Out-of-home delivery in Europe 2021

PUDO and parcel lockers

April 2021

Last Mile Experts

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Introduction

LAST MILE EXPERTS

Last Mile Experts

"Our focus drives Your SUCCESS!

Last Mile Experts is a specialist CEP and E-commerce last mile consultancy.

Our team have joint experience of several hundred years and are supported by partnered specialists throughout the globe, who help us deliver industry best practice in even the most focused areas.

In addition to the above, we have relationships with many key suppliers of hardware and software for route optimisation, sortation or tracking and control.

WHAT WE DO AT LAST MILE EXPERTS

Last Mile Experts

At Last Mile Experts, we support our clients to develop, deliver and sustain competitive advantage across a number of critical business areas but focusing on Courier Express Parcel and e-commerce last mile:

- Business operating models including cross-border
- General or specific operations solutions
- Hardware and software selection and contract negotiation
- People and organisational development
- Research and benchmarking
- Support in negotiating the best SLA's and commercial terms
- Strategic as well as operational pricing and product portfolio management

Mergers&acquisitions
including market reviews, pre-deal due diligence and post-deal advisory

E-commerce/ Amazon
and the last mile

Out of Home delivery
options including APM's and HUB's (lockers) and PUDO's (access points).

Strategic planning and commercial proposition

Interim/ turnaround management

UPIDO A.G.

UPIDO (Unlimited Predictive Intelligence Delivered Online) applies proprietary machine learning methods to produce key postal and parcel markets insights for more than 100 countries and 300 postal and logistics companies worldwide in almost real time. Its parcel and postal intelligence system (ShipinRoom) results from three years of intensive fundamental research leveraging the most recent developments in big data and artificial intelligence.

During the Covid-19 pandemic, it has developed innovative ways of monitoring and predicting online consumers' behaviour in order to assess the impacts of the greatest shopping channel shift ever, from offline to online, on B2C parcel volumes and delivery predictability worldwide. It has collaborated with the Asian Development Bank as well as with the Information and Communications Technologies Secretariat of the Argentinian government and three leading parcel companies.

UPIDO provides its customers with unique global benchmarking tools allowing brands and retailers worldwide to assess the strength and weaknesses of each logistics firm as well as the risk and opportunities in any given market.
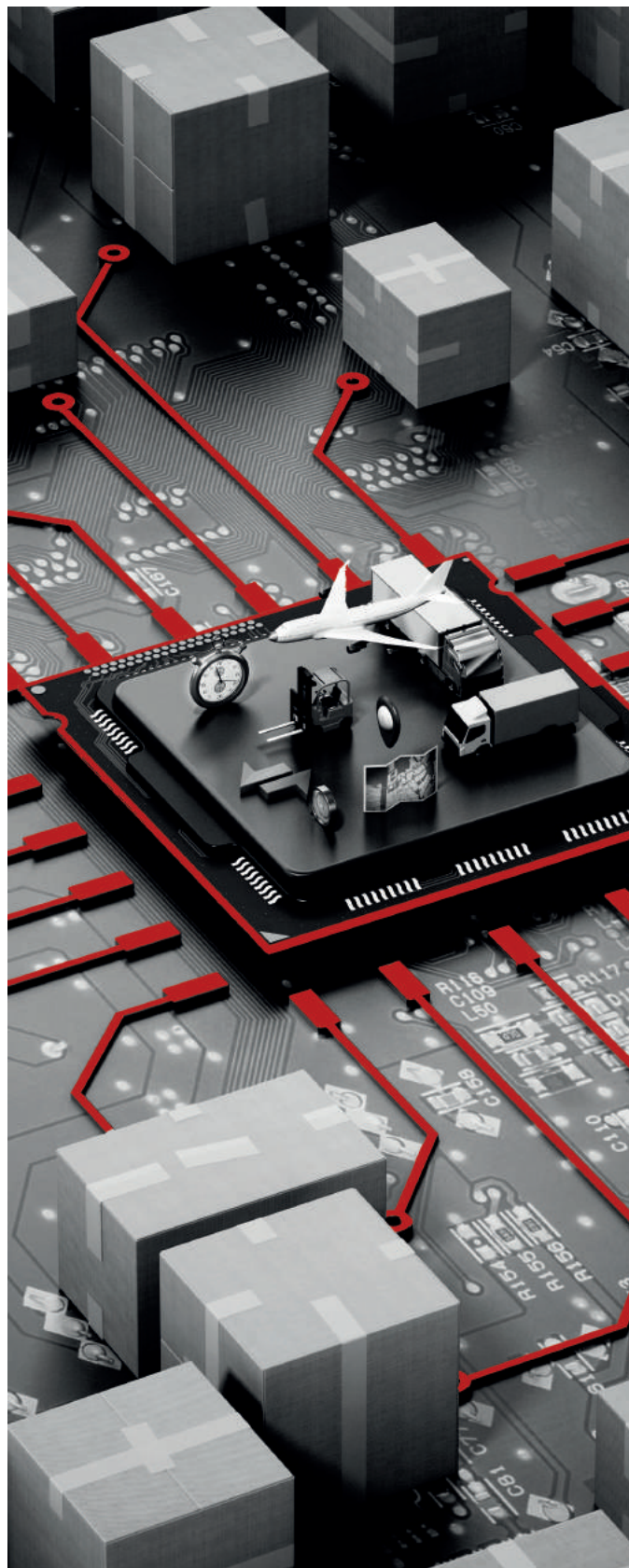
SPONSOR

DPDGROUP

DPDgroup is the largest parcel delivery network in Europe. We combine innovative technology and local knowledge to provide a flexible and user-friendly service for both shippers and shoppers.

With our industry-leading Predict service, we are setting a new standard for convenience by keeping our customers in close contact with their delivery.

With 97,000 delivery experts and a network of more than 58,000 Pickup points, we deliver 7.5 million parcels each day – 1.9 billion parcels per year – through the brands DPD, Chronopost, SEUR and BRT. At DPDgroup we aim to be a reference in sustainable delivery and become a leading enabler of the e-commerce acceleration.

DPDgroup is the parcel delivery network of GeoPost, which posted sales of €11 billion in 2020. GeoPost is a holding company owned by Le Groupe La Poste.

dpdgroup

2020 key facts and figures

€11 B
revenue

1.9 B
parcels delivered
+40% growth vs. 2019

97,000
delivery experts

Largest
parcel delivery
network in Europe

+42%
revenue growth
vs. 2019

13.9 M
New daily record
13.9 M parcels handled worldwide
on 30 Nov. vs. 7.5 M per day

55%
of B2C volumes
vs. 45% in 2019

CO₂ #1
on the voluntary carbon
offsetting on the CEP market

DPDGROUP

> E-commerce and, by extension, B2C deliveries have been accelerated by the Covid pandemic. To meet this rising trend, we will further expand Pickup, our network of out-of-home solutions, as collecting a parcel away from home is both in demand and estimated to represent over a quarter of all types of delivery by 2025. We plan to bolster our current number of out-of-home delivery points from 50,000 to more than 100,000 over the next five years. In doing so, we will be able to offer consumers throughout Europe a means to pick up consignments within a maximum range of 10 minutes.

Yves Delmas
Executive vice President
Chief Operating Officer Europe
GeoPost/DPDgroup

SPONSOR

ORACLE

ORACLE | Partner

Oracle provides products and services that address enterprise information technology (IT) environments. Oracle products and services include applications and infrastructure offerings that are delivered worldwide through a variety of flexible and interoperable IT deployment models. These models include on-premise deployments, cloud-based deployments, and hybrid deployments (an approach that combines both on-premise and cloud-based deployment) such as Oracle Cloud at Customer offering (an instance of Oracle Cloud in a customer's own data center). Accordingly, Oracle offers choice and flexibility to its´ customers and facilitate the product, service and deployment combinations that best suit to customers' needs. Oracle customers include businesses of many sizes, government agencies, educational institutions and resellers that Oracle markets and sells to directly through its´ worldwide sales force and indirectly through the Oracle Partner Network.

ORACLE

4 Ways to Execute the Perfect Delivery

Power your supply chain with the right cloud-based tools to provide customers with what they want, when they want it.

Find out how

Right place — Right products
Perfect delivery
Right time — Perfect condition

01 Boost customer experience with frictionless order orchestration

Simplify ordering, streamline delivery, and manage demand fluctuations with effective and integrated order and warehouse management.

02 Build flexibility to scale for growth

Companies that will prevail can adapt to any number of factors such as rerouting orders or fulfilling them from different distribution centers or stocking locations to achieve the perfect order.

80%[1]
of B2B buyers prefer remote human interactions or digital self-service.
1. McKinsey & Company

"Before we had Oracle, everything was very manual and we didn't have a single view of inventory. Today, we are no longer over exposed on a day-to-day basis when dealing with exceptions, peaks, and troughs."

Roger Connett, IT Director, Wolseley

03 Prepare for disruptions with adaptive logistics

Excellence in logistics depends on synchronized networks of suppliers, transportation providers, and distribution centers who align to deliver shipments and customer orders.

04 Make informed decisions with cross-border trade visibility

Scale your global trade operations by planning shipment routes to minimize taxes and customs fees, and producing accurate customs and trade documentation to avoid penalties and delays.

9.2%[2]
decline in the volume of world merchandise trade is forecasted for 2020
2. World Trade Organization

Fast-track your approach to the perfect delivery and enhance customer experience.

Find out how Oracle Fusion Cloud SCM can accelerate the transformation of supply chain operations.

Read the report

ORACLE

ORACLE | Partner

"Disruption of consumer behavior has driven significant growth in delivery networks across the Consumer Markets industry. Retailers and e-commerce businesses are rapidly evolving how they need to address 'last mile' delivery challenges. Oracle's second generation cloud infrastructure and innovative cloud technologies have been adopted across the industry to provide the performance, scalability, and agility necessary to enable retail and e-commerce customers. Oracle is delighted to work with innovative solution providers, such as **UPIDO,** to help the industry understand the future trends and address these needs.

Peter Bambridge, Director,
Consumer Markets Industry Strategy Group,
Oracle

AUTHOR - LAST MILE EXPERTS MANAGING PARTNER

MAREK RÓŻYCKI

Experience in courier industry

- Financial Controller - DHL Express Poland 1990
- Founder, Masterlink Express (now DPD Polska) 1991
- Turnaround CEO Masterlink Express 1999-2004
- CEO CEE, DPD 2004-2006
- CEO CSEE DPD 2006-2013
- VP Amazon Logistics Europe 2014-2015
- Deal Advisor SB Member Pekaes SA 2015-2017
- Deal Advisor SB Member Advent/InPost S.A 2016-2017
- Deal Advisor SB Advisor Urgent Cargus S.A. 2017-2019
- Board Advisor eMag/Sameday Romania 2020-
- Board Advisor Trendyol Turkey 2020-

Selected Projects

- Complete nationwide PUDO/locker implementation plan in CEE
- Restructuring of some 10 CEP businesses
- Launch of fuel surcharge throughout DPD CSEE
- Launch of PUDO's throughout CSEE
- IT4EM/IDM capability at DPD CSEE
- Helped acquire or sell over 10 CEP businesses

Achievements

- Created leading domestic CEP carrier in Poland (DPD Polska)
- Textbook restructuring Masterlink following takeover by Swedish Post
- Successful turnaround of 7 further CSEE BU's
- Developed the most homogenous road based parcel network in CSEE
- Tripled DPD CSEE revenue from 2006-2013, with industry beating ROS
- Conceived IT4EM (ERP for several DPD markets)
- Part of start up team for Amazon Flex, Fresh and Prime Now
- Participated in creating the successful restructuring plan for InPost

Summary

Entrepreneurial ex-regional CEO with multicultural experience, a courier express parcel, restructuring and last mile e-commerce background.

A team builder with a strong industry network who has operated in various CEP markets, especially Poland, with a proven track record of success, even in very challenging circumstances.

CO-AUTHOR LAST MILE EXPERTS PARTNER

MIREK GRAL

Experience in courier industry
- Operations Supervisor, Oversea Courier Services 1992-1996
- International Operations Manager, M.S. Stolica 1996-2003
- (GSA for Airborne Express, FedEx, Aramex/ GDA, Net Express)
- Founder, COO of MACS brokerage & freight forwarding 1998-2004
- Key Account Manager, Frans Maas Polska 2004
- International Operations Manager, M.S. Stolica 2004-2005
- Industrial Engineering Manager, UPS Polska 2005-2010
- Project Manager Nordics HQ relocation, UPS NE District 2010-2011

- Industrial Engineering Manager, UPS EMEA Region 2011-2013
- Outside Service Providers Manager, UPS Polska 2013-2014
- Project Manager Central Hub construction, UPS Polska 2014-2015
- COO, UPS Polska 2015-2019

Achievements
- OCS, Airborne Express, FedEx and Aramex (GDA) next day international services implementation across the Poland
- Full operational and IT integration of UPS and acquired M.S. Stolica
- UPS Nordics HQ and Stockholm package centre relocation
- UPS stage one integration with acquired Kiala B2C company
- UPS Poland central hub construction and distribution network redesign
- UPS Poland best operational performance worldwide

Selected Projects
- Co – founder of Polish Express Carriers Forum
- GSE contracts with Airborne Express, FedEx and Aramex
- UPS Polska integration with M.S. Stolica and complete distribution network redesign
- Launching UPS intercontinental flights via Warsaw airport
- First stage of Kiala B2C/PUDO business merge with UPS network
- Renegotiations of Polish UPS Outside Service Providers service agreements with new SLA implementation
- UPS Poland feeder & hub's network redesign
- BREXIT operational set up redesign for UPS Poland.
- Subject matter expert during few DD's in CEE CEP market

Summary

More than 28 years of experience in CEP industry supported by cooperation with the largest players on the international market.

Leader, Team player with organizational and planning skills followed by experience of work abroad with multinational/ multicultural environment and time critical projects.

CO-AUTHOR UPIDO PARTNER

JOSE ANSON

Experience in courier industry

- Consultant on pre-shipment inspection, the World Bank Group 2002-2003
- Expert on rules of origin, the World Trade Organization, 2004-2005
- Postal economist, Universal Postal Union 2005-2017
- Data scientist, Universal Postal Union 2013-2017
- Editor, Strategies for Postal Development, Universal Postal Union 2012
- UPU International Bureau assistant secretary on various bodies of the
- UPU Council of Administration and Postal Operations Council, 2005-17
- Economist at 2008, 2012 and 2016 UPU World Postal Congresses
- Founder and CEO, UPIDO 2018-present

Selected Projects

- Measurement of the impacts of pre-shipment inspection on tariff evasion and customs corruption
- Assessment of preferential trade agreements for LDCs in the the textile and clothing industry
- UPU Integrated Index for Postal Development (2IPD)
- Alliance for financial inclusion (AFI) conference on postal financial inclusion
- UPU conference on the impacts of the great crisis
- UPU postal economics project groups and country classification for terminal dues purposes

Achievements

- Predicted the great economic and financial crisis of 2008-09
- Created UPU 2IPD ranking of world best postal services
- First implementation of big data at UPU
- UPU representative at the United Nations Statistical Commission
- More than 50 published economic research papers and books
- Funded by the Bill and Melinda Gates Foundation for postal financial inclusion
- Design of AI/ML algorithms to monitor B2C parcel traffic over the Internet
- Innovative quality of service monitoring algorithms through search data

Summary

Internationally renown postal economist with wide experience in international trade, governance and data science. Worked on more than 150 economies in the world and published original economic research in leading economic journals.

Founded UPIDO in 2018 to bring innovative machine learning solutions to the last mile. PhD in economics from the University of Lausanne and former UBS apprentice.

ORACLE | Partner

upido

UPIDO partners with Oracle who is easing best-in-class integrations across supply chain stakeholders to achieve operational excellence in last mile delivery. Oracle is a leader in Gartner's magic quadrant for transportation management systems in 2020.

Oracle aims at contributing to substantial improvements of supply chains globally through better scenario planning, efficient dynamic routing of goods, from the first to last mile, and digitisation of logistics and delivery processes.

The ultimate goal is a perfect customer experience where innovative data management and artificial intelligence solutions can be easily deployed in the benefit of all parties through state-of-the art software-as-a-service or platform-as-a-service solutions. UPIDO and Oracle partner for easing smart and effective collaboration between the different players across the supply chain, which is going to become particularly critical in the last mile in the coming months and years. Welcome to the hyper-collaborative delivery experience!

Jose Anson,
UPIDO A.G. Founder and CEO

ABOUT THIS REPORT

Background to the report

In 2019, the European CEP market reached ca. 12.3 bln parcels and 62.4 billion Euros. The expectations for 2020 are even higher.

The CEP industry is driven by very dynamic growth in e-commerce, which in turn is now further strengthened by restrictions in retail caused by Covid-19.

Over the last few years, there have been significant changes in market shares, parcel types B2C (Business 2 Consumer) vs. B2B (Business 2 Business) and first or last mile channels P2P (Point 2 Point) vs D2D (Door 2 Door).

Out-of-home (OOH) delivery, including pick-up and drop-off points (PUDO) and automatic parcel machines (APM), is playing an increasingly important role.

Our report covers the market structure, countries, players, growth and key trends.

In this report we seek to understand what is behind the out-of-home delivery trend and to assess what future impact this will have on the various stakeholders.

The market is served by a combination of carriers ranging form the national postal operators to parcel lockers operators and indeed CEP players. The report covers new types of OOH delivery providers, too.

There are a number of new OOH factors and players which have become more relevant in recent years such as convenience store networks or newspaper distribution networks.

LME has in depth knowledge of this market and theand has made various studies on OOH delivery in Europe and elsewhere. Our managing partner has a strong entrepreneurial background including the creation of DPD Polska (formerly Masterlink Express) a leading player on the Polish CEP market. Our consulting work in Europe has included advising many companies regarding completing nationwide PUDO/locker implementation plan in CEE, launching of PUDO's throughout 16 countries, IDM capability at DPD CSEE, first stage of Kiala B2C business merging with UPS network, and prioritising the scaling of PUDO across EMEA for a leading sports fashion company.

What can you find in this report?
- The report covers all key players in the European market for OOH delivery.
- We define the OOH market to include PUDO and APM parcels. They mainly include B2C and C2X parcels and P2D, D2P, P2P channels. OOH can be used for the first and last mile.
- We analyze the evolution of B2C parcel volumes before, during and after the pandemic so as to bring the right market insights on 27 EU countries and Great Britain.

Who will benefit from our report?
The report is intended for:
- Owners and operators of OOH networks
- CEP companies
- Online retailers
- Investors in these businesses
- Market regulators and policymakers
- Journalists and editors of newspapers and magazines
- Analysts, consultants and other stakeholders

What are the sources and methodology?
The main sources for the report are:
- Extensive desk research on the OOH market and its operators covering company press releases, websites and other sources.
- UPIDO internet search algorithm outcomes to estimate B2C parcel volumes growth in 27 EU countries and Great Britain.
- Published information on key market drivers such as economic data and estimates of home shopping levels and practices.
- Interviews with senior-level contacts in the market.
- LME's own, in depth, expert knowledge.
- The key input to our market size estimates is a bottom-up analysis of the OOH points of the firms operating in Europe in 28 countries (EU + GB).
- Verification with experts from local markets have been made to confirm the players, the numbers of OOH points, trends, etc.
- Where actual or published date is not available, we have made estimations based upon our market knowledge.

METHODOLOGY

OOH (out of home) is relatively new and is developing fast. To have the most up to date information, we have conducted:

Extensive desk research on PUDOs (pick up drop off) and APMs (automated parcel machines, named as „lockers") networks in Europe covering company accounts, websites, press reports and other sources.

Almost **50 interviews** (CEO, senior-level of CEP, PUDO, APM operators, experts, retailers).

Analysis of **28 countries** (EU countries + GB).

Analysis of **213 networks** (network by network in each country in scope).

Moreover, we have partnered with UPIDO, a Swiss logtech company providing delivery intelligence as a service, which has created several proprietary algorithms enabling to exploit Internet search data in order to monitor and predict the evolution of e-commerce and B2C parcel volumes.
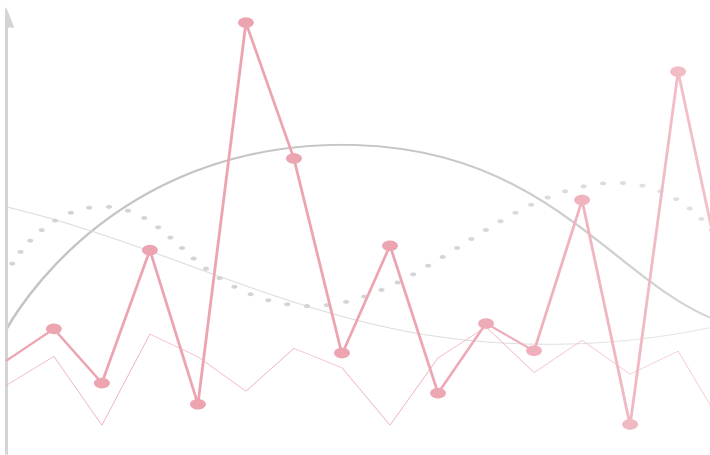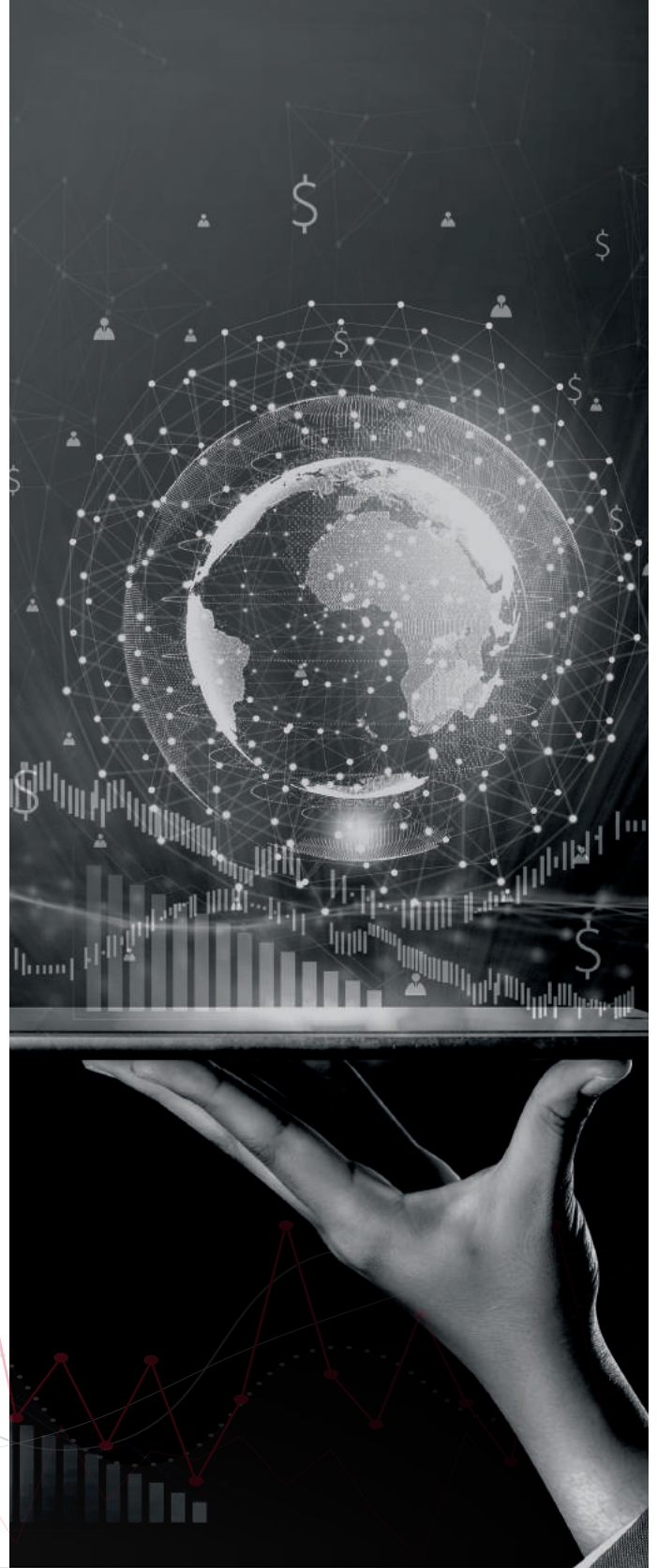
EXECUTIVE SUMMARY

Customers are increasingly demanding when it comes to the delivery experience. They want visibility, flexibility and control. In fact, a recent studies shows that consumers will abandon a basket if the delivery option they want is not available.

Given massive volume growth, **out of home (OOH) is a „must have" to be able to achieve capacity and is also critical to offer Customer choice.** A good returns process is an important element of CX and can determine whether customers come back...or not.

While each user group (Customers, Merchants and Carriers) benefit from a different value proposition, lockers and PUDO's are central to each of them and can be expected to become more important over time.

Much of the Covid-19 acceleration in e-commerce is most likely to last and B2C parcel volumes in the EU and Great Britain will reach more than 20 billion pieces in 2025 in our base-case scenario. However, parcel growth performances are unequal across the EU as a result of the pandemic, and OOH delivery networks do not seem to be optimised at this stage yet.

SUMMARY

COMMENT

from prof. Arkadiusz Kawa, Managing Director of Łukasiewicz – Institute of Logistics and Warehousing

Out-of-home delivery, i.e. pick-up and drop-off points (PUDO) and automatic parcel machines (APM) is the fastest developing segment in the CEP and e-commerce industry.

Deliveries to PUDOs and parcel machines have many advantages compared to door-to-door deliveries. Almost 100% of deliveries are made the first time. The dense network makes these places close to the customer. Moreover, they help solve the last mile problem, which is the most complex process of e-commerce logistics. It is worth noting that it accounts for approximately 40-50% of delivery costs.

Studies show that online retailers and logistics service providers should pay more attention to the last mile, because customers who have more influence on the way they deliver are more satisfied with their purchases and more loyal, which translates into higher spending.

prof. Arkadiusz Kawa,
Managing Director of Łukasiewicz
– Institute of Logistics and Warehousing

Background
to the report

CEP INDUSTRY CHANGING

In the late 1990's, the mail and parcels market started to grow, worldwide, and the incumbent players were forced to look for new more efficient and economic solutions. Originally there were three main shipping streams:

Business mail and parcels.
B2C mail and parcels as a result of distance shopping.
Field engineering service delivery.

In line with fast market development and the growing popularity of the internet e-commerce has become increasingly important, especially in Eastern Europe, albeit from a low base.

E-COMMERCE IN EUROPE

Europe's 743.1 million people, 85% of which are connected to the Internet, have access to one million online stores.
Germany, Great Britain, the Netherlands and France make up over 50% of all stores, and Ireland and the Czech Republic stand out in terms of e-commerce revenue shares.

E-commerce revenue share of companies in EUR in 2019

Country	Revenue share
Ireland	34%
Czechia	32%
Norway	26%
Sweden	25%
Denmark	25%
Hungary	24%
Finland"	23%
France	22%
Slovakia	21%
United Kingdom (UK)	21%
Portugal	19%
European Union (current composition)	18%
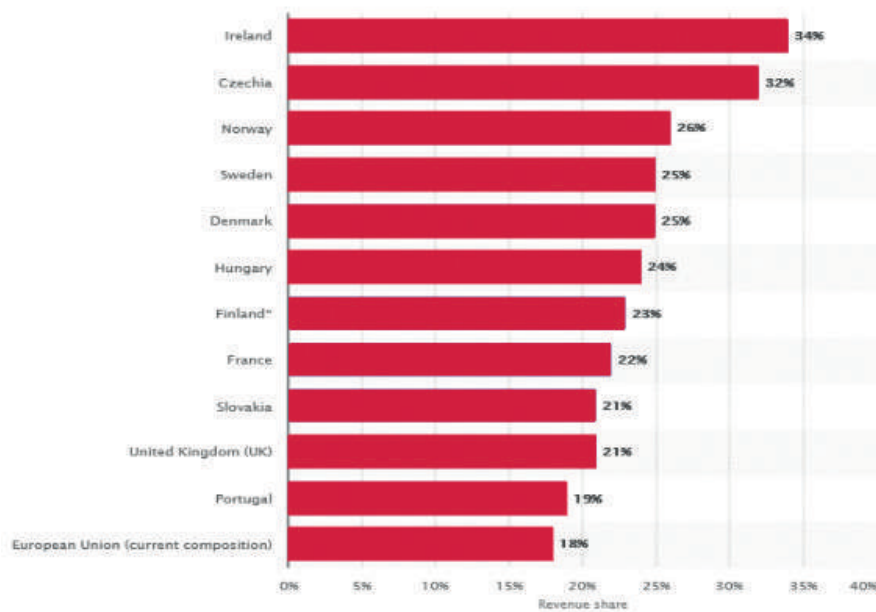
Source: Statista

Online stores in Europe, divided by country

Country	Share
Germany	21,2%
United Kingdom	13,1%
Netherlands	10,0%
France	9,0%
Russia	8,4%
Spain	5,8%
Poland	5,2%
Italy	4,0%
Denmark	3,1%
Czech Republic	3,1%
Sweden	2,5%
Belgium	2,2%
Slovakia	1,8%
Hungary	1,6%
Switzerland	1,6%
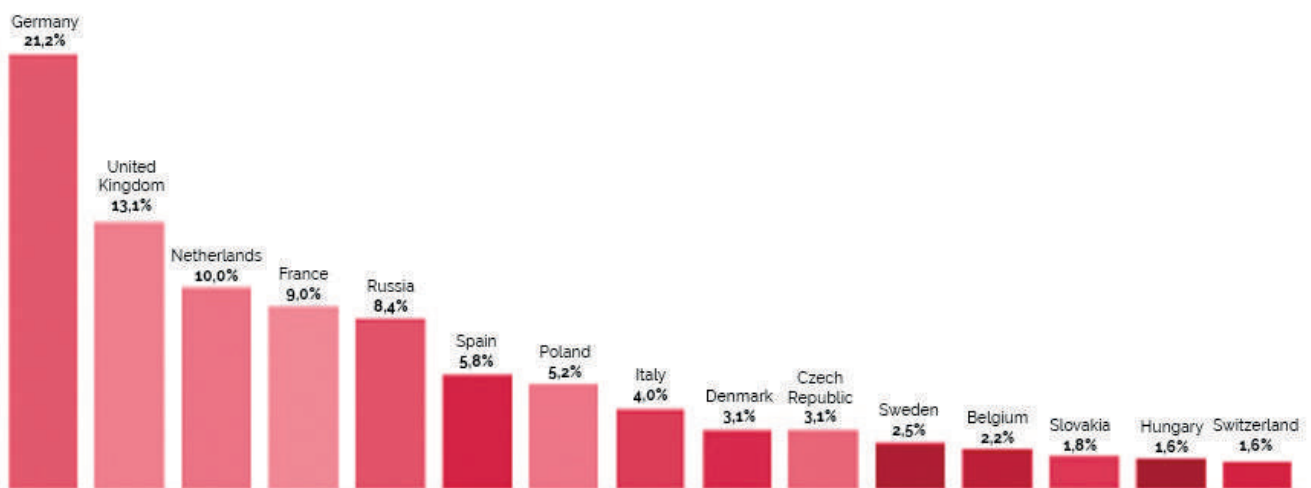
Source: Ecommercenews.eu

E-COMMERCE IN EUROPE

Statista's pre-Covid-19 research on the European e-commerce market shows steady growth which is the key catalyst for B2C parcel volume development.

Europe retail e-commerce revenue forecast from 2017 to 2024

Source: Statista

WHAT DOES COVID CHANGE?

- Accelerated e-commerce growth
  - New users and categories
- Further capacity issues
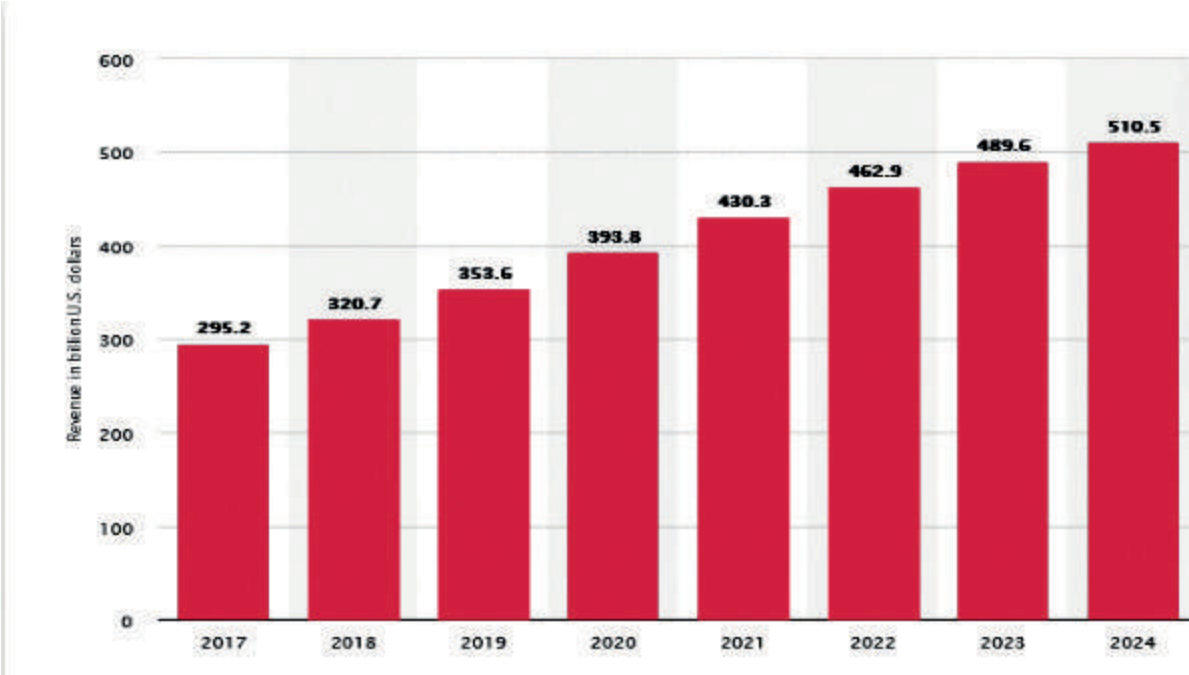 - Need for new „human-less" options
  - Need for better IDM & „consignee integration"
- Better understanding of the need for sharing
  - More agnostic networks
  - More government pressure on synergy
- Revolution in last mile infrastructure?
  - Localised stock vs „hub & spoke"

In 2020, not only did the number of e-shoppers grow, but among the 15 million new European e-shoppers, the presence of senior e-shoppers was more significant than in previous years, generating a new source of momentum for e-commerce.

Jean-Claude Sonet
Executive Vice President
*Marketing, Communications and CSR*
GeoPost/DPDgroup

TOWARDS THE NEW NORMAL IN PARCEL VOLUMES

For the first time, the **10 billion** B2C parcel volume threshold was reached in the EU during the Covid-19 health crisis in 2020.

The new normal volume growth path could lead to more than **20 billion** B2C parcels in the EU and Great Britain in 2025, and close to **40 billion** in 2029.

At the pre-Covid-19 EU growth rate, the 2025 new normal parcel traffic volumes would be achieved only in 2029. Should the Covid-19 growth rate continue to apply, it
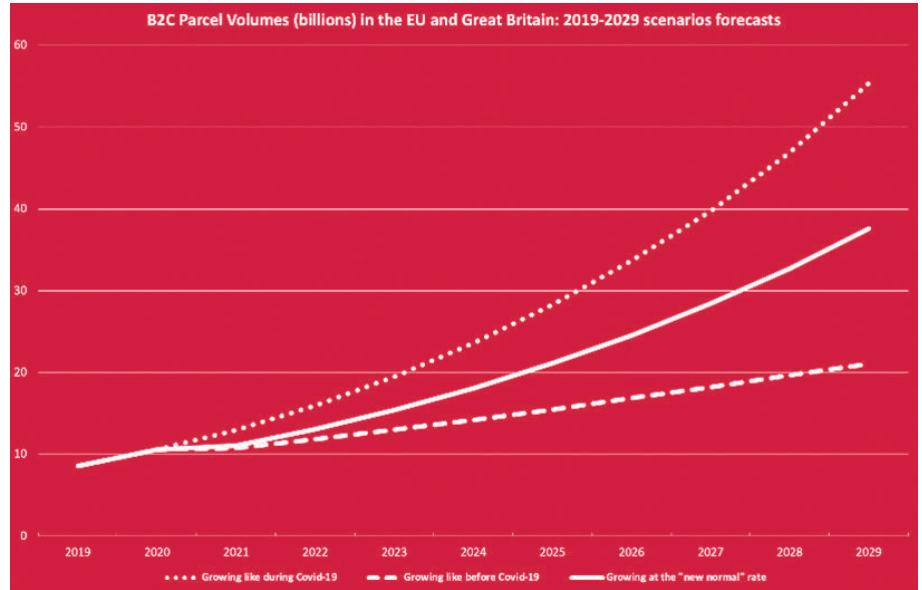
would be almost already obtained in 2023 as Covid-19 accelerates growth by 4 to 6 years.

Source: UPIDO

B2C Parcel Volumes (billions) in the EU and Great Britain: 2019-2029 scenarios forecasts

•••• Growing like during Covid-19   — — Growing like before Covid-19   —— Growing at the "new normal" rate

EU B2C PARCELS VOLUME REACH RECORD GROWTH

The pandemic has led to various explosive growth processes of B2C parcel volumes, testing the capacity of delivery networks like never before.

2021 has started with very high year-on-year growth which is expected to slow down over the course of the year, depending on the progress of vaccination which will, in turn, drive the pace of removal of Covid-19 restrictions.

The impact of improving health conditions on online shoppers' behavior is expected to
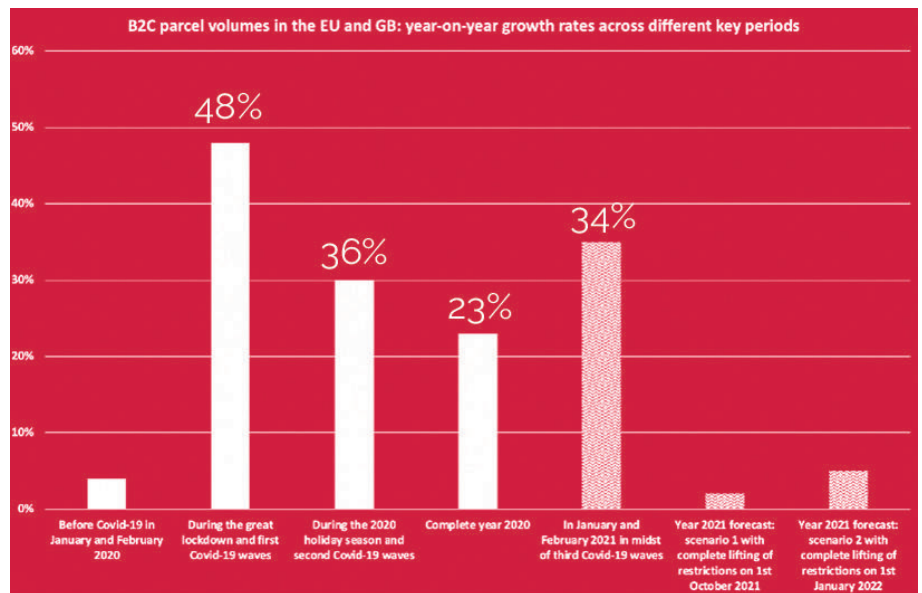
mitigate B2C parcel volume growth during the second semester of 2021, albeit gains made in 2020 are being further built upon.

Source: UPIDO

B2C parcel volumes in the EU and GB: year-on-year growth rates across different key periods

Period	Growth
Before Covid-19 in January and February 2020	—
During the great lockdown and first Covid-19 waves	48%
During the 2020 holiday season and second Covid-19 waves	36%
Complete year 2020	23%
In January and February 2021 in midst of third Covid-19 waves	34%
Year 2021 forecast: scenario 1 with complete lifting of restrictions on 1st October 2021	—
Year 2021 forecast: scenario 2 with complete lifting of restrictions on 1st January 2022	—

COVID-19 DRIVING VOLUMES IN 2020 AND 2021

The effects of the Covid-19 pandemic are captured by integrating the Oxford University Covid-19 Stringency Index, which measures the levels of Covid-19 containment measures in each country, in the B2C parcel volumes predictive model.

COVID-19 vaccine doses administered per 100 people, Mar 21, 2021
Total number of vaccination doses administered per 100 people in the total population. This is counted as a single dose, and may not equal the total number of people vaccinated, depending on the specific dose regime (e.g. people receive multiple doses).

Our World in Data

No data   0   0.01   0.03   0.1   0.3   1   3   10   30   >100

Source: Official data collated by Our World in Data   CC BY

UPIDO has built a global B2C parcels forecasting model to predict volumes growth from 1st January 2019 onwards. The daily predictions are updated weekly and made available on demand through an interactive dashboard. A dynamic time series model is applied to forecast B2C parcel volumes growth. It takes full account of the main economic trends and consumers' sentiments in each country as well as e-commerce specific drivers such as shopping „events" or online purchasing seasonality. The level of stringency of Covid-19 mobility restrictions and lockdowns is clearly impacting the year-on-year growth of B2C parcel volumes. In 2020, volumes growth were predicted with an error margin of +/- 2.5%. Our 2021 forecasting tool simulates the end of restrictions in response to vaccination.

GREECE, POLAND, LITHUANIA AND THE CZECH REPUBLIC OUTPERFORMING THEIR EU PEERS

Greece, Poland, Lithuania, and the Czech Republic have outperformed their EU peers in 2020 with year-on-year volumes growth way above what could have been expected by the level of Covid-19 restrictions applied during the first and second waves of the pandemic. Twenty countries have been in line, to a great extent, with what could have been expected in terms of B2C parcel volumes growth given the stringency of non-medical interventions during the health crisis.
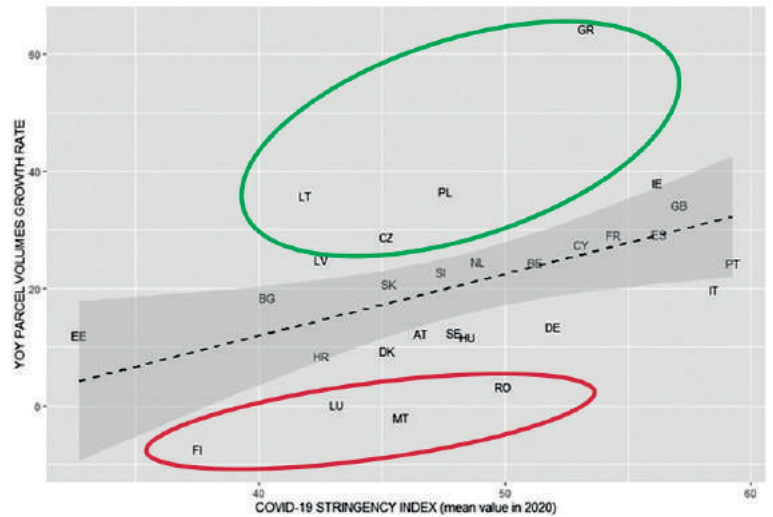

Source: UPIDO

Finland, Malta, Romania and the Luxembourg have underperformed their EU peers in 2020 with year-on-year volumes growth clearly below what could have been expected

VACCINATION DELAYS SPUR E-COMMERCE GROWTH

Considering the impact of Covid-19 restrictions on e-commerce growth, we have been modelling the transition to the post-Covid-19 situation according to two possible scenarios for the 2021 year-on-year growth forecasts.

1. The optimistic scenario assumes that the whole population of a country can be inoculated by the end of the summer and all Covid-19 related restrictions removed by **October 1st.**
2. The pessimistic scenario deals with the impact of new Covid-19 variants spreading across geographies and a lower efficacity of the vaccination campaigns.
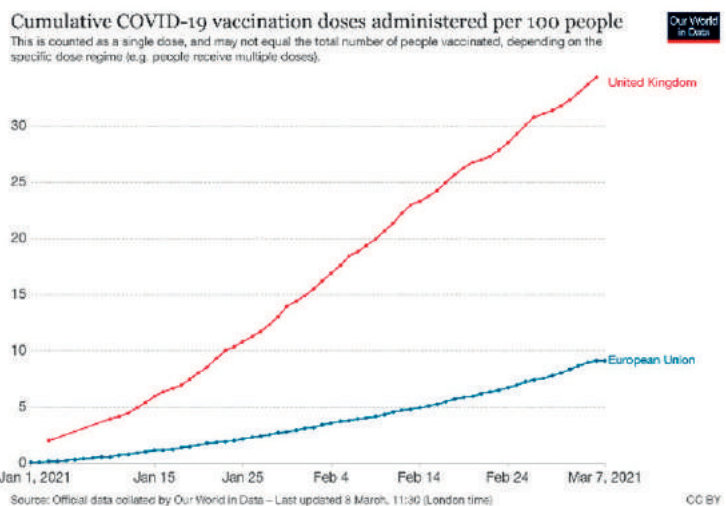
Restrictions would be totally lifted only by **January 1st**, 2022 once adapted vaccines are made available to all.

MOSTLY SINGLE DIGIT GROWTH PREDICTIONS FOR 2021

In 2021, the implementation of Covid-19 vaccination campaigns will determine the date of the complete lifting of Covid-19 restrictions with low single digit B2C parcel volumes growth rates expected in most EU countries.
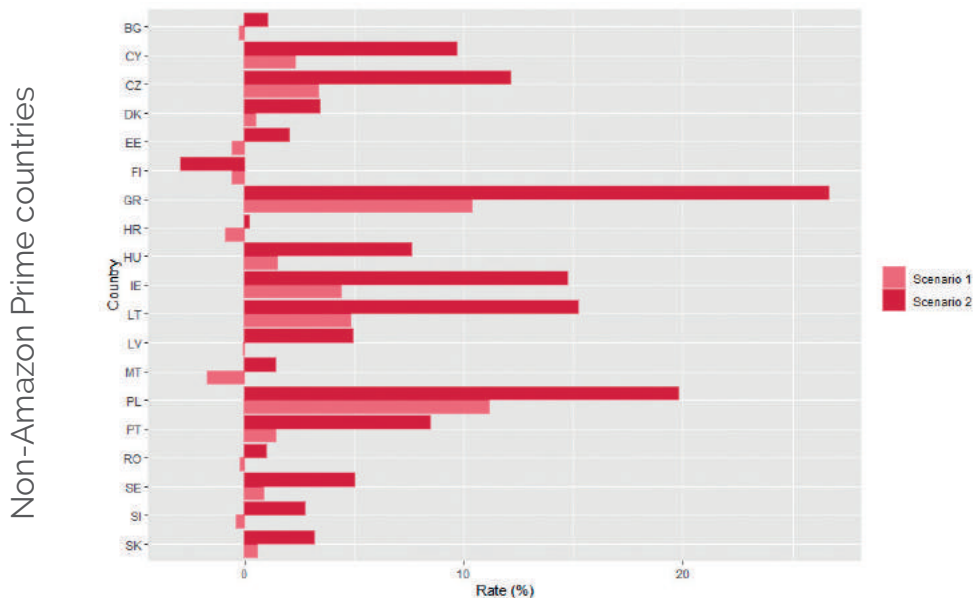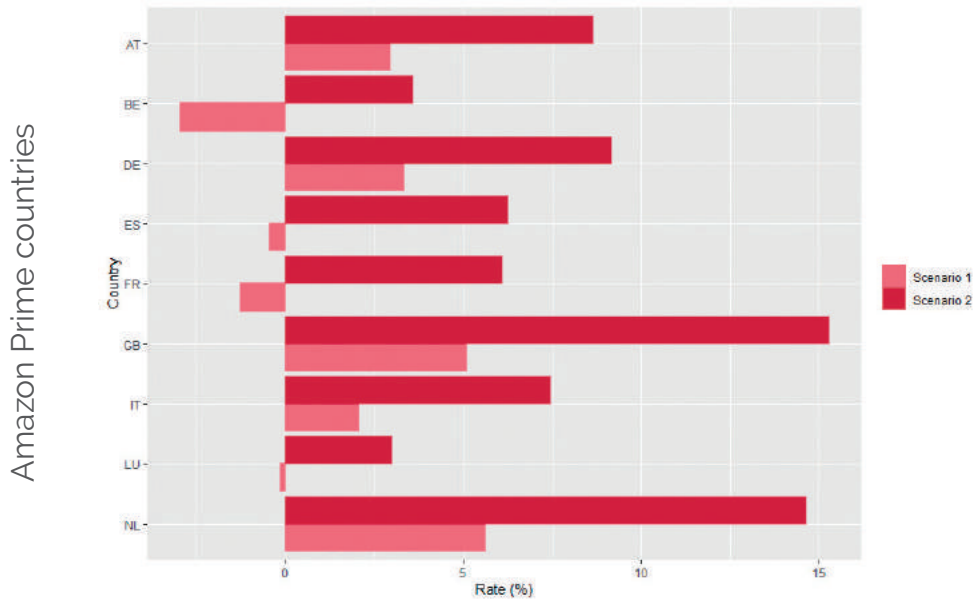
Two predictive year-on-year growth scenarios: first forecasting scenario with complete lifting of Covid-19 restrictions on 1st October 2021 (possibly if variants under control), or second forecasting scenario with complete removal of containment measures on 1st January 2022 (most likely with effective vaccines available against all variants). It is interesting to note that, all things being equal, the availability of Amazon Prime in a country can influence the level of B2C parcels volumes growth as it happened in 2020.

E-COMMERCE NEEDS BETTER SOLUTIONS AND CX

E-commerce needs, above all:

- Capacity
- Quality/first-time delivery (FTD)
- Choice
  - Where?
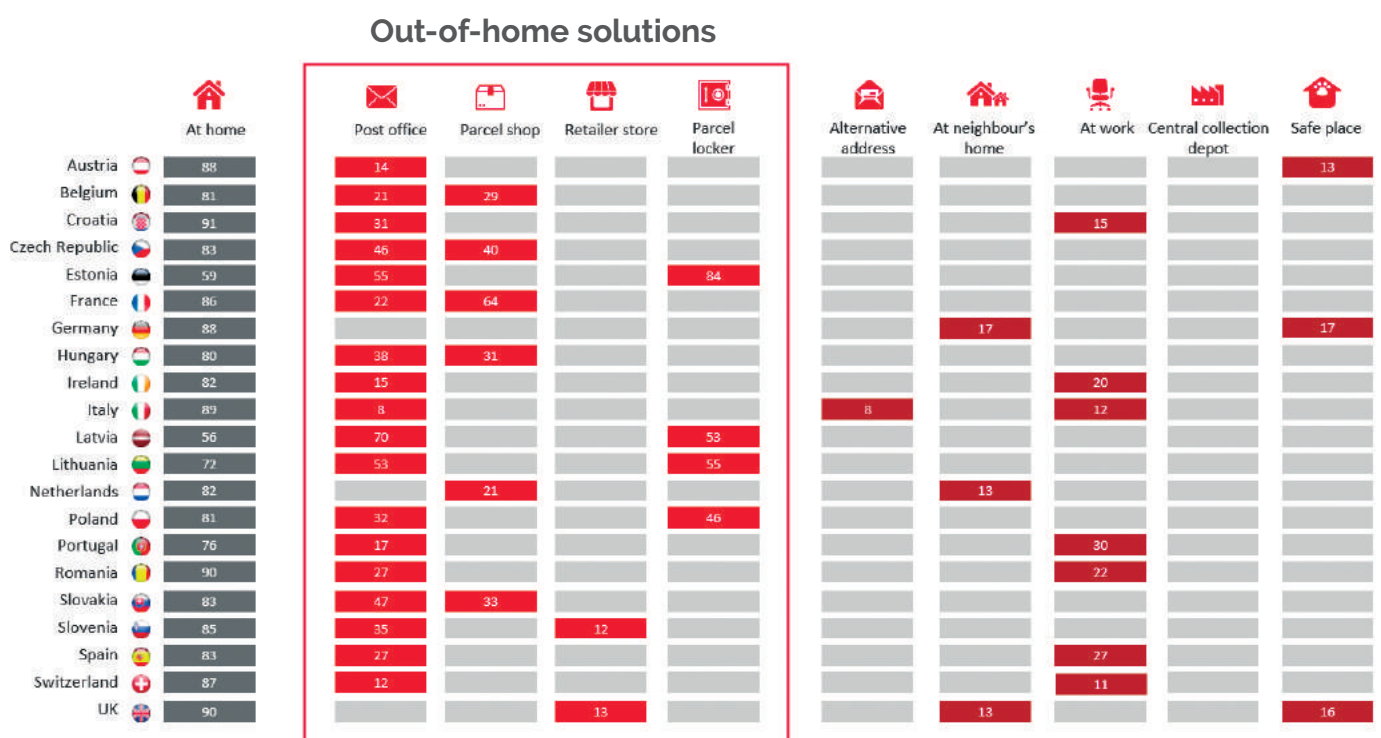 - How?
  - When?
  - For how much?

GROWING CUSTOMER EXPECTATIONS

DPDgroup's e-shopper barometer identified the most important trends in terms of European e-shoppers' expectations regarding delivery. As e-shoppers receive a growing number of parcels, delivery predictability and visibility are key. The entire European market is heading towards next day delivery as a pre-requisite. This is especially true with the increase of essential goods purchased online during the pandemic. Though home delivery remains the main preference across a number of countries, parcel shops had already ranked second among European e-shoppers' expectations with 18% of European e-shoppers preferring parcel shop deliveries in 2019, the top country being France at 64%. Parcel locker deliveries saw their popularity increase even more so during the Covid health crisis though unevenly requested in Europe (84% of e-shoppers in Estonia prefer parcel locker deliveries, 55% in Lithuania, 53% in Latvia).

REGULAR E-SHOPPERS' DELIVERY PREFERENCES AT A GLANCE

Specificities per country regarding usual delivery places % (top 3 preferences)

Out-of-home solutions

	At home	Post office	Parcel shop	Retailer store	Parcel locker	Alternative address	At neighbour's home	At work	Central collection depot	Safe place
Austria	88	14								13
Belgium	81	21	29							
Croatia	91	31						15		
Czech Republic	83	46	40							
Estonia	59	55			84					
France	86	22	64							
Germany	88						17			17
Hungary	80	38	31							
Ireland	82	15						20		
Italy	89	8				8		12		
Latvia	56	70			53					
Lithuania	72	53			55					
Netherlands	82		21				13			
Poland	81	32			46					
Portugal	76	17						30		
Romania	90	27						22		
Slovakia	83	47	33							
Slovenia	85	35		12						
Spain	83	27						27		
Switzerland	87	12						11		
UK	90				13		13			16

For more info, connect to: **https://www.dpd.com/group/en/expertise/e-shoppers-in-europe/**

GROWING CUSTOMER EXPECTATIONS

Customers are now more and more demanding in terms of deliveries. They want transparency, flexibility and greater influence on their delivery logistics. More and more customers value the fact that there are various delivery options via online shopping. What's more, if the delivery is for free, consumers are willing to wait. Customers are even able to opt out of a purchase if the delivery option they want is not available. Considering this and the fact that we currently have a huge increase in CEP industry (B2C) volumes, offering OOH deliveries is a must.

Customers expect features such as:

- Same-day – or even same-hour!
- Time slot delivery
- Alternative delivery options
    - Parcel lockers / PUDOs
    - Safe drop / leave with neighbour (UK)
- In-flight redirections or time slot changes
- Consolidation of deliveries

MERCHANTS ONLY HAVE ONE CHANCE TO MAKE A FIRST IMPRESSION

Consumers purchasing for the first time will only return if the CX is good!

Consumers want to have a choice, so various delivery options at the checkout is a must.

- A preferred delivery option increases the probability of closing a basket which, in turn, leds to more revenue.
- Positive delivery experience increases the probability of repeated orders and, therfore more revenue.
- Above all, first-time delivery success means a closed sale...and less chance of a return
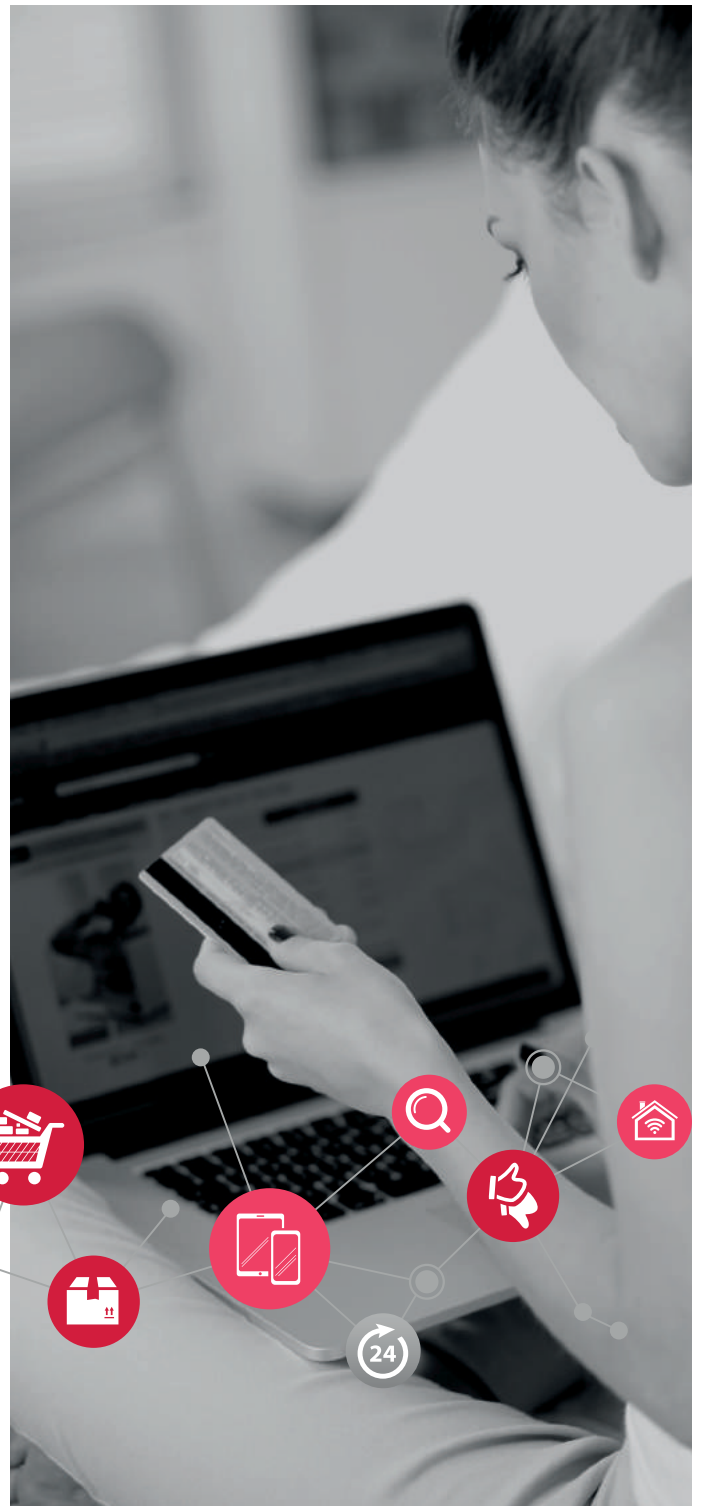
LAST MILE – THE MAJOR CHALLENGE

- Online shopping, as opposed to traditional trade, involves delivery to the final customer, a process that is complicated and costly.
- According to a report by Frost & Sullivan, "Urban Logistics Opportunities-Last-Mile Innovation", worldwide logistics expenditure was expected to reach USD 10.6 trillion in 2020.

- 70% of this expenditure will be generated by transport, **some 40% of which relates to the last mile.**
- The **last mile is a critical point in the entire supply chain** and one that is often still mis-managed and represents the biggest challenge for operators, especially in light of the ever growing expectations created by e-commerce.

OOH AS A SOLUTION TO THE LAST MILE PROBLEM

OOH with using PUDO and APM is today the best solution to the last mile problem related to the door-to-door delivery.

They provide B2C parcel volumes and the demand from vendors and consignees for ever more consumer centric and flexible last mile serivces.

OOH is 3-4 times more efficient per route, gives high quality and choice which is so important here.

Locker routes can serve up to 800 parcels vs some 200 for a dense D2D urban courier route.

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dpdgroup

**OOH
(Out of home)
PUDO's & APM's**

Last Mile
Experts

DEFINITIONS / CHARACTERISTICS OF OOH

1

Out-of-home (OOH) delivery consists of delivering a shipment to a point or machine that is in a convenient place for the customer. A parcel can be picked up on the customer's commuting path at convenient time, within a time frame of some days. OOH is most commonly found in two forms: parcel locker (APM) and PUDO (pick up drop off) point, or for North American readers, an Access Point. PUDO is a place where one can collect a package. It can be a small (convenience) store, a parcel shop or a depot/micro depot.

OOH allows the consolidation of shipments, which increases delivery efficiency and can reduce delivery costs. Resources (cars, couriers) and processes (dropping off more parcels at the same location decreases the number of stops required and eliminates unsuccessful deliveries due to an absent recipient) are reduced. Moreover, both the delivery costs and the average delivery time are significantly decreased.

2

Out-of-home delivery involves the customer in the last mile process. Customers must do some of the work that the courier normally does, i.e. they must go to the OOH point and pick up their parcels by themselves.

The facilities have to be easily accessible to everyone. They cannot be too far away from someone's residence or workplace, otherwise it will be too hard to get there without a car or complicated to park there. Therefore, the operators have negotiated with retail outlets everywhere around the world to be able to leave the packages with them.

If the consignment cannot be delivered to the door, the redirection should be as close as possible to the address of delivery indicated during the order.

# OOH PROVIDERS

OOH are provided by various players:

National postal operators – generally the largest last mile infrastructure, usually with a mixture of traditional postal outlets, third party agency/PUDO points and increasingly lockers.

- **CEP companies** such as DPD, DHL, UPS, Hermes, GLS or FedEx have their own pick up and drop off facilities

- **E-commerce giants Amazon and AliExpress as** OOH providers.

- **Retail point owners** such as 7/eleven, newspaper kiosks, Zabka, Orlen, Lidl.

- **Infrastructure owners** such as Public transport, Rail companies, Local or city authorities or, more recently, private (parking) infrastructure owners/operators

- **IT platforms/Consolidators** (bliskapaczka.pl, Asendia, Metapack, Seven Senders (development of courier brokers towards IT solutions integrating multiple forms of delivery and opening physical PUDO points).

ADVANTAGES OF OOH

- OOH offers ever more **consumer centric** and flexible last mile services
- Almost **100% first time delivery**
- **Proximate** to customers (best in class urban networks are <350m away) - we can pick up the package "on the way", e.g. when shopping or coming back from work.
- **Convenient - 24/7** (outside APMs) or extended opening times PUDOs
- **Contactless** (APMs)
- Cheap and **easy returns**
- More flexibility; **long period of storage** (some 5 days in most PUDOs)
- **Operationally and financially efficient**
- **Ecologically superior where the PUDO or locker is proximate to home**
- Fast and relatively cheap **means of increasing capacity**
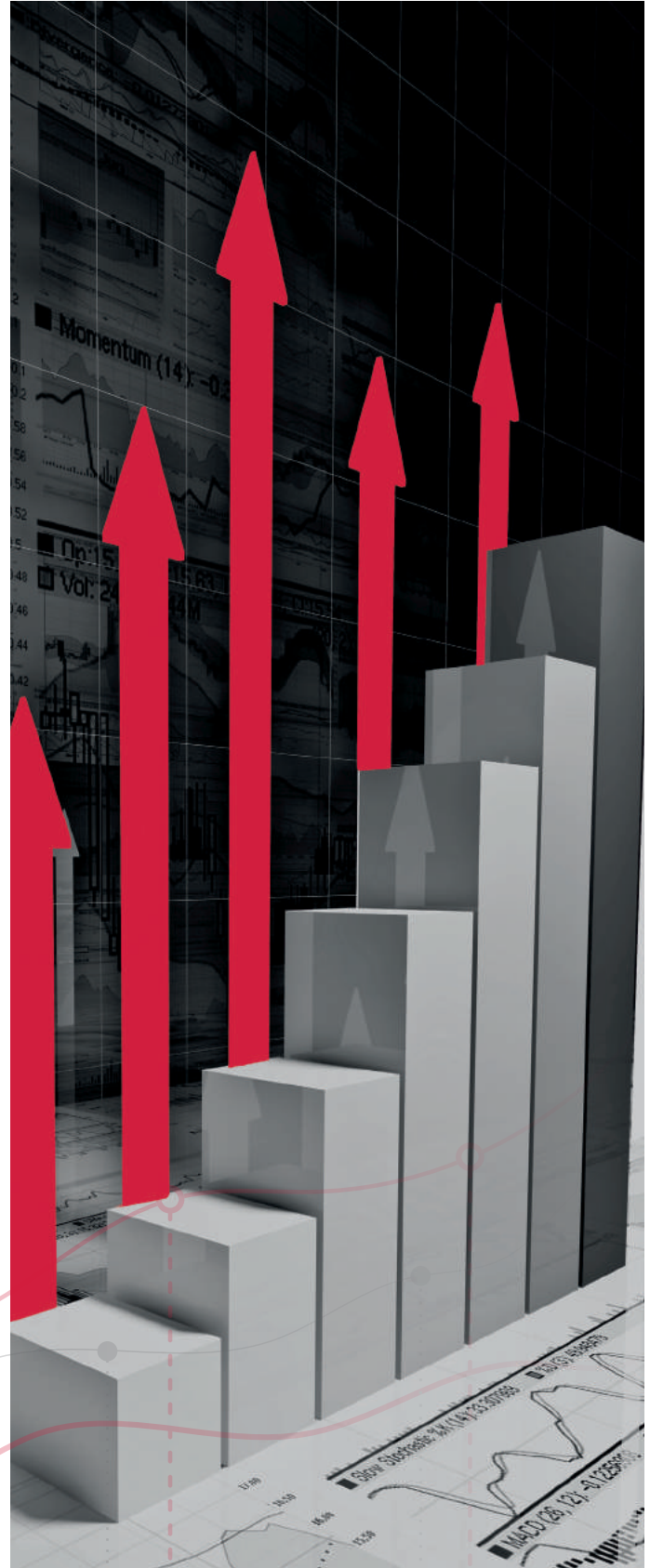
REASONS/DRIVERS FOR OOH DEVELOPMENT

> **The surge of the second-hand market will drive the C2C segment to even greater heights.**
> **We foresee a 30% growth pace for C2C annually in the coming years throughout Europe.**
> **More than 90% of this growth will be linked to out-of-home delivery solutions – especially Shop 2 Shop.**
> **We estimate that by 2025, 30% of the total out-of-home market will be C2C.**
>
> *Jean-Claude Sonet,*
> *Executive Vice President*
> *Marketing, Communications and CSR*
> *GeoPost/DPDgroup*

The reasons for OOH success are:
- More choice for the customer.
- High first time delivery rates.
- Ease of locating and accessing by couriers.
- Highly efficient delivery method which increases last mile capacity up to 4 times.
- Significant cost benefits vs. D2D.
- Significantly less congestion.
- Some 2/3 less carbon emissions in urban areas and more in rural ones.

- The lack of available labour and an increase in fixed costs can be expected to result in the significance of D2D courier services, which will become more expensive and evolve into a premium service.
- Economy delivery services and subscription models will further drive the demand for OOH capability which will be the only way to achieve acceptable cost levels.

- The pandemic (COVID-19) has further accelerated the popularity of OOH.
- Re-commerce trends (second hand) and new entrants such as Vinted, OLX, Zalando Pre-owned are making C2X services ever more in demand and this is ideally suited to OOH networks due to the low cost of both the first and last mile (only to/ from the access point with the customer/ consignee doing the rest).

OPEN/AGNOSTIC VS CLOSED NETWORKS

The discussion of open (a.k.a. Carrier Agnostic) or closed OOH networks has become increasingly topical as e-commerce has driven this area of the last mile forward and led to the need for new ways of approaching it. Traditionally, incumbent OOH networks, usually posts due to their legacy infrastructure, have been unwilling to allow others to use their networks as they consider them to be part of their competitive advantage. This is beginning to change as players become more knowledgeable in this space and as governments and local authorities push for a shared last mile, due to environmental concerns.

While most networks are still closed, the change to an open model has come from China where the largest network in the world, HiveBox operates under an open model to which China Post has recently joined.
Open networks have an advantage in four key areas: efficiency, proximity, speed of development and sharing benefits.
Generally Open networks will be most efficient and should, in our view, be the „go to" model.
The most important driver of last mile delivery method will, in the end, always be the customer (consignee).

FASTER DEVELOPMENT

MORE POINTS/ PROXIMITY

MORE EFFICIENT

SHARING BENEFITS

Open Network

Many carriers and posts don't get the value of an open (agnostic) network. Here's why they make sense.

REQUIREMENTS FOR OOH

Key challenges in running an OOH model include:

- The need for a dense network (LME have a MVP rule of 1 point per 10,000 inhabitants*)

- The need for suitable IDM software and tools to support effective OOH services
- An open and optimized network, including APM's and PUDO's which is available to all carriers

Based upon Last Mile Experts experience this is not an optimal network but represents the minimum density that has any chance of success

Out-of-home delivery solutions must be where customers expect them

A successful out-of-home network begins with its coverage. That's why DPDgroup uses geomarketing to structure its Pickup network, here is how it works:

1

Accurate knowledge of where consumers live

Granular demographics estimations:
- Satellite imagery
- Multiple data factors
- Artificial intelligence models

2

Daily shopping habits

Delivery locations reflecting shopping habits: If a consumer manages all shopping in a 5 minutes' walk, our solutions must be available in that same vicinity.
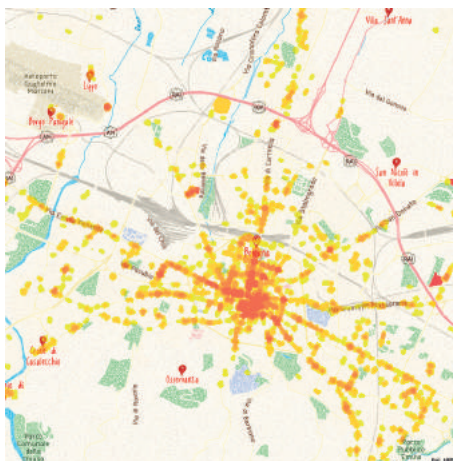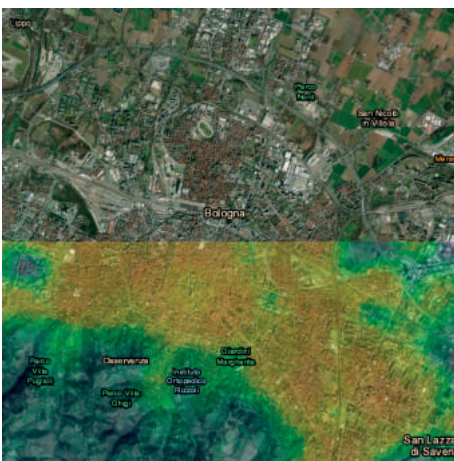- Local store identification
- Daily distance calculation for daily purchases

3

Maximizing coverage and performance

Coverage and network load maximisation over a minimum number of parcel shops
- Proximity optimisation algorithm
- Cost/benefits for DPDgroup

Source: DPDgroup

PREFERENCES BY GROUP

OOH gives benefits to all key user groups:

For the consumer (consignee), the key is to have a choice of delivery options. Not only brands, but various types of services that fit to their current shopping needs.

For the merchant, the key is to have such choice of delivery methods, that will increase the basket closing indicator and to ensure high and fast first-time delivery scores

For carriers, the key is the ability to offer capacity and good customer service efficiently and effectively (in fact it is probably impossible to serve subscription models profitably without this)

CONSUMER VIEW

D2D is theoretically the most convenient (if the consignee is home), but parcel lockers create the best overall CX

PARCEL LOCKERS "COLLECTION AT MY CONVENIENCE"	PUDO PARCEL SAFELY DELIVERED	CARRIER HOME DELIVERY THERE'S NO PLACE LIKE HOME ?
Convenience: - Convenience and flexibility – **access 24/7*** - Located **'on my way'**, with easy access and parking - Physical proximity	**Convenience:** - **'It's on my way"**, in my shop or petrol station etc. - Physical proximity – **it is nearby…but not generally 24/7 as per lockers**	**Convenience:** - Location comfort – unlimited geographical coverage - Delivery comfort – **it comes to my doorstep** as long as I'm home
Customer centric: - Customer has choice - Ease of use – **one click to open the locker** - Fast and easy - remote access eliminating queues	**Customer centric:** - Customer has choice - Extended time to pick up vs APM's (usually a few days more) - **Easier for (older) non tech customers**, compensate less standardised 'human' CX	**Customer Centric:** - **Ease of delivery** – I don't have to leave my home!
Efficient: - **Low/ attractive delivery price for, fast delivery** (typically next day) - **No more missed delivery** – high delivery success at first attempt	**Efficient:** - Low/ attractive delivery price for, 2-3 day delivery - **No more missed delivery** – high delivery success at first attempt	**Efficient:** - **Fast delivery** (typically next day) - **To your doorstep but at higher price**

in the vast majority of cases

> **Predict, our interactive delivery management service Predict offers the possibility to redirect a to home parcel to a PUDO or locker throughout Europe. A quarter of our consumer interactions lead to out-of-home delivery, though with varying local market penetration.** As an example, this type of inflight option is widely preferred in France (46%) and remains important in other countries such as the Netherlands (a third), England (14%) or Germany (10%) where safe place is privileged.

Jean-Claude Sonet,
Executive Vice President
Marketing, Communications and CSR
GeoPost/DPDgroup

MERCHANT VIEW

Capacity, high first time delivery and good customer experience make OOH an important delivery channel

PARCEL LOCKERS	PUDO/ STORE PICK UP	CARRIER HOME DELIVERY
Delivery ▪ **Safe place** for parcels decreases level of damages ▪ **First attempt > high success rate** ▪ **Good CX**	**Delivery** ▪ **Safe place** for parcels ▪ Intermediate level of damages ▪ **First attempt > high success rate** ▪ **Generally good CX**	**Delivery** ▪ **Highest level of damages** ▪ **First attempt > relatively low success rate** ▪ If first attempt missed, high chance of service failure
Customer experience: ▪ **Simple returns available at no / low cost**	**Customer experience:** ▪ **Consumer returns generally easy** and available ▪ **Less standardised experience** than from a machine	**Customer experience:** ▪ **Few players can achieve good CX** ▪ **Consumer returns are costly and challenging**
Volume / Capacity management ▪ **Very flexible to sudden volume changes until capacity is reached**	**Volume / Capacity management** ▪ **Flexible to sudden volume changes...up to a point**	**Volume / Capacity management** ▪ **intermediately sensitive to sudden volume changes**

CARRIER VIEW

Home delivery is the legacy option, but labour and fuel costs favour OOH

LOCKER NETWORK	PUDO NETWORK	CARRIER HOME DELIVERY
Location ▪ Urban areas ideally located in bedroom districts, "close to home" ▪ **APM access to generally 24/7** ▪ Need good and dense network (can be supported by PUDO's)	**Location** ▪ Urban (or rural centre) areas located in a higher traffic points ▪ **Indoor access with limited opening times or days**	**Location** ▪ Mainly residential with some business ▪ **Unlimited geographical coverage**
Delivery service ▪ Most efficient **highest number of parcels per stop** ▪ Automated process ▪ **Delivery success at the first attempt**	**Delivery service** ▪ **Better than D2D** several parcels per stop ▪ Manual process ▪ **Delivery success at the first attempt**	**Delivery service** ▪ Most expensive and **least efficient for carriers (ca 1 parcel per stop)** ▪ **Relatively low successful FTD level** (especially without IDM) ▪ **Leave safe** options
Customer experience ▪ **No direct contact with consumer** ▪ High possibility to manage on time delivery to meet SLA and **generally best CX**	**Customer experience** ▪ **No direct contact with consumer (unless own PUDO)** ▪ High possibility to manage on time delivery to meet SLA and generally **good CX**	**Customer experience** ▪ **Full personal contact with each consumer...but dependent upon the courier's behaviour** ▪ Moderate possibility to manage on time delivery to meet SLA and **varied CX**

except for large PUDO/Micro Depot alternatives

THE WINNER IS EVERYBODY

While each user group (Customers, Merchants and Carriers) benefit from a different value proposition, lockers and PUDO's are central to each of them and can be expected to become more important over time.

Out of home is a „must have" if e-commerce is to be able to achieve the capacity that it needs today and that we can predict for tomorrow.

LOCAL BROKERS FOR OOH

Local brokers allow you to gain access to „local heroes" with one interface but are mainly geared towards SMEs. A good example is Sendit's „bliskapaczka.pl" which is integrated with Poczta Polska, InPost, Ruch, DPD, UPS, FedEx OOH points. Brokers exist in most in scope countries and some leading examples include:

- PL – bliskapaczka.pl
- IT   – spedire.it, sendabox.it,
- ES   – packlink.es
- UK   – parcels2go.com, parcelmonkey.co.uk
- DE   – letmeship.com
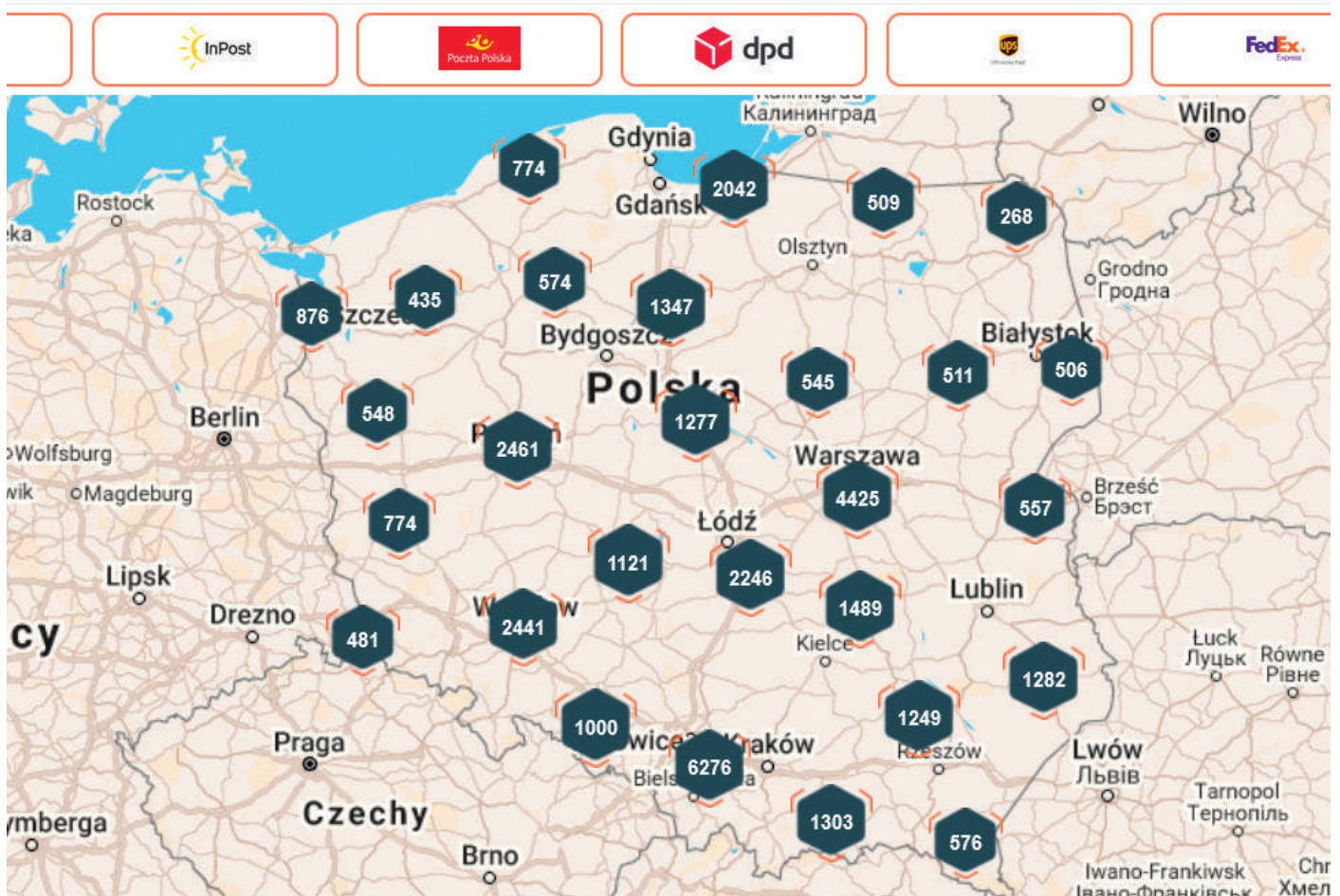
Source: bliskapaczka.pl

Country analysis

UNEQUAL OOH DELIVERY POINT DENSITY IN THE EU

Only 5 out of 28 countries are reaching the optimal threshold* of 10 delivery points per 10,000 inhabitants. **Finland is the only EU country that reaches more 20 OOH delivery points per 10,000** inhabitants thereby maximizing convenience for online shoppers.

The EU and GB are suffering from a clear delivery infrastructure gap that could jeopardize the post-Covid-19 economic and environmental sustainability of B2C parcel delivery in the context of steady, if not explosive, growth of online purchases.

An economically sustainable last mile is achieved before an environmentally friendly last mile since greater OOH density is required

to minimize consignees' carbon footprint at the time of picking up parcels.

*LME rule for a reliable network is to have a minimum of 1 point per 10,000 habitants. Below this density level, the network is inefficient.

Total number of OOH delivery points per 10000 inhabitants by Country

Economically sustainable last mile

Environmentally friendly last mile

Total number of PUDOs & APMs per 10000 inhabitants
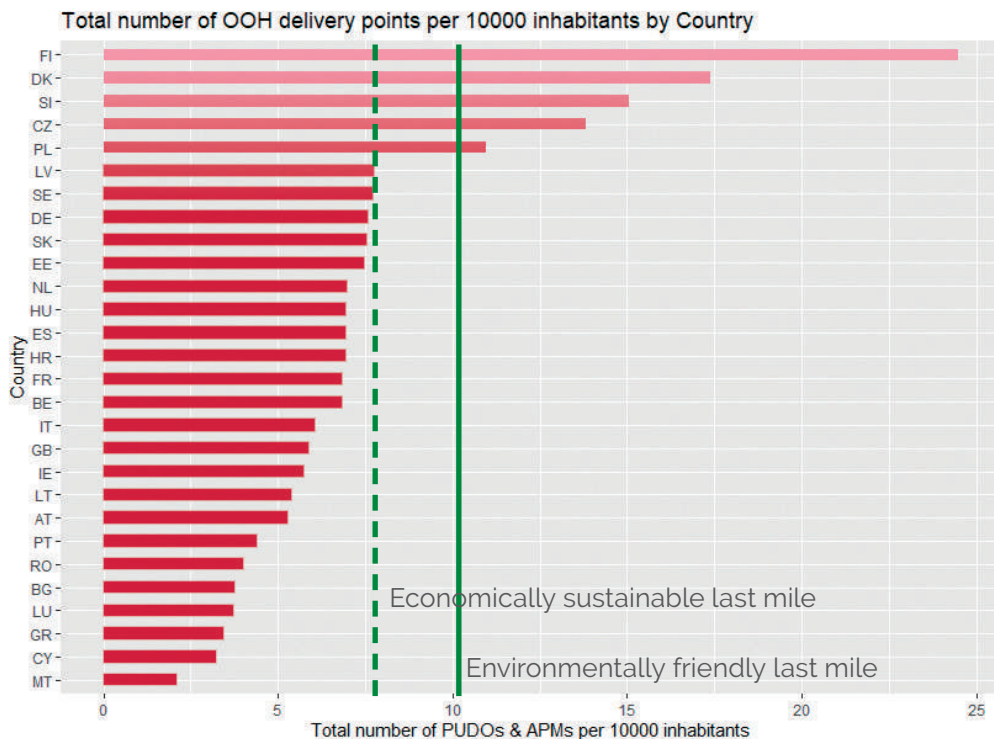
Remark: the number of OOH delivery capacity for Spain could be overestimated since Spanish parcel lockers banks are typically much smaller than in the rest of the European Union.

Source: UPIDO

PUDO DENSITY IS KEY TO OOH ACCESS IN THE EU+GB

Finland, Slovenia and the Czech Republic top the ranking of EU countries for pick up and drop off points density.

As of 2021, PUDOs have the largest impact on OOH density in the European Union overall, and Great Britain.

With slightly more than 5 PUDOs per 10,000 inhabitants at the median (Ireland), the EU and Great Britain are still far away from the levels ensuring greater economic sustainability of B2C parcel delivery operations and a greener last mile.

Total number of PUDOs per 10000 inhabitants by Country
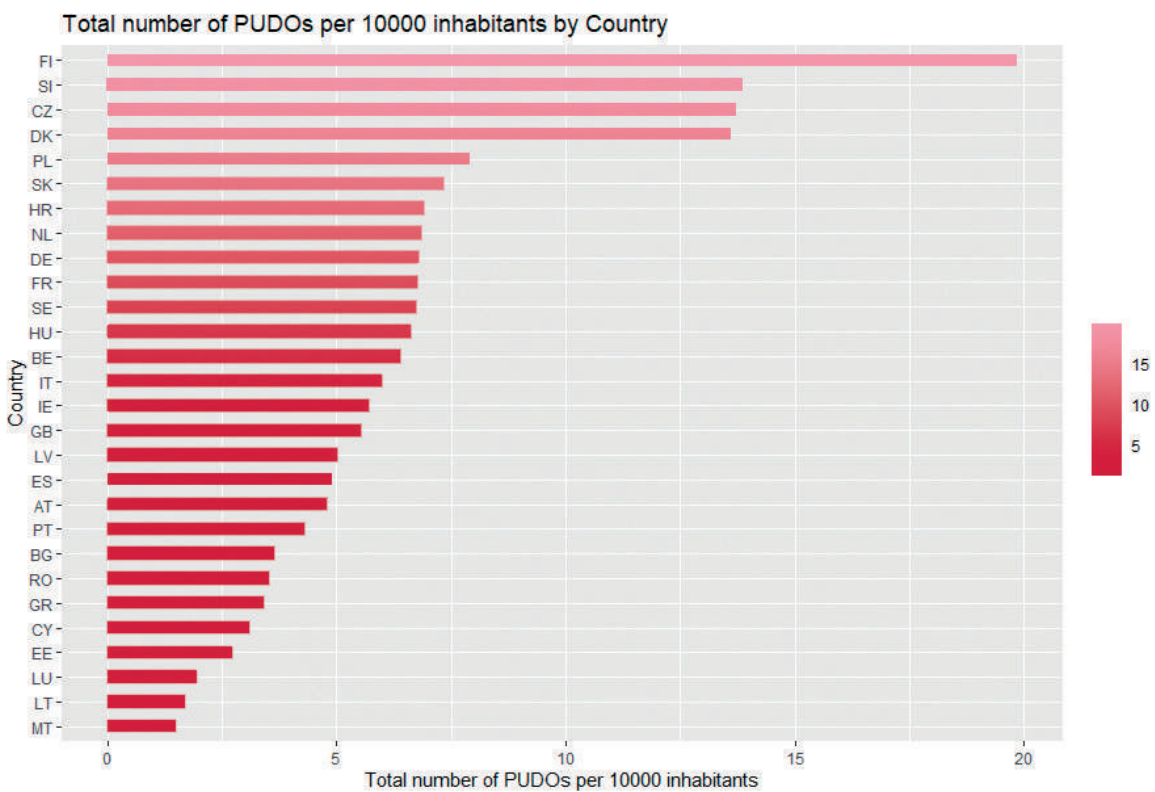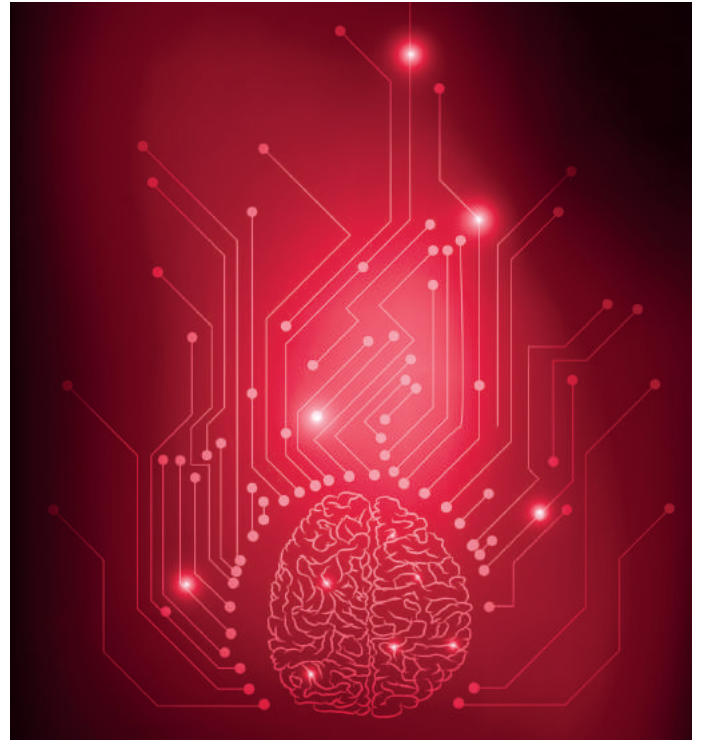
Source: UPIDO

ROOM FOR HIGHER APM DENSITY IN THE EU+GB

Estonia, Finland and Denmark top the ranking of EU countries for automated parcel machine density.

As of 2021, APMs are still a vastly untapped option for increasing OOH density and capability in most European Union countries and Great Britain.

Only seven EU countries reach more than 2 parcel locker banks per 10,000 inhabitants which signals a great potential for a very fast expansion in the coming months and years in response to the new normal for B2C parcel delivery.

Total number of APMs per 10000 inhabitants by Country
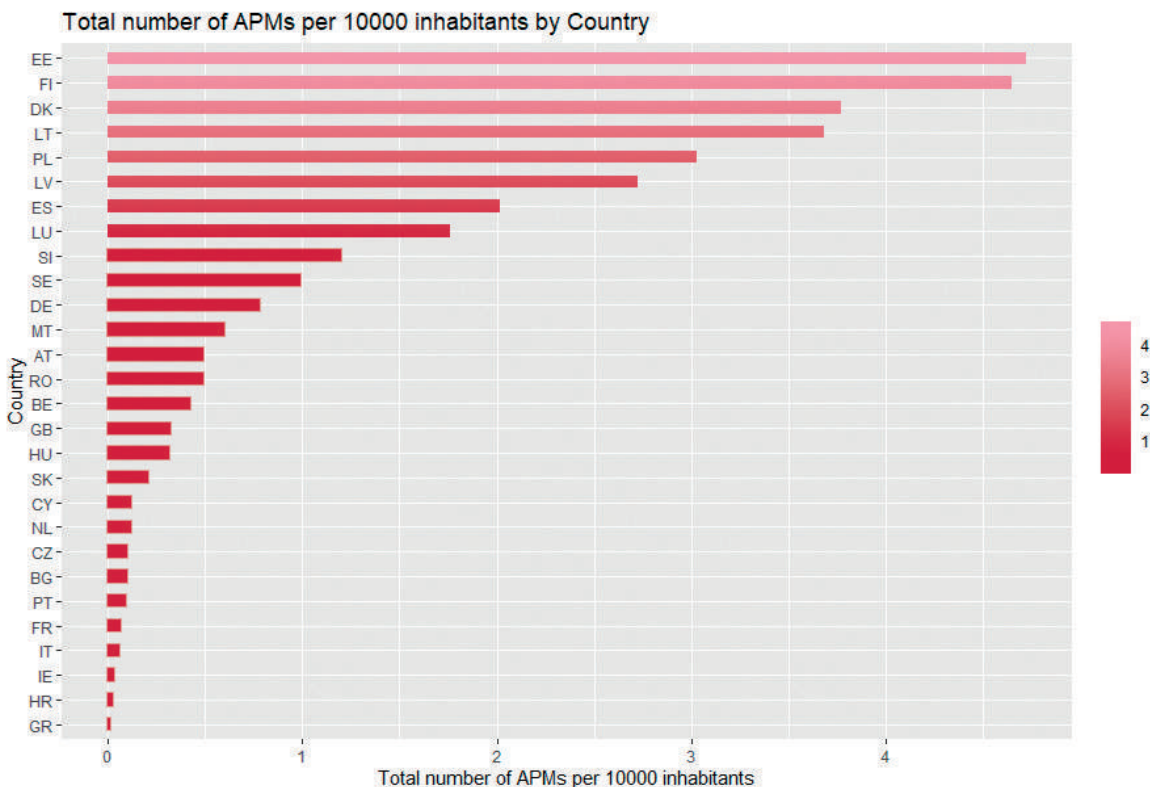
Source: UPIDO

OVERVIEW OF ALL COUNTRIES

Important notes relating to OOH data in this report:

- **As several carriers often use one OOH network, the number of points available for customers are not equal to number of unique points.**
- OOH points created by retailers for internal use (as IKEA, Castorama, Leroy Merlin and others) are not taken into the consideration in this report.
- Due to difficulty in gaining accurate data on Amazon OOH locations, they are NOT included in the data below but our best estimate is shown on page 78.
- For country summary pages numbers are rounded to the nearest 10.
- We have taken all reasonable steps to ensure that the data presented reflects the actual market situation. However, due to rapid development, the number of OOH points may differ from the one currently available on our continent. We invite all interested parties to contact us and participate in the next edition of the report in order to jointly strive for the best quality of the presented data.

OVERVIEW OF ALL COUNTRIES

- Key PUDO markets:
  - DE (57k),
  - FR (45k),
  - GB (38k),
  - IT (36k),
  - PL (30k).

- Key APM markets:
  - PL (11k),
  - ES (10k),
  - DE (7k),
  - Nordics (7k).

Postal operators generally have the densest OOH network.

OOH locations owned by multinational carriers in countries analysed (only where numbers are significant):

- **DHL:**   52k PUDO, 7k APM
- **DPDgroup:**   50k PUDO, 4k APM
- **Hermes:**   30k PUDO
- **GLS:**   19k PUDO, 1k APM
- **UPS:**   18k PUDO

Total number of unique points found:
- 336 880 PUDOs
- 43 310 APMs

GERMANY

CHARACTERISTICS

- Total number of **unique points** found:
  - **56 500 PUDOs.**
  - **7 000 APMs.**
- The biggest OOH network in Europe.
- DHL and Hermes have got the most pick-up points. Therefore, they are the main delivery places of courier companies there.

- DHL offers a wide variety of dispatch options: Packstation, post office, DHL Paketshop or Paketbox (90% of the German population are within ten minutes of a DHL packstation).
- DP is considered to be the „father" of the APM. The DHL Packstation started as a pilot project in 2001.

NETWORK

Operator	PUDO	APM	Comments
Deutsche Post (DHL)	24 000	7 000	DHL plans to have around 12 000 DHL Packstations nationwide by 2023.
Hermes	16 000		Otto Group / Advent*
DPD	7 000		DPDgroup
GLS	6 000		Royal Mail
UPS	3 100		
LPR	330		LPR specialises in intelligently linking servicing and logistics concepts. On request, they even deliver from/to individually agreed places (vehicles or garages).

* Advent have recently signed a deal to buy 25% of Hermes in Europe and 75% in the UK.

Note:
Amazon is understood to have some 500+ lockers. We have excluded them as we are unable to verify the data but have an Amazon summary later in the report.

The Great Britain

CHARACTERISTICS

- Total number of **unique points** found:
  - **37 700 PUDOs.**
  - **2 200 APMs**
- Royal Mail is the biggest OOH operator. Additionally, they have ca. 1 360 Parcel Postbox for returns.
- Collect+ (PayPoint) is the most popular non-postal OOH channel (94% of urban population live within one mile of their point).

- The only 'open access' networks are Doddle, C+/PayPoint and Hub Box.
- Hermes has a Print in-store device for parcel labels.
- Quadient which is just setting up an agnostic locker network and apparently plan to have ca. 10 000 APM's.

NETWORK

Operator	PUDO	APM	Comments
Royal Mail	11 500		
Collect+	10 000		PayPoint
Hermes	5 000	1 200 (InPost)	InPost UK
UPS	3 000		
DPD	2 500		3 000 Collect+ (DPDgroup) parcel shops will be added to its network.
PayPoint	2 000		PayPoint is the owner of Collect+ but also operates some points under the PayPoint brand
FedEx	2 000 (PayPoint)		
DHL	1 300		Deutsche Post
InPost		1 200	Expansion plans are 6 000 locations within a few years.
HubBox	1 000		HubBox claim to have 4 000, but they are really about 1 000 locations.
ByBox		1 000	Primarily B2B
Asda	600		
Doddle	400		Moving mainly into software and advisory
Parcel Holders	383		

Note:
Amazon is understood to have some 4000 lockers and parners with up to 5000 „Amazon Counter" PUDO's .
We have excluded them as we are unable to verify the data but have an Amazon summary later in the report.

France

CHARACTERISTICS

- Total number of **unique points** found:
  - **45 300 PUDOs**
  - **470 APMs**
- 2nd biggest OOH network in Europe.
- These delivery points for courier companies are quite popular. A quarter of French B2C parcels end up in a OOH location.
- La Poste (Pickup network / Chronopost, Colissimo, DPD) is a strong leader, widespread in both urban and rural areas (¾ of the population is less than 600 m from a point. In metropolitan France, 96% is less than 10 minutes from a point).
- Mondial Relay (Hermes) is the second biggest network, with a wide number of locations (83% of the population live less than 10 min from a pick-up point).

NETWORK

Operator	PUDO	APM	Comments
La Poste/DPDgroup	21 500	470	Includes 8 000 Post offices and 13 500 Pickup points (DPDgroup): Chronopost, Colissimo, DPD.
Mondial Relay (Hermes)	11 000		Part of Hermes (Otto Group)
Colis Privé	1 500		Part of Hopps Group (with 25% Amazon share) Previously with MR, starting their own « Colis privé store » network
GLS	6 000 (Mondial Relay)		Part of Royal Mail Group
Relais Colis	5 200		34% DHL Group minority share
UPS	4 000		Mainly former Kiala points
Ciblex	3 100		Part of Eurodis network

Note:
Amazon is understood to have some 1 500 lockers in France including latest SNCF agreement.
We have excluded them as we are unable to verify the data, but have an Amazon summary later in the report.

ITALY

CHARACTERISTICS

- Total number of **unique points** found:
  - **36 020 PUDOs.**
  - **350 APMs.**
- Poste Italiane is a strong leader in OOH. They have the biggest PUDO network (post offices, Punto

Poste network consisting of tobacconists and affiliated stores) and they are the only one who has APMs (except Amazon Lockers).
- 60% of Italians who purchase online state that place of delivery is extremely important.

NETWORK

Operator	PUDO	APM	Comments
Poste Italiane (Italian Post) / Punto Poste / Kipoint	22 100	350	APM includes InPost machines
IndaBox	4 300		Open network
FermoPoint BRT	3 620		BRT/DPDgroup
UPS	2 100		
DHL	1 900		Deutsche Post
Nexive	1 500		Part of Post NL
Mail Boxes	400		Private frenchise (from UPS)

Note:
Amazon is understood to have some 11 000 counters.
We have excluded them as we are unable to verify the data, but have an Amazon summary later in the report.

SPAIN

CHARACTERISTICS

- Total number of **unique points** found:
    - **22 210 PUDOs**
    - **9 550 APMs***
- **Punto Pack** is the local brand of Mondial Relay in **Spain** and along with DPD, UPS and DHL, they are the providers of delivery points for courier companies.

- Correos, the Spanish postal operator is the leader on the OOH market. They have the densest network and offer delivery to lockers (Citypaq, Citibox).
- GLS and DHL have a very good position

NETWORK

Operator	PUDO	APM	Comments
Correos	2 046	95 00 (Citypaq, Citibox)	
Citibox		5 000	Citibox* are mainly RPL (residential parcel lockers) located in Madrid.
CityPaq (Correos)		4 200	50% OOH, and 50% RPL
GLS	4 100 (1 500 Celeritas)	5 350	Royal Mail (200 GLS + 5 000 Citibox + 150 Pudo.es)
DHL Parcel	2 500		Deutsche Post
Punto Pack (Mondial Relay)	2 900		Hermes (Otto group)
Sending	2 600		
Seur (DPDgroup)	1 900	5 225	La Poste, 225 lockers (PUDO24), Citibox*
Celeritas	1 900	5 000	Citibox*
UPS	1 381	5 000	Citibox*
Nacex	1 650 (incl. Portugal)	5 000	Citibox*. Expansion plans are 3 000 locations by 2021.
Pudo.es	685	150	
MRW	550	5 000	Citibox*

* Citibox units used by other carriers are included although this is unclear territory between OOH and RPL

Important Note:
*APM numbers seem to be high, however, ES units have a much lower number of cells than those installed at other countries.
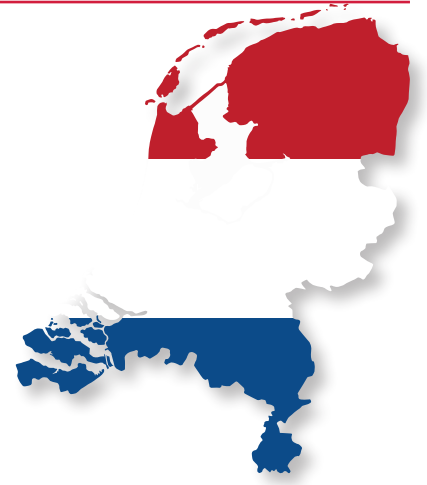
POLAND

CHARACTERISTICS

- Total number of **unique points** found:
  - **30 060 PUDOs**
  - **11 485 APMs**
- Poland is one of the fastest growing OOH networks in Europe with growth of some 32% of points (2020 vs 2019). Lockers have grown even faster with 75% growth in the same period.
- Poczta Polska has the biggest OOH network.
- All PUDOs are the mix of own and external networks. Only InPost has its own (closed) locker network.

- Lockers are a particular favourite for Polish customers reaching the highest NPS (higher than D2D).
- 7026 Żabka PUDO's (7eleven type retail network) are used by DHL and Poczta Polska.
- InPost is the leader of the CEP market (80% is OOH)

NETWORK

Operator	PUDO	APM	Comments
Poczta Polska (Polish Post)	13 970	240 (SwipBox)	Poczta Polska has plans to expand their network lockers to 2 000 and more than 20 000 PUDO by 2022. Żabka grocery chain (7 026).
InPost	2 084	11 245	
DHL	10 000	200 (SwipBox)	Żabka grocery chain (7026)
Ruch	4 512		Orlen (Polish national petroleum company)
DPD	3 361	200 (SwipBox)	DPDgroup
GLS	1 300		Royal Mail
UPS	1 808		
FedEx	604		
Others	450		Epaka, Pakersi, Epeedpak, Przesyłkownia, AliExpress

THE NETHERLANDS

CHARACTERISTICS

- Total number of **unique points** found:
  - **11 900 PUDO's**
  - **210 APMs**
- Pick up points are especially popular in the Netherlands.

- PostNL is the biggest operator. They have an APM network (installed at major train stations throughout the Netherlands).
- The APMs are poorly developed.

NETWORK

| Operator	PUDO	APM	Comments
PostNL (Dutch Post)	4 000	200	
DHL	2 800		Deutsche Post
bPost	1 430 (in 2018)		DHL
DPD	1 250		DPDgroup
UPS	970		
GLS	700		Royal Mail
Mondial Relay (Hermes)	500		Otto Group/Advent
deBuren (Cubee)	250 (Benelux)		bPost in Belgium
Smartmile		11	Open and shared parcel automates network

BELGIUM

CHARACTERISTICS

- Total number of **unique points** found:
  - **7 380 PUDOs.**
  - **490 APMs.**
- bpost is a strong leader. It is one of the most innovative postal companies in Europe. They have

the densest network and offer delivery to lockers. bpost offers 1-click-Return and „Print @Office" option – printing a label for a customer.

NETWORK

Operator	PUDO	APM	Comments
Bpost	2 300	270	SwipBox and bpost pilot joint parcel lockers in Belgium
DHL	2 300		Bpost
Mondial Relay (Hermes)	1 200		Otto Group - Advent
PostNL	1 500		
UPS	980		
DPD	800		DPDgroup
GLS	600	217	Royal Mail

IRELAND
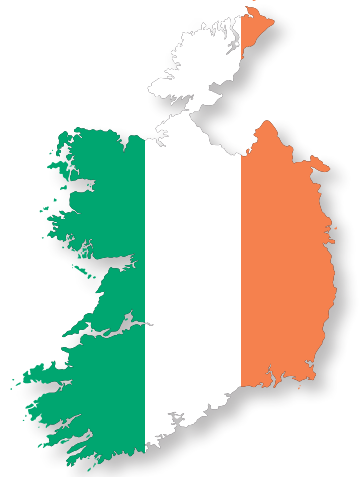
CHARACTERISTICS

- Total number of **unique points** found:
    - **2 830 PUDOs**
    - **20 APMs**
- OOH (especially APM's) is relatively poorly developed.

- An Post and Fastway (franchised courier network) are the leaders. They have the densest network and offer delivery to lockers.

NETWORK

Operator	PUDO	APM	Comments
An Post (Irish Post)	1 086	17	
Fastway	1 085		Franchise based operator from NZ
DPD	350		DPDgroup
GLS	300		Royal Mail
Parcel Motel (UPS)	172 (including APM)		
DHL	6		Deutsche Post

SWEDEN

CHARACTERISTICS

- Total number of **unique points** found:
  - **6 820 PUDOs**
  - **1 530 APMs**
- PostNord is the biggest operator. They have good coverage of the Nordic market. They have APMs, via a partnership with SwipBox in Denmark and will be developing a similar network in Sweden.
- DB Schenker (logistics service provider) is in the top three.

NETWORK

Operator	PUDO	APM	Comments
PostNord	1 965	500	PostNord Sweden will test the parcel lockers of SwipBox in Stockholm. DPDgroup partner
DHL	1 600	350	
DB Schenker	1 600		Bring will be a part of the PostNord Parcel locker network (as in Norway / Denmark).
Bring	1 400		
Instabox		677	
UPS	255		Deutsche Post

DENMARK

CHARACTERISTICS

- Total number of **unique points** found:
  - **6 760 PUDOs**
  - **3 080 APMs**
- Bring and GLS have the biggest network.
- Nordic Infrastructure is a Nationwide Locker Network used by PostNord, Bring, DHL.

- Salling Group is an open network used by Bring, DHL, DAO.
- GLS is the strong operator – 50% of deliveries are OOH.

NETWORK

Operator	PUDO	APM	Comments
Bring	1 500	500	Bring has been using APM network in Salling Group. It has started using APM of Nordic Infrastructure.
GLS	1 650		Royal Mail
DAO	1 200	400	DAO will start using APM in Salling Group
PostNord	1 662	1 288	The 2 000 is owned by Nordic Infrastructure (Postnord and SwipBox). They want to make the network increasingly dense until 10 000. DPDgroup partner
Nordic Infrastructure		1 200	A JV between Post Nord and SwipBox
DHL	600	500	Using APM's in Salling Group and Nordic Infrastructure
Salling Group		400	Retail driven APM Network (inside) - bought from SwipBox 3 years ago.
UPS	146		Plan to enter Nordic Infrastructure
Instabox		20	

FINLAND

CHARACTERISTICS

- Total number of **unique points** found:
  - **10 510 PUDOs**
  - **2 690 APMs**
- OOH is dominated by local companies, where Posti is the biggest operator.
- OOH is currently the standard delivery model – the share of home delivery is quite small. "Posti's

parcel lockers were first installed in Finland in 2011, and today lockers are the most preferred delivery option for Finns.
- Pakettipiste lockers owned by Lethipiste are used by PostNord, DHL and Matkahuolto.
- 90% of Posti's B2C is OOH.

NETWORK

Operator	PUDO	APM	Comments
Posti (Finnish Post)	2 800	2 000	Posti aims for 4 000 lockers by 2022.
Matkahuolto	2 600	300 (Pakettipiste)	Pakettipiste aims 600 lockers by 2020. Lockers owned by Lethipiste.
PostNord	1 278	425 (Pakettipiste)	Danish and Swedish post (merged) DPDgroup partner
Bring	1 400		Norway Post
DB Schenker	1 000		
Lehtipiste Oy		500	200 lockers in order
GLS	850		Royal Mail
DHL Express	500	300 (Pakettipiste)	Deutsche Post
UPS	89		
Smartmile		66	Open and shared parcel automates network

AUSTRIA

CHARACTERISTICS

- Total number of **unique points** found:
    - **4 260 PUDOs**
    - **440 APMs**
- Österreichische Post (Austrian Post) is the biggest player. Within the next 5 years, 1000 parcel lockers will be deployed throughout the city, the first of which appeared in July 2019 at key locations in Salzburg.

NETWORK

Operator	PUDO	APM	Notes
Österreichische Post (Austrian Post)	1 700	400	
DPD	1 600		DPDgroup
GLS	700		
Hermes	1 700		Österreichische Post (Austrian Post)
UPS	156		
A1 Paket Station		40	

CROATIA

CHARACTERISTICS

- Total number of **unique points** found:
  - **2 800 PUDOs**
  - **10 APMs**
- Hrvatska pošta (Croatian Post) is the biggest player. They plan to develop a network with 300 parcel machines by the end of 2021.

- Tisak is the largest kiosk retail chain with a network of over 870 points of sale throughout Croatia and the leading Croatian distributor of printed matter, tobacco products, prepaid vouchers and start packages for telecom operators and other products.

NETWORK

Operator	PUDO	APM	Notes
Hrvatska pošta (Croatian Post)	1 016		Hrvatska Pošta has entered into an agreement with Estonian state-owned company Omniva for the use of their parcel locker software. A network with 300 parcel machines will be established in Croatia by the end of 2021.
Tisak	871		Network of the kiosks
Overseas Express	160		
GLS	230		
DPD	522	10	Parcel lockers in cooperation with Direct4.me DPDgroup
DHL	1 016		Hrvatska pošta (Croatian Post)
Direct4.me		10	

SLOVENIA

CHARACTERISTICS

- Total number of **unique points** found:
  - **2 900 PUDOs**
  - **230 APMs**
- DPD, GLS and Pošta Slovenije (Slovenian Post) are the biggest operators.
- DPD has an agreement with Petrol, the gas station and with Trafika points.

- Pošta Slovenije is setting up a network of 450 smart parcel delivery boxes of Direct4.me at 113 locations all over Slovenia.
- Parcel lockers of Direct4.me are used by Pošta Slovenije and DPD.

NETWORK

Operator	PUDO	APM	Notes
Pošta Slovenije (Slovenian Post)	1 661	95	71 parcel lockers in cooperation with Direct4.me. Pošta Slovenije is setting up a network of 450 smart parcel delivery boxes of Direct4.me at 113 locations all over Slovenia.
DPD	641	46	46 parcel lockers in cooperation with Direct4.me DPDgroup
GLS	600	80	
Direct4.me (Kivl)		71	Residential parcel lockers
DHL	1	6	
UPS	1		

HUNGARY

CHARACTERISTICS

- Total number of **unique points** found:
  - **6 460 PUDOs**
  - **310 APMs**

- Magyar Posta (Hungarian Post) is the biggest player.

NETWORK

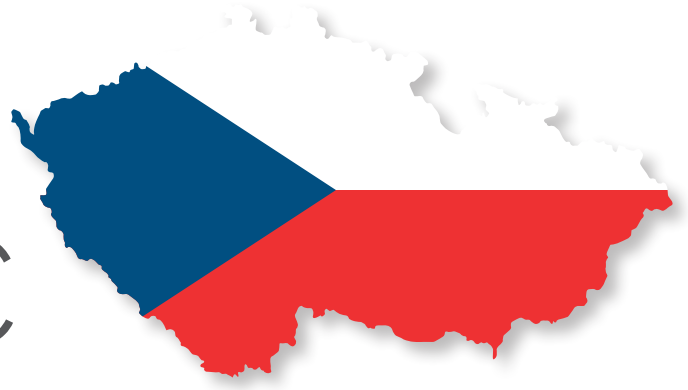| Operator	PUDO	APM	Notes
Magyar Posta (Hungarian Post)	4 134	51	
GLS	900	15	
DPD	84		DPDgroup
DHL	14		
Express One	160		
UPS	5	91	Easybox /E-mag
Foxpost		155	
Sprinter	576		
Csomagküldő.hu	588		

ROMANIA

CHARACTERISTICS

- Total number of **unique points** found:
  - **6 810 PUDOs**
  - **950 APMs**

- Poşta Română (Romanian Post) is the biggest PUDO player.
- eMAG/Sameday is a leader of APM market.

NETWORK

Operator	PUDO	APM	Notes
Poşta Română (Romanian Post)	6 500		
Fan Courier (PayPoint)	*	10	*Fan also have access to some Pay Point- Colet Exprress points but we understand that utilisation is minimal and so we have excluded numbers here
DHL	23		
DPD	70	40	DPDgroup
Coleteria.ro	214		
Sameday		900	Sameday/E-mag group
UPS	2		

CZECH REPUBLIC

CHARACTERISTICS

- Total number of **unique points** found:
  - **14 680 PUDOs**
  - **110 APMs**

- Zásilkovnais the leader on the PUDO and APM market.
- Česká pošta is developing Balikovna dedicated to PUDO.

NETWORK

Operator	PUDO	APM	Notes
Česká pošta (Czech Post)	5 238		Czech Post includes network of PUDOs called Balikovna (2 222 points).
DPD	1 336		DPDgroup
GLS	500		
Geis Parcel (DPD)	595		
DHL/PPL	2 200	2	
UPS	20		
Zásilkovna	4 035	104	Zasilkovna has an access to selected 60 APMs operated by Alza, the biggest CZ eshop (there is in total ca. 200 AlzaBoxes).
We|Do (InTime, Ulozenka)	758		Rebranded InTime and partially Ulozenka.

SLOVAKIA

CHARACTERISTICS

- Total number of **unique points** found:
  - **4 000 PUDOs**
  - **120 APMs**

- Slovenská pošta (Slovakian Post) is the biggest operator.
- Zásielkovňa is very strong player which is fast developing.

NETWORK

Operator	PUDO	APM	Notes
Slovenská pošta (Slovakian Post)	1 580	105	
DPD	331		DPDgroup is planning to have a bit densier network next year with 450 PUDO and 1 000 APMs (with partner).
Zásielkovňa	1 118		
GLS	200	10	
Depo	200		
Slovak Parcel Service (UPS)	340		
InTime	14		
Depo	200		
UPS	7		

LITHUANIA

CHARACTERISTICS

- Total number of **unique points** found:
  - **470 PUDOs**
  - **1 030 APMs**
- APM are the most popular delivery option.

- Lietuvos paštas (Lithuanian Post) is the biggest operator, but the others – DPD, Itella, Venipak and Omniva have the dense network, too.

NETWORK

Operator	PUDO	APM	Notes
Lietuvos paštas (Lithuanian Post)	253	246	LP plans to have ca. 275 lockers by the end of 2021.
DPD	55	145	The APMs network will reach 235 in mid-2021. DPDgroup
Itella (Posti)		104	Current network could be just the first phase, there are indications that it could be expanded to 200 lockers by the end of 2021.
Venipak	162	234	
Omniva		300	They will have ca. 340 lockers by 2021.
UPS	3		

LATVIA

CHARACTERISTICS

- Total number of **unique points** found:
  - **960 PUDOs**
  - **520 APMs**
- Latvijas Pasts (Latvian Post) is the biggest player.

- DPD, Itella, Venipak and Omniva have the dense network, too.
- APMs are more and more popular.

NETWORK

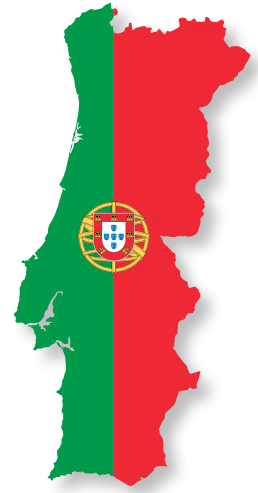| Operator	PUDO	APM	Notes
Latvijas Pasts (Latvian Post)	673	63	
DPD	106	160	By the end of 2021 IQ network will be expanded to 200 lockers. DPDgroup
DHL	5		
Venipak	91		
Omniva		208	Growing the network organically each year, 2021 should have ca. 228 lockers in total.
Itella (Posti)	79	89	They plan to have ca. 250 lockers by 2021.
UPS	4		

ESTONIA

CHARACTERISTICS

- Total number of **unique points** found:
  - **360 PUDOs**
  - **630 APMs**

- APM are the most popular delivery option.
- Omniva (AS Eesti Post) is the biggest operator.
- DPD and Itella have the dense network, too.

NETWORK

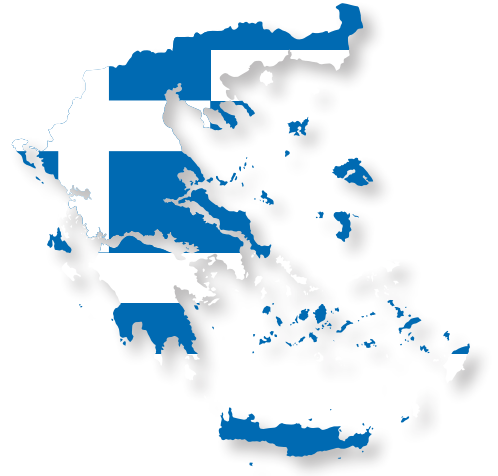| Operator	PUDO	APM	Notes
Omniva (AS Eesti Post)	262	256	
Itella (Posti)	68	178	Itella Estonia will significantly expand it's parcel locker network so that, by 2021, there will be 260 Itella parcel lockers in Estonia.
DPD		174	By the end of 2021 IQ network will be expanded to 207 lockers. DPDgroup
DHL Express	2	19	
UPS	1		
Venipak	31		Only 2 shops accept parcels, rest are for pickup only.

PORTUGAL

CHARACTERISTICS

- Total number of **unique points** found:
  - **4 430 PUDOs**
  - **100 APMs**

- PUDO is much more popular than APM.
- CTT (Portugal Post) is the biggest player.

NETWORK

Operator	PUDO	APM	Notes
CTT (Portugal Post)	1 500	53	
DPD	662	47	DPDgroup
GLS	250		
MRW	36		
Nacex	145		
Sending	700		
DHL	1 000		
UPS	140		

BULGARIA

CHARACTERISTICS

- Total number of **unique points** found:
  - **4 200 PUDOs**
  - **110 APMs**

- PUDO is much more popular than APM.
- Balgarski Poshti (Bulgarian Post) is the biggest player.

NETWORK

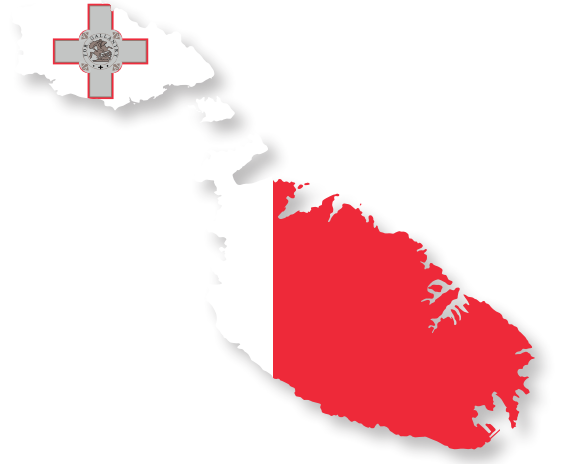| Operator	PUDO	APM	Notes
Balgarski Poshti (Bulgarian Post)	2 978		
Speedy	481	71	DPDgroup
Econt	627	41	
ACS	1		
M&BM	50		
DHL	37	2	
UPS	39		

GREECE

CHARACTERISTICS

- Total number of **unique points** found:
  - **3 650 PUDOs**
  - **20 APMs**

- PUDO is much more popular than APM.
- Elta (Greek Post) is the biggest player.

NETWORK

Operator	PUDO	APM	Notes
Elta (Greek Post)	1 400		Mainly regarding mail
Elta Courier	800		Subsidiary of Greek Post (ELTA)
ACS	702	5	On a rollout for new APM's in Q1 2021
Speedex	327		
G.Tachydromiki	260		
DHL	153	10	
FedEx (TNT)	5		
UPS	2		

LUXEMBOURG

CHARACTERISTICS

- Total number of **unique points** found:
  - **120 PUDOs**
  - **110 APMs**

- PUDO is as popular as APM.
- Post Luxembourg is the biggest player.

NETWORK

Operator	PUDO	APM	Notes
Post Luxembourg	41	110	
DPD	27		DPDgroup
UPS	13		
DHL	42		

CYPRUS

CHARACTERISTICS

- Total number of **unique points** found:
  - **275 PUDOs**
  - **10 APMs**

- PUDO is much more popular than APM.
- Akis Express is the biggest PUDO operator. Cyprus Post is the second player.

NETWORK

Operator	PUDO	APM	Notes
Akis Express	100		
Cyprus Post	61	11	
Kronos Express	60		
ACS	42		
DHL	8		
UPS	4		

MALTA

CHARACTERISTICS

- Total number of **unique points** found:
  - **80 PUDOs**
  - **30 APMs**

- Malta is the smallest OOH market in the EU.
- There are only two operators: Malta Post and DHL.

NETWORK

Operator	PUDO	APM	Notes
Malta Post	75	19	
DHL	2	12	

WHAT ABOUT AMAZON?

- Amazon is known for its preference for control, rather than be controlled or exposed to strong external partners.
- They have been educating customers to expect ever faster delivery times. Often this service is offered at low cost or even for free (as part of a subscription package).
- Amazon has ca. 4000 APMs in the UK, and about 5,000 „Amazon counter" locations at last check (but this is growing very fast).
- In France Amazon has ca.1 500 lockers including the recent SNCF agreement.
- In Italy we estimate that Amazon have some 11 000 „Amazon counter" locations.
- Also in IT, FR and DE Amazon has started to develop his own APM networks.
- In addition, Amazon also has „in house" (Amazon Logistics) last mile coverage in Spain, Germany and Italy.

CONCLUSIONS

CAPACITY VS PERFORMANCE

OOH Capacity	Parcel Growth Performance		
Fully ready for next growth waves	Parcel growth champion		OOH network density above the median EU OOH delivery points per 10,000 inhabitants B2C parcel volumes growing above the median EU growth rate before and after Covid-19
Low readiness to cope with accelerated growth	Waking-up market		OOH network density below the median EU OOH delivery points per 10,000 inhabitants B2C parcel volumes growing above the median EU growth rate only after Covid-19
Under-utilising capacity to fuel growth	Sleeping beauty		OOH network density above the median EU OOH delivery points per 10,000 inhabitants B2C parcel volumes growing above the median EU growth rate only before Covid-19
Under-performing peers	Searching for higher growth		OOH network density below the median EU OOH delivery points per 10,000 inhabitants B2C parcel volumes growing below the median EU growth rate before and after Covid-19

OOH DEVELOPMENT

Countries are at different stages of OOH delivery development. The first stage, few OOH points are made available to shoppers; then, in the second stage, the network is progressively expanded to cover more locations across a geography; and, finally, in the third stage, it reaches a high number of OOH points close to where people live, move or work.

Countries that have difficulties to move from the first to second stage are classified as "under-performers". Conversely other countries, the so-called "under-utilizers" have built a dense enough OOH network, but their delivery points could welcome more parcels. Other countries in the "low readiness to cope with growth" group cannot rely on enough OOH points to make delivery easier. Finally, the "fully ready" group has enough OOH points to welcome massive amounts of parcels.

PARCELS VOLUMES

After Covid-19 hit, some EU countries have been performing better than other in terms of B2C parcel volume growth. The champions were growing at a fast pace before the health crisis and growth was even greater with the pandemic. Some countries, growing a relatively low pace just before Covid-19, were waking up and multiplying several folds their previous annual B2C parcels volumes growth rates.

In some of countries, B2C parcel volumes were growing at an already high pace before Covid-19 but, surprisingly, were growing at lower rate than half of their peers over the Covid-19 period. Finally, a last group of countries were both growing at a slow pace before and after Covid-19 as if shoppers did not change their habits and preferences for online shopping much.

OOH VS GROWTH: WHERE DO COUNTRIES STAND?

Parcels Growth Performance/ OOH Capacity	Fully ready for next growth waves of B2C parcel volumes	Low readiness to cope with accelereated growth	Under-utilization of capacity to fuel growth	Under-performing peers in terms of capacity
Parcel growth champion	PL ES CZ LV	GR PT IE NL LT CY	/	/
Waking-up market	FR BE SI DE	GB IT AT	/	/
Sleeping beauty	/	/	SE DK	BG SK
Searching for higher growth	/	/	HR EE FI	RO LU HU MT

B2C parcel volume growth has been unequal across the EU as a result of the pandemic. Some countries leading EU parcel growth have further accelerated their development, others have woken up, some are still below their potential and a few are clearly searching for higher growth.

OOH delivery networks could definitely contribute to optimise postal and logistics last-mile capacity but probably need to be better designed for this purpose. Only 8 out of 28 analyzed countries seem to be ready to welcome the next big parcel waves over the course of this decade.

EXPANSION PLANS OF OPERATORS

With the recent acquisition of Fermopoint in Italy, at DPDgroup we now cover the whole of Europe from Portugal to Estonia and Italy to Norway thanks to our Pickup network and Nordics partner Postnord. We have a strong ambition to further develop this network and our out-of-home business model. With such a large number of services including inflight options, not at home, returns, direct 2 shop, shop 2 shop, ship from shop, the market opportunities are numerous, and we aim to provide consumers leading services in each of these segments. To offer the best to consumers, we are building a hybrid PUDO/locker network maximizing proximity and convenience while motivating a preference for Pickup solutions.

Yves Delmas
Executive vice President
Chief Operating Officer Europe
GeoPost/DPDgroup

There is no question that OOH will continue to grow in importance:

- The majority of postal operators plan to quickly expand their APM capability: DPDgroup, PostNL, PostNord, Polish Post, Deutsche Post (DHL), bpost, An Post, Posta Italiane, Correos, Posti.

- OOH is a part of a strategy around reducing home delivery for all CEP operators (delivery attempts from 2 to 1, eco friendly approach, etc.)
- OOH is also key for scaling up network capacity.

CONCLUSIONS

- For the first time, the 10 billion B2C parcel volume threshold was reached in the EU during the Covid-19 health crisis in 2020.

- In our base case scenario, the EU and GB will reach 20 billion B2C parcels in 2025 and close to 40 billion in 2029 calling for fast and massive investments in OOH delivery networks in the EU.

- OOH delivery efficiency is above 99%.

- Last mile delivery is responsible for 40%-50% of total distribution cost for carriers.

- OOH is increasingly important in many EU markets – Nordics, France, Germany and Poland have 40% OOH share of delivery.

- Poland has the largest locker network in Europe which is about 70% bigger than that of the second European player, DHL, in neighboring Germany. In Spain, there are 9,550 lockers but most of them are small RPL's (Residential Parcel Lockers).

- Based on Last Mile Experts MVP (minimum viable product) rule, dense network should have 1 point per 10,000 inhabitants at least.

- Finland has the greatest OOH density with more than 20 points per 10,000 inhabitants. The other more OOH-advanced EU countries have between 7 and 14 points per 10,000 inhabitants each.

- PUDOs still have the greatest impact on the number of OOH delivery points and density.

- There is significant opportunity for bigger APM networks in 22 out 28 countries.

- Without investments in OOH delivery networks, the EU & GB will increasingly suffer from serious delivery infrastructure gaps leading to last mile capacity issues.

- Recently, more agnostic networks are being developed, which supports cost optimisation and environmentally friendly delivery. They also allow for greater OOH network expansion in markets where availability of additional locations and partner shops is becoming a challenge.

FUTURE OF OOH

- Almost all industry experts expect an increase in the percentage of B2C parcels going OOH for the following reasons:
  - as the proximity of points increases, they become more convenient and closer to a "home delivery".
  - capacity demands make this the only viable or cost effective option.
  - ecological matters favour proximate OOH delivery.
- While the most developed OOH markets now have 90% + of volumes going OOH, we expect that the new norm will be about 40% – 60% depending upon markets specific and cultural issues.
- Some segments will still require home delivery such as heavy & bulky items, premium "on demand" or e-grocery services. For these to be more efficient, there is a need for development of new technologies such as smart locks (e.g. Amazon Key) with in home delivery and refrigerated lockers or robots making click and collect more effective.
- This sector is developing so fast, that even us as we write, some data is already outdated. Accordingly, we can expect further dynamic change in our next report.
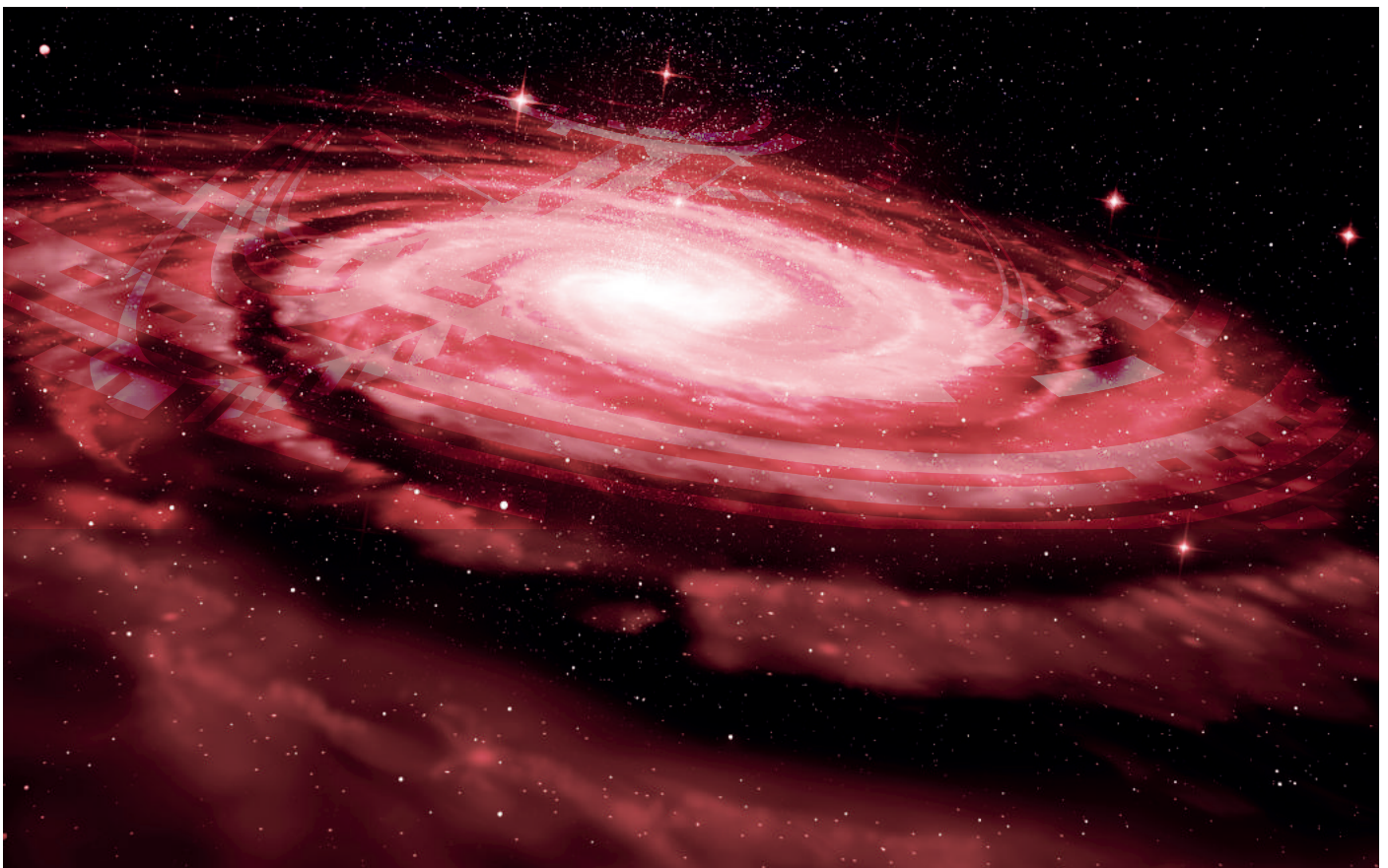
DO YOU NEED CONTINUALLY UPDATED OOH INFORMATION?

OOH is changing fast in response to recent e-commerce and B2C parcel dynamics, so if you can't wait until our next 2022 OOH report we may have something for you.

Combining UPIDO's predictive market monitoring technology and our unique last mile knowledge, we will be able to provide you with weekly commercial updates on main OOH development indicators provided in this report. This will support your capacity planning capabilities with the latest, up to date information.

You will be able to navigate user-friendly interactive dashboards and easily download updated charts and data and to automate access to our OOH intelligence-as-a-service through API integration with your systems, on demand.

If this is of interest, contact: info@lmexpert.com to get more information.

NOTES TO THE REPORT

- It is not possible to state the exact numbers of PUDOs or APMs for all companies. Many companies do not provide figures at all or provide outdated figures.
- Wherever possible, authors have estimated OOH points.
- Data has been obtained from publicly available sources and from commercially available sources. The data published represents the latest information available from these sources at the time we carried out our research.
- Authors have reviewed company websites and publications or news on PUDOs or APMs. Moreover, we have conducted over 50 interviews (CEO, senior-level of CEP, e-commerce, experts, retailers) to develop our core, database. We have used Last Mile Experts and UPIDO own market „know how" and expectations for future developments.
- Most data was collected at the end of 2020 but, where possible, it has been updated just prior to publishing.

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