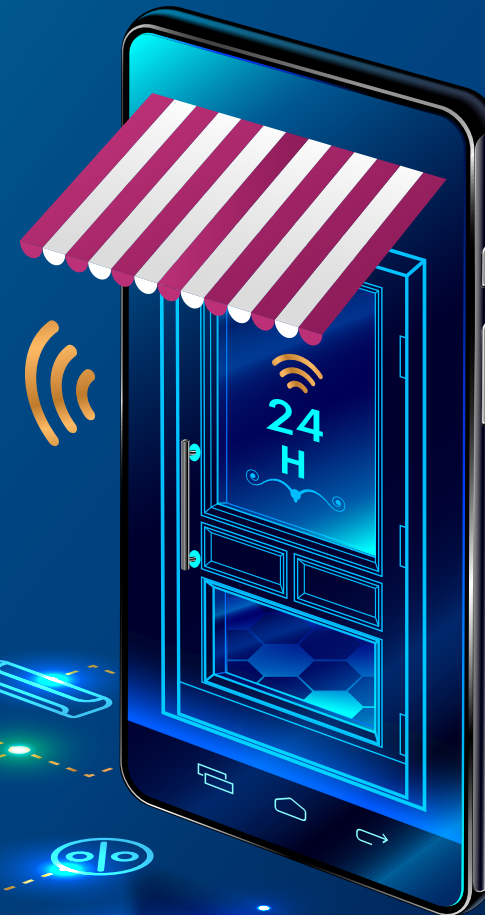


# E-COMMERCE EVOLUTION OR REVOLUTION?

OR, IN OTHER WORDS, A LOOK INTO HOW E-COMMERCE  
IS CHANGING THE TRADITIONAL PERCEPTION  
OF THE COMMERCIAL PROPERTY MARKET



APRIL 2021



**BNP PARIBAS  
REAL ESTATE**

Real Estate for a changing world

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*AN EXPERT'S  
POINT OF VIEW  
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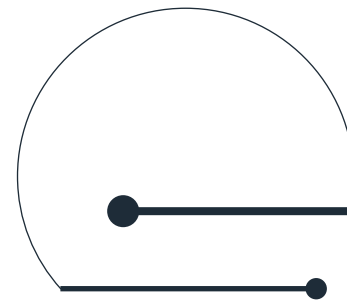
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**This report has been produced in collaboration with Patrycja Dzikowska and Prof. Wojciech Paprocki.**





# INTRODUCTION

**ONE OF THE WORDS MOST FREQUENTLY ENCOUNTERED IN THE INDUSTRY MEDIA LAST YEAR, NATURALLY NOT COUNTING THE PHRASES RELATED TO THE CORONAVIRUS PANDEMIC, WAS THE TERM “E-COMMERCE” ALONG WITH ALL ITS EQUIVALENT WORDS.**

Even though the volume of internet sales in Poland has been growing dynamically in the past decade, following in the footsteps of the more mature Western Europe markets, last year gave a new impetus to the e-commerce sector, thus boosting market penetration as regards those consumers that had not used this particular shopping channel previously. Experts agree that the few “pandemic” months enabled Poland’s e-shopping industry to see progress—in terms of technology and quality, the range of goods and services offered, and the value thereof—that essentially skipped several years of operational growth that would have been recorded under normal market conditions. The online retail sector undoubtedly emerged as one of the biggest beneficiaries of the fundamental changes brought by 2020.

The coronavirus pandemic and the resultant economic crisis generated an unexpected spillover benefit in forcing the digitization of business and implementation of modern technologies that are boosting the growth of the e-commerce sector in Poland, while at the same raising the level of innovation and fuelling the entire economy. In turn, the e-commerce industry is not without its impact on commercial property sectors. It promotes growth of the industrial and logistics sector, stimulates the courier service segment, and affords a new dimension to the retail industry as a whole. Our “E-commerce, evolution or revolution” report aims to take a closer look at those implications.

Please refer to the following pages to read our findings.

**BNP Paribas Real Estate Team**



# 1

## E-COMMERCE IN POLAND

### THE PAST AND THE PRESENT

#### AS PER THE FORECASTS PROVIDED IN MID-2020,

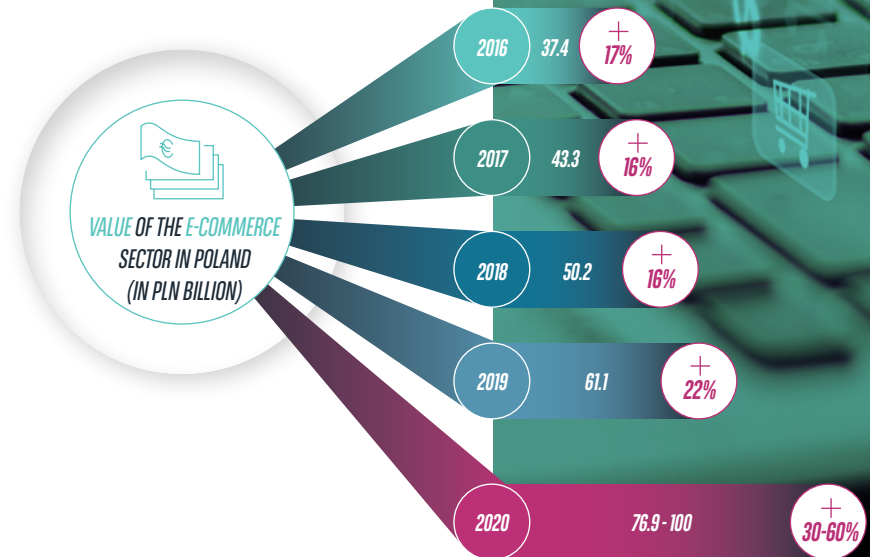
i.e. several weeks after introduction in Poland of the first lockdown, the value of e-commerce to be achieved by the end of the year was estimated at approx. PLN 77 billion\*. This result itself would have represented a record increase of nearly 25% as compared to 2019. The successive lockdowns and temporary restrictions imposed on brick-and-mortar retail operations meant those calculations had to be revisited. Current estimates state that the online sales volume achieved in 2020 could be as much as approx. PLN 83 billion\*\*, while other studies suggest that the pandemic last year saw Poland's e-commerce turnover exceed PLN 100 billion\*\*\*, which translates into an increase of more than 60%. A similarly dynamic pace of growth was recorded in Poland a decade ago when online retail was just entering the phase of rapid growth. As per the most optimistic prognoses\*\*, by 2026, the value of the e-commerce sector in Poland could reach as much as PLN 160 billion, which means that the share of e-shopping in the value of retail sales of consumer goods could stand at as much as 12-15%. For comparison's sake, e-commerce entered 2020 with a mere 5% share in the value of consumer sales.

+  
30% - 60%

ESTIMATED GROWTH OF THE E-COMMERCE MARKET IN POLAND IN 2020



THE VALUE OF ONLINE SALES COULD DOUBLE IN THE NEXT 5 YEARS\*\*



\* PMR, "Online retail in Poland in 2020; Analysis and forecast for growth of the e-commerce market for 202-2025", June 2020

\*\* PMR, "Prospects for growth of the e-commerce market in Poland for 2021-2026"

\*\*\* Unity Group, Chamber of Electronic Economy

Source: PMR, Chamber of Electronic Economy, RetailX



# 1

## E-COMMERCE IN POLAND THE PAST AND THE PRESENT

As per data provided by Eurostat\*, **POLAND FINDS ITSELF AMONG COUNTRIES THAT SHOW THE FASTEST PACE OF GROWTH IN TERMS OF INTERNET USER NUMBERS.** As far as Europe is concerned, the Nordics and the United Kingdom have the highest internet penetration rate, with 97-99% of the population aged 16-74 using the internet. In Poland – with the internet penetration rate reaching 83% last year – the number of internet users increased by approx. 20% in the past five years, which means that the internet user community has grown by approx. 4.4 million people. The highest internet penetration rate (89%) is recorded in Poland’s largest metropolises; however, it is the smaller cities and rural areas that boast a faster pace of growth in terms of internet user numbers (+18 and +16 percentage points, respectively, in the past five years). The average annual increases in the internet



**POLAND'S INTERNET USER COMMUNITY HAS GROWN BY APPROX. 4.4 MILLION PEOPLE IN THE PAST 5 YEARS\*\***

penetration rate of 2-3 percentage points suggest that more than 90% of Poland’s adult population could be using the internet by 2025. As successive generations of digital natives are entering adulthood, ultimately the figure could be even higher.

The dynamic growth in terms of the number of internet users in Poland is closely related to the improving access to broadband internet by households, the spreading use of smartphones, the rapid development of modern technologies that support use of internet resources, and, last but not least, the entry onto the market of ever younger generations for whom the internet represents a natural social environment.

As per latest data published by Gemius/PBI\*\*, as at March 2021, the number of internet users in Poland stood at approx. 29.2 million people.



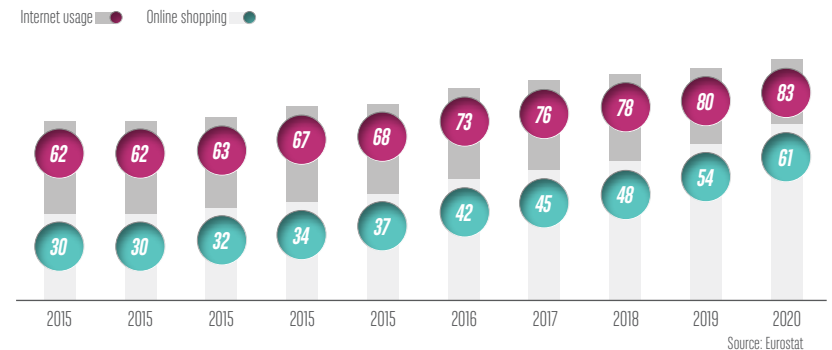
**BY 2025, THE INTERNET PENETRATION RATE COULD EXCEED 90% OF THE ADULT POPULATION**

\* Eurostat, February 2020, internet usage in the past 3 months, population aged 16-74  
 \*\* Mediapanel, March 2021



**Approx. 29 M**  
**POLES USE THE INTERNET\***

Internet users and e-consumers in Poland (%)



# 2

## ONLINE SHOPPING

**INCREASED PACE  
IN THE PAST  
5 YEARS**

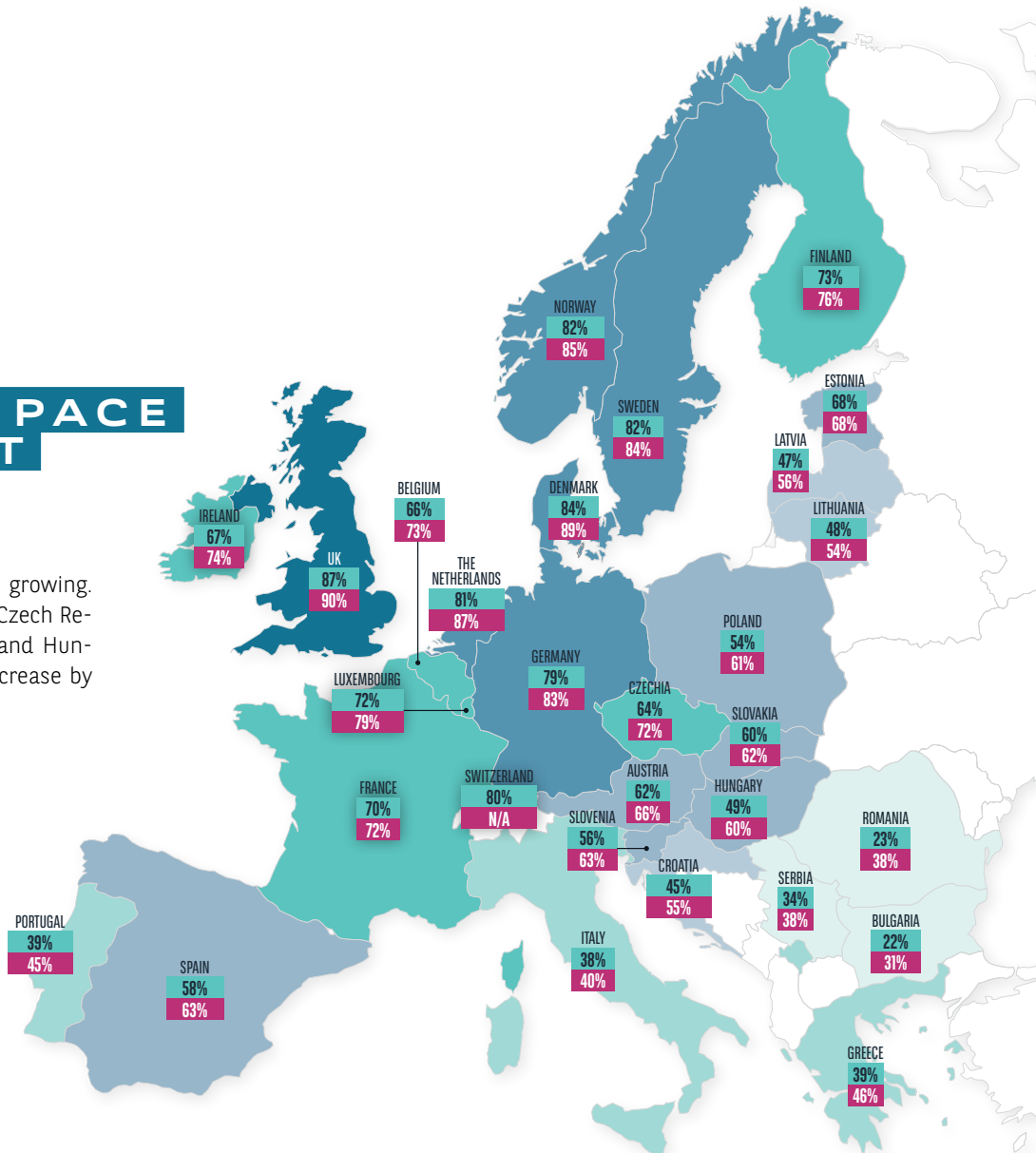
**AS PER DATA PROVIDED BY EUROSTAT FOR 2020, INTERNET SHOPPING IS MOST POPULAR IN THE MOST ECONOMICALLY DEVELOPED COUNTRIES IN THE WEST AND NORTH OF THE CONTINENT:**

United Kingdom, Denmark, Norway, Sweden, Iceland, the Netherlands and Germany, where the share of people using the e-commerce channels is more than 80%\*. This figure is closely correlated with the high standard of living of the population, access to broadband internet by households, and the universal use of modern technologies in many areas of social life. The other end of the scale is occupied by Southern, Central and Eastern European countries, as well as the Balkans, e.g. Serbia, Bulgaria, Romania, Turkey, Italy, Portugal and Greece, where the internet penetration rate is lower and the population is displaying more traditional shopping behaviour. At the same time, countries in the Central and Eastern Europe region are in the lead in terms of the pace at which the group of

consumers using the e-commerce sector is growing. In the past five years, countries such as the Czech Republic, Romania, Croatia, Poland, Slovenia and Hungary saw the number of online shoppers increase by more than 20%.



**E-CONSUMERS MAKE UP 64% OF THE ADULT POPULATION** EU 27 AVERAGE FOR 2020\*



Online shopping in Europe\*



\* Eurostat, February 2021, Percentage of the population aged 16-74 to have gone online shopping in the past 12 months

# 2

## ONLINE SHOPPING INCREASED PACE IN THE PAST 5 YEARS

### THE POLISH E-COMMERCE SECTOR IS CLASSIFIED AS AN "EMERGING" MARKET.

Compared to other Central and Eastern European countries, we are at the forefront – in terms of online sales penetration rates among consumers, the pace of growth of the industry and the group of e-consumers. With the 2020 share of e-shoppers in the total figure at 61%\*, Poland places slightly below the European Union (64%) and the eurozone (65%) averages. The gap between Poland and the markets that are more developed in this respect – which in 2020 was approx. 25-30% – has been rapidly closing in the past five years, while the currently observed acceleration of changes in consumer habits will further intensify this trend. While in the past five years the e-consumer community in the countries with the most developed e-commerce sectors has grown by a dozen or so percentage points, in Poland this increase amounts to 24%. In the last year only, the number of e-shoppers has increased significantly by 7 percentage points\*.

The time of the pandemic, and in particular the temporary restrictions imposed on the operations of traditional brick-and-mortar retail, has contributed strongly to the changed consumer behaviour, while at the same time accelerating the shopping trends we have been observing in recent years. E-shoppers are particularly appreciative of the opportunity to do their shopping 24/7, the convenience of being able to access a wide range of goods without having to leave

\* Eurostat, February 2021, Percentage of the population aged 16-74 to have gone online shopping in the past 12 months



THE LAUNCH IN EARLY MARCH 2021 OF THE POLISH VERSION OF THE AMAZON SALES PLATFORM WILL ATTRACT NEW E-CONSUMERS AND INCREASE THE FREQUENCY OF E-PURCHASES BY PEOPLE ALREADY USING THIS CHANNEL, WHILE ADDITIONALLY MOBILIZING OTHER MARKET PLAYERS TO FURTHER INVEST IN TECHNOLOGICAL AND LOGISTICS INNOVATIONS TO MEET THE CHALLENGE SET BY THE GLOBAL GIANT.



**APPROX. 2 MILLION PEOPLE HAVE JOINED THE RANKS OF E-CONSUMERS IN POLAND IN THE PAST YEAR**

Source: Eurostat

the house, and the option to have their parcels quickly delivered by courier to the address of their choice and/or pick them up from the nearest self-service parcel locker.

Today, online shopping is most popular among the 35-49-year-olds who make up 32% of the e-consumer community. However, it is the younger generations – for whom using the internet and modern technologies is simply encoded in the DNA – that will have the deciding voice in shaping the e-commerce sector in Poland. The pandemic has also led to the group of e-consumers being joined by the senior citizens, the so-called Silver Surfers, who only now discovered the advantages of shopping without having to leave the house. The shift towards the internet and making a large part of the purchases previously made at traditional stores is one of the phenomena forecast by all the scenarios for growth of the e-commerce sector in Poland to intensify in the coming years.

# 3

## E-COMMERCE VS. BRICK-AND-MORTAR RETAIL

Globally, in 2020, for every USD 5 spent on retail purchases, approx. USD 1 was spent in e-stores\*; to compare: the year before e-commerce accounted for approx. USD 1 for every USD 7. According to industry experts, **20-30% OF RETAIL TURNOVER THAT MOVED TO THE INTERNET AS A RESULT OF THE PANDEMIC WILL REMAIN IN THE E-COMMERCE SECTOR FOR GOOD.** This trend can be most clearly observed in the food segment. Before the pandemic, the share of online sales in this sector was the lowest. During the pandemic, grocery e-shopping significantly gained in popularity. As per Mastercard's predictions, 70-80% of the online grocery sales surge recorded during the pandemic will be retained once it is over. In 2020, 28% of Polish internet users did online shopping for grocery products, which translates into a 65% increase in the number of e-consumers in this sector.\*\*

As a result of the restrictions imposed during the pandemic on social life and brick-and-mortar retail, e-con-

sumers started shopping online more often and in greater quantities, and their group grew to include people who had not used this shopping channel previously. Specifically, the e-consumer community was joined by senior citizens from the so-called Silver Surfers generation (those over 55 years old). In 2020, 9% of Polish internet users went shopping online for the first time, while 42% increased their online spending (of which 1/3 buy nearly everything online). Some internet users (19%) kept their online spending unchanged, however they plan to increase it in 2021.\*\*\*



\* Mastercard, "Post-pandemic recovery: retail e-evolution in 2020", 2021  
\*\* Zymetria, "The e-commerce boom. Is it possible to stop it?", 2020  
\*\*\* Mobile Institute, Chamber of Electronic Economy, "What's eating (up) e-commerce?", 2021



# 3

## E-COMMERCE VS. BRICK-AND-MORTAR RETAIL

The share of the value of e-purchases made by the Polish population in the total retail figures for consumer goods in 2018-2019 was estimated at approx. 4.5-5%. Since the start of the pandemic, this rate has increased from 5.6% in January and February 2020 to more than 11% at its peak when brick-and-mortar retail was subjected to the most severe restrictions. As successive restrictions were lifted, there was a partial return of consumers to the traditional sales channels, which translated into a decrease in the share of e-commerce in retail sales for individual segments. However, the pandemic has permanently changed consumer habits

and shifted some purchases to the internet. The new shopping habits are relevant even for those sectors where e-commerce had previously not been a popular sales channel, the best example of which is the food segment. The increase in the value of the grocery e-commerce sector in Poland in 2020 is estimated at approx. 40%.

It is estimated that in the entire 2020 online sales accounted for approx. 8-9% of the total consumer goods retail value.



Share of e-commerce in retail sales



\* Statistics Poland, figures for retail sales of consumer goods

The catchphrase **“POLISH E-COMMERCE SKIPPED 7 YEARS IN 7 WEEKS”** is not just an empty slogan and it illustrates well the scale of changes and the way quality has improved in this sector. For retail chain operators, online sales are no longer just an additional tool for promoting their brands; to the contrary: they have become an important revenue-generating channel. During the first lockdown and closure of shopping centres, brick-and-mortar store operators running simultaneous e-commerce operations recorded a turnover double (with some of them even more than that) in value of their previous e-commerce sales. The consumer electronics sector reported as much as a five-fold increase in the volume of purchases made online. New players are now entering the online sales channel, with numerous brands launching sales via the so-called marketplace platforms. Successive lockdowns imposed on the retail industry are strengthening the resolve of retail operators to invest and endeavour to improve the quality of online customer services.



The e-commerce channel's growth in terms of the volume of sales was clearly led by the clothing and footwear category, where, comparing the April results to those recorded at the beginning of the year, the share of online sales increased more than two and a half fold. In April, i.e. during the first wave of the pandemic, a significant increase was also recorded in the share of online shopping in retail sales in the following categories: furniture, consumer electronics and household appliances, as well as newspapers, magazines, books, and other sales in specialized stores. The situation repeated itself during the autumn and winter restrictions imposed on brick-and-mortar retail, albeit on a smaller scale.

The sales of groceries / FMCG, which had not been able to gain momentum in Poland for many years, now

stand to be the e-commerce category with the best growth prospects. Several factors contributed to the previous state of affairs, the most important of which were consumer attachment to the traditional shopping model, the limited range of goods offered online (e.g. with regard to fresh and frozen products), and the small number of sellers offering same-day delivery. Thus, even in April, when e-commerce peaked and online food sales in Poland increased by nearly 100% month-over-month, this still only meant exceeding the 1% threshold for the share of internet sales in total food retail figures.

However, examples of leading grocery e-commerce operators show that online food shopping is becoming increasingly popular. The online supermarket Frisco has

doubled its sales in 2020 and is expanding into more local markets. The largest grocery hypermarket chains reacted quickly, broadening their range of goods offered online and offering additional delivery options to customers.

The increase in popularity of grocery e-commerce could also be the result of changes in consumer lifestyles and the strengthening of the "convenience" trend. For many consumers, online grocery stores are becoming the best choice for doing their big shopping for all the everyday items needed. It can be done efficiently, conveniently, anywhere, and anytime, while the time saved on visiting hypermarkets, supermarkets and food discount stores can be spent with family and dedicated to entertainment and leisure.

Share of internet sales in retail sales (current prices)



Source: Statistics Poland, figures for retail sales of consumer goods

Looking from today's perspective (another "lockdown" imposed on brick-and-mortar retail, another wave of the pandemic, but also the accelerated pace of vaccinations), it is extremely difficult to answer the question of whether consumers will be returning to traditional shopping. According to research carried out by the Mobile Institute and the Chamber of Electronic Economy, **28% OF TODAY'S E-CONSUMERS ARE CONSIDERING THE OPTION OF ONLINE SHOPPING ONLY (THEY MAKE UP A FIFTH OF POLISH INTERNET USERS) ONCE THE PANDEMIC HAS COME TO AN END.** As far as those that go shopping online most often are concerned, the "online shopping only" option is taken into consideration by as many as 74%.

Even though the pandemic has forced consumers to limit their shopping at brick-and-mortar stores and move a significant part of their spending to the internet, certain aspects of having the option to visit a traditional store in person and touch the goods sought will continue to represent an attractive incentive for consumers.

36% of all internet users declare that they will go back to visiting brick-and-mortar stores for some of their shopping, however they do not intend to give up on internet shopping for certain other things. In turn, 24% of Polish internet users declare that they will continue to shop online as often as they do now as they value this channel for qualities such as convenience.

On the other hand, 40% of internet users intend to shop at brick-and-mortar stores more often once the pandemic is over and various health restrictions are lifted. This is particularly true for the oldest (Silver Surfers) and youngest (Generation Z) consumer groups.



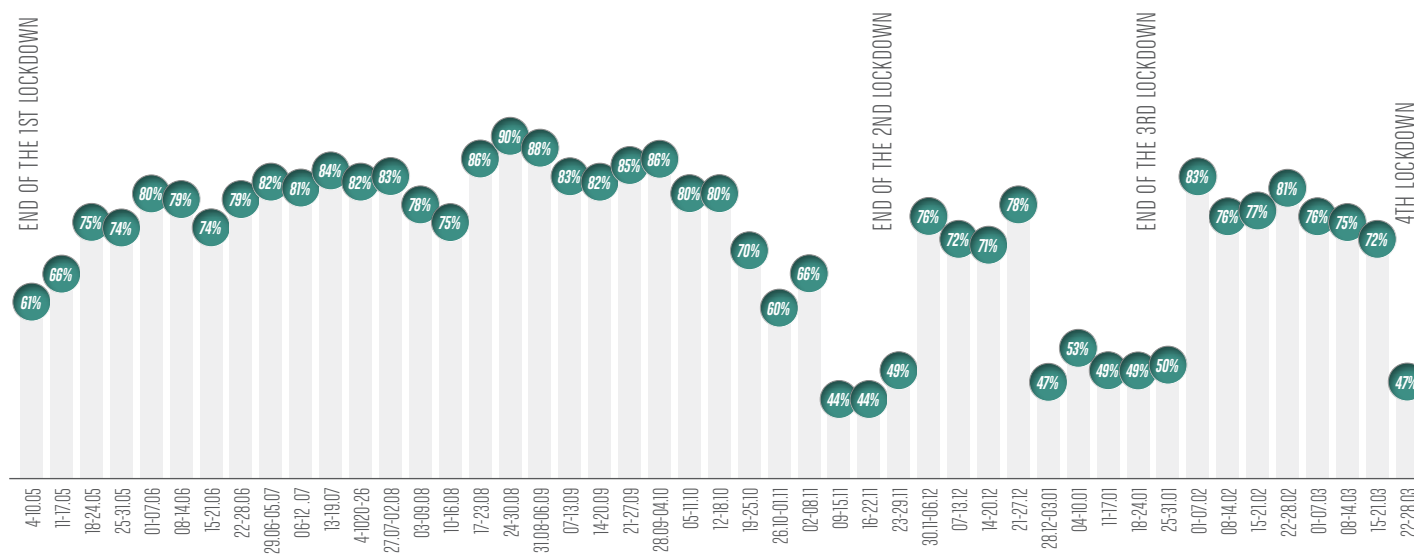
The strong performance of the modern retail industry in 2019 clearly indicated a reversal of the negative trend put into motion by the introduction of the ban on Sunday trading. Customers grew accustomed to the new routine and moved some of their shopping over to the other days of the week. Retail property operators and tenants were optimistic about entering 2020, without expecting the “cataclysm” that befell brick-and-mortar retail and has been going on for more than a year now. As a result of the temporary restrictions imposed on traditional stores, entertainment facilities and the food and drink industry, and due to operating under a strict shielding regime, the volume of footfall in shopping centres in the entire 2020 dropped by approx. 30%, while turnover in stores dropped by approx. one fourth compared to the results recorded in the year before.\* The biggest declines were recorded by the “services” and “entertainment” segments, while grocery operators and “home and garden” stores experienced the smallest drops as they were not subject to restrictions as severe as those imposed on the fashion sector, for instance.

**“WILL CUSTOMERS RETURN TO SHOPPING CENTRES, BRINGING WITH THEM TURNOVER REACHING PRE-PANDEMIC LEVELS?”** is the question asked by the entire industry today and difficult to find an unequivocal answer to. On the one hand, e-commerce is booming, new consumer groups are joining existing e-shoppers, and those already using online stores are moving most of their spending to the

internet. However, when looking from a different perspective, the return of customers to shopping centres during the periods of their renewed operations (even under strict shielding regimes) shows that the shopping experience to be had while visiting brick-and-mortar stores is still extremely important for consumers. Each time shopping centres reopened, customers slowly began to return to their previous habits. During peak shopping seasons, footfall oscillated around 80% of the 2019 levels, reaching nearly 90% during the “back to school” shopping season.



Shopping centre footfall - since the lifting of the first lockdown



Source: Polish Council of Shopping Centres, weekly figures



The COVID-19 pandemic has clearly contributed to acceleration of the pace of behavioural changes observed in people's lifestyles globally, i.e. the way they work, eat, communicate, play, learn, spend their free time and, above all, the way they shop and where they do it. **THE RAPID PACE OF LIFE, HIGHER CONSUMER AWARENESS, AS WELL AS THE INCREASING IMPORTANCE OF TECHNOLOGY, DIGITISATION AND ONLINE SALES ARE CAUSING OLDER RETAIL FORMATS TO ENTER THE DECLINE PHASE OF THEIR LIFE CYCLE.** In addition to the e-commerce sector, the biggest beneficiary of the changes occurring in consumer habits in recent years have been the so-called convenience shopping formats. In the time of the pandemic, customers are more likely to shop closer to home, at small retail parks and local convenience centres where the time needed to complete a shopping trip can be kept to a minimum. The

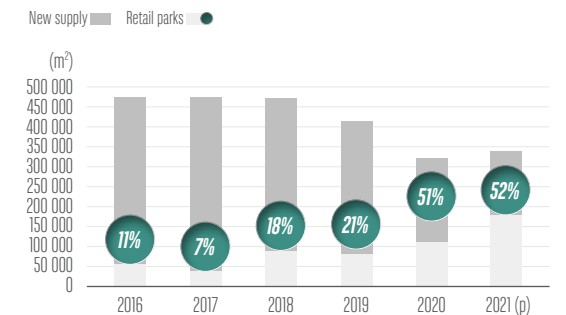
share of hypermarkets in the Polish FMCG market is now decreasing from year to year in favour of smaller formats, i.e. grocery discounters (e.g. Biedronka, Lidl) and convenience stores (e.g. Żabka).

Retail parks, particularly the small ones with an area of up to approx. 12 000-15 000 sqm, or even the smaller ones from the strip mall category that fall within the size range of 5 000-10 000 sqm, are now winning regular customers and hold a larger share – in terms of their number – in supply of new retail space. While as recently as five years ago only 11% of the total volume of new supply was accounted for by retail parks, in 2020 as much as half of the new space was delivered in this format. This year, retail parks will also account for approx. half of the volume of new supply, and forecasts for the coming years predict that this trend will continue.



**CUSTOMERS ARE MORE LIKELY TO SHOP CLOSER TO HOME, AT SMALL RETAIL PARKS AND LOCAL CONVENIENCE CENTRES**

Share held by retail parks in supply of new retail space



Source: BNP Paribas Real Estate Poland



# 3

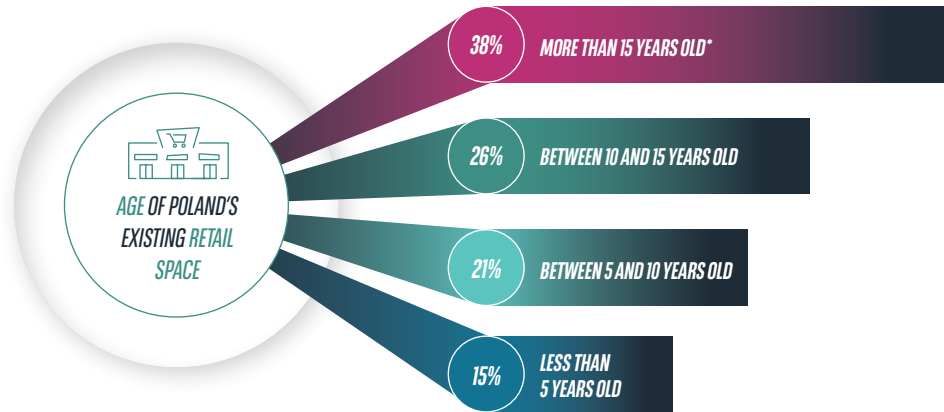
## E-COMMERCE VS. BRICK-AND-MORTAR RETAIL

In post-Covid reality, the retail sector will be subjected to particular pressure to quickly introduce changes to as fully as possible respond to the expectations and needs of the "new" consumer. We are talking about innovations as regards the goods offered, modernized spaces, new functions, ambiance, additional stimuli enhancing the pleasure that comes with shopping at brick-and-mortar stores, and, last but not least, a unique shopping experiences – in short, all those qualities that the online shopping model is not able to provide, and which encourage customers to visit traditional stores. In the context of market maturity and the ageing of retail properties, the need for change seems to be even more important. The limited supply of new space in the past five years has contributed to acceleration of the pace at which the existing stock is ageing.



Today:

- 86% of existing retail space is more than 5 years old;
- 63% – more than 10 years old;
- 38% – more than 15 years old.\*



Source: BNP Paribas Real Estate Poland

**AT THE SAME TIME, OF THE MORE THAN 550 RETAIL PROPERTIES ANALYSED, APPROX. ONLY 8-10% HAVE UNDERGONE A SIGNIFICANT MODERNIZATION IN THE PAST 5 YEARS,** by which we mean remodelling of the property (frequently combined with expansion), comprehensive revitalization of its décor, reprefiling the range of goods and services offered, and introducing new functions. These are steps that significantly strengthen a scheme's market position and allow it to stand out against a highly competitive market.

Developing a strategy to implement changes aimed at creating a new dimension of a retail property seems to be the fundamental challenge for owners and managers, particularly now that e-commerce is winning new enthusiasts and traditional brick-and-mortar retail is being put to a tough test.

\* The analysis covered shopping centres and retail parks, as well as outlet centres. Stand alone retail properties, due to the highly specialized nature of the goods offered by them, were not included in our review.

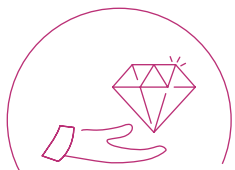


### OMNICHANNEL AS THE KEY TO SUCCESS

Even though the value of the e-commerce sector has increased significantly in 2020 and has started to represent an ever higher percentage of retail sales, more than 90% of sales still take place at brick-and-mortar stores. These will not disappear from the market, however to defend their position, they will have to remodel their function, introduce omnichannel solutions, become showrooms to a greater extent than just a store, a place where the customer can view and try on the goods, and then order them online. Additional sales and distribution channels, marketplace sales, social media sales, expanding the scope and format of electronic orders and deliveries, click & collect services, off-site pick-up points, mobile pick-up points entering smaller towns – all these examples show how important it is to reach customers outside traditional brick-and-mortar locations. Furthermore, online retail can be used as an additional tool to

support the operations of traditional stores. Picking up orders, and even returning them, at a traditional brick-and-mortar store can lead to further shopping being done choosing from the range of goods offered there (accessories for the main purchase).

Traditional retail is encroaching on the e-commerce segment, while online stores are trying to implement a “traditional” retail model based on a strong online backroom (e.g. e-footwear). The mutual penetration and complementing of offline and online sectors, availability of omnichannel solutions, reaching a wider group of customers through the skilful use and combining of all sales channels are now becoming a key to success in retail. The sales digitization strategy has become fundamental to further development and business stability, where this trend will continue to gain in strength with time.



**PICKING UP ORDERS, AND EVEN RETURNING THEM, AT A TRADITIONAL BRICK-AND-MORTAR STORE CAN LEAD TO FURTHER SHOPPING BEING DONE CHOOSING FROM THE RANGE OF GOODS OFFERED THERE**



# 4

## E-COMMERCE IS DRIVING POLAND'S ECONOMY

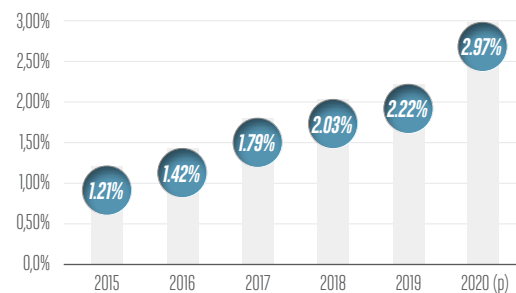
According to estimates, e-commerce in 2020 accounted for nearly 3% of Polish GDP, compared to only 1.2% in 2015. In five years, the share of the new sector has increased two and a half fold. E-commerce in Poland has been developing rapidly in the past few years, however the scale of the changes that occurred as a result of the COVID-19 pandemic surprised even the biggest enthusiasts of the industry. The uncertainty as to what happens next in terms of the epidemiological situation has contributed to acceleration of growth of

the online business. Existing e-store have stepped up their game and efforts to improve their online operations, with new players joining the sector. Since the beginning of the pandemic, approx. 12 000 new online stores have been launched. 2020 was a record year for e-commerce in every respect. We expect this trend to continue in 2021, which could to a large extent be facilitated by the entry onto the Polish market of the global e-commerce giant – the Amazon platform.



Source: RetailIX "2020 Ecommerce Region Report", August 2020

E-commerce as a component of Poland's GDP



- The dynamic development of the e-commerce sector acts as a catalyst for modernization and creation of different complementary segments within the unique sectors of the economy.
- The increasingly widespread use of new technologies, necessary for the implementation of solutions supporting e-commerce operations, is a factor positively impacting the overall level of digitization in the Polish economy, thus modernizing various industries and boosting their level of sophistication.
- AI models, automation, online shopping security technologies and other modern solutions used in supply chain management in e-commerce can be successfully transferred and adapted to other areas of business operations.
- The ongoing debate around e-commerce as to the impact it has on the environment—particularly in terms of packaging, supply and return of goods—contributes to directing the e-commerce path towards green policy. Biodegradable packaging and fillers, recycling, promoting collection of goods from self-service parcel lockers instead of individual courier delivery to the address of choice, and logistics and courier companies' plans for autonomous zero-emission delivery vans can be all used as some of the examples of responses to the current climate protection challenges.
- The increasing acceptance of online payments among e-consumers contributes to raising the general awareness of digital finance and expedites the universality of modern technologies in the banking system.
- The growth of online retail is an obvious stimulant for the development and modernization of the warehouse and logistics, transport, courier and other sectors involved in deliveries. The Polish market has become a crucial transport hub of European importance, and further growth of e-commerce on a global scale could additionally strengthen its position.

# 5

## E-COMMERCE VS. THE INDUSTRIAL AND LOGISTICS MARKET

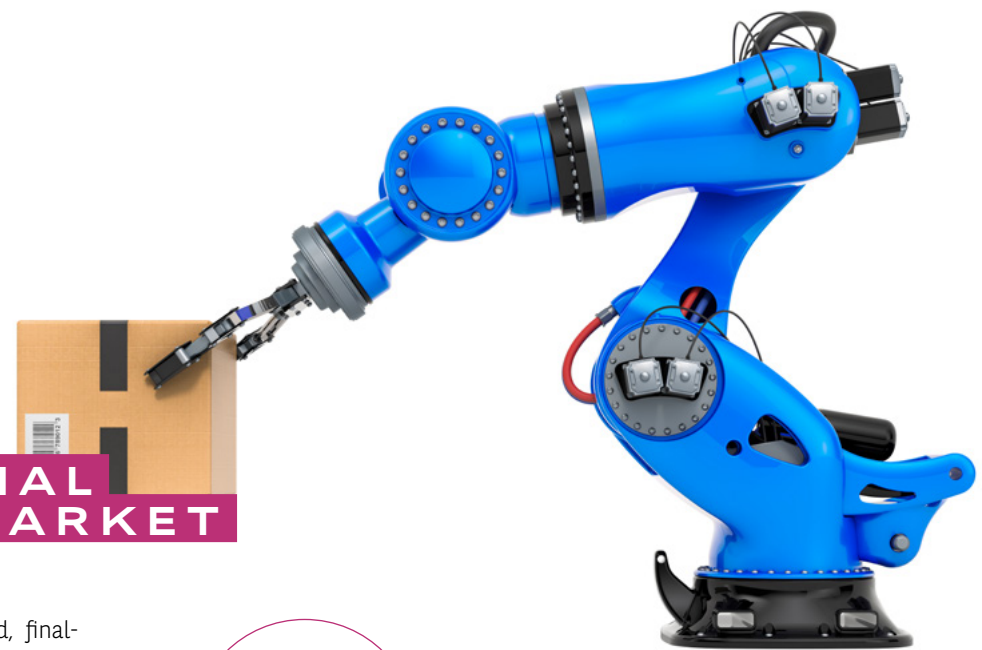
**THE POLISH WAREHOUSE MARKET COUNTS AMONG EUROPE'S ABSOLUTE LEADERS IN TERMS OF THE VOLUME OF STOCK AND IS GROWING INTO ONE OF THE MAIN DISTRIBUTION CENTRES IN EUROPE.** At the same time, its pace of growth is the highest on the continent at the moment, with the volume of stock doubling in the last 5 years and the vacancy rate remaining low.

A strong advantage held by the industrial and logistics sector is Poland's central location in Europe, at the junction of key transport corridors, allowing for efficient operations as regards countries from the Central and Eastern Europe region, the Baltic states, as well as the Western and Northern European markets such as Germany and Scandinavia. The development of high-speed roads, which integrated our country into European logistics corridors, has significantly increased the attractiveness of the locations available across Poland.

Modern warehouse space of high quality, the continued good availability of land at attractive prices, qualified workforce, lower labour costs, numerous convenient

solutions offered by the economic zones and, finally, the sizeable domestic market are the most important among a number of strengths that enable Poland to compete with other countries. The outbreak of the COVID-19 pandemic disrupted supply chains to Europe from Asian countries, making many manufacturers and retailers aware of the high risk involved in structuring a supplier base around only one country or region. One of the trends projected for the coming years could be diversification and partial regionalization of supply chains, which creates a prospect for Poland to attract new foreign investment in production and logistics.

In the long term, nearshoring and diversification of sources of supply could further strengthen the position of Poland as an important link in Europe's logistics chain. According to the report drawn up by the Polish Economic Institute entitled "Trade routes after the COVID-19 pandemic", the relocation of certain production stages from China to other countries (including Poland) could result in a possible increase in value added created in Poland by as much as USD 8.3 billion annually, which - in relative terms - translates into an annual growth of 1.87%.



**POLAND'S CENTRAL LOCATION IN EUROPE — AT THE JUNCTION OF KEY TRANSPORT CORRIDORS — IS A STRONG ADVANTAGE FOR THE INDUSTRIAL AND LOGISTICS SECTOR**



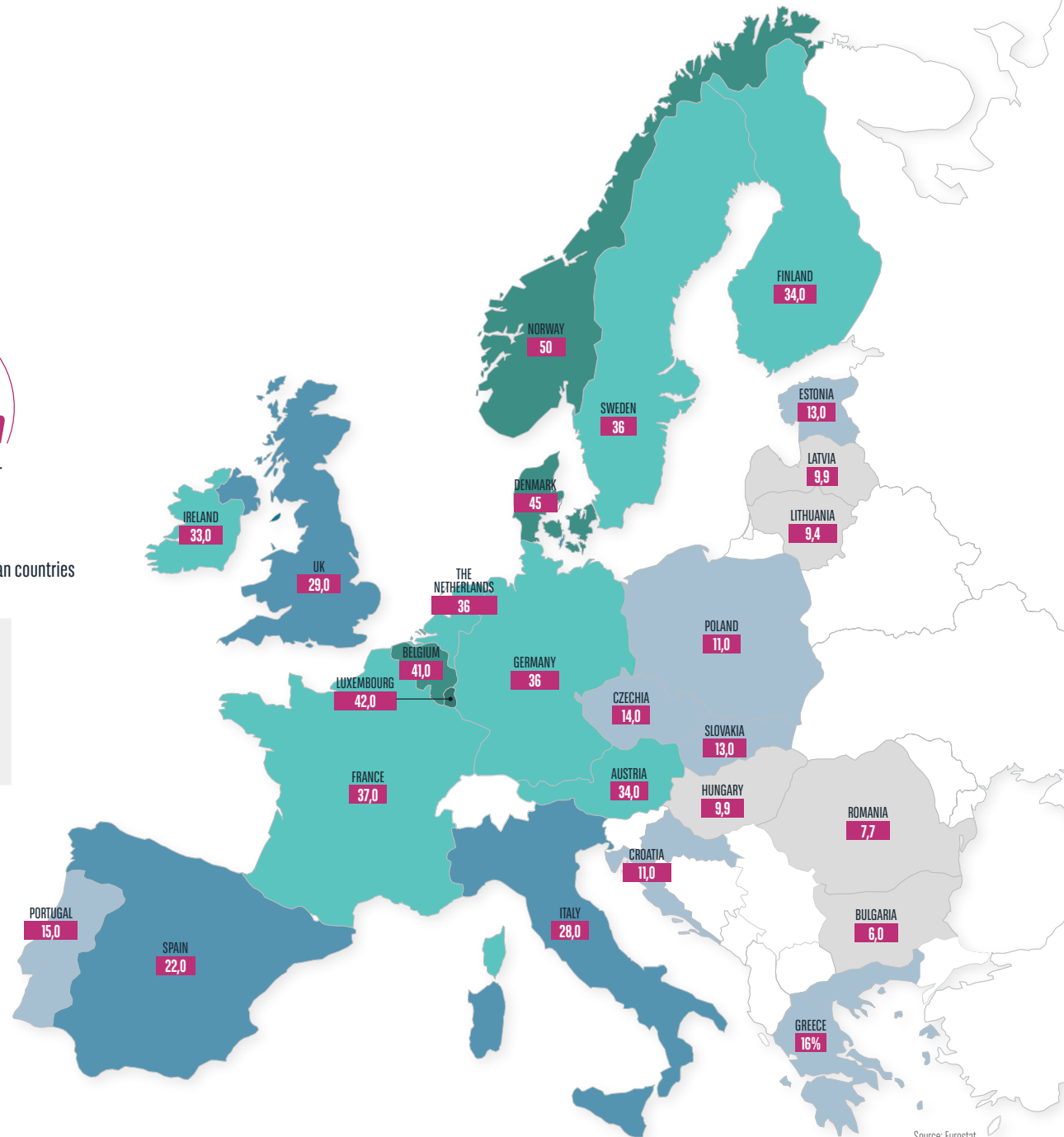


**LABOUR COSTS IN GERMANY – THE MARKET THAT HAS THE STRONGEST ECONOMIC TIES WITH POLAND – ARE MORE THAN THREE TIMES HIGHER.** This difference, combined with the free movement of people and goods in the Schengen Area, is the reason for the intensive influx of investment into our country. As expected, e-commerce counts among the most dynamically developing sectors, where it has generated, and continues to do so, a great demand for warehouse and logistics space.

The highest share in demand for this type of space from companies representing the e-commerce industry was held in recent years by global platforms such as Amazon and Zalando. 2013 was a breakthrough moment with contracts signed for the first facilities for Amazon, where the platform currently has nine distribution centres across Poland (including one under construction), mainly processing orders from Germany.

**Euro 28.2/h**  
 AVERAGE LABOUR COST  
 IN EUROPE IN 2019

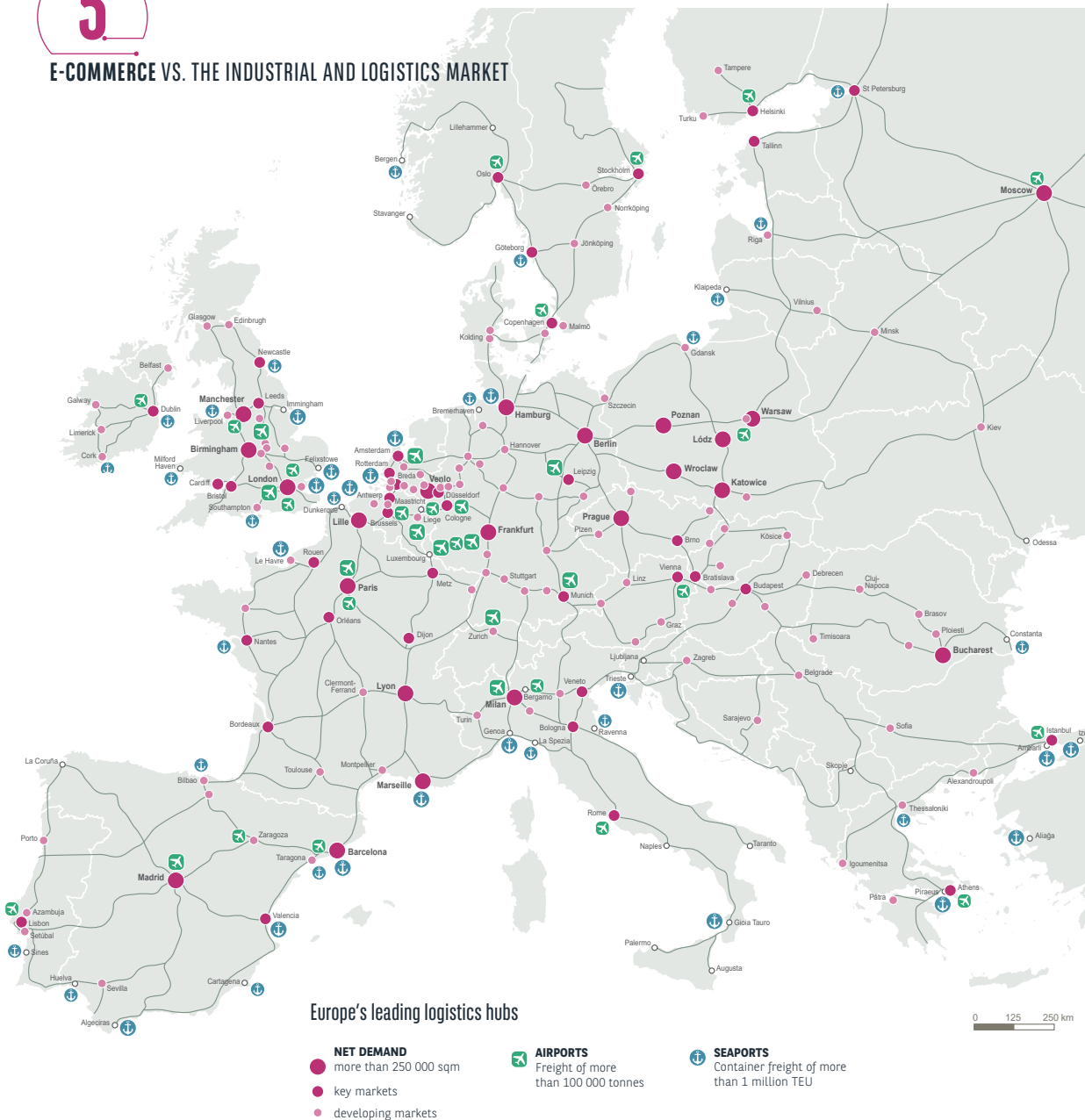
Labour costs in European countries (€/h)



Source: Eurostat

**DISTINCTLY LOWER LABOUR COSTS AND FREEDOM OF MOVEMENT OF PEOPLE AND GOODS IN THE SCHENGEN AREA BRING CONTINUED INVESTOR INTEREST TO POLAND**





- Poland is located at the junction of key transport corridors within the Trans-European Transport Network (TEN-T): Europe-Asia, Baltic-Adriatic and North Sea-Baltic.
- Poland is an important link along the Europe-Asia transport corridor route. A particularly crucial role is played by the railway network, which – thanks to two lines (Małaszewicze and Sławków) from Russia and Belarus with a track width of 1 520 mm – constitutes a main point connecting Europe to Asia.
- Poland is expected to play an important role in the proposed variants for the New Silk Road, which runs from China to Germany. Even now, rail cargoes from China reach us in approx. 12 days. Rail transport is an excellent alternative to the much more expensive air freight forwarding and shipping of goods to Europe by sea, which can take up as many as 45 days.
- Małaszewicze – a transshipment terminal at the border crossing Between Poland and Belarus. The expansion of the Małaszewicze Logistics Park will significantly increase capacity and improve the handling of the rapidly rising volume of intermodal train traffic from China to Europe. As a result, this railway junction will become the gateway to the New Silk Road.
- Euroterminal Sławków – a logistics terminal located on the westernmost railway line with a wide track width (1 520 mm) enabling it to handle container transport along the Asia-Western Europe route.
- Gdańsk DCT – the only container terminal at the Baltic Sea able to handle container ships containing more than 24 000 20-foot containers (24 000 TEU). Since 2016, when the second deep-water container quay was built, DCT Gdańsk has doubled its capacity to 3 million TEU per year and has become the largest container terminal at the Baltic Sea in terms of the volume of transshipments.

## AN EXPERT'S POINT OF VIEW

# ARTIFICIAL INTELLIGENCE IN THE SUPPLY CHAIN



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**THE PAST FIFTEEN YEARS GAVE BILLIONS OF PEOPLE OF ALL AGES – YOUNGSTERS OF ONLY A FEW YEARS OF AGE AND THOSE OF VERY ADVANCED YEARS ALIKE – ENOUGH TIME TO START SEEING CONNECTED MOBILE DEVICES AS EVERYDAY OBJECTS.** Thus, conditions have been created for humans to allow – be it consciously or unconsciously – data on how they live and what happens around them to be recorded and transmitted. The majority of data are unstructured. Data on objects and events that individual internet users fail to recognize or even become aware of are recorded in the form of sound and images. It is only through the application of solutions defined as narrow artificial intelligence that operators of virtual platforms (such as Facebook and Google) are able to ob-

tain structured data. Using them, you can gradually add to the volume of information available and even create new industrial knowledge that arises irrespective of the intellectual effort of humans and the knowledge they create (i.e. human knowledge).

The successes achieved by operators in the second decade of the century have their primary source in access to an expanse of consumer data. It is the correct interpretation thereof that makes it possible to truly fine tune the marketing campaigns addressed to individuals. While at the turn of the century business decisions were based on aggregated consumer knowledge, and creation of offers aimed at specific market segments was a perfectly effective tool, in recent years success

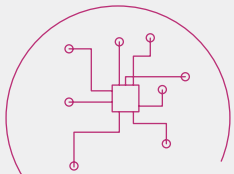
has been determined by the matching of the offer to the carefully identified needs of individual consumers. AI has even enabled operators to introduce new offers in advance of changes actually occurring in consumer preferences.

Entering the third decade of the 21st century, we are faced with the prospect of IoT solutions becoming universally prevalent. The need to accurately identify the path of all operations carried out – taking into consideration both space and time – will lead to a breakthrough in the functioning of supply chains resulting from connecting the equipment used in economic processes.

This will apply to “outdoor” movements, i.e. between supply chain participants (middle mile

## AN EXPERT'S POINT OF VIEW

operations) and during deliveries to consumers (last mile operations), as well as "indoor" movements, that is those taking place as part of the intralogistics processes completed at production plants and commercial facilities of any type (first mile operations). We are dealing with mounting pressure in this respect as there is an increasing urgency to fulfil the tasks set by the



**IMPROVEMENT OF "INDOOR" AND "OUTDOOR" LOGISTICS PROCESSES  
AIMED AT REDUCING GHG EMISSIONS WILL BE POSSIBLE WHEN  
THE DIGITAL TRANSFORMATION ACCELERATES**

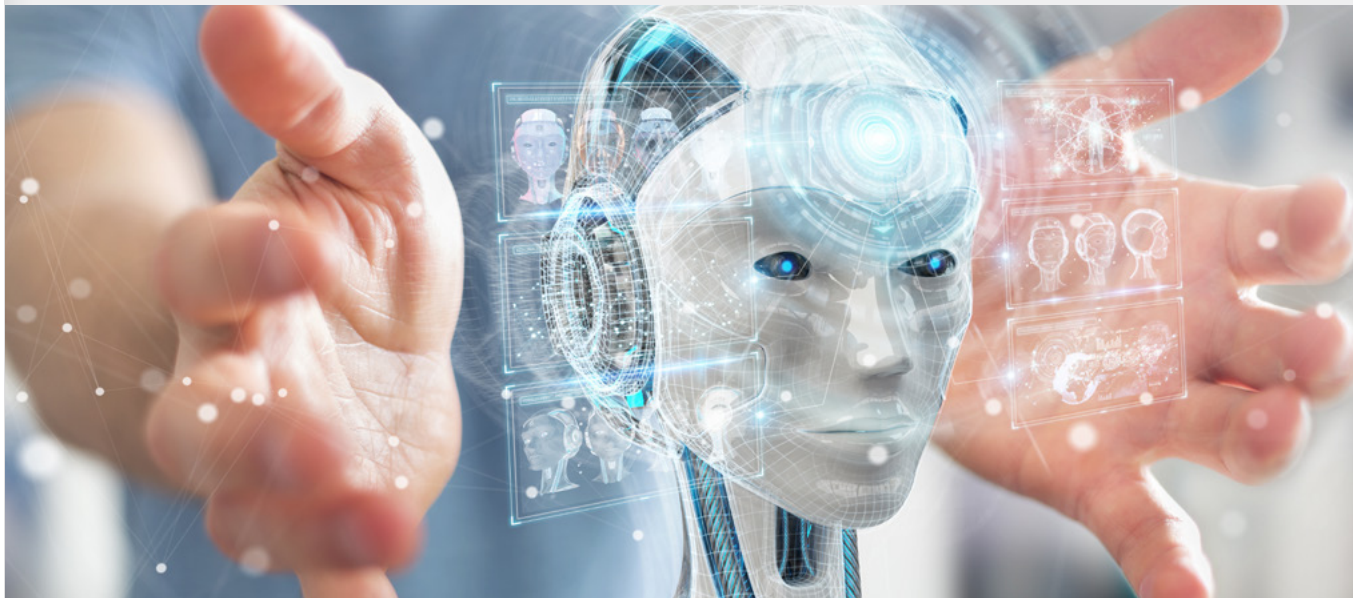
current climate policy. As far as our continent is concerned, this policy is defined by the European Green Deal. A variety of options will be sought to restructure logistics processes in such a way as to ensure the lowest possible GHG emissions, including carbon dioxide (CO<sub>2</sub>), throughout the life cycle of a product.

Business decision makers – from the private and public sectors, and on a global and local scale – are now taking steps that are a response to the extremely dangerous phenomenon of deepening climate and geological instability. The force behind this instability comes in the form of hu-

man activities persistently focused on achieving the traditionally perceived social and economic development as manifested in the perpetually rising levels of production and consumption. The increased standard of living achieved – along with the rapid growth of the planet's population – came at the price of three hundred years of humans drastically overburdening the environment comprising not only the Earth's land and water reservoirs, but also its atmosphere. Ever since 1970, year by year, humans have been falling deeper and deeper into debt against nature, putting a strain on it with their activities greater than nature is able to handle and beyond its capacity to regenerate.

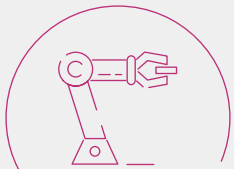
Improving indoor and outdoor logistics processes aimed at reducing GHG emissions will be made possible by accelerating digital transformation. In logistics facilities, each action will be subjected to data recording with the purpose of creating a digital twin. Process and facility management, this to include infrastructure facilities and the relevant equipment, will be moved from the real world to the virtual one. Autonomous decisions made by bots, i.e. hardware furnished with software, will be implemented by humans involved in these processes, as well as semi-autonomous robots along with other standard equipment.

Buildings and structures used for logistics purposes will gradually attain the qualities of semi-autonomous facilities. This means a prevalent presence of highly advanced digital techno-





logies, including AI solutions. Increasingly, mobile piece picking robots are being introduced to warehouses, autonomously moving between their charging stations and order fulfilment nodes. The movement of these autonomous mobile devices is optimized using three groups of data. The first group includes data relating to the demand for specific goods. The second data group concerns the productivity of people working at the order fulfilment nodes whose job it is to put together the required goods. Data from the third group are recorded while the mobile piece picking robots are on the move, and – by analysing and predicting operation models – are used to identify the most expedient paths and time frames for subsequent movement cycles. Solutions similar to those used for movement inside the warehouse will be applied to the movement of autonomous vehicles used to perform tasks in the parking lot and in the loading dock access areas.



**LOGISTICS PROPERTIES WILL EXPERIENCE  
A GRADUAL AND WIDESPREAD  
IMPLEMENTATION OF EXTREMELY ADVANCED  
DIGITAL TECHNOLOGIES, THIS TO INCLUDE  
ARTIFICIAL INTELLIGENCE SOLUTIONS**

Controlling power generation systems (e.g. photovoltaic panels installed on roofs and walls) and the supply of power to internal and external receivers will be carried out by means of signals which – thanks to the use of artificial intelligence – will be generated using data from different sources. Some of this data will be obtained



from the facility's equipment, while some of it will come from its surroundings. With the promotion of road transport vehicle stock furnished with traction batteries and electric motors, it will be possible to dock vehicles and then charge them during loading and unloading operations. The traction batteries in these vehicles can also

be integrated in the storage system for the power generated by photovoltaic panels during the day and used in the warehouse at the time when there is no sunlight unavailable (night-time and heavy cloud cover).

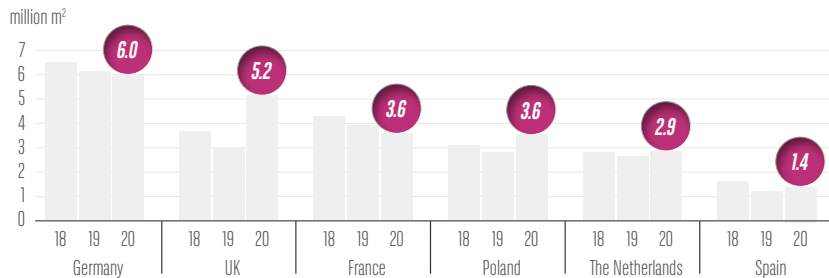
# 5

## E-COMMERCE VS. THE INDUSTRIAL AND LOGISTICS MARKET

**THE TOTAL VOLUME OF POLAND'S INDUSTRIAL AND LOGISTICS STOCK HAS MORE THAN DOUBLED IN THE PAST 5 YEARS,** reaching 20.6 million sqm at the end of 2020. The dynamic growth of the e-commerce sector, particularly in the past three years, has contributed greatly to this evident acceleration of the pace of growth recorded. Net demand has not fallen below the 2 million sqm threshold since 2016 when it reached this level for the first time in the history of Poland's warehouse sector; in fact, it has exceeded it considerably, oscillating around 3 million sqm. Not only did the pandemic not diminish tenants' interest in warehouse and industrial space, but it afforded it a new trajectory, bringing last year's result to 3.6 million sqm.

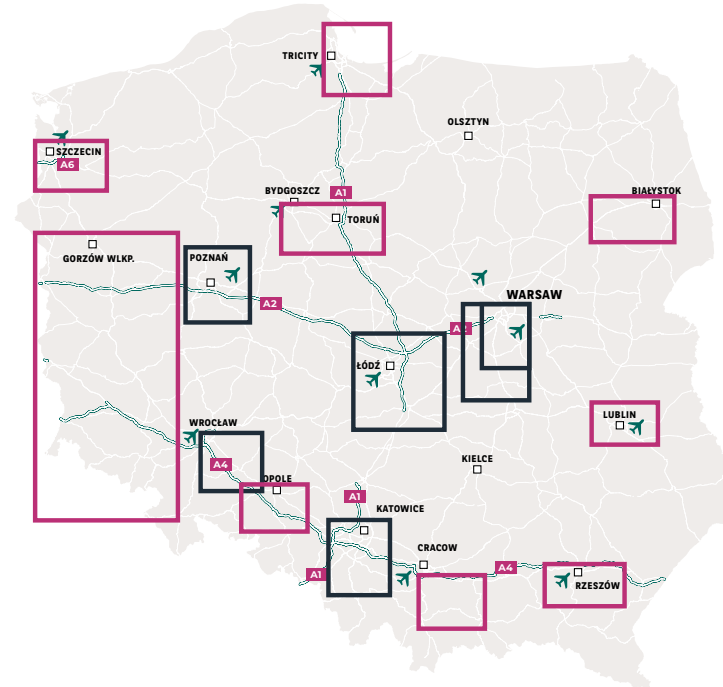
Looking at the last three years against a European background, the Polish industrial and logistics market,

### Demand on the warehouse market – Poland among Europe's leaders



### Industrial and logistics regions in Poland

Developing clusters ■ Leading clusters ■



**20,6M m<sup>2</sup>**

WAREHOUSE SPACE AS AT THE END OF 2020

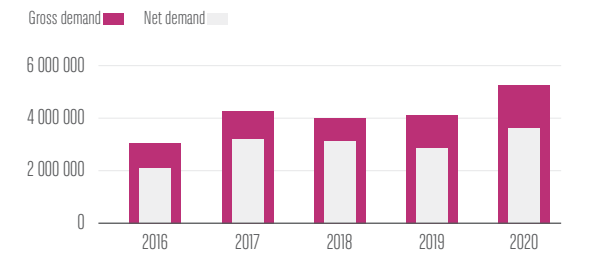
**3,6M m<sup>2</sup>**

NET DEMAND IN 2020, A 29% INCREASE COMPARED TO 2019

with a result of nearly 9.5 million sqm, places among the four countries with the highest net demand. In 2020, Poland, with a 29% increase in demand compared to the previous year, gave way to the UK only, where the volume of space leased increased by as much as 70% compared to 2019. Germany, Europe's largest warehouse market, recorded a slight decrease in net demand of approx. 2%.

A significant share in the demand recorded in Poland is held by tenants operating in Western Europe, in particular on the German market. This trend has contributed to the development of industrial and logistics zones found along the country's western border. Industrial and logistics properties located in this area, in particular distribution centres, benefit from convenient transport links with Western European countries and rents well below those recorded on the German market.

### Demand for warehouse space in Poland in the past 5 years



Source: BNP Paribas Real Estate Poland



**IN THE PAST FIVE YEARS, THE E-COMMERCE SECTOR AND OPERATORS SUPPORTING E-COMMERCE PROCESSES ACCOUNTED FOR APPROX. 25-30% OF THE NET DEMAND** recorded on the warehouse market in Poland, i.e. they leased approx. 4 million sqm of space (+/- 10%). It is difficult to estimate the exact scale of this trend as the e-commerce industry covers not only the customary online stores and sales platforms (e.g. Amazon, Allegro, Answear.com, Zalando, Morele, etc.), but also retail chains that run brick-and-mortar operations, while simultaneously developing their e-commerce channels, as well as logistics operators and companies from the CEP (courier, express and parcel) sector that run e-commerce supply chain processes (starting with packaging of orders through to delivery of the parcel to the consumer).

**OF THE TOP TEN LEASES CONCLUDED SINCE THE BEGINNING OF 2017, FIVE WERE SIGNED BY CONVENTIONAL E-COMMERCE OPERATORS** (shopping platforms), while another three were executed by retail operators implementing the omni-channel strategy.

Amazon is the unquestionable leader here in terms of the volume of demand: it has leased more than 1 million sqm of warehouse space since the beginning of 2013. With the approx. 370 000 sqm of space occupied by it, Zalando is another significant player within the e-commerce sector.

TENANT / SECTOR	SCHEME	LEASED SPACE (m <sup>2</sup> )	YEAR AND QUARTER
Amazon	Panattoni BTS Świebodzin	200,500	Q2 2020
Amazon	Amazon BTS Gliwice	146,000	Q4 2017
Amazon	Panattoni BTS Amazon Sosnowiec	135,000	Q1 2017
Zalando	GLP BTS Zalando Głuchów	130,000	Q4 2017
Leroy Merlin	Panattoni BTS Leroy Merlin	124,000	Q1 2018
Zalando	Hillwood Zalando 2	121,000	Q1 2018
Castorama	BTS Castorama	101,700	Q2 2017
BSH	Panattoni Łódź BSH BTS	79,000	Q1 2017
Retail operator	Prologis Park Janki	73,400	Q1 2020
Smyk	Central European Logistic Hub	73,000	Q4 2017



The aspect that distinguishes distribution centres owned by the e-commerce leaders from the ordinary warehouse property is a larger average area. These facilities are usually built using the build-to-suit (BTS) formula to meet the individual requirements of their tenants. As a rule, they are more automated, which helps to increase the efficiency of the centre and speed up the processing of orders.

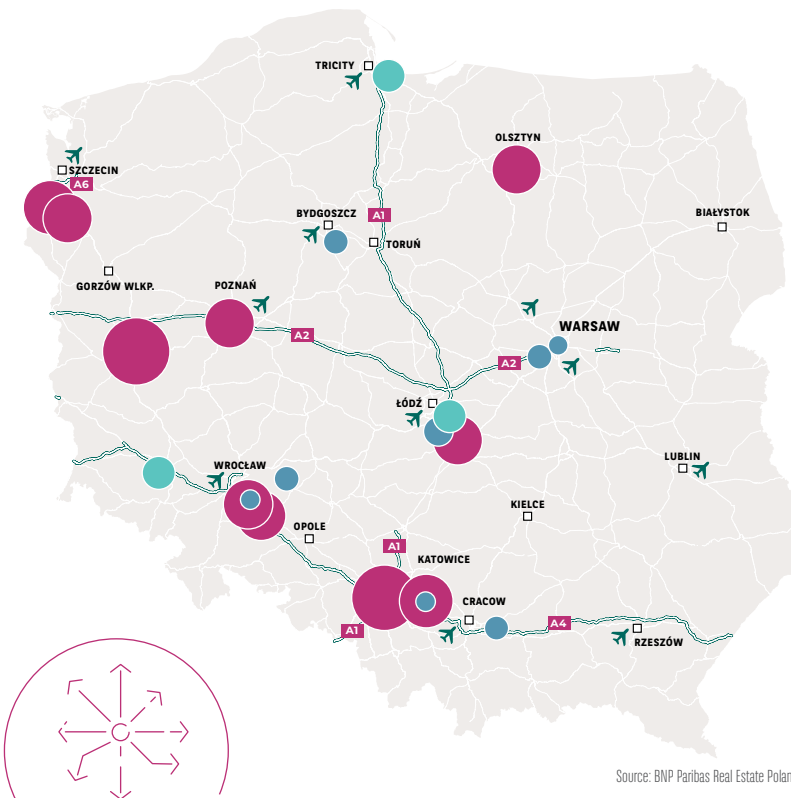
### AVAILABILITY AND EMPLOYEE COSTS ARE PARTICULARLY IMPORTANT FACTORS IN CHOOSING THE LOCATION OF A DISTRIBUTION CENTRE.

E-commerce operators usually work from large logistics centres, which means a significant demand for manpower. Wage costs therefore represent an increasing proportion of operating costs. To optimize their volume, companies choose to locate their operations in regions where both employee availability and wages play to their advantage. A good example is the locating in Poland of nine Amazon distribution centres mainly processing orders from the German market.

Another important factor is the order lead time, which is the reason why e-commerce players usually decide on locations close to large urban agglomerations. Finding a location near high-speed roads and transport corridor junctions is also crucial. This is a particularly critical aspect for the global e-commerce giant Amazon, where the decisive factor is the easy reachability of the Western European market.

### Distribution centres for the largest e-commerce platforms (with an area of more than 10 000 sqm)

● more than 100 000 sqm ● between 50 000 and 100 000 sqm ● less than 50 000 sqm



**RETAIL CHAINS THAT IMPLEMENT OMNICHANNEL SALES ALSO MAKE A SIGNIFICANT CONTRIBUTION TO THE SECTOR'S GROWTH**

Omnichannel retail chains are also contributors to growth of the sector. So far, the strategy of implementing the online channel was most enthusiastically implemented by companies selling electronic equipment (e.g. Media Expert, Media Markt, RTV EURO AGD), multimedia (e.g. Empik), clothing and footwear (e.g. H&M, Inditex, LPP, CCC, Smyk, Eobuwie), and DIY stores (e.g. Ikea, Leroy Merlin, Castorama).

Retail chains operating a developed omnichannel model came to particularly appreciate its strategic importance at the time when repeated lockdowns of retail facilities were in effect. Online sales were the saving grace for many tenants, enabling them to survive the most difficult moments of the severe restrictions imposed on them.

The pandemic experience has prompted many retail operators to rethink their omnichannel activities and take the decision to intensify them. It is no longer only durable consumer goods retailers that are going online; this channel is now seeing sectors with virtually no previous presence there, such as the food industry / FMCG.

The next few years will bring dynamic growth of the e-commerce sector both in Poland and on the Western European markets, which in turn will be a strong stimulant for further bolstering of the warehouse market's condition in our country.

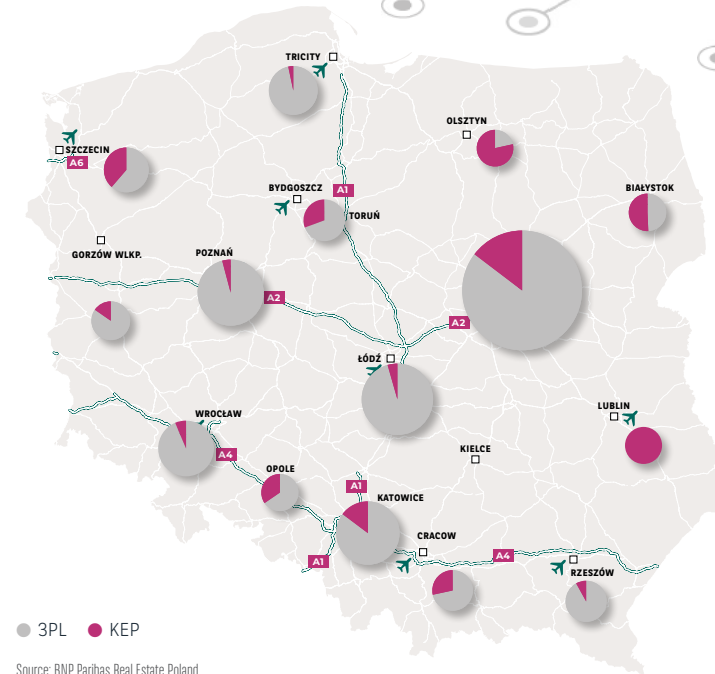
# 6

## POLAND AS A STRONG LOGISTICS OPERATOR

**THE LOGISTICS SECTOR IN POLAND IS HIGHLY DEVELOPED.** Between 2017 and 2020, companies in the third party logistics sector (3PL) and the courier, express and parcel (CEP) industry leased more than 3 million sqm of warehouse space. Nearly three quarters of this volume is located in the Mazowsze, Greater Poland, Silesia and Łódź voivodeships, in which the highest share by far is held by the Mazowsze region. As far as the first three voivodeships are concerned, the high total volume of gross demand comes from the fact that these are the three most populous regions in Poland. In addition to its high population, the Łódź voivodeship is the country's most centrally located region, where the main north-south and east-west routes intersect. Thus, the convenient transport links to other regions across Poland are the reason why a large part of logistics operations take place precisely within its borders.

The growth of the e-commerce sector and the increasing emphasis on reducing delivery times stimulate the development of the so-called last mile logistics, which in simple terms means the last stage in the e-commerce supply chain. Warehouse facilities of

Volume of leases signed in the 3PL and CEP sector in 2017-2020



several thousand sqm in size, divided into modules with sizes starting from a few hundred sqm, are being built in the main agglomerations on a growing scale. Their application can be extremely flexible: a small city warehouse that processes the most frequently placed orders, a pick-up/return point for a specific part of the city, a site that processes deliveries to a given area, or a space with a showroom function. One of the main challenges for the urban logistics sector is the low availability in urban areas of land that can be used for warehousing purposes, which limits the option to position the facilities in close proximity to residential areas.

Popularization of e-commerce requires good availability of courier services and fast delivery of the goods ordered to the buyer. The pandemic – generating increased demand for e-commerce services – has forced courier companies to expand the range of services offered by them. Next-business-day deliveries are virtually the norm now, with carriers specializing in same-day deliveries (e.g. X-press Couriers) beginning to appear on the Polish market too. At the beginning of 2020, InPost became the first logistics operator to offer weekend delivery at no additional cost. In Poland, a lot of interest is currently attracted by self-service parcel lockers operated by the aforementioned InPost, which is a solution allowing consumers to pick up their goods at any time of the day. The attractiveness of this

concept has additionally led the leading e-commerce player Allegro to consider building their own network of automated lockers for picking up / dropping off parcels. Furthermore, there has been an increase in recent years in the number of locations offering the option to pick up a parcel, where the primary function is different than a parcel dispatch/pick-up point. These include retail stores, newsagents, and businesses providing other specialized services.

2020 saw 13 leases for space in new locations being signed by companies from the CEP sector. The volume of those transactions amounted to approx. 100 000 sqm of logistics space, of which nearly 60 000 sqm will be developed for InPost, with further 25 000 sqm for DPD.

Share of individual courier companies in the volume of logistics leases (2017-2020)



Source: BNP Paribas Real Estate Poland





# 7

## TRENDS

### FOR THE NOT-SO-DISTANT FUTURE

**THE PANDEMIC HAS CHANGED THE HABITS OF CONSUMERS FOR GOOD, THEY ARE INCREASINGLY WILLING TO BUY ONLINE AND DO NOT INTEND TO GIVE UP USING THIS RETAIL CHANNEL.**

The sustained shift of some consumer spending to the internet has significantly contributed to acceleration of the pace of growth of the e-commerce industry and will continue providing a stimulus for its growth in the years to come. The rapid adjustment of buyers to the current circumstances has shown that the transformation of retail from what it used to be a dozen or so months ago can happen faster than originally anticipated.

Consumers who had not done it previously are now shopping online, and e-shoppers began to source more types of products on the internet, which includes the increasing trend to shop online for groceries. The internet is therefore becoming a weighty competitor for brick-and-mortar stores. However, statements as to the impending end of retail in its traditional format are greatly exaggerated. Brick-and-mortar stores will continue to play an important role in generating sales and the growth of retail businesses. There will cer-

tainly be modifications in terms of the strategy regarding the number and type of locations, as well as the format of stores. The pandemic has shown that the successful operation of the traditional retail sector is intricately linked to implementation of an omnichannel sales strategy that creates a wide range of opportunities for consumers to purchase their goods, have them delivered, as well as exchange and return them. The growing popularity of online stores is becoming the key stimulus for the dynamic growth of the warehouse, as well as the logistics and courier service markets.

The high level of supply of industrial and logistics space has enabled companies using the online channel to sell their goods, as well as those providing support services to them, to find additional warehouse space and operate at full capacity in the face of the now higher demand for the goods and services offered by them. The new reality has led entrepreneurs to search for new logistics and retail concepts.



In the coming years, we can expect logistics operations to gradually move closer to densely populated urban centres. E-commerce operators strive to significantly reduce delivery costs as they generate a considerable cost component within the supply chain. Companies will be implementing various solutions aimed at optimizing order lead times. One example of such prospective solution can be found at Amazon with the company considering converting abandoned department stores and shopping centres into distribution centres across the US. As a result of the pandemic and the successive lockdowns imposed on the economy, some retail facilities were forced to close down, which could be used by e-commerce operators to their advantage. This practice would provide an opportunity for the number of warehouses within residential areas to be increased, resulting in a significant reduction in delivery times and costs.

**BRICK-AND-MORTAR DISTRIBUTION CENTRES THAT CATER EXCLUSIVELY TO THE NEEDS OF ONLINE RETAIL, I.E. THE SO-CALLED “DARK STORES”, ARE NOW GAINING IN POPULARITY.**

There is no direct access for customers: they make their purchases online and then choose the click-and-collect option or have their goods delivered to a location of their choice. These types of stores are highly automated, which means that order lead times can be reduced significantly. In Poland, the first dark store was launched in Warsaw by the Carrefour chain (with subsequent stores following in Katowice and Kraków).

The convenience store chain Żabka also plans to implement this model in the future.

The Chinese e-commerce operator Alibaba has set its sight at revolutionizing the delivery system for online orders. From 2021 onwards, they will be processed by autonomous robots given the name Xiaomanlv – which translates into English roughly as “competent donkey” – capable of finding their way to where the order is to be delivered. Moreover, the chain is considering making this concept available to courier companies.

The growth of e-commerce continues to have a strong impact on the warehouse and logistics sector. The dynamic pace of growth recorded by the industry in recent years is largely due to the demand from companies operating in the online sales sector. The high level of demand for warehouses in 2020 is one of the effects of the pandemic which has boosted interest in online shopping, while the interruptions to brick-and-mortar retail operations and the uncertainty regarding the supply of goods has led companies to secure more warehouse space for themselves. The stable position of the warehouse market so far and its dynamic growth in recent years, persistently driven by online sales, has helped to minimize the negative effects of the pandemic and the resultant economic recession.



**WE CAN EXPECT  
THE SO-CALLED *LAST MILE*  
LOGISTICS SEGMENT  
TO GROW DYNAMICALLY  
IN THE COMING YEARS**



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