukasz Nowiński, CEO and founder of Retail Robotics, and Hervé Street, president of Star Service Group.





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→ Insight Report: [www.sustainability-report.delipop.com](http://www.sustainability-report.delipop.com)