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Survey objectives | What are we setting out to accomplish?

01 Demand Analysis
Define the meaning of Logistics, describe the role of logistics and the sector overall, identify Segments within, record the local market’s historical growth and portray financial trends

02 Supply Analysis
Identify significant local 3PL players within the sector, present their market shares and historic trajectory, compare their financial performance and determine the market concentration

03 Trends, Challenges & Developments
Identify trends within the logistics sector and more specifically around 3PL activity, important innovations, factors that drive transformation within the sector and the global key players

04 Focused Research
Perform in-depth research on Curbside Pickup concept (Store Collection, Smart Lockers and Curbside Pickup System), their operations, their domestic as well as global presence and conclude with a comparison of the three solutions
1. Demand
Companies operate within ever changing business dynamics and evolve accordingly; this inevitable also leads to supply chain evolution. Supply chain management will remain a key source of competitive advantage, set only to grow in importance.

But what is supply chain and what operations does it involve?

Supply Chain refers to the network between a company, its suppliers and buyers. The company and suppliers make sure to meet the demand of a buyer. This happens when they effectively produce and distribute the required product to the final buyer. It is a complex orchestration of components which includes different activities, entities, people, data, and of course resources.
The Future of Transportation & Logistics

What is the definition of Logistics?

**Logistics** refers to the overall process of managing how resources are acquired, stored, and transported to their final destination. Logistics management involves identifying prospective distributors and suppliers and determining their effectiveness and accessibility.

The term is now used widely in the business sector, particularly by companies in the manufacturing sectors, to refer to how resources are handled and moved along the supply chain.

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**The 6 R's of Logistics**

- **The Right product**
- **To the Right place**
- **In the Right quantity**
- **At the Right time**
- **In the Right condition**
- **For the Right cost**

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**The role of 3rd Party Logistics companies (3PL)** is to enable logistics outsourcing, allowing companies to focus on their major operations. Reduced costs, faster deliveries, lesser chances of risk, no capital expenditure are some of the benefits of this solution.

“Logistics” was initially a military-based term used in reference to how military personnel obtained, stored, and moved equipment and supplies.
The companies of the sector are divided into 3 main segments: Warehousing, Transportation, Combined Services based on the primary services offered.

Every segment depicts a growth trend over a 5-year period. It is worth noting that 83% of the transportation revenue comes from companies with over 1 million annual turnover. In warehousing, this percentage is approximately 77%, while in "Combined Services" is 79%.

In the Greek market, Combined Services segment is the dominant: 81% of 3PL companies are active in the Combined Service offering.
The 3PL industry is exhibiting strong growth year on year

The continued establishment of large foreign multinational companies within the Greek market, coupled with increasing needs for storage of many local organisations and requirement of management and distribution of products, creates a strong demand for both storage space and transportation services.

The graph shows the estimated market size over a 5-year period. It is segmented between companies that attained over EUR 1 million turnover and companies earning below EUR 1 million turnover in 2019. The total size of the market consists of 1,550 companies.

A smooth upward trend is depicted throughout the 5-year period with a compounded annual growth of 9.8%.

*Estimated Turnover (EUR Billion)*

<table>
<thead>
<tr>
<th>Year</th>
<th>Companies below EUR 1 million</th>
<th>Companies over EUR 1 million</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>1,190</td>
<td>1,511</td>
</tr>
<tr>
<td>2016</td>
<td>1,279</td>
<td>1,624</td>
</tr>
<tr>
<td>2017</td>
<td>1,426</td>
<td>1,811</td>
</tr>
<tr>
<td>2018</td>
<td>1,605</td>
<td>2,038</td>
</tr>
<tr>
<td>2019</td>
<td>1,726</td>
<td>2,193</td>
</tr>
</tbody>
</table>

*Based on sector companies financial data & KPMG analysis*
Financial Trends | For 3PL companies having revenue above EUR 1 million in 2019

**Financial Trends**

The complexity of developing in-house fleets of vehicles and owning warehouses in combination with the rise of e-commerce have driven the growth of the 3PL sector, which is depicted in the following financial metrics:

- The EBITDA of the sector increases year on year, with an overall increase of 72%, showing the sector’s focus on profitability growth.
- The growing EBITDA has caused the decline of the response time for a company to pay off its debt as Net Debt / EBITDA ratio shows.
- Liquidity is above 1.2 for all 5 years which means the current assets are well above the current liabilities of the sector. This can be translated into the ability of the sector’s companies to pay off debt obligations without raising external capital.
- Gross Profit margin slightly fluctuates over the years with an average of 39%.
Types of Services

Warehousing (ambient & temperature controlled) and transportation services corresponded to about 94% of the total value of 3PL services in 2019. Unpacking-repackaging-labeling services accounted for a minor share of 4%.

Other services, such as monitoring, traceability and software management, are estimated at 2% of the total value of services provided.

Indicative service pricing* for Warehousing Services would be EUR 12-20 / TN and for Door-to-Door distribution services EUR 320-214 / TN incl. naval transportation.

Product Categories

46% of logistics revenue, in 2019 originated from the food, beverage and tobacco industries, 18% from electronics and electrical devices, 11% from pharmaceutical & medical products and finally 8% from industrial products & raw materials.

17% of logistics revenue came from other industries or sectors such as vehicles and vehicles parts, apparel & footwear, furniture & household equipment.

Source: ICAP – 3PL Survey 2020

*Indicative pricing as an approximation, based on project-based research. This is subject to 3PL company pricing policies, extent of services, quality, market etc.
Sector Overview | Warehousing & Transportation key takeaways

3PL Contribution
Transportation and storage GVA in Greece accounted for 7.5% of GVA of economic activities for 2019, the 5th highest share among EU-27 countries.

Sector growth
The 3PL sector is showing significant growth, with an average 9.8% CARG in 3PL industry revenue from 2015 to 2019.

Financial Trends
Financial indicators such as EBITDA and liquidity portray an overall positive performance of the sector over the years 2015-2019.

Companies Classification
The Greek 3PL market mainly consists of small-medium players. 78% of the total 1 550 3PL companies in the field have annual revenue below EUR 1 million.

3PL Services & Products
Warehousing and distribution services are the main services provided which corresponded to ~ 94% of the total value of 3PL services in 2019. Food, Beverages & Tobacco is the dominant product category.
2. Supply
### 3PL Providers: Current 3PL key players

#### Top 10 Companies account for:
**EUR 404.6 million**
(18.3% over the total)

#### Top 10 players within the local 3PL provider map

<table>
<thead>
<tr>
<th>Company</th>
<th>Turnover 2019 (mil €)</th>
<th>Market Share (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orfeus Veinoglou</td>
<td>74.9</td>
<td>3.4</td>
</tr>
<tr>
<td>Goldair Cargo</td>
<td>49.3</td>
<td>2.2</td>
</tr>
<tr>
<td>Foodlink</td>
<td>44.9</td>
<td>2.0</td>
</tr>
<tr>
<td>Makios Logistics</td>
<td>39.9</td>
<td>1.8</td>
</tr>
<tr>
<td>Kuehne + Nagel</td>
<td>36.6</td>
<td>1.6</td>
</tr>
<tr>
<td>Diakinisis</td>
<td>36.2</td>
<td>1.6</td>
</tr>
<tr>
<td>Lioudakis Bros</td>
<td>31.6</td>
<td>1.4</td>
</tr>
<tr>
<td>DHL Hellas</td>
<td>31.6</td>
<td>1.4</td>
</tr>
<tr>
<td>Sarmed</td>
<td>31.6</td>
<td>1.4</td>
</tr>
<tr>
<td>Med Frigo</td>
<td>27.9</td>
<td>1.2</td>
</tr>
</tbody>
</table>

#### Companies exhibit above EUR 1 million turnover in 2019
- 263 Companies
- EUR 1.726 million

Turnover in 2019
The Greek 3PL market mainly consists of small and medium-sized enterprises

According to 2019 turnover figures, most companies (78%) had a revenue of up to EUR 1 million. The graph below segments 3PL companies into 6 groups according to their 2019 turnover, proving that the market consists of mainly SMEs.
3PL Providers | Current 3PL key players – Market concentration

Cumulative Revenue in 2019 vs Percentage of companies

- 3PL providers reporting revenue above EUR 20 million account for 1% of the total 3PL providers; they represent 27% of the total market value.
- 3PL providers reporting revenue above EUR 5 million account for 6.5% of the total 3PL providers; they represent 61.5% of the total market value.
- 3PL providers reporting revenue above EUR 3 million account for 12% of the total 3PL providers; they represent 72.5% of the total market value.
- 3PL providers reporting revenue above EUR 1 million account for 18.4% of the total 3PL providers; they represent 78.7% of the total market value.

18.4% of companies contribute 78.7% of total market revenue.
## Top 10 Players Growth Comparison (Annual Turnover, 2015-2019)

<table>
<thead>
<tr>
<th>Company</th>
<th>Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>ORFEUS VEINOGLOU</td>
<td>32% Increase</td>
</tr>
<tr>
<td>GOLDAIR CARGO</td>
<td>24.3% Increase</td>
</tr>
<tr>
<td>FOODLINK</td>
<td>37.2% Increase</td>
</tr>
<tr>
<td>MAKIOS LOGISTICS</td>
<td>6.8% Increase</td>
</tr>
<tr>
<td>KUEHNE + NAGEL</td>
<td>16.4% Decrease</td>
</tr>
<tr>
<td>DIAKINISIS</td>
<td>25.9% Decrease</td>
</tr>
<tr>
<td>LIOUTAKIS BROS</td>
<td>27.4% Increase</td>
</tr>
<tr>
<td>DHL GLOBAL FORWARDING HELLAS</td>
<td>16.4% Increase</td>
</tr>
<tr>
<td>SARMED</td>
<td>59% Increase</td>
</tr>
<tr>
<td>MED FRIGO</td>
<td>21.8% Increase</td>
</tr>
</tbody>
</table>

Based on previous figures it is safe to extrapolate the following:

### The 3 top contenders are:
- SARMED with a **59% increase** in annual turnover over the last 5 years
- FOODLINK with a **37.2% increase** in annual turnover over the last 5 years
- ORFEUS VEINOGLOU with a **32% increase** in annual turnover over the last 5 years

### The 2 bottom performers are:
- DIAKINISIS with a **25.9% decrease** in annual turnover over the last 5 years
- KUEHNE + NAGEL with a **16.4% decrease** in annual turnover over the last 5 years

Source: Hellastat
### 3PL Providers | Comparative Analysis

#### 3PL key players comparison

- **Med Frigo**, despite its smaller revenue compared to other top companies, indicates both one of the largest growths and the largest EBITDA margin in 2019.

- **Orfeus Veinoglou** and **Foodlink** grow in a more moderate rate as they already have large turnovers. Their EBITDA margin is between 7-9%.

- On the other hand, **DHL** and **Diakinisis** have negative CAGR. However, they are both profitable, with Diakinisis having the largest EBITDA margin among the top players which proves the company’s high operating profitability.
The sheer number of 3PL providers is a strong deterrent for new entrants posing a significant barrier

The major obstacles preventing competition for entering the 3PL market are:

— The large number of companies operating in the field of logistics acts as a tough barrier for companies wanting to enter the logistics sector

— Another noteworthy factor acting as an entry barrier is the significant initial investment. Large capital is required for a tangible asset such as a warehouse or equipment and financing for such initiatives has been scarce

There is growing appetite for investment within the Logistics arena as more than EUR 150 million are being invested in the development of new logistics facilities. This includes investment to modernise facilities but also construct over 300k square meters of new facilities.

Suitable investment opportunities are being scouted by real estate developers, large retail groups and generally companies that are active within real estate development. Among the big players that are looking for investments are:

— Prodea: The company is planning to have a portfolio of over 300 million euros in the field of logistics in the coming years

— Briq Properties: The logistics sector is one of the main pillars of development of Briq Properties. Currently, the company is constructing a state-of-the-art logistics building with an area of 20,764 square metres, an investment estimated at EUR 14 million. In addition, Briq is in the process of constructing an additional logistics complex covering 10,000 square metres, an investment estimated at approximately EUR 8 million

— Trastor: Is also following in pursuit of logistics facilities investment. The acquisition of a newly built state-of-the-art logistics facility in Aspropyrgos with a total area of 11,634 sq.m is a strong indicator

Source: Logistics in Greece is flourishing - Which big players are investing
3PL Providers | Key Takeaways

Top Companies Market Share
The top 10 companies control 18.3% of the market allowing smaller players room to grow.

3PL Market Concentration
Market is fragmented despite the presence of many global logistics companies. Medium-sized and small companies have retained a significant market share. Only 263 companies out of 1550 have revenues larger than EUR 1 million in 2019.

Financial Trends
Most companies are showing significant growth. Among the top market players only Diakinisis and DHL show a declining turnover over the 5 years.

Investment Interest
There is a high future investment interest in Logistics industry. More than EUR 150 million are expected to be invested in the development of facilities.

Barriers of Entry
Although there are no institutional or legal barriers to prevent new players to enter the Greek market, the existing large number of companies and the significant initial investment act as a deterrent.
3. Future of Logistics
Future of Logistics | Key Takeaways

- **Technology**: Modern 3PLs need to incorporate technology and evolve their processes to keep up. Blockchain, robots and predictive analytics are the main technological drivers that are expected to be leveraged by the logistics industry and totally transform it. AI and ML (Machine Learning) are already at the core of autonomous trucks, drones, and the processes of automated warehouses.

- **Micro Fulfilment**: Micro fulfilment centers is the powerful disruption that eCommerce has made on the retail market. As demand rises, fundamental distribution patterns are shifting—and radically so. In particular, customer demands for ever more rapid fulfillment are forcing businesses of all kinds to warehouse their goods even closer to intermediate and end-customers.

- **Green Transport**: Supply chain sustainability is widely discussed. It’s expected that businesses take responsibility for their impact on the environment. An expert 3PL is likely to have implemented sustainability initiatives into their operations processes. These may include reducing their transportation carbon footprint, optimizing their waste output, using recycled and sustainable packaging material, conserving warehouse energy with solar or renewables, and much more.

- **Covid-19**: The COVID-19 pandemic is leaving its footprint on most industries in the world. Logistics firms, which are involved in the movement, storage, and flow of goods, have been directly affected by the pandemic. On the one hand, e-retail logistics, on-demand and last mile delivery sectors are amongst the highest growth sectors as a result of the Coronavirus crisis. On the other hand, the automotive, oil and petroleum distribution, construction, and steel production sectors have seen a drastic fall in demand.
### The Rise of Robotics... or Cobots
The explosion of e-commerce coupled with a recent labor shortage; warehouses are reaching a production limit. Many third-party logistics (3PL) companies are beginning to deploy mobile robots to increase their e-commerce fulfillment productivity in 2020. These collaborative robots have the ability to guide warehouse associates around facilities with instructions on what to pick. As temporary workers become increasingly scarce, this could usher in a shift toward relying on robots to handle tasks such as quality checking and pack out.

### Analytics is the new must-have
A strong percentage of 94% of shippers believe analytics is helpful for ensuring on-time and complete order fulfillment and shipment visibility.

### The Supply Chain continues to get Greener
A percentage of 68% of consumers rate sustainability important when making a purchase. To attract shippers in 2020, it's imperative for shippers to be eco-friendly and 3PLs will have to integrate environmentally-conscious practices into their operations. Another key eco-conscious strategy for 3PLs is to use alternative fuels, such as liquefied natural gas, to reduce their carbon footprint and help shipping customers achieve sustainability goals.

### Urban Fulfillment
The placement of fulfillment hubs is trending toward accessible urban locations as 3PL companies race to shorten the last mile. 55% of consumers said they will switch to a competitor if that competitor offers faster service.

### Cross-Border Commerce
Consumers are increasingly comfortable buying from retailers abroad. Cross-border shopping will make up 20% of eCommerce in 2022, with sales reaching US$627 billion.
Asia-Pacific leads the Global 3PL Market

The Asia-Pacific region is the largest 3PL market in the world and is also the fastest-growing region. It is estimated that there are over 10,000 third-party logistics service providers operating in China. Many are small and mid-sized providers. China accounts for a significant share of the overall APAC 3PL market, with more than 60% market share. The Southeast Asian region is the emerging hotspot in Asia-Pacific, with fast-growing economies and increasing e-commerce penetration. India is also one of the key markets, which is expected to grow strongly over the forecast period.

Global 3PL Market

Gross Revenue (US$ Millions) of Top 10 Global 3PLs 2020

- DHL: 28,453
- Kuehne + Nagel: 25,787
- DB Schenker: 20,761
- Nippon Express: 19,347
- DSV Panalpina: 18,269
- C. H. Robinson: 15,490
- Sinotrans: 12,174
- UPS Supply Chain: 12,107
- Expeditors: 10,116

Market Concentration

- Consolidated: market dominated by 1-5 major players
- Fragmented: highly competitive market without dominant players

Mayor Players

- DHL
- KUEHNE + NAGEL
- SCHENKER
- XPO LOGISTICS
- CEVA LOGISTICS
- MAERSK
- C. H. ROBINSON
- KERRY LOGISTICS
- NIPPON EXPRESS
- AGILITY

Source: Armstrong & Associates Inc., Mordor Intelligence
Key Takeaways | Future of Logistics

**Forces of Transformation**
- Technological breakthroughs, demand for extremely fast delivery, environmentally friendly operations and COVID-19 are leading the sector to its transformation

**Global Trends**
- Cobots, blockchain, predictive analytics, use of alternative fuels, last mile delivery adjustability and cross-border commerce are solutions that are expected to be incorporated in logistics industry

**Global Market**
- Asia-Pacific leads the Global 3PL Market with over 10,000 3PL providers operating in China, which accounts for more than 60% of regional market share

**Global Leaders**
- The market is highly competitive and fragmented, with several large companies strategically forming alliances with mid-sized or small-sized companies to leverage their regional capabilities in logistics

**Market Concentration**
- DHL, Kuehne+Nagel, DB Shenker are leading the market with over 20 billion individual turnover in 2020

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4. Focused Research
Curbside pickup lets customers make an order online and pick it up at your store, warehouse, or designated pickup location. It’s similar to buy online, pick up in-store, except the customer never has to leave their vehicle. When they arrive, someone from sales staff bring the order out to their car.

**Order placement**
A customer places an order on an eCommerce website.

**Pick up location**
The customer is given a pick up location (or chooses from a list of stores) at checkout or after checkout.

**Inventory**
The store identifies the inventory’s location and gets the order ready for staging. The order is staged and moved to the pick up area.

**Order update**
The customer receives a notification via SMS or email that the order is ready to be picked up.

**Order pickup**
The customer arrives at the pick up location and receives the order.

Sources: Bringg - Curbside Pickup, Shopify - Curbside Pickup
During the COVID-19 pandemic, a growing number of retailers across all industries have been looking into innovative ways of enhancing their supply chains and are turning to new technological solutions delivering orders to customers. Three solutions that have received elevated attention are **Store Collection, Smart Lockers and Curbside Pickup Systems (CPS)**.

### Store Collection

A store collection system allows the final B2B or B2C customer to pick up ordered items at a designated point within a store. Store collection systems are staff-dependent and offer opening hours operations.

### Smart Lockers

A locker system is strategically placed inside stores or other urban or suburban locations. After placing their orders, customers choose their preferred pickup time and convenient smart locker location. Orders are delivered with no time window restrictions, placed inside the lockers, safely stored for customer pickup and delivered with the use of a customer-unique password.

### CPS

A Curbside Pickup System (CPS) is an urban or suburban small scale lights-out customer order pickup centre. It allows the final B2B or B2C customer to pick up ordered items at a predefined secure location. CPS systems can be fully automated and operate 24/7. CPS systems usually incorporate various robotics technologies for maximization of space utilisation and optimisation of operations.
Curbside Pickup | How to jump into the retail curbside pickup game?

During Covid-19 the CPS solution received great attention and was adopted by numerous retailers worldwide. However, in order to properly incorporate this delivery option into broader operations, retailers must consider the following. Some steps are not required for CPS+ systems.

- **Check the retail POS System**
  By investing in a state-of-the-art POS system, local small businesses can streamline payment processing while reaping the benefits of integrating with third-party apps, a bottom-line boon for business.

- **Train Staff in Contactless Curbside Pickup Procedures (CPS only)**
  Simply having the right software is only one step in launching retail curbside pickup. Staff training comes next and requires that employees understand proper pickup procedures. Good training will result in a consistent workflow that delivers timely pickups and customer satisfaction.

- **Give a Personal Touch (CPS only)**
  The transactional nature of curbside pickup can feel cold when not employed properly. By adding a personal touch, small local retailers can not only increase sales but encourage brand loyalty.

- **Streamline Your Online Ordering Process**
  Small local businesses that offer e-commerce with retail curbside pickup orders must work hard to avoid cart abandonment. What’s that? That’s the habit of online shoppers filling up a cart only to later close the window and move on without making a purchase.

- **Carve Out a Curbside Pickup Space**
  Curbside pickup will only work if it flows in tandem with your current sales process. To ensure efficiency, you’ll need to demarcate a specifically designated pickup area to handle curbside pickup and be sure to get city approval if necessary.

- **Promote Your Retail Curbside Pickup Option**
  Adding curbside pickup won’t increase sales unless you let people know about it. From print to digital ads, social media to the neighborhood hub, there are many platforms to do so. Using a variety of these tools will garner the most attention.
Smart Lockers | Operating model

Last-mile delivery through the lenses of Smart Lockers

01
Orders are prepared at the hub or the store

02
Orders are placed inside the lockers. They are safely stored there until it is time for the customer to come and pick it up.

03
The customer chooses the preferred pick-up time and location of the smart locker where the order will be delivered. The customer is able to track the order.

04
The customers can get their orders by proceeding to their allocated smart locker and type a unique password sent on their phone via SMS or e-mail.
Smart Lockers are upending parcel delivery

The global Smart Lockers market was valued at USD 581 million in 2019 and is expected to reach USD 1 144 million by the end of 2025, growing at a CAGR of 10.2%. North America is expected to remain at the forefront and hold the highest position in the global smart parcel locker market in the forthcoming years. Europe is expected to hold the second position in the market due to the presence of established logistics networks in the region.

<table>
<thead>
<tr>
<th>Year</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
</tr>
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<tbody>
<tr>
<td>Value</td>
<td>581</td>
<td>645</td>
<td>723</td>
<td>811</td>
<td>1020</td>
<td>1144</td>
<td></td>
</tr>
</tbody>
</table>

**Global Rollout**

- **Singapore**, at just 281 square miles, will have 1,000 smart locker stations by the end of 2021. China has over 800,000.
- **DHL** has 340,000 lockers in Germany, accessible by 90% of the population, and more than 3,700 in Spain and Portugal.
- Netherlands-based **Smartmile** offers a network of lockers that sync with retailers and carriers. Customers choose their preferred delivery option at checkout and then collect their items via a text message code from their selected parcel machine.
- **DSV**, a Denmark-based global logistics company, has installed 400 smart locker banks in South Africa. Customers are notified by SMS and email when parcels are ready for collection and can access GPS maps for directions.
Smart Lockers | How to decide where to place my lockers?

The positioning of smart lockers is determined by various factors. It is vital to choose the appropriate location as this translates into a larger number of potential customers. Depending on what a courier company wants to achieve there is a variety of combinations of factors that contribute to the appropriate location of the smart lockers. However, there are 3 factors that are always considered.

### Availability
Most clients use lockers at times when branches are closed or at weekends. Parcel lockers can, therefore, be the solution to these types of problems, because they are one of the most flexible methods and are available 24 hours a day, seven days a week.

### Accessibility
The accessibility of a parcel locker depends on its location and the concentration of the market in the served area. It is therefore essential to have a positioning and coverage strategy outlined by couriers and other operators at the design stage.

### Security
Customers expect their products to be delivered to lockers successfully and in the best possible conditions. Hence, a certificate that confirms the delivery to the locker is provided and cameras that record what happens at the delivery points are used.

The smart lockers are usually placed in public places, such as squares, metro and tram stops, central avenues, which are easily accessible, while for security reasons control cameras have been installed.

Source: The parcel locker location issues: an overview of factors affecting their location

---

**Smart Locker Providers**
- ACS
- SKROUTZ
- DHL

**Numbers of Points**
- ACS: 200
- SKROUTZ: 20
- DHL: 11
Smart Lockers | Costs

Smart lockers have proven their worth and their benefit continues to evolve due to their adaptive capability. However, many organisations question whether the cost of installing parcel lockers is worth the investment. Hence, how much does a parcel locker cost? Their price depends on two factors: size and use.

The size of smart parcel locker deployment is the first factor in its cost. To determine the number and size of doors the following is required:

- The number of deliveries typically received
- The types of packages or assets anticipated to be handled

For example, if the deployment of a smart locker is taking place on a university campus, delivery capacity based can be estimated based on the number of students or staff.

In a corporate environment, the number of employees will impact the number/size of lockers needed.

Another consideration regardless of location is the average parcel size handled. When dealing with larger items, may be needed some extra-capacity compartments, leading to an overall larger parcel locker installation and cost. Ultimately, the larger the locker system, the bigger the investment.

The usage of smart lockers also impacts their size, layout and cost. At the base level, a smart locker is used to securely deliver parcels and packages. However, this is hardly the limit of what they can do.

Apart from retail purposes, smart lockers are increasingly being used for self-service asset management and distribution. In a corporate office or government building, staff can check out IT equipment, tools, or documents securely without the assistance of a staff member. The organization’s staff will also be able to track any equipment that’s been rented out and have greater visibility over what equipment is still available for other staff members.

Each of these scenarios impacts the cost of a parcel locker because each requires its own workflow, different numbers and sizes of doors and possibly additional software features.

Source: Pitney Bowes - Parcel Locker investment
Curbside Pickup System | CPS solution

CPS solution is an advanced CPS solution that can incorporate automation and support online order fulfilment

CPS is an urban or suburban small scale lights-out customer order pickup centre. It allows the final B2B or B2C customer to pick up ordered items at a predefined secure location.

Instead of door to door distribution, economies of scale are utilised with orders sent to the CPS using an order batching approach. The customer in turn, physically goes to the CPS and picks up their order.

Benefits for the retailer

- 24X7 operation
- Fully unmanned
- Ultra high replenishment speed
- Very low OPEX

Benefits for the customer

- Contactless order delivery
- No extra fees
- Large time slots
- Delivery < 60 secs
## Focused Research

### Comparison of Store Collection, Smart Lockers and CPS

All three solutions fit within the “curbside pickup” concept and serve their own purpose. The choice of the system to be incorporated into each company’s operations is dependent on various aspects.

<table>
<thead>
<tr>
<th></th>
<th>Store Collection</th>
<th>Smart Lockers</th>
<th>CPS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Service hours</strong></td>
<td>Store operating hours</td>
<td>24/7</td>
<td>24/7</td>
</tr>
<tr>
<td><strong>Order collecting process duration</strong></td>
<td>Long</td>
<td>Medium</td>
<td>Short</td>
</tr>
<tr>
<td><strong>Human Contact</strong></td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td><strong>Receiving time window</strong></td>
<td>Small</td>
<td>24/7*</td>
<td>24/7*</td>
</tr>
<tr>
<td><strong>Parcel dimensions limitations</strong></td>
<td>No limit</td>
<td>Within limits</td>
<td>Within limits</td>
</tr>
<tr>
<td><strong>Refrigerated goods</strong></td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Upfront investment</strong></td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
</tr>
<tr>
<td><strong>Cost/ delivery advantage</strong></td>
<td>Advantage for low number of daily deliveries</td>
<td>Advantage for medium number of daily deliveries</td>
<td>Advantage for high number of daily deliveries</td>
</tr>
<tr>
<td><strong>Replenishment time</strong></td>
<td>High</td>
<td>Medium</td>
<td>Low</td>
</tr>
<tr>
<td><strong>Energy consumption</strong></td>
<td>Low</td>
<td>Low</td>
<td>Medium</td>
</tr>
<tr>
<td><strong>Special permitting</strong></td>
<td>No</td>
<td>No</td>
<td>Possibly, depending on location</td>
</tr>
</tbody>
</table>

**Scoring**  
- Low score  
- Medium score  
- High score

* If located at accessible spot outside the store
Our team

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