New York
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Quick commerce: Will the disruption of the food retail industry take place? Investigating the quick commerce supply chain and the impacts of dark stores

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City Logistics Conference 2023 – Bordeaux (online)

Paris

- The Logistics City Chair has investigated in 2022 quick commerce.

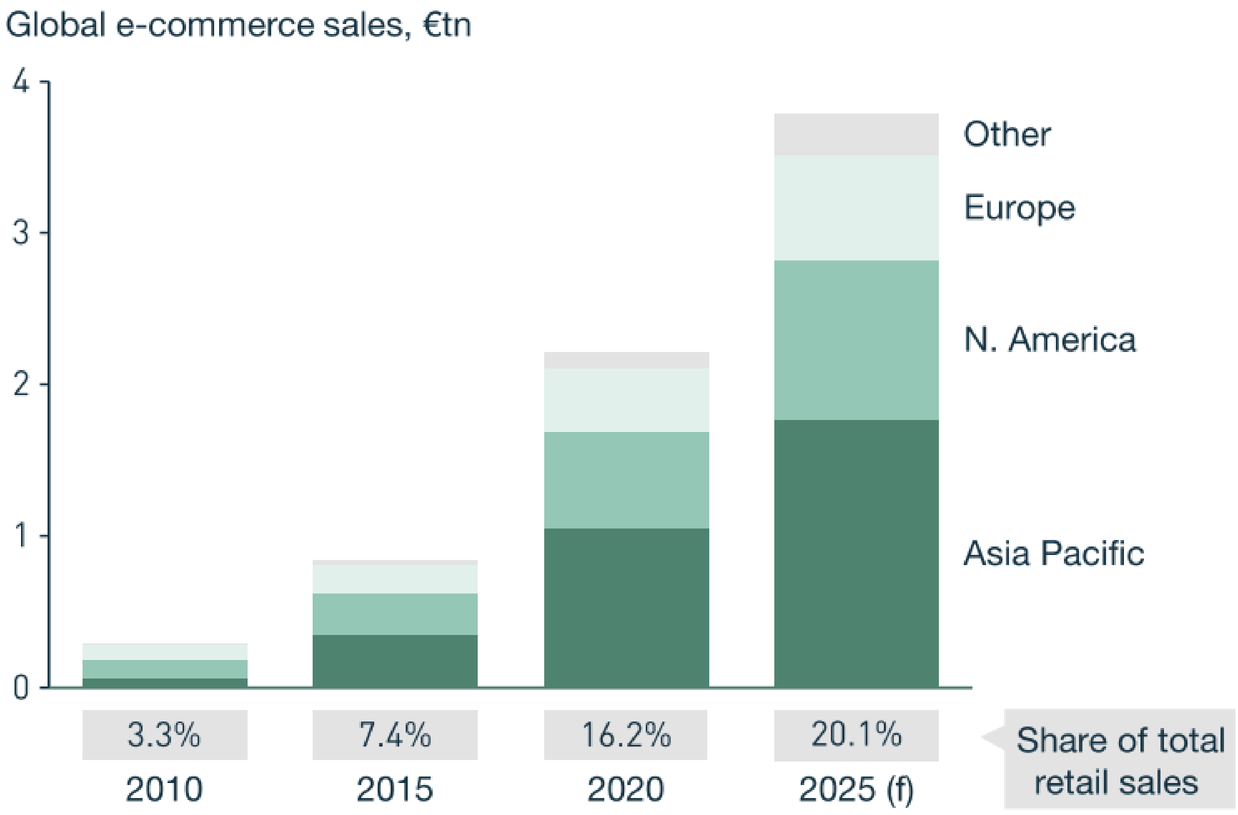
https://www.lvmt.fr/en/chaires/logistics-city/

Results (available online):

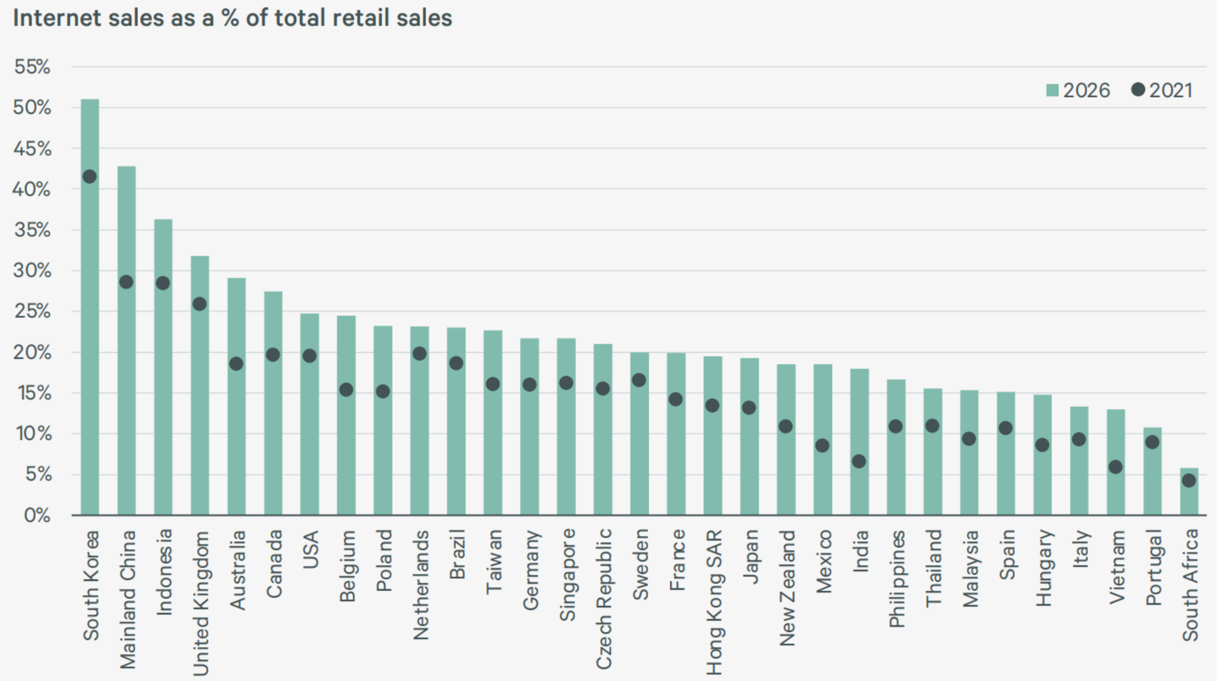
- Observatory of ecommerce mobilities (tab quick commerce & instant deliveries)
- Research conducted by the Chair team (interviews, observations, fieldwork, specialized and general press reviews - Paris, New York)
- Financing of two surveys in Paris (observations and counts) by Junior Enterprise of the Paris School of Urban Planning.
- 2022: Master's thesis on food e-commerce and the case of Gopuff in Paris (Joséphine Mariquivoi, under the supervision of Heleen Buldeo Rai, phD)
- Publication May 2022 in *The Conversation*
- *Publication of a research report on quick commerce (M.Schorung): https://www.lvmt.fr/wp-content/uploads/2019/10/Research-report-Quick-commerce-Schorung-mars-23-EN.pdf*

The global context: the rise of food e-commerce and new logistics and sales formats

Context: an explosion in e-commerce sales for over a decade



Source : International Post Corporation, 2021



Source: CBRE Research. We used a cross-sectional regression model to identify the variables that best explained cross-country differences in e-commerce penetration. To arrive at future values for the explanatory variables, we made some general convergence assumptions (lower scoring markets would converge on countries closer to their saturation values). Using these assumptions and the regression model, we predicted future e-commerce penetration rates for all markets. Final forecasts are a mixture of model-based projections and qualitative adjustments, also based on feedback from local market teams. For the UK we have used our 2022 forecast as a starting point due to the 2021 actual figure being distorted by the impact of the pandemic.

Source : CBRE, 2022.

The Covid-19 pandemic and restrictive measures have accelerated pre-existing trends of a partial transition from traditional to online shopping, as well as the emergence of new e-consumer practices, particularly in markets with the most developed online offerings (Delberghe et al., 2022).

From e-commerce pure players and electronic marketplaces.

But also traditional physical stores have also changed their practices - changes largely amplified by the health crisis - towards a diversification of ways of selling and sales channels in the direction of greater multicanality (combination of an online presence and physical stores within which online and offline purchases are handled separately) or even omnicanality (integration of online and offline sales channels in the same process, with the possibility of buying online and picking up purchases in store, or ordering items in store and receiving them at home).

The impact of omnichannel on logistics organizations

Les formats de l'omnicanalité

	Modified store setting	New store setting
Operational offering	Showrooms, zero-inventory stores, digital assortment extension, digital shelf extension, virtual shelf expansion Buy online, pick-up in store (BOPIS/BOPS), click-and-collect, curbside pick-up, reserve online, pick-up and pay in store (ROPS) Buy online and return in store Buy online, get it delivered from the store (BOGIDS), ship-from-store (SFS), warestores, dedicated stores as fulfilment nodes, dark stores	Click-and-drive, third party access points, lockers, collection points, pick-up stations, delivery points Stores-on-wheels
Experimental offering	Experience stores, flagship stores, concept stores, pop-up stores, temporary stores, third places Cashier-less stores	

Source : Buldeo Rai, 2021.

Omnicanality has enabled a multitude of business models to evolve (Gee et al., 2020):

→ adaptation of existing practices (delivery of prepared meals, short circuits, direct sales from points of production)

→ emergence of new practices (delivery of recipe baskets, fresh produce delivery).

Logistics organization methods have also evolved:

→ 1) the adaptation of physical supermarkets with dedicated spaces to pick up online orders inside the store (counters or shelves inside) (Colla, Lapoule, 2015) or parts of sites called "drives" or "pick-up points" (Wollenburg et al., 2018)

→ 2) the introduction of dedicated home delivery services by traditional supermarket chains or by new entrants specializing in online-only commerce (Martin, Pagliara and Roman, 2019; Seidel, 2021), such as quick commerce pure players.

Strong growth in food e-commerce

Some food e-commerce figures:

→ +46% growth in online food sales in 2020, +16% in 2021), representing $197.2 billion in sales worldwide (Maximize Markets Research data)

→ Online sales by the end of 2021 = 7.2% of global food sales, up from 4.8% in 2019 (Kantar Winning Omnichannel).

The development of dedicated B2C platforms has also been made possible by the use of a flexible workforce made up of independent workers who are often precarious ("uberized delivery drivers", "gig workers" (Dablanc et al., 2022).

But the situation varies widely from country to country:

→ Online food shopping accounts for 9.5% of total food sales in the USA.

→ According to Mercatus/Incisiv data, this share should exceed 20% by 2025-2026 in the USA.

→ In France, the figure will be 8.3% in 2021.

→ As for the proportion of consumers having used online sites to buy food, the rate stands at 35.2% in 2021 in Western Europe, compared with 88% in mainland China, according to data from Kantar Winning Omnichannel.

The food e-commerce sector is a diversified one that can currently be structured around five branches:

1) aggregators (platforms that combine several services on a single tool, linking consumers with food establishments, and secondarily with supermarkets) (UberEats, Deliveroo)
2) cooking baskets (Hello Fresh, Jow)
3) pure players in online food delivery (Greenweez, Epicery, La Belle Vie)
4) store-picking, drive-through and delivery services offered by supermarket chains (in France: Monoprix, Carrefour; in the United States: Walmart, Whole Foods Market)
5) quick commerce (Getir, Flink, Gopuff), which remains a secondary but fast-growing activity.

Since 2021, a new branch of collaborative delivery has been under development, based on the Amazon Flex model in the United States, which enables private delivery drivers to deliver Amazon orders. This time, the idea is to link individual delivery drivers with a network of partner stores via a platform (Everli, Shopopop).

Quick commerce: mirroring the transformation of e-commerce in the food industry

Quick commerce : a commercial niche

Quick commerce can be defined as follows: "*Q-commerce (quick commerce, q-com) is a type of online commerce in which goods are delivered quickly, usually in less than 30 minutes. Supply takes place either through a network of small warehouses or through stores, which may be "dark stores", and delivery is made with bicycles or scooters within a small radius of the pick-up location.*" (Roland Berger, 2022)

Les « dark stores », ces supermarchés sans clients et entièrement conçus pour la vente en ligne

Ils ont la fonctionnalité d'un entrepôt, mais l'organisation d'un magasin. A Paris, des salariés de Monoprix préparent des commandes à des dizaines de mètres sous terre.

Par Cécile Prudhomme

Publié le 17 mars 2021 à 01h27 - Mis à jour le 17 mars 2021 à 16h41 · Lecture 7 min.

Article réservé aux abonnés

A l'intérieur du « dark store » de Monoprix, situé dans le 13ème arrondissement de Paris, le 12 mars. A. POTIGNON / MONOPRIX

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Quick Commerce: No Longer An Easy Way To Make A Fast Buck?

Jon Bird Contributor

I'm a retail passionate who lives in Sydney, Australia but covers the world.

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May 5, 2022, 07:31am EDT

A bicycle courier of grocery delivery company "Gorillas" wears a backpack

In the same-day delivery segment for food products in Paris :

→ according to the Fox Intelligence by NielsenIQ survey, quick merchants dominate the market with a 49% share, compared with 27% for pure players in food delivery and 24% for major retailers.

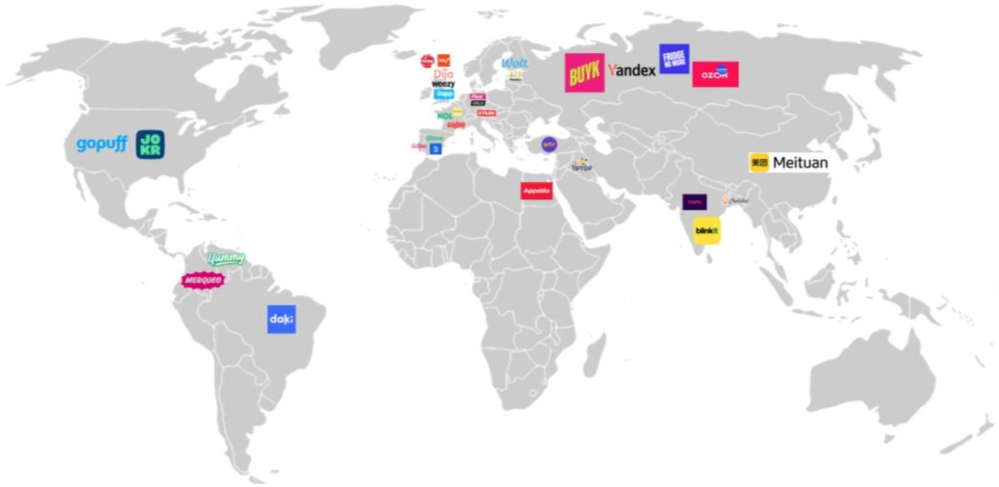
→ Nevertheless, on a French scale, quick commerce remains a marginal activity: 2% channel usage per household according to the Kantar Winning Omnichannel study (2022).

→ The penetration rate of quick commerce is still very low: 1.5% of French households, 3% in the Ile-de-France region, but 11.5% of households in Paris. It is therefore a growing market niche, essentially reserved for large urban markets (Schorung, Buldeo Rai, Dablanc, 2022), despite some recent difficulties.

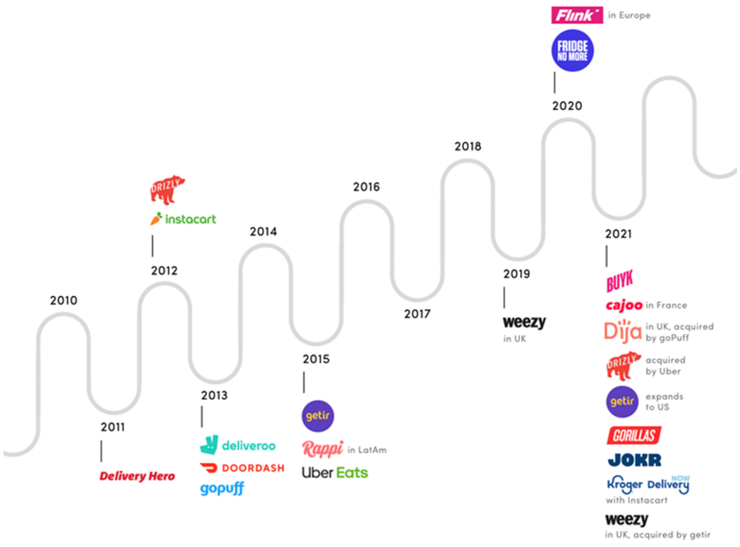
Most dark stores are located in major cities (Paris, London, New York, Los Angeles, etc.):

- By 2022, Interact Analysis has identified over 6,000 dark stores in operation - fewer than 1,000 in Europe and North America → the majority of q-commerce activities occurs in the Global South

A global phenomenon :



Buldeo Rai, 2022



Reference: Skrovan, 2022

A market niche in the making:

- The quick commerce market in Europe is estimated at $25 billion in 2021 and should reach $72 billion by 2025, according to Knowledge Ridge.
- In the United States, according to Grocery Dive (2021), the quick commerce market exceeded $20 billion by the end of 2021, and is expected to reach $38 billion by 2027.

The Covid-19 pandemic has had an accelerating effect: changing consumption and purchasing habits in many sectors (Bazi et al., 2022; Dionysion et al., 2021) and widespread use of mobile applications from smartphones (m-commerce) (Almeida Lucas et al., 2023).

Consulting firm McKinsey has identified fifteen leading quick commerce companies opening more than 800 dark stores in 2020 and 2021 in Europe (Delberghe et al., 2022).

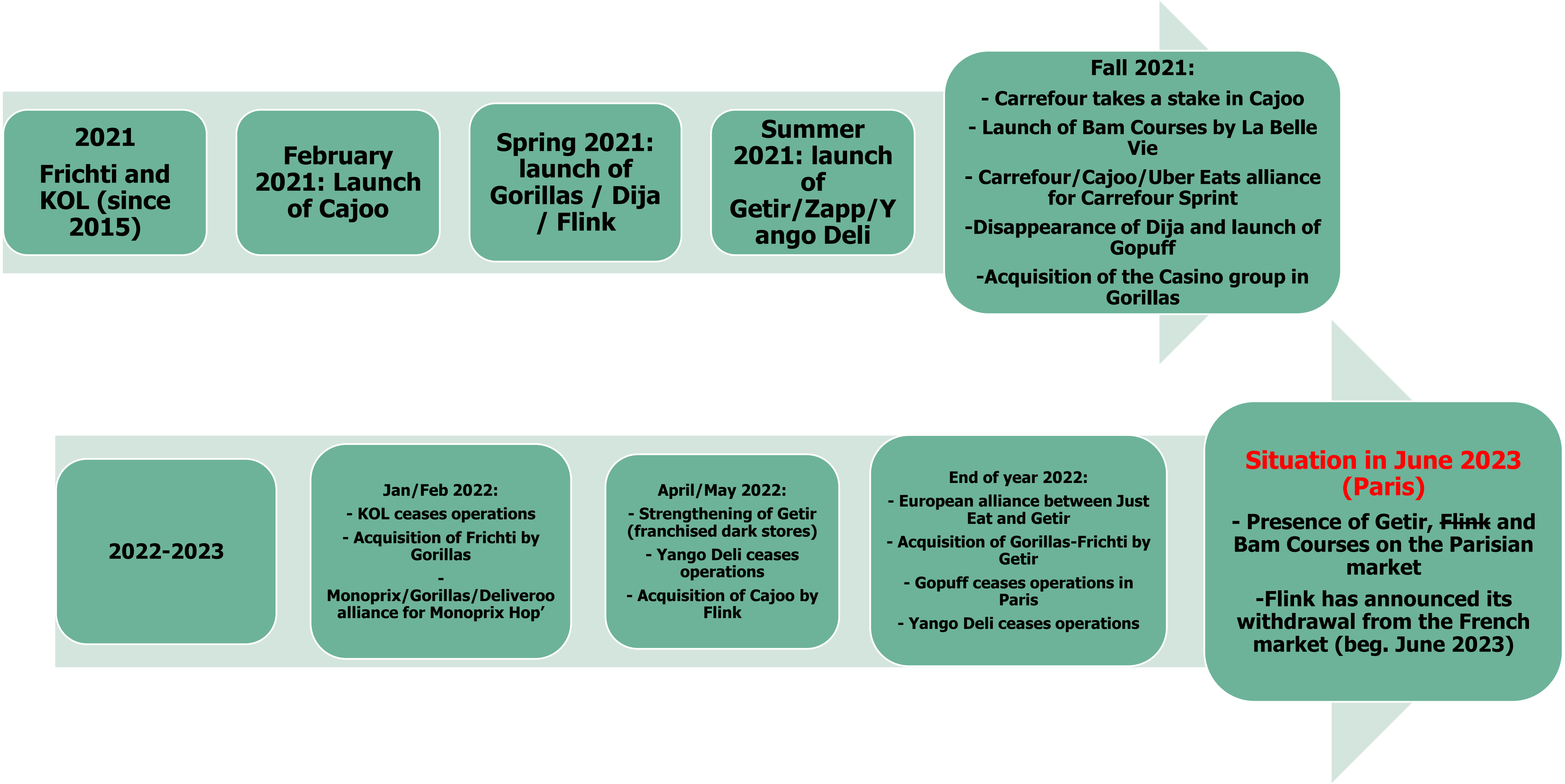
A global phenomenon but a global crisis

The quick commerce sector also entered a phase of consolidation in 2022:

→ bankruptcies (Kol, Dija, Fridge No More, Buyk, Yango Deli)
→ takeovers (e.g. Gorillas by Getir)
→ internal restructuring leading to massive lay-offs (Gopuff: 3% reduction in payroll; Getir: dismissal of almost 4,500 employees)
→ early withdrawal from certain markets (ex: Gopuff Paris in January 23) (Aizicovici, 2022; Bird, 2022; Davalos, Levingston, 2022; Lunden, 2022).

→ Fund-raising enables these companies not only to invest, but also to build up cash reserves: Gorillas raised $1 billion in October 2021, Flink $750 million in December 2021, Getir $800 million in March 2022 (Aizicovici, 2022).

→ Balance sheets still in deficit:
  → Flink presented its 2022 financial statement to the Financial Times, with a balance sheet still in deficit despite sales of $436 million and only 20% of hubs profitable (El Hassani, 2023).
  → Getir also revealed its 2022 balance sheet, with losses of $553 million on sales of $438 million (Van Rompaey, Retail Detail, 2022).
  → Those companies that survived the 2022 consolidation (Flink and Getir in particular) promise to be profitable by the end of 2023 or during 2024.



Quick commerce in Paris: a fast consolidating market (from the Le Web Grande Conso site by Olivier Dauvers, Dec. 2022; interviews and press review; produced by Matthieu Schorung, 2023)

Quick commerce is based on several operating models

Characteristics	Pure Player (Flink, Getir, Gopuff)	3 players (Carrefour Sprint, Monoprix)	Personal shopping (Everli)
Mobile app used by the customer to place the order	Mobile app specific to the pure player	Marketplace app (UberEats)	Aggregator (nodal application of pure player)
Storage and order preparation place (food and consumer products)	Dark stores	Dark stores	Physical stores (chosen by the customer)
Order picking service provider	Order pickers (mostly regular employment contracts)	Order pickers (mostly regular employment contracts)	Personal Shopper (gig worker who does the shopping requested by the customer on behalf of the aggregator)
Last-mile logistics service provider (from the place of order preparation to the customer)	Quick commercer or marketplace (couriers on regular contracts or gig workers)	Quick commercer or marketplace (couriers on regular contracts or gig workers)	Personal Shopper (gig worker)

(source : Schorung, 2023 based on interviews)

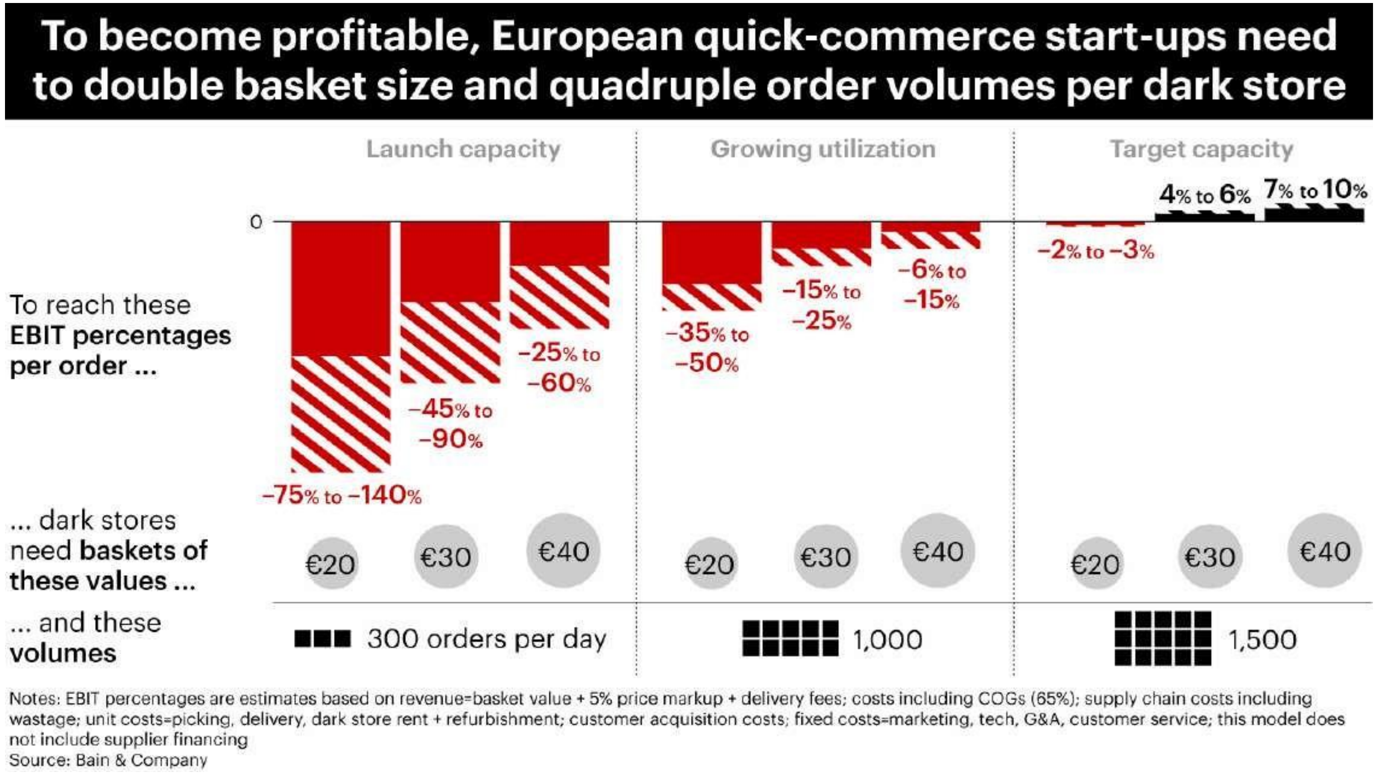
Business model and logistics organization: dark stores

The impossible balance of the business model?

Logistics costs for dark stores:
- Monthly costs of between 10,000 and 20,000 euros for a dark store in Paris (up to $30,000 in New York)
- To limit costs: set up in streets adjacent to main thoroughfares and select premises that require little work (former shops in particular).

Logistics costs linked to transport services:
- Inbound logistics providers (e.g. Ecolotrans)
- Last-mile logistics services (e.g. Uber Direct)

To supply dark stores:
- Partnerships with mass retailers (Carrefour for Flink; Casino or Tesco for Gorillas) or wholesalers (Miamland for Gopuff in France)



Source : Bain And Company, 2022.

→ At present: some Paris dark stores are reaching 150 to 250 orders/day, i.e. around 1,200 to 1,400 orders/week.
→ Germany: threshold of 5,000 orders/week already reached
→ Break-even point per courier: 6 orders/hour → in Paris on average: 2.5 orders/hour

Other indicators of this imbalance:

1) Retention rate (percentage of customers who place orders on the application after a certain period and at the number of weekly orders per customer)

→ Target for Flink: rate at 10% two months after 1st order; 5% at 6 months (24 months)

→ Currently: retention rate drops after 4th order (after promotional codes end)

2) Average shopping basket :Study by Opinion Way for Flink (May 2022) (not public):

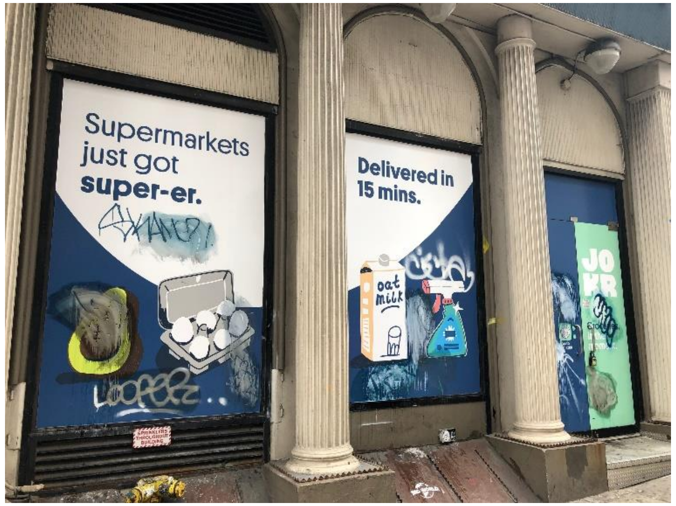
→ average basket around 30 euros for Flink; 20 euros for Getir

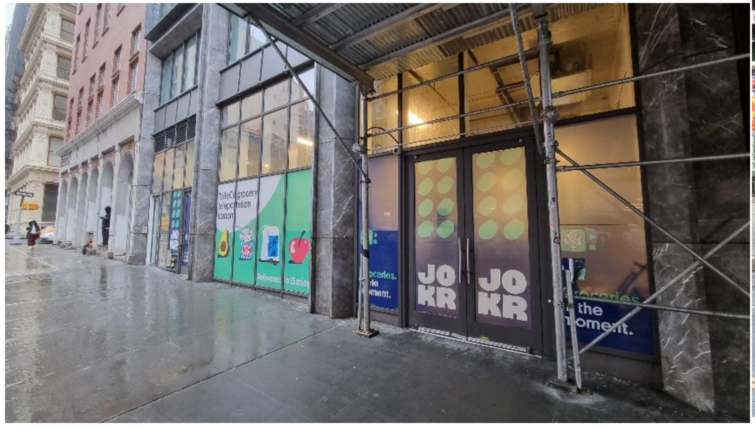
→ According to FoxIntelligence: average basket in April 2022: 22.10 euros (8.4 items on average)

What are the strategies for increasing and diversifying their revenues?

1) Private label development (Gopuff in the USA with 'Basically')Development of subscription services
2) Differentiation of delivery charges (e.g.: Gopuff and $2.95 charge for alcohol in the USA)
3) Positioning in traditional retail → ex: Gopuff acquired BevMo! in March 2022 and uses Bevmo stores as classic stores + dark stores (Dablanc, 2023)
4) Development of retail media
5) Other uncertain avenues: renting space in dark stores or developing logistics partnerships to turn dark stores into logistics micro-hubs?

Emerging urban logistics real estate: dark stores





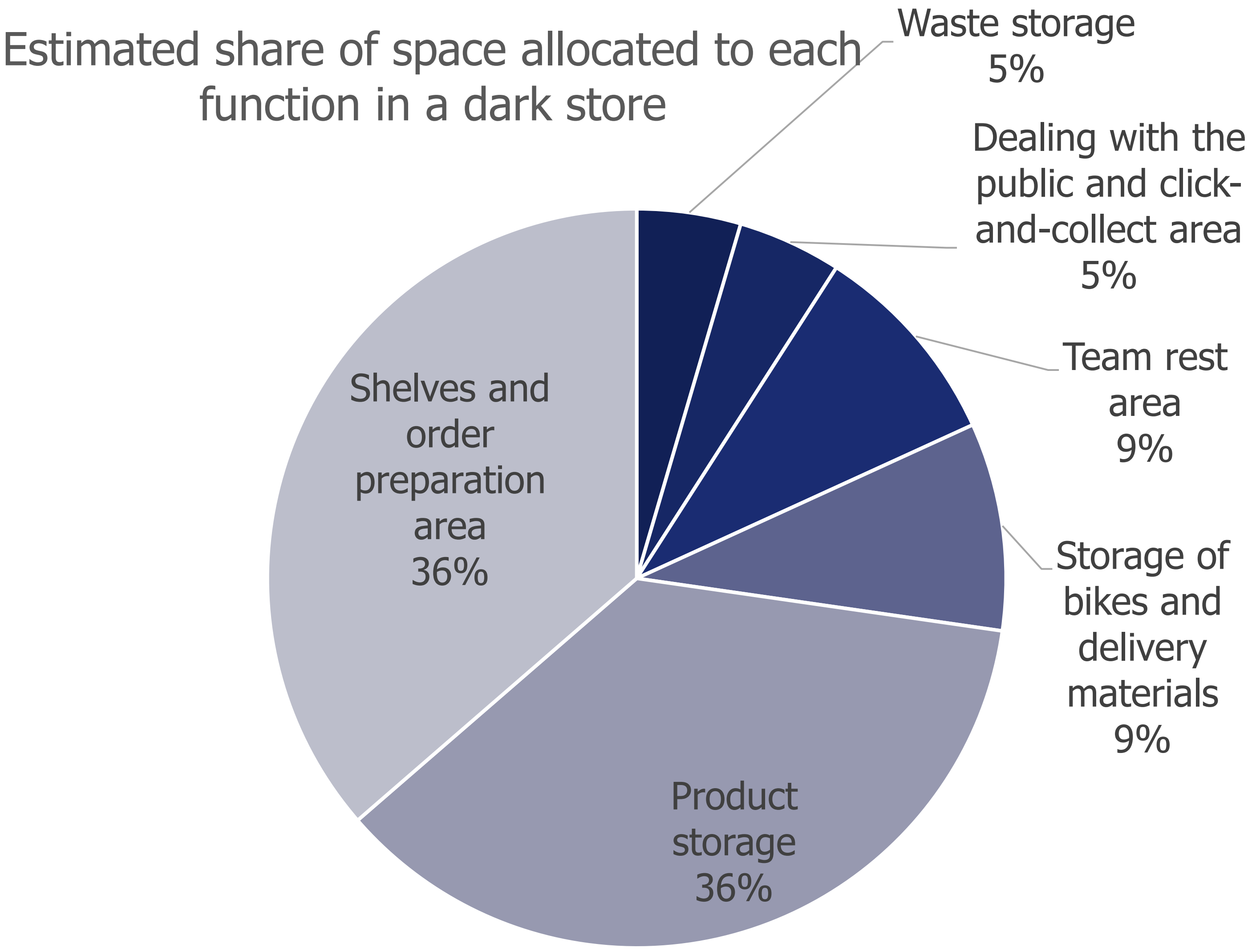
The logistics of dark stores

Flink (19ème arrondissement, Paris)

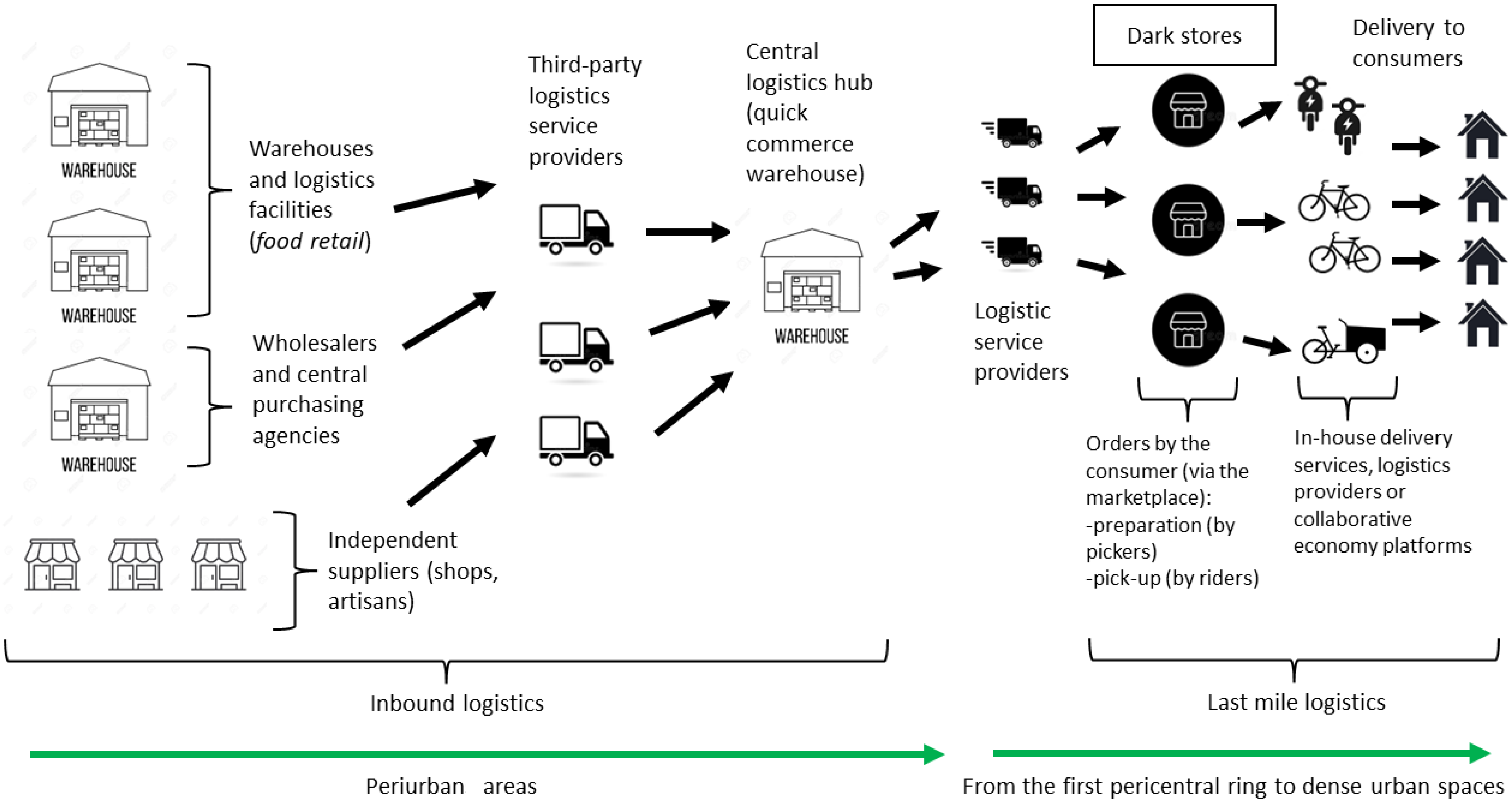
JokR (Manhattan, NYC)

- Stores from 200 m² to 400 m², with very limited equipment requirements Source : Buldeo Rai, 2022
- Targeting premium markets (A) but mostly located in adjacent streets, often with commercial vacancies
- Catchment area, approximately 2 to 1.5 km from the dark store
- Massive use of two-wheeled vehicles, bicycles, more rarely cargo bikes and electric mopeds
- Need for parking space for delivery vehicles and bicycles/scooters
- Approx. 2,000 references (approx. 20,000 for a Carrefour Express in Paris)

(Source : Le Parisien, 2022)



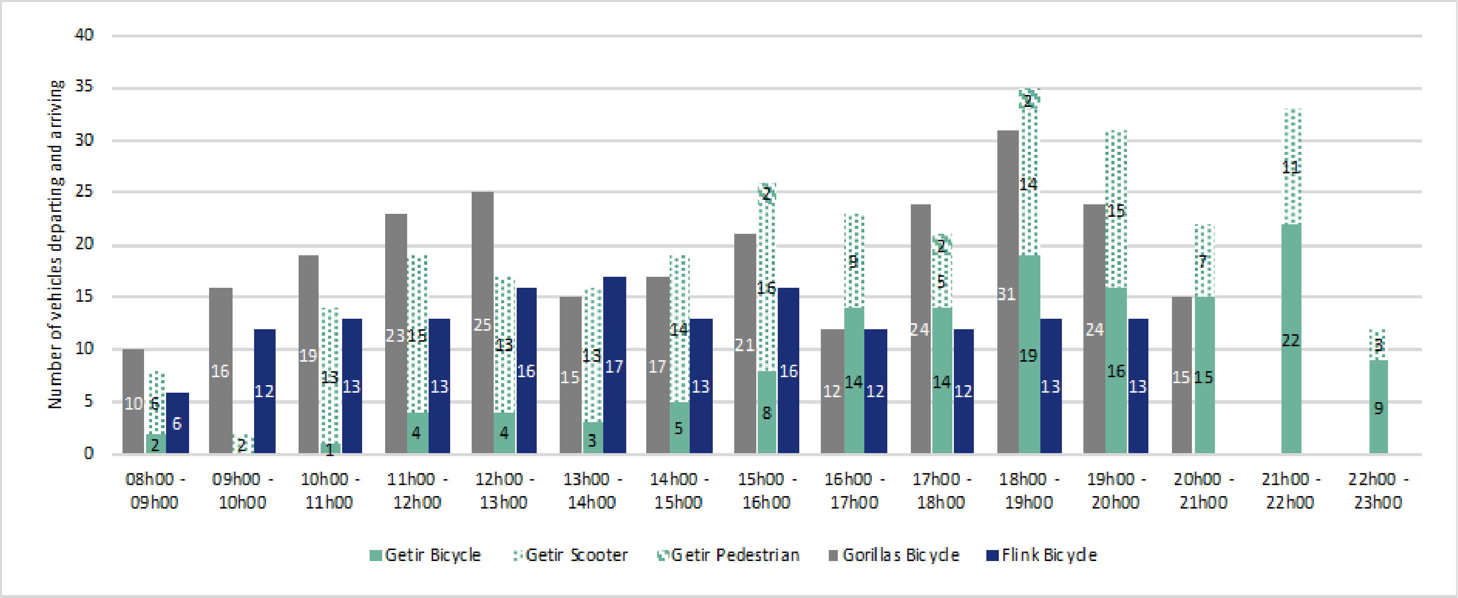
(Schorung, 2023, from interviews)



Scheme of the organization of quick commerce logistics (information from interviews; produced by Matthieu Schorung, 2023)

Analysis of the impact of dark stores

The intensity of transport activity in dark stores: observation and counting system in Paris



		Weekday		Weekend	
		Total	Average per hour	Total	Average per hour
Getir	Bicycle	136	9.1	174	12.4
	Moped	156	10.4	137	9.8
	Pedestrian	6	0.4	0	0
	Total	298	19.9	311	22.2
Gorillas	Bicycle	252	19.4	247	20.6
Flink	Bicycle	156	13.0	183	15.3

Source : Chaire Logistics City, 2022

In February and June 2022, the Chair commissioned JuniorEUP to carry out field observations and counts at three dark stores: Getir in the 11th arrondissement; Gorillas in the 1st arrondissement; and Flink in the 2nd arrondissement.
At 14 consecutive hours on weekdays and 13 consecutive hours at weekends, we recorded a number of activities for each location:

- departure of delivery vehicles ;
- arrival of delivery vehicles
- number of units loaded per delivery vehicle
- number of delivery vehicles parked;- arriving supply vehicles
- departing supply vehicles
- number of units unloaded per supply vehicle.

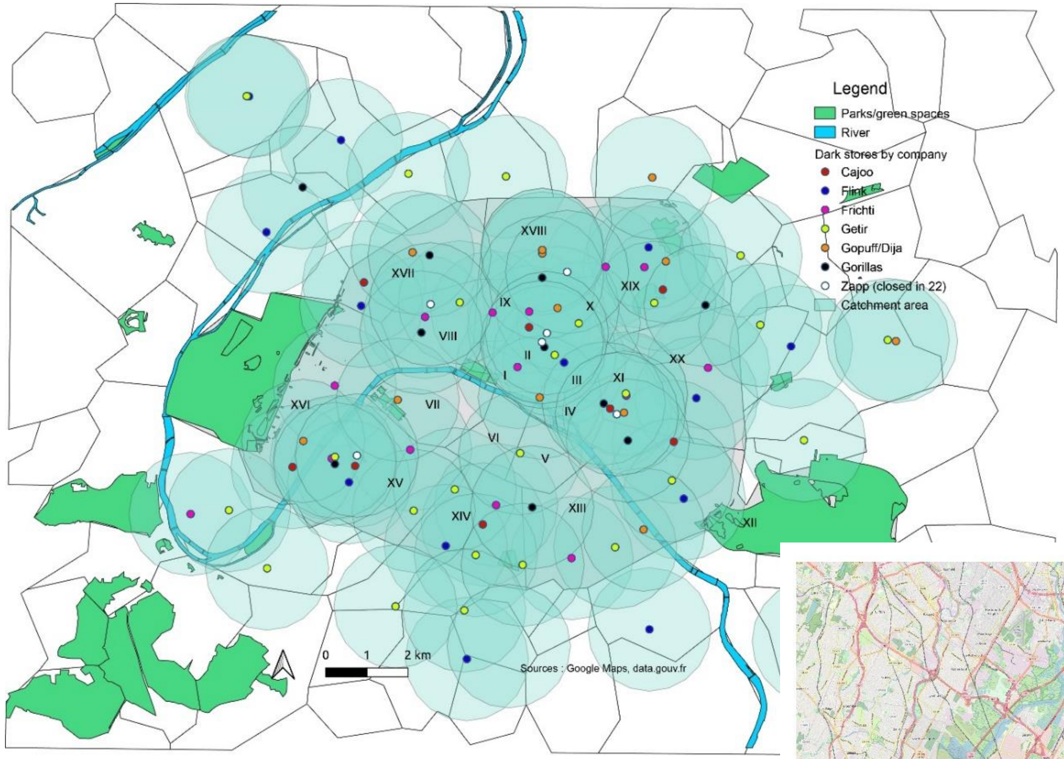
→Transportation activities at dark stores tend to increase throughout the day, with peaks around noon, towards the end of the workday, and later in the evening.

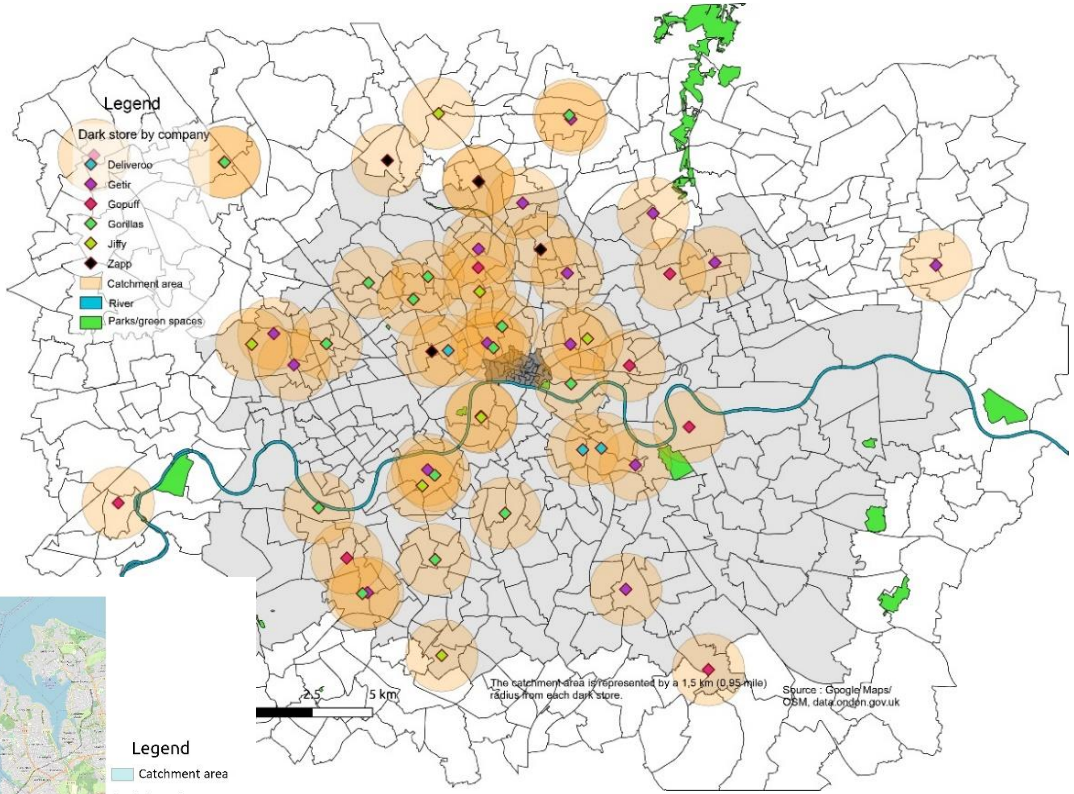
→ The pattern is similar at weekends, although the late evening peak then seems more pronounced and longer.

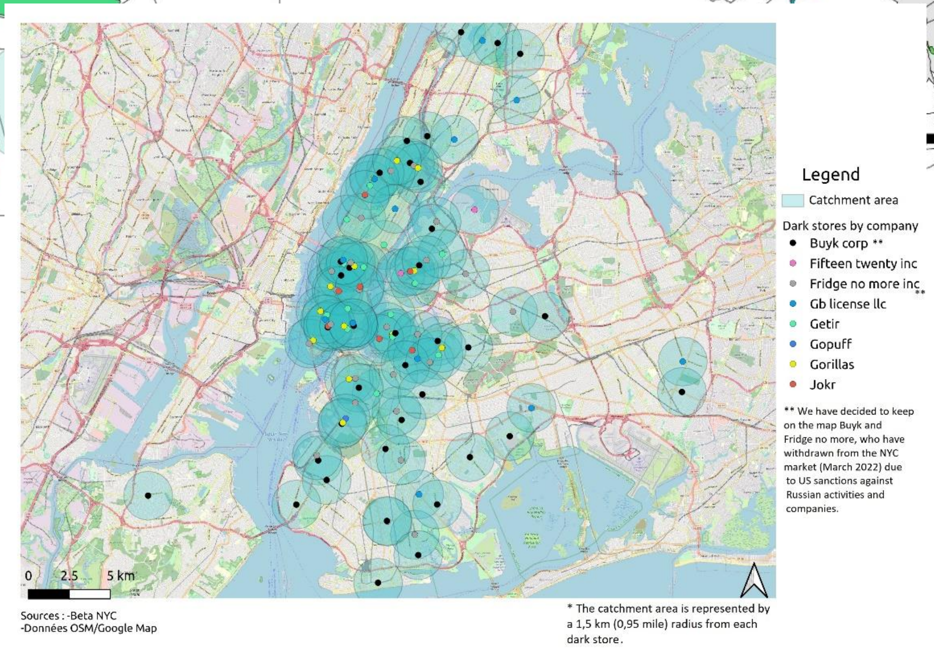
→ A dark store generates an estimate between 150 and 300 vehicle movements per day in the week and a little more at weekends (Buldeo Rai, Mariquivoi, Schorung, Dablanc, 2023).

Source : Chaire Logistics City, 2022

Cartographic work based on 3 case studies (Paris, New York, London - May/June 2022)



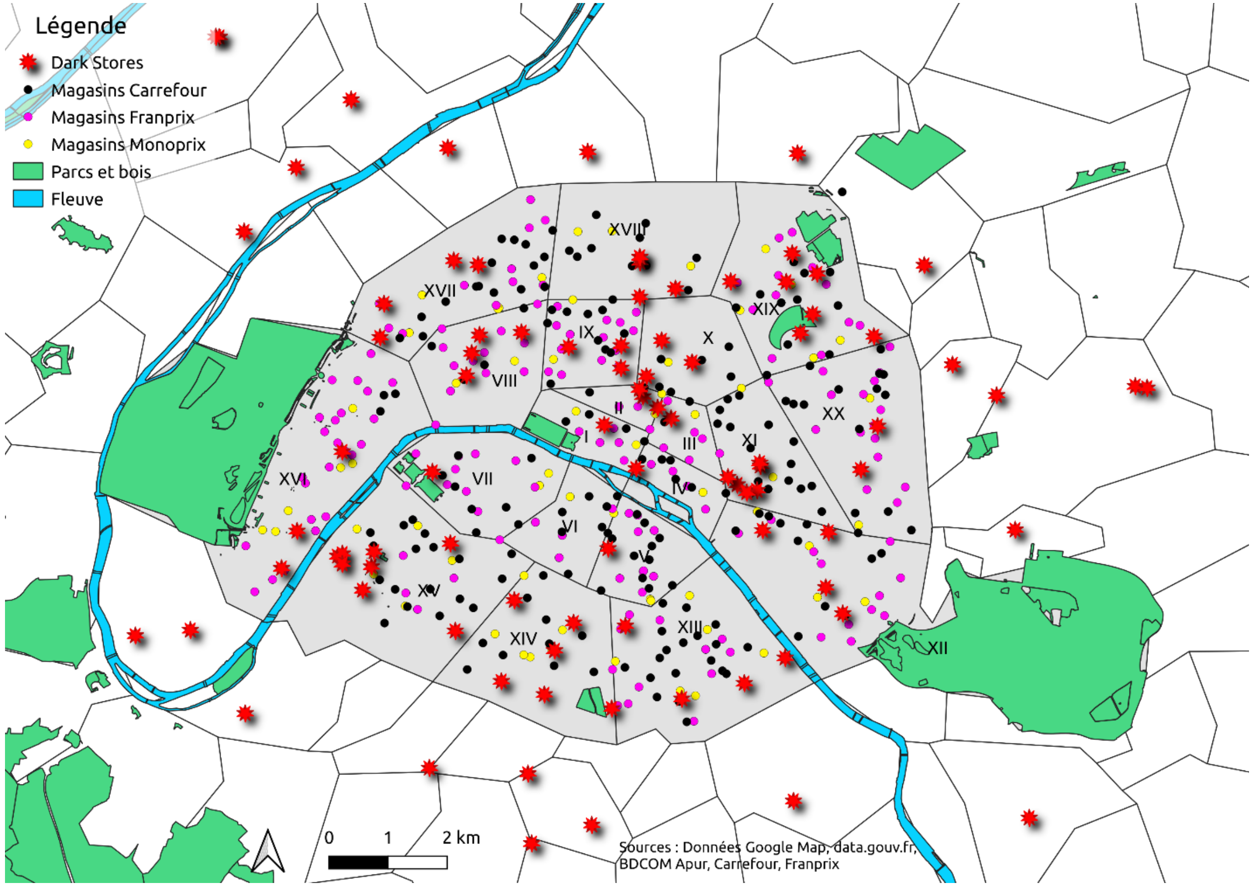


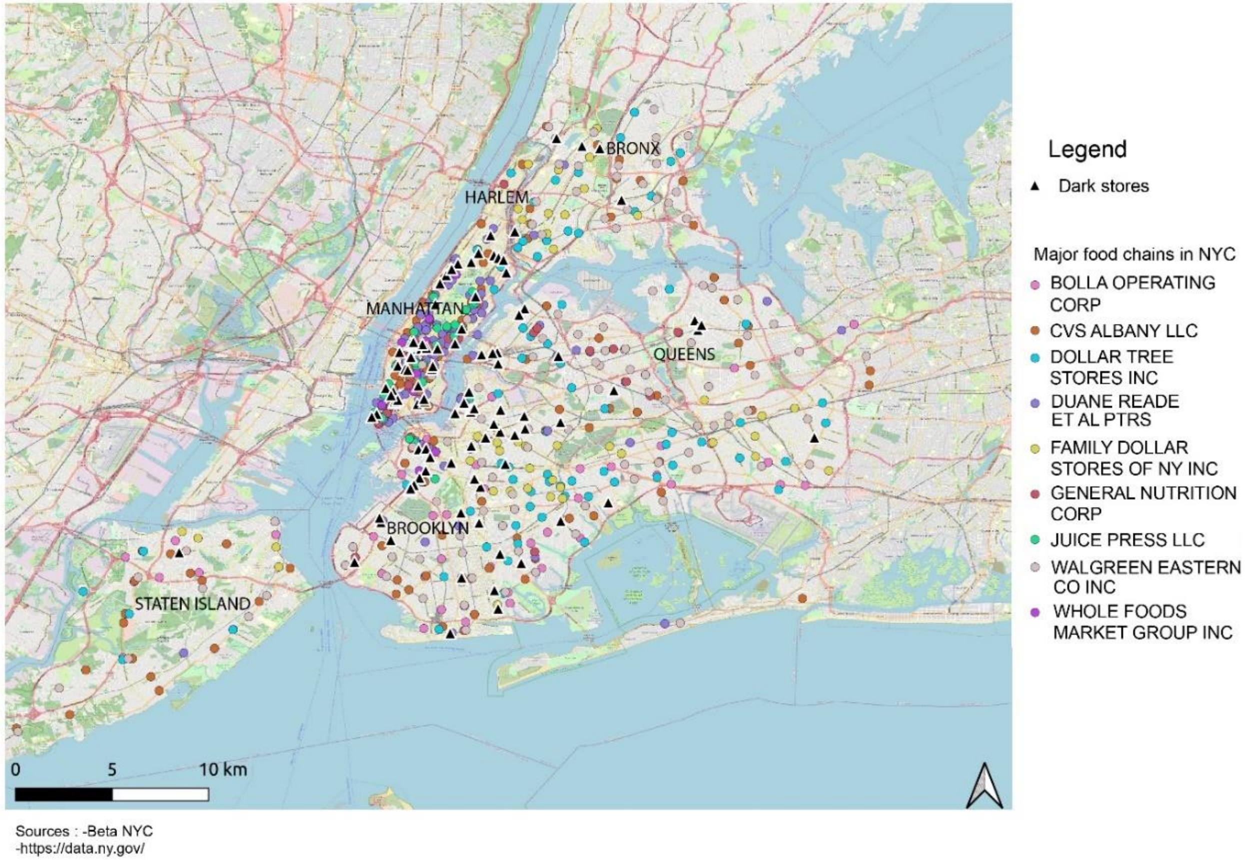


Locations and catchment areas of dark stores, by company, on April 2022

Source : Chaire Logistics City; M. Schorung, 2022

Dark stores vs. traditional food retail networks (May 2022) →
In both cities, we see a clear imbalance between the two sectors and the installation of dark stores near traditional stores. Additional data are needed to confirm whether these are strategies of duplication or direct competition.





Source : Chaire Logistics City; M. Schorung, 2022

Conclusion. Quick commerce and local players. The need for public regulation.

Dark stores are often set up opportunistically in former commercial premises in locations that have become undesirable.

Municipalities, however, are voicing their concerns and are stepping up initiatives to regulate or even oppose their development.

The city of Paris, for example, has decided to initiate proceedings in March 2022 to close 45 of the 80 dark stores identified by the Apur. The argument used: non-compliance with local urban planning regulations.
→ The Council of State (Conseil d’Etat) (France's highest administrative court) issued a ruling in March 2023 that "dark stores" are "warehouses" within the meaning of the urban planning code and the Paris local urban plan.

In Amsterdam (Netherlands), a moratorium on the installation of dark stores in the city center was introduced in April 2022.

Discussion and perspectives

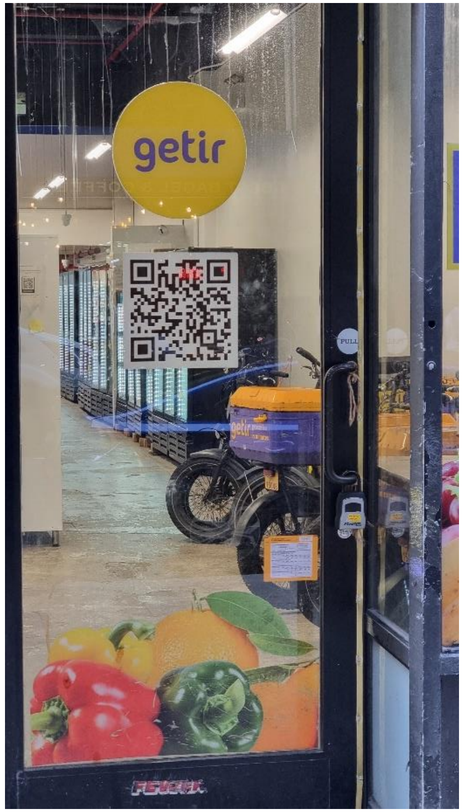
Bypass, cooperate, ban, regulate?

Since the beginning of 2022, two trends have emerged among companies.
On the one hand, there is a desire to adapt to, or even circumvent, the new local rules. Getir, for example, will be experimenting with a click-and-collect service to classify its warehouses as commercial premises.
Others are innovating by offering takeaway sales of fresh produce, such as GoPuff in New York, which has inaugurated GoPuff Market, combining logistics space, a store and a café.

What problems need to be solved?

- Compliance with urban planning and zoning regulations
- Mitigating nuisance through parking and road regulations
- Improving working conditions and road safety issues (Dablanc et al., 2022)
- Environmental sustainability?

Nuisance mitigation strategy: the example of Getir dark stores in New York (fieldwork, M.Schorung, Jan 23)



Dark store adaptation strategy: the example of GoPuff Market (Lower Manhattan/Tribeca)

Strategy to mitigate the “dark": the example of a Getir dark store in Manhattan with a “welcome sign” (fieldwork, M.Schorung, Jan 23)

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Thank your for your attention!

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