

KNOW



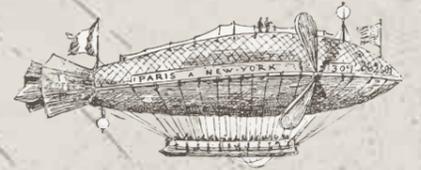
2023

REAL ESTATE
MARKET

KRA Space for Business KÓW



Table of contents



04	ABOUT KRAKOW
08	OFFICE MARKET IN KRAKOW
10	COWORKING SPACE IN KRAKOW
12	RETAIL MARKET IN KRAKOW
14	WAREHOUSE MARKET IN KRAKOW
16	HOTEL MARKET IN KRAKOW
18	PRS MARKET IN KRAKOW
20	INVESTMENT MARKET IN POLAND
22	KRAKÓW - A CITY OF MODERN BUSINESS

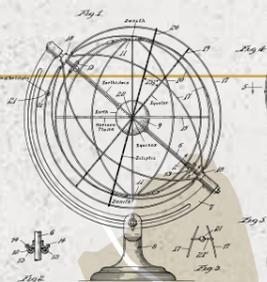


About Krakow

FACTS AND NUMBERS

Science

23 higher education institutions:
5 universities
34,000 graduates per year
130,000 students



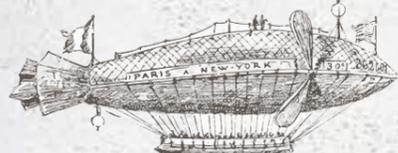
Business

261 centres
92,700 employees
1.71m sq m total office space stock
107,300 sq m space under construction
16% vacancy rate
EUR 10-16/sq m/month asking rents



Airport

7.39m passengers in 2022
121 destinations, including:
84 cities
30 countries



Future

Location: The „Krakow - Nowa Huta of the Future” project located in the eastern part of Krakow, in the Nowa Huta district
 Area - **700 ha**

The project includes the implementation of four investment tasks:

- Science and Technology Park „Branice”,
- Logistic and Industrial Centre „Ruszcza”,
- Centre for Large-Scale Outdoor Cultural Events „Błonia 2.0”,
- Recreation and Leisure Centre „Przylasek Rusiecki”.

Greenery

32 ha of flower meadows
10 beehives
30 pocket gardens – gardens of citizens of Krakow
12 community gardens
 Winner of the „Green Capital of Europe 2023” competition



Events

ICE Krakow Congree Centre – 3,200 seats
TAURON Arena Krakow:
 15,000 seats
 9,000 standing places
170 conference facilities



People

782,137 inhabitants
1.2m city users
8.0m within a 100 km area

Culture

100 museums and art galleries
400 cultural events per year
 Krakow a UNESCO city
 European Capital of Culture
 UNESCO City of Literature



Krakow

– COOPERATION BETWEEN
LOCAL AUTHORITIES,
BUSINESS AND SCIENCE

Krakow is an **IMPORTANT POINT ON THE EUROPEAN MAP OF GOOD INVESTMENT LOCATIONS** for the modern **BUSINESS SERVICES INDUSTRY AND R&D CENTERS**.

The city attracts investments from the financial and high-tech sectors and start-ups. On basically every level, these industries - whether talking about single-person enterprises or global brands - rely on innovation and keep developing in new areas. **BSS SECTOR** in Krakow comprises **261 COMPANIES EMPLOYING 93,000 PEOPLE**. There are **OVER 500 TECH COMPANIES** with approx. **50,000 IT WORKERS**, with **9,000 STUDENTS** learning on IT related university faculties. Furthermore, the **SUPPLY OF OFFICE SPACE** quadrupled over the past several years - currently, they amount to **1.71M SQ M**, with a further **107,300 SQ M** under construction.

Notable advantages of Krakow include its **ENORMOUS INTELLECTUAL POTENTIAL** and **A ROBUST ACADEMIC COMMUNITY: WITH A STRONG R&D SECTOR AND APPROX. 130,000 STUDENTS** attending **23 UNIVERSITIES**. That's why access to **HIGHLY QUALIFIED PERSONNEL** - primarily in the areas of **ADMINISTRATION** and **HUMAN RESOURCES, LINGUISTIC COMPETENCIES, IT and ENGINEERING** - is another of the city's major strengths.

MULTICULTURALISM FORMS a characteristic distinction of Krakow's business services sector. Foreign workers constitute approx. **14% OF ALL EMPLOYEES**. They came from **50 COUNTRIES** and provide services in a total of **35 LANGUAGES**, with a single center utilizing seven on average. Another factor contributing to the diversity is the **AGE STRUCTURE** - the largest group consists of **PEOPLE AGED 27-34**. Investment activity is especially strong for US and Western European investors, spurred by the pandemic and threats posed by Russian aggression to find geographically and culturally close locations.

Krakow supports the **DEVELOPMENT OF A KNOWLEDGE-BASED ECONOMY** and promotes **INNOVATION** by means of active cooperation with businesses and the research & development community. It also

works with startups and economic organizations. Those thinking of establishing new economic entities can count on quick and professional assistance at the **ENTREPRENEUR SUPPORT OFFICE**, while investors are supported via the **INVESTMENT AND INNOVATIVE ECONOMY SUPPORT CENTER**.

Traditionally, **TOURISM** has always played a major role in Krakow's local economy. Regrettably, it has suffered greatly from the crisis caused by the Covid-19 pandemic and the war in Ukraine. Nevertheless, the city strives to support the diversification of economic activities. That's why the **INDUSTRY, CONSTRUCTION, CREATIVE INDUSTRIES, EDUCATION** and **CULTURE** still form a major part of Krakow's income. The city extends great care to its residents, shaping a rich cultural, educational, sports and recreation offer and providing a strong sense of security. Other clear advantages include **EFFICIENT MUNICIPAL TRANSPORTATION**, a convenient location next to the **A4 EXPRESSWAY** and a **MODERN, INTERNATIONAL AIRPORT**. It also bears mentioning that we are among the small group of cities with a **GROWING POPULATION** - we estimate having at **LEAST A MILLION RESIDENTS** and moreover one should account for daily commuters.

Another important factor is the influx of refugees from the east - approx. 177,500 Ukrainians have arrived in Krakow ever since the outbreak of war in their country. Currently, the number of Ukrainian refugees living in the city is estimated at approx. 50,000. This is reflected by the job market, as well as consumption levels of goods and services. One can also see an impact on the education system, especially at the primary level. Krakow is also an **IMPORTANT STOP FOR UKRAINIAN REFUGEES TRAVELING TO OTHER PLACES** and a **MAJOR DISTRIBUTION CENTER** for **HUMANITARIAN** aid.

Despite the current economic, political and social situation posing many challenges, it also provides many opportunities. **KRAKOW IS WELL SUITED TO ACTIVELY CREATE NEW DEVELOPMENT OPPORTUNITIES BASED ON COOPERATION BETWEEN AUTHORITIES, BUSINESS AND ACADEMIA**.



Office market in Krakow

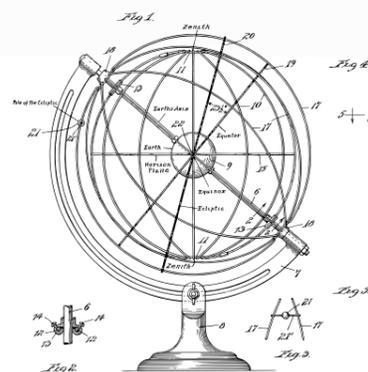
Krakow continues to be the strongest, most dynamically developing, regional market in Poland. Tenant interest in office space in the city is returning to pre-pandemic levels. Developers however are holding back on starting new developments due to persistently high construction and financing costs, as well as the continued high volume of attractive office space available for immediate rent.

As the largest regional office market, Krakow is an attractive choice for both investors and tenants. At the end of Q4 2022, the total office stock in Krakow reached 1.71m sq m, maintaining the city's leading position among regional office markets in Poland. Due to the historic nature of the city centre, less than a quarter of Krakow's office stock is located there - the vast majority being located outside the centre, with around 40% in the south of the city.

IN 2022, DEVELOPERS WERE VERY ACTIVE, DELIVERING MORE THAN 100,500 SQ M OF

MODERN OFFICE SPACE TO THE KRAKOW OFFICE MARKET IN 9 PROJECTS, ACCOUNTING FOR 25% OF THE SPACE COMPLETED IN ALL REGIONAL CITIES. This figure is significantly up on that for 2021 (by as much as 66%), and close to the 123,000 sq m average annual supply of the last 5 years. The largest developments completed in 2022 are: Brain Park A and B (total area of 31,100 sq m, Echo Investment) and Fabryczna Office Park B4 and H1 (21,800 sq m, Inter-Bud).

There is a noticeable tendency to hold off on starting new developments due to the persistently high construction and financing



costs of commercial projects. **AT THE END OF DECEMBER 2022, THERE WAS ONLY 107,300 SQ M OF OFFICE SPACE UNDER CONSTRUCTION, 95% OF WHICH IS EXPECTED TO BE DELIVERED IN 2023.** This is nearly three times lower than in the years before the pandemic, when there was around 250,000-300,000 sq m under construction.

FURTHERMORE IT ACCOUNTS FOR NEARLY 20% OF THE SPACE UNDER CONSTRUCTION IN POLAND'S EIGHT LARGEST REGIONAL CITIES.

At the end of 2022, the largest projects under construction were Ocean Office Park B with a 26,500 sq m (Cavatina Holding) and Kreo (23,000 sq m, Ghelamco Poland).

2022 BROUGHT A NOTICEABLE INCREASE IN TENANT ACTIVITY AND IN THE NUMBER OF TRANSACTIONS IN KRAKOW, WHICH MAY INDICATE A RETURN FOR DEMAND TO PRE-PANDEMIC LEVELS.

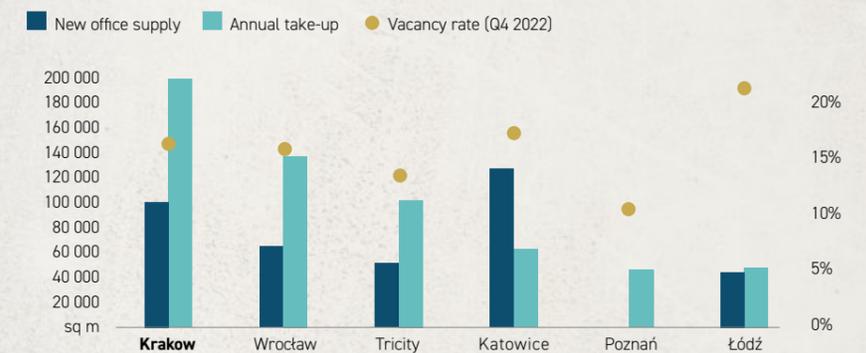
The volume of lease transactions in the Małopolska capital in 2022 was more than 198,000 sq m, accounting for 32% of leased space in regional cities - the highest result among regional business destinations. Moreover, the figure was nearly 27% higher than in 2021, reaching a level comparable to the average annual transaction volume of the previous 5 years (approximately 200,000 sq m).

FOR ANOTHER SUCCESSIVE YEAR, A HIGH SHARE OF NEW CONTRACTS WAS RECORDED IN THE DEMAND STRUCTURE. They accounted for the largest share, covering 69% of leased space (over 137,000 sq m), of which 43,000 sq m came in pre-let agreements. Renegotiations accounted for around 29% of the transaction volume, while expansions represented only 2%.

Due to the large amount of space delivered in the last quarter of 2022, the vacancy rate increased by 0.6 pp. q-o-q and stood at 16% at the end of December 2022. However, due to the high tenant activity in the Krakow office market, the rate was down 0.1 pp. compared to the end of 2021. **AS A RESULT, AT THE END OF 2022, THERE WAS MORE THAN 273,600 SQ M OF OFFICE SPACE AVAILABLE FOR IMMEDIATE LEASE IN THE MAŁOPOLSKA CAPITAL.**

Asking rents is more than 30% of buildings offering vacant space in Krakow have been raised by between EUR 0.10 and EUR 1.50 over the past year, depending on location and landlord policy. At the end of 2022, rents in A-class buildings ranged between EUR 12.50 and EUR 16.00/sq m/month.

New office supply, annual take-up and vacancy rates in major regional markets in Poland (2022)

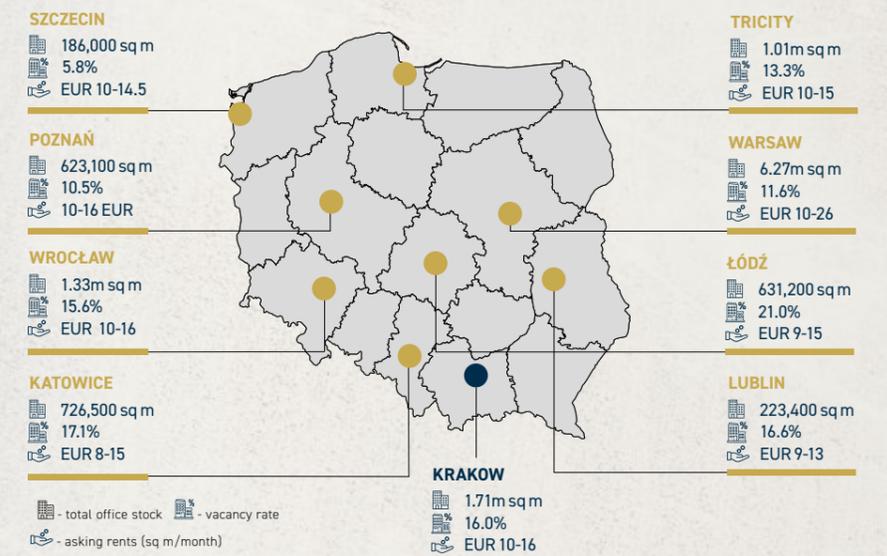


Source: Knight Frank

In Class B buildings, rents were lower, ranging between EUR 10.00 and 14.00/sq m/month. The continued high availability of office space may encourage tenants to renegotiate rents and incentive packages. On the other hand, high construction costs and an increase in the cost of servicing construction loans may effectively inhibit investor negotiating power, particularly in new buildings.

THERE ARE STILL NOTICEABLE INCREASES IN SERVICE CHARGES DUE TO THE INCREASING COST OF SERVICES AND UTILITIES - AT THE END OF DECEMBER 2022, THESE RANGED FROM PLN 15.00 TO 25.00/SQ M/MONTH.

Office market in Poland (2022)



Source: Knight Frank



Coworking space in Krakow



Changing office functions and evolving work models have contributed to the growing popularity of coworking offices in recent times. The COVID pandemic saw many changes in the labour market, with more and more organisations taking advantage of the opportunities offered by flexible office spaces. Coworking space allows companies to respond quickly to market developments by adjusting the number of workplaces to their current needs.



Commentary on current situation

The Krakow market saw a very high demand for coworking spaces and serviced offices, which is confirmed by the limited availability of workplaces in such spaces. Coworking office space closer to the centre, in particular, is almost 100% rented out, and new offers appearing on the market are taken up almost immediately. Such high demand in the coworking space sector is leading to a growing supply of this type of space. The available space, however, is still insufficient, meaning that the dynamic development of this market segment in the coming years can be expected.

Compared to 2021, there was an almost 10% increase in office space leased by coworking operators in Poland in 2022.

Coworking offices are located in attractive locations in the city. **AS THE MOST**

DEVELOPED REGIONAL OFFICE MARKET, KRAKOW IS IN TUNE WITH MARKET TRENDS AND CHANGING TENANT PREFERENCES, ADJUSTING ITS OFFERED SERVICES ACCORDINGLY - THIS ADJUSTMENT

INCLUDING FLEXIBLE OFFICE SPACE AND COWORKING SPACES. Krakow is a potential location for tenants looking for flexibility, on account of the wide range of coworking space it offers.

The pandemic has shown that, particularly when markets experience a downturn, flexibility is just as important for small companies and large players. **THUS, SIZEABLE COMPANIES ARE INCREASINGLY INCLUDING COWORKING SPACE IN THEIR OFFICE LEASING PORTFOLIO STRATEGY, ALONG WITH LONG- AND SHORT-TERM LEASES.** This allows them to reduce the scale

of long-term liabilities and establish satellite offices without large capital investments.

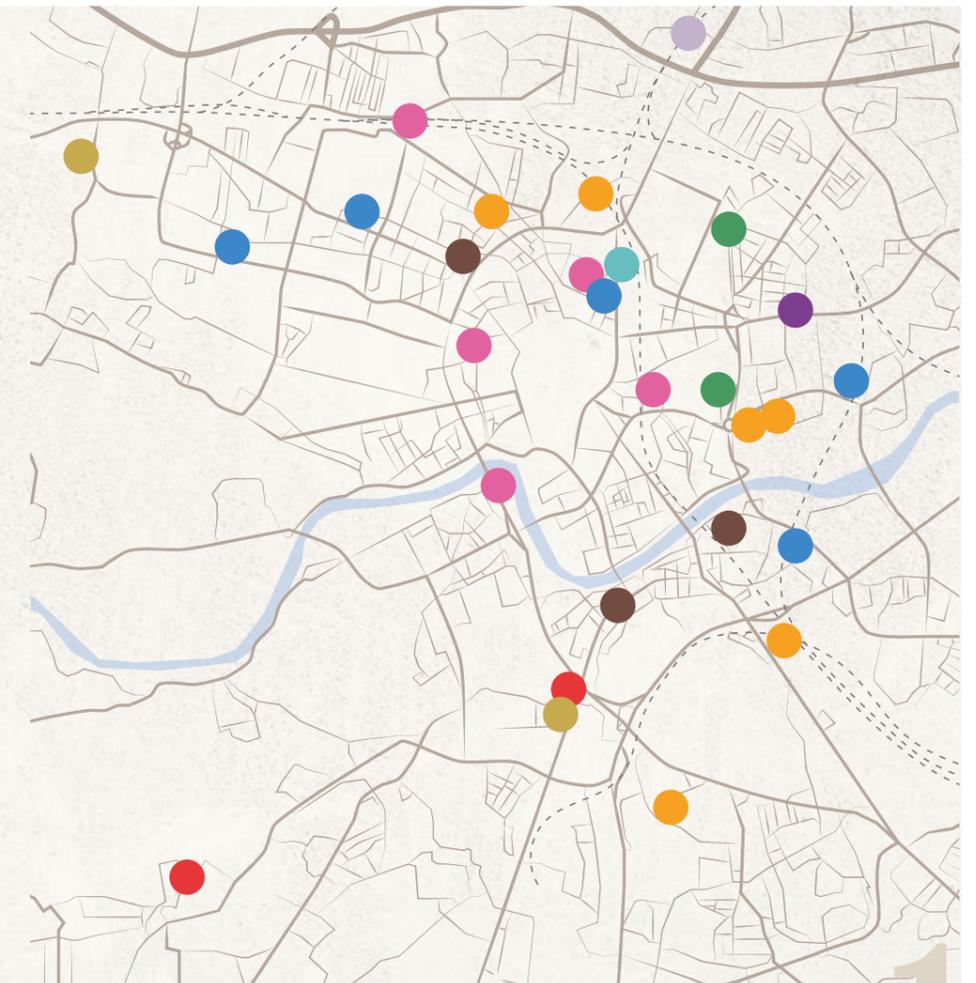
Currently, coworking operators and developer-owned coworking offices are expanding their operations in major business centres in Poland, creating communities of start-ups, freelancers and small enterprises. **NUMEROUS CHAIN OPERATORS OFFER THEIR SERVICES ON THE KRAKOW MARKET,** including: Loftmill, Regus, CitySpace and Business Link.

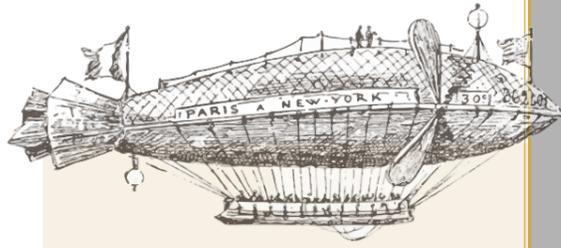
Changing office preferences are also influenced by rising service charges and growing rents, with not only general rent increases in many buildings, but also index-linked rises attributable to inflation. It is estimated that office rental costs in Krakow have increased by an average of 10% over the last 12 months. As a result, flexible office spaces are continuing to gain in popularity, as visible in elevated levels of activity in the market. Coworking operators are reporting increased occupancy rates and are expanding their portfolios of offered offices.



Selected coworking operators in Krakow

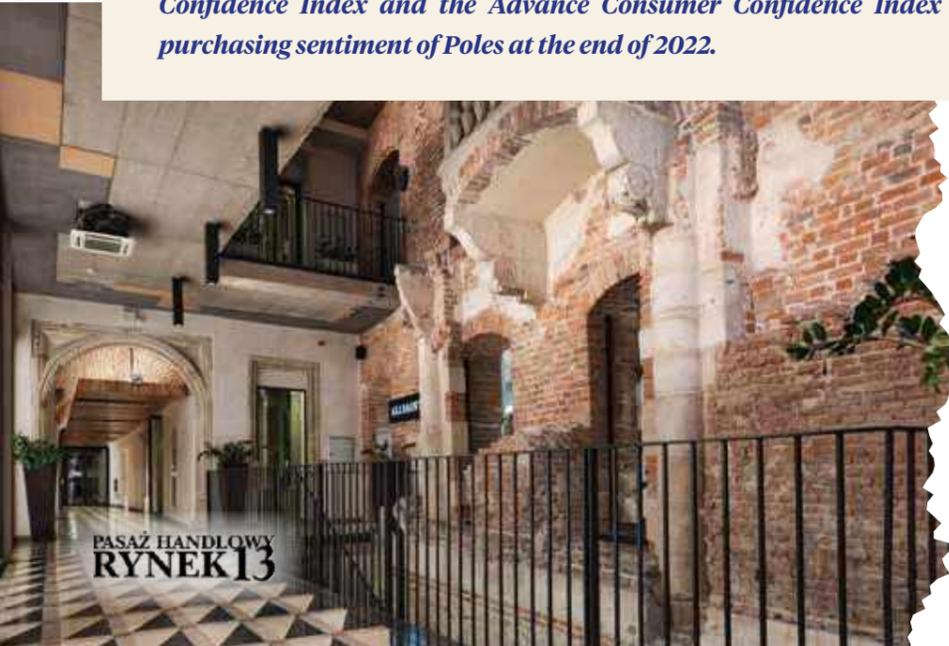
- Regus
- Loftmill
- Office & Cowork Centre
- Biznes Lab
- Cluster Offices
- Business Link
- CitySpace
- At Office
- Mogilska43 Cowork
- Chilliflex



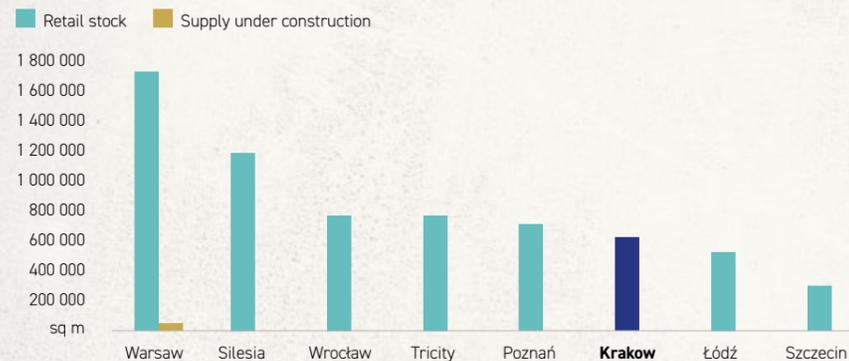


Retail market in Krakow

2022 in the retail market, after a period of restrictions, saw the level of consumers visiting shopping centres returning to pre-pandemic levels. Furthermore, shopping centre sales saw an increase to levels beyond those for the pre-pandemic period (a 10.8% increase in January-November 2022 compared to 2019's corresponding period), although this was influenced by the constantly rising high inflation and the presence of a new consumer group - refugees from Ukraine. Despite the difficult economic situation and the fact that Poles are limiting their purchases or making them more cautiously, the Consumer Confidence Index and the Advance Consumer Confidence Index point to an improvement in the purchasing sentiment of Poles at the end of 2022.



Modern retail stock in the 8 major agglomerations in Poland (2022)



Source: Knight Frank

In 2022, more than 300,000 sq m of new space was delivered to the Polish retail market, the highest result since 2018. Only 28% of the new supply was delivered in the largest agglomerations, with Krakow accounting for half of this volume. The Krakow supply came in two retail projects, totalling 48,000 sq m: ATUT Ruczaj (25,000 sq m) and ATUT Galicyjska (23,000 sq m). Both projects were developed by the KG Group and opened to customers in Q4 2022. **WITH SUCH A HIGH LEVEL OF NEW SUPPLY, THE EXISTING RETAIL STOCK IN THE KRAKOW AGGLOMERATION EXCEEDED 630,000 SQ M AT THE END OF 2022, POSITIONING THE CITY AS THE SIXTH LARGEST RETAIL MARKET IN POLAND.**

The last such large-scale project launched in Krakow came with the completion of the 21,000 sq m Mozaika shopping centre at the end of 2021, operating in a former Tesco store. **IT IS WORTH NOTING THAT WITH THE COMPLETION OF TWO SHOPPING CENTRES IN 2022, THE ANNUAL SUPPLY IN KRAKOW WAS THE HIGHEST SINCE 2013,** when 60,000 sq m of retail space was delivered to the market in Galeria Bronowice.

The decline in developer activity in the largest cities in Poland is also observable in Krakow, where no modern retail scheme was identified as under construction at the end of 2022. It is worth noting that among the eight largest agglomerations, only the Warsaw market had 43,000 sq m of retail space under construction - only 17% of the total supply under construction in Poland.

At the end of 2022, one facility was identified as at the planning stage in the city - Designer Outlet Krakow, which will be part of the ATUT Galicyjska complex. Construction of this project is expected to commence at the beginning of 2023. According to the investor, KG Group, the opening of the outlet centre, offering more than 20,000 sq m of leasable space, is planned for 2024. It will be the second outlet centre in the Krakow agglomeration. The low level of developer activity in the largest cities stems mainly from the already high saturation of retail space in these markets. At the end of 2022 the saturation rate was 386 sq m / 1,000 inhabitants in the Krakow agglomeration, exceeding the average for Poland, which was 340 sq m / 1,000 inhabitants.

A vacancy survey carried out in July and August 2022 reveals the occupancy levels in major



Polish cities. In the 8 major agglomerations, the vacancy rate fell from 5.3% to 4.7% over the past year. **THE VOLUME OF AVAILABLE SPACE ALSO DECREASED IN KRAKOW, WHERE THE VACANCY RATE FELL TO 1.9%**, from the 2.8% recorded the year before. The reasons behind this decrease included the lease by Kaufland of the space previously occupied by Tesco in the Pasaż Kapelanka project. **IT IS WORTH NOTING THAT THIS VACANCY RATE WAS THE LOWEST AMONG THE EIGHT AGGLOMERATIONS, CONFIRMING THE HIGH LEVEL OF TENANT INTEREST IN RETAIL PREMISES IN KRAKOW.**

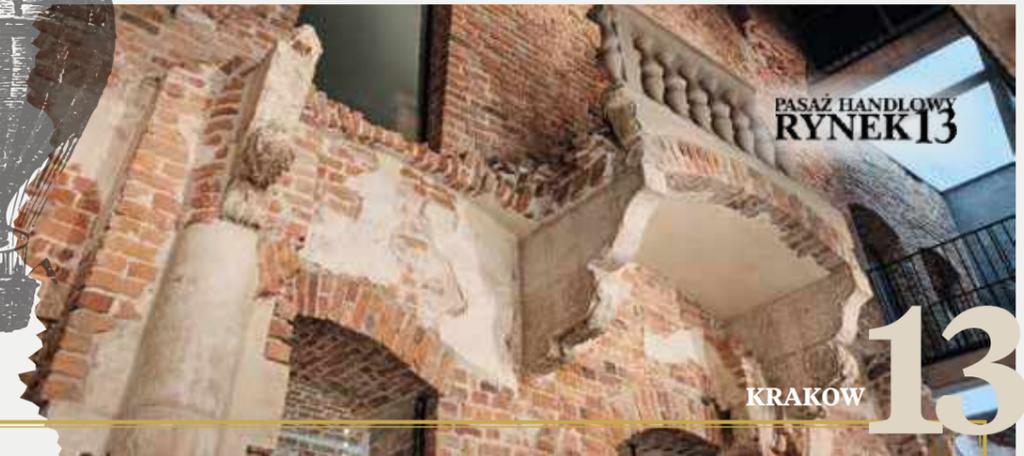
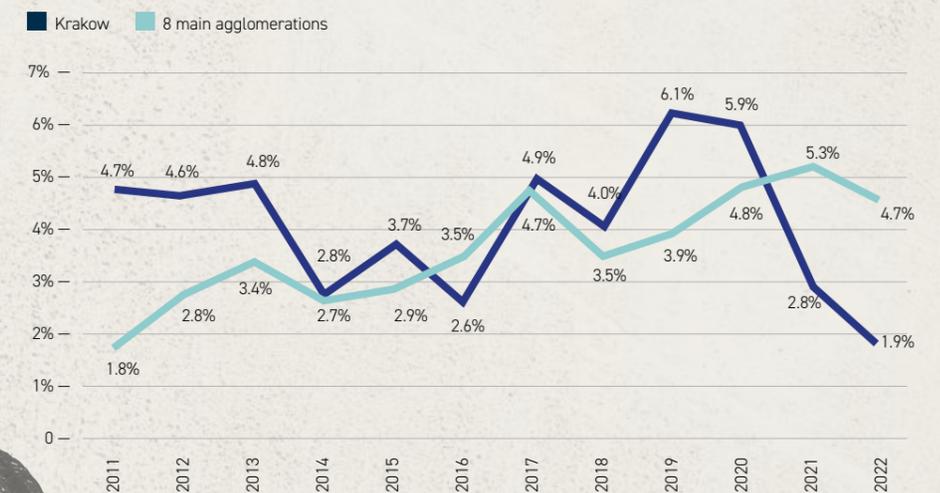
EXPANSIONS IN THE KRAKOW MARKET COME NOT ONLY FROM

BRANDS ALREADY OPERATING IN POLAND, BUT ALSO BY NEW BRANDS, such as the German brand Woolworth, which has announced the opening of its first shop in Poland for the beginning of 2023, in Krakow's ATUT Galicyjska facility.

Monthly asking rents for the most attractive premises (up to 100 sq m leased to the fashion sector) in the best shopping centres in Krakow varied between EUR 30.00 and 75.00/sq m/month, and are comparable to the other major agglomerations, with the exception of Warsaw. Rents depend in the main on the tenant's brand, the size of the premises, the location within a given facility, and the landlord's rental policy.

Vacancy rate in the Krakow agglomeration (2011 - 2022)

Source: Knight Frank

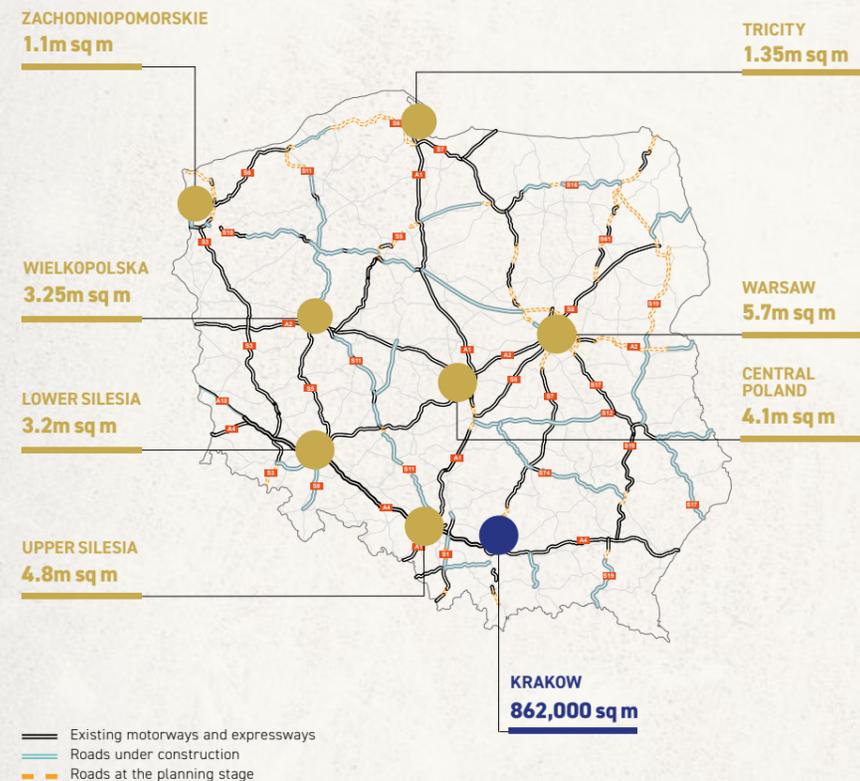


Warehouse market in Krakow



The warehouse market in Krakow has been growing steadily for years, but it is still one of the smallest concentration areas for warehouse space in Poland. The high price of land designated for logistics and industrial areas, coupled with a proximity to Upper Silesia, the second largest concentration area of warehouse space in the country in terms of stock, invariably hold back the development of this sector in Małopolska. The prime factors enhancing Krakow's attractiveness as a logistics destination are its strategic location, high internal demand, and a continuously developing network of high-speed roads (the A4 motorway, S7 and S52 expressways).

Warehouse stock in concentration areas in Poland (2022)



Source: GDDKiA, Knight Frank

At the end of 2022, the stock of warehouse space in Krakow amounted to 862,000 sq m (3% of the total stock in Poland). The key developers present on the logistics market in the Małopolska region are: Panattoni Europe, 7R S.A. and GLP Poland, along with local developers such as BIK. The main warehouse space concentrations in the region are to be found in the vicinity of the airport and municipalities neighbouring Krakow, such as Skawina, Modlniczka and Wieliczka. Locations to the east of Krakow (Targowisko, Niepolomice, Rzeszawa) are gaining importance for the development of warehouse space.

IN 2022, DEVELOPER ACTIVITY IN THE KRAKOW WAREHOUSE MARKET REMAINED AT A SIMILAR LEVEL TO THE PREVIOUS YEAR, WITH 94,000 SQ M OF MODERN WAREHOUSE SPACE. The new supply came in the shape of five completed projects, with one of the largest being a new hall in GLP Kraków Airport Logistics Centre complex Modlniczka with almost 20,000 sq m of space. In addition, the last year has seen the completion of the Noho Logistic Park Christo Botewa, a city logistics facility consisting of four buildings totalling 27,900 sq m. Apart from one new GLP's project

located in Modlniczka, the remaining facilities were built within the city's administrative boundaries.

In the Krakow warehouse market developers were very active in terms of investments started in 2022. At the end of December 2022, there were seven warehouse buildings identified as being under construction in Krakow, with a total area of 139,000 sq m that is 85% more comparing to 2021. The projects include both facilities dedicated to city logistics (e.g. 7R City Flex Kraków Airport), and a project built in the BTS (build-to-suit) formula (Logicor Krakow II for Royal Canin). It is worth mentioning that warehouse schemes that obtain green certifications and fit into ESG strategies are becoming standard. Pro-environmental solutions in newly built warehouses include the installation of photovoltaic panels, grey water recovery, LED lighting controlled by intelligent lighting systems. Example of such a project will be the MDC2 Park Krakow South (90,000 sq m,

Skawina), which will be built in accordance with the requirements of BREEAM New Construction certification at the Excellent level.

The sustained high level of tenant activity in the Polish warehouse market, resulted in the second highest result in history. The total volume of warehouse space leased in 2022 amounted to 6.86m sq m, with Krakow's share of the market estimated at 3%. **IN THE CAPITAL OF THE MAŁOPOLSKA REGION, DEMAND FOR LOGISTICS SPACE ALSO REMAINED HIGH, REACHING A HISTORICAL VOLUME OF LEASED SPACE FOR THE LOCAL MARKET OF 236,000 SQ M, 6% HIGHER THAN 2021'S PREVIOUS RECORD.**

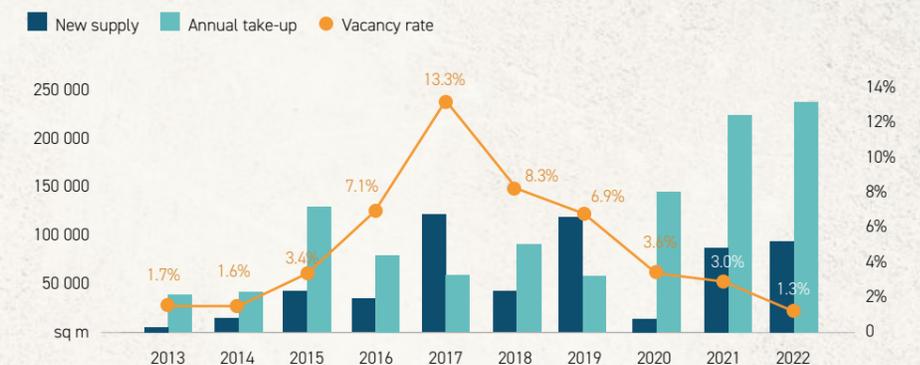
The vigorous tenant activity in the warehouse market in Krakow, combined with almost completely leased projects coming to market in 2022, resulted in an almost complete lack of

available warehouse space in the region. The volume of space available for immediate lease at the end of Q4 2022 was estimated at less than 11,000 sq m. **THE VACANCY RATE, THEREFORE, IN THE WAREHOUSE MARKET IN THE KRAKOW REGION REACHED ONE OF THE LOWEST LEVELS - 1.3%, A DECREASE OF NEARLY 2 PP. COMPARED TO Q4 2021.**

Krakow remains the second most expensive concentration of warehouse space in the country, behind Warsaw. Following years of stability, asking rents in the warehouse sector increased sharply in H2 2022. Monthly rents for warehouse space in projects located within the administrative boundaries of the city ranged from EUR 3.50 to 5.00/sq m/month. In addition, an increase in service charges is expected in all projects due to increasing prices for services and utilities.



New warehouse supply, annual take-up, vacancy rate in Krakow (2013 - 2022)



Source: Knight Frank



Hotel market in Krakow

Krakow is a very attractive tourist destination, among Polish and European tourists as well as those from further afield. After Warsaw, the city is also the second most important economic hub in Poland, playing host to companies from the business services, new technologies, finance, IT and telecommunications sectors. As a result, the attractiveness of the city is growing, offering better and better opportunities for the further development of Krakow's hotel sector. Until the outbreak of the COVID-19 pandemic, the city's strong position on the tourist map of Poland was reflected in its continually growing number of hotels and increasing number of visitors. The crises, however, triggered by the pandemic and the outbreak of war in Ukraine have resulted in a sharp slowdown in the pace of growth in Krakow's tourist traffic.

Krakow is a city that has been highly affected by restrictions and traffic limitations related to the pandemic. According to the "Tourist traffic in Krakow in 2021" report, prepared by the Małopolska Tourist Organization, the city was visited by more than 14 million people in the last pre-pandemic year (2019), of which over 10 million stayed for more than one day. Krakow had been recording such high figures for a number of years until the pandemic struck.

After a sharp slowdown in tourism in 2020, the number of tourists (overnight visitors) in Krakow significantly increased in 2021 (44.3% y-o-y), although it was still 40.5% down on pre-pandemic figures (6.04 million people). Due however to temporary border closures, the fear of further lockdowns, and the

requirement to quarantine, an increase in tourism was only recorded for domestic tourists.

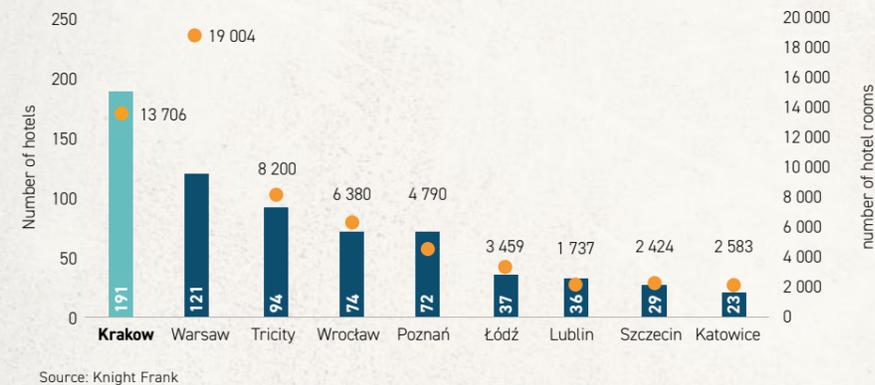
2022, FOLLOWING THE LIFTING OF HOTEL LIMITATIONS AND TRAVEL RESTRICTIONS, BROUGHT SOME RESPITE TO THE HOTEL SECTOR. According to the mid-2022 figures, domestic tourism was back at pre-pandemic levels, while external traffic had reached 60% of the record-breaking 2019 level.

The latest Eurostat analysis of hotel bookings in the European Union, using information from three booking platforms, shows that the attractiveness of European destinations was growing exceptionally quickly in 2022. Krakow, with 1.1 million nights booked, proved to be the most popular destination among Polish cities,

ahead of Warsaw, and also other European cities such as Budapest, Vienna and Berlin.

THE IMPROVING RESULTS FOR KRAKOW BALICE AIRPORT ARE ALSO A FACTOR UNDERLINING THE CITY'S ATTRACTIVENESS. IN 2022, 7.39 MILLION PASSENGERS WERE SERVED (COMPARED TO THE RECORD-BREAKING 8.4 MILLION IN 2019). Due to a decline in tourist traffic, hotel occupancy rates in Krakow have fallen significantly over the past two years. Occupancy rates did however increase in the city in 2022 as tourist numbers showed significant improvement, although the rate has not yet returned to pre-pandemic levels. According to the data provided by STR Global, the average monthly hotel room occupancy rate in the city reached 59% in 2022.

Number of hotels and hotel rooms in major Polish cities (2022)



The relatively low occupancy rate in Krakow's hotels compared to the largest Polish cities indicates that **KRAKOW, AS ONE OF EUROPE'S MOST ATTRACTIVE TOURIST DESTINATIONS**, is more reliant on foreign tourism than other Polish cities. According to Statistics Poland data, the average monthly hotel occupancy rate in Poland as a whole stood at 52%.

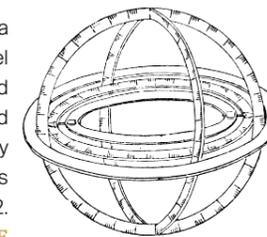
According to Knight Frank data based on the Central Hotel Register in Poland, supervised by the Ministry of Sport and Tourism, there were 191 officially categorised 1- to 5-star hotels in Krakow at the end of 2022.

KRAKOW PROVIDES THE LARGEST NUMBER OF CATEGORISED HOTELS COMPARED TO OTHER CITIES IN POLAND. Warsaw, with 121 hotels, ranks second. The total supply of hotel rooms in Krakow stood at 13,700 units, ranking the city second in terms of the number of rooms (behind Warsaw). **KRAKOW IS ALSO DISTINGUISHED FROM OTHER POLISH CITIES BY IT HAVING THE LARGEST NUMBER OF SMALL, LUXURY HOTELS - LOCATED PRINCIPALLY CLOSE TO THE OLD TOWN AND THE CITY'S MAIN TOURIST ATTRACTIONS.** As a result, chain hotels constituted only 29% of the structure of existing hotel establishments in Krakow at the end of 2022, the lowest share among Poland's major cities.

IN WHAT IS AN EXTREMELY DIFFICULT PERIOD FOR HOTEL MARKET DEVELOPMENT, THE KRAKOW MARKET IS EXPERIENCING THE HIGHEST PACE OF GROWTH AMONG POLISH CITIES. 10 hotels have opened in Krakow in the last two years, bringing 1,600 rooms to the market. In 2022, 5 new hotel facilities opened in Krakow; three of them were 5-star

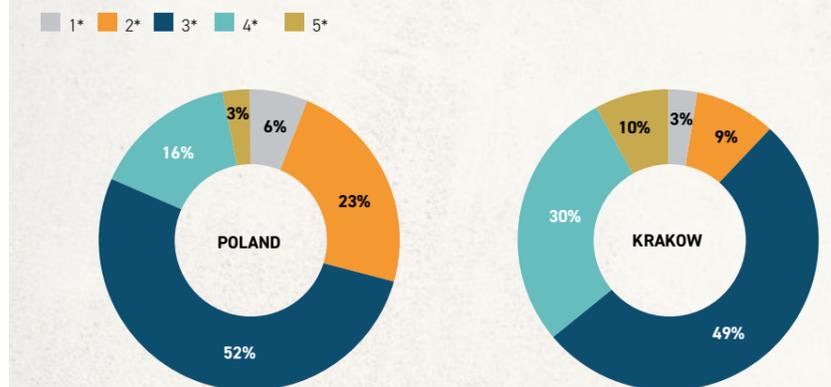
investments, with one of them 4-star and the other 3-star. In terms of number of buildings, the hotel stock in Krakow is dominated by 3-star facilities; their share decreased slightly however to 49% with the completion of the higher standard hotels. In 2022, following 3 years of renovation works, Curio Collection by Hilton hotel opened its doors to tourists in the city. It is the first hotel of this brand in Poland. The hotel was built on the site of the former Hotel Saski and comprises 117 rooms and a 5-star categorisation. The largest facilities opened to guests in 2022 were the 5-star Hyatt Place Krakow with 216 rooms and the 3-star Hampton by Hilton (Krakow Airport) with 173 rooms.

In addition to its portfolio of large, categorised hotels, Krakow is distinguished by its range of small boutique hotels. In 2022, the Warszauer boutique hotel was completed in Krakow's



investments, with one of them 4-star and the other 3-star. In terms of number of buildings, the hotel stock in Krakow is dominated by 3-star facilities; their share decreased slightly however to 49% with the completion of the higher standard hotels. In 2022, following 3 years of renovation works, Curio Collection by Hilton hotel opened its doors to tourists in the city. It is the first hotel of this brand in Poland. The hotel was built on the site of the former Hotel Saski and comprises 117 rooms and a 5-star categorisation. The largest facilities opened to guests in 2022 were the 5-star Hyatt Place Krakow with 216 rooms and the 3-star Hampton by Hilton (Krakow Airport) with 173 rooms.

Structure of the hotel market in Poland and in Krakow (2022)



Source: Knight Frank

Kazimierz district. The hotel has only 10 rooms, 4 of which are two-room apartments. This hotel was the winner in the „Body: Hotel” category of the Property Design Awards 2022. This is not the only hotel in Krakow to receive awards for its design and architecture - the Hotel Saski Krakow Curio Collection by Hilton was a winner in the „Design: Interiors: Hotel” category.

IT IS WORTH EMPHASISING THAT INVESTOR INTEREST IN DEVELOPMENT OF THE HOTEL BASE IN KRAKOW SHOWS NO SIGNS OF WEAKENING.

At the end of 2022, four hotels were identified as being under construction in Krakow, adding a further 527 rooms to the city's hotel base when completed. Two of these developments are chain hotels, the largest of which is the 4-star Radisson RED Krakow, which will be a part of the Unity Center complex (230 rooms). Another chain property under construction is the Stradom House Autograph Collection of the Marriott Hotel International chain (125 rooms). Both developments are scheduled to open in Q2 2023. In addition, a number of hotels are in the pipeline, although the timeframe for completion of most of them is dependent on changing market conditions.

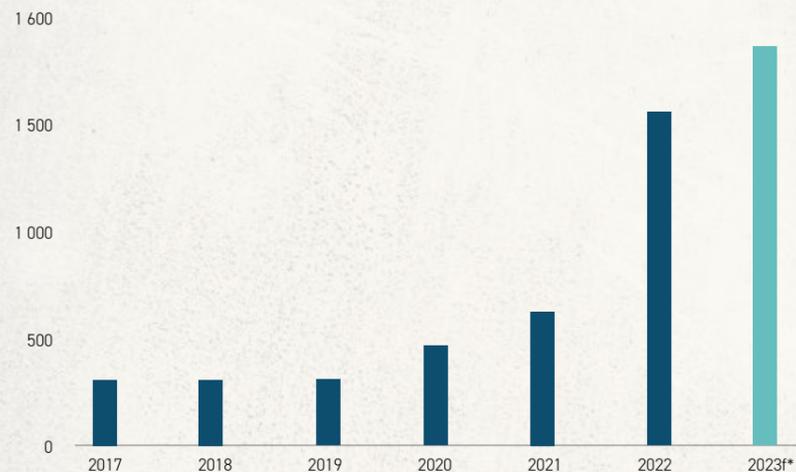
Trends in the tourism, conference and events industry clearly show that travellers are increasingly concerned about green issues and sustainability, and destinations that address these concerns are gaining in popularity. Thanks to the efforts of the Krakow Convention Bureau, Krakow has joined the GDS Index initiative, which aims to build, in a consistent manner, the reputation of a conscious, responsible city striving to implement sustainable development standards across various areas of life, most notably in the field of tourism.

PRS market in Krakow



The institutional Private Rented Sector (PRS) in Poland has seen remarkable growth in recent times, as evidenced by high share of new stock in total supply. As a result, institutional operators had more than 10,300 rental units at the end of 2022, and 40% units were completed in the past year. Nevertheless, it should be noted that PRS facilities accounted for only 1% of the total rental housing stock in Poland's main cities, with the privately owned rental housing stock being estimated at over 1.2 million units.

Total stock of PRS apartments in Krakow (2017-2023f)



Source: Knight Frank, ** - forecast

The PRS market in Krakow follows the national trend. Despite its low share in the national stock of PRS apartments (12%), **KRAKOW IS THE MOST DYNAMICALLY DEVELOPING PRS MARKET IN POLAND.** By the end of 2022, there were more than 1,200 flats on the PRS market in Krakow, developed through 12 projects. It is estimated that this number will increase by 300 new units in 2023.

THE YEAR 2022 ABOUNDED IN THE HIGHEST NUMBER OF COMPLETED APARTMENTS SINCE THE PRS SEGMENTS IS PRESENT IN THE CITY. More than 700 new units in 4 buildings were completed in 2022, doubling the total supply of PRS apartments for rent in Krakow. The largest PRS investment in Krakow is the building of Echo Investment located at 3 Maja Street, operated by Resi4Rent. At the end of 2022, there were almost 600 flats under construction, with completion is scheduled for 2023-2024.

The PRS units in the emerging markets, in most cases, are in prime locations in the city, where

PRS market in Poland (Q4 2022)

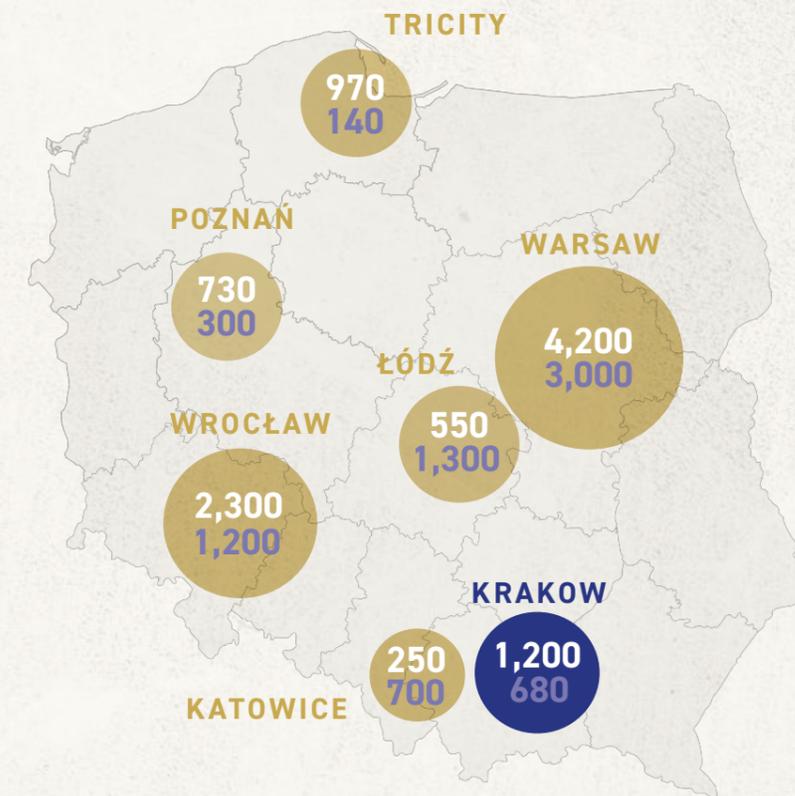
□ completed ■ under construction

KRAKOW

1 ROOM	76-135
	PLN/month/sq m
2 ROOMS	58-71
	PLN/month/sq m
3 ROOMS	57-59
	PLN/month/sq m

REGIONAL CITIES

1 ROOM	77-128
	PLN/month/sq m
2 ROOMS	65-76
	PLN/month/sq m
3 ROOMS	68-70
	PLN/month/sq m



Source: Knight Frank

buying flat is very expensive. Hence, renting a flat in a good location gives advantage over buying. **IN KRAKOW, ALMOST 50% OF PRS SUPPLY IS LOCATED IN CENTRAL LOCATIONS.** Moreover, another 40% are located in the Podgórze district, in close proximity to the centre.

Several investors are active in the PRS market in Krakow. The largest Krakow property portfolio is held by Echo Investment, which has over 530 apartments. Slightly fewer units are owned by the Fundusz Mieszkań na Wynajem, which currently has 250 flats in its portfolio. In addition, entities such as AFI Europe, Van der Vorm Vastgoed and Atrium European Real Estate are present in the capital of Małopolska. Foreign investors are also starting to appear in the Krakow market. For example, the Swedish Heimstaden Group had almost 600 apartments under construction at the end of 2022.

STRONG DEMAND FOR PRS APARTMENTS IS CONFIRMED BY EXTREMELY LOW VACANCY RATES IN THE SECTOR, estimated at less than 3% despite 2022's substantial new supply. The

sector is also characterised by its fast pace of commercialisation - in many cases the majority of apartments are already rented before the project is ready to open its doors.

STRONG DEMAND FOR APARTMENT RENTALS HAS RESULTED IN AN UNPRECEDENTED INCREASE IN PRS SECTOR RENTS IN RECENT MONTHS. As a result of the significant decline in the availability of apartments for rent in Poland, coupled with the higher costs of financing new developments and growing construction costs, rents in the PRS sector increased by some 30-40% in Warsaw and some 10-30% in regional cities compared to rents in H1 2022. Average prices in the Krakow PRS market are slightly lower than in Warsaw, Wrocław and Tricity, but this is due to the small scale of the market and limited number of units available for rent. The price depends on the size of the apartment and the standard of furnishing. The majority of flats offered in Poland are furnished but without furniture. In a significant number of facilities, parking spaces or storerooms are available for an additional fee.

THE EVOLVING REAL ESTATE MARKET AND CURRENT SOCIO-ECONOMIC CLIMATE ARE PRESENTING NEW OPPORTUNITIES FOR FURTHER EXPANSION OF THE LIVING SECTOR IN POLAND. Most importantly, high prices in the residential sector and persistent high interest rates are limiting purchasing power in the housing market, resulting in the demand for housing being met primarily through rental apartments. In 2022, the number of mortgages decreased by 50% comparing to the year 2021. Moreover, there is a generational shift taking place in Poland and changes in attitude towards the long-term liabilities could be seen. This may well bring opportunities related to a changing balance between apartment rental and ownership. The demand for rental properties is also driven by the availability of suitable locations for young working people, for which buying apartment in these places would be unaffordable.



Investment market in Poland



IN 2022, AS IN 2021, INVESTORS WERE MAINLY FOCUSED ON THE OFFICE AND WAREHOUSE SECTORS, WITH THESE TWO ASSET TYPES ATTRACTING OVER 70% OF THE INVESTMENT VOLUME IN POLAND. The office sector took first place in terms of investment volume in 2022, with the amount of invested capital, over EUR 2.12 bn, over 25% higher than 2021's figure. This confirms that investors are positively assessing the prospects for the office sector, despite expected changes in work models due to the pandemic. The capital allocated to the office sector was evenly distributed between Warsaw and regional markets. The largest investment transaction in the office sector in

regional markets was the acquisition by Lone Star Funds of three office buildings in Krakow and Wroclaw from the developer Cavatina.

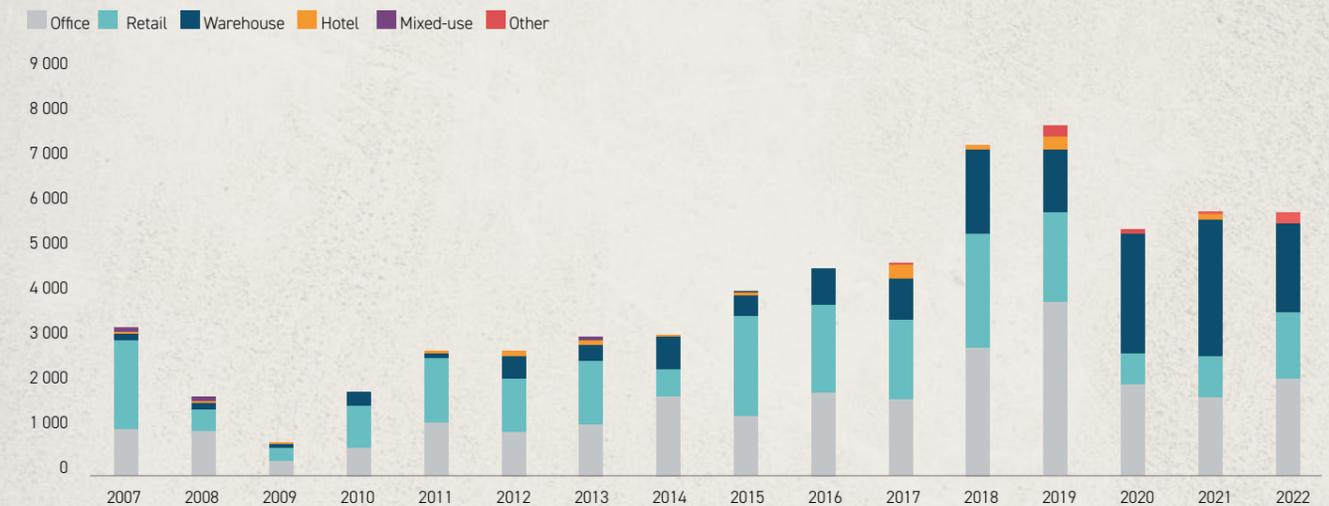
Subsequent quarters of 2022 brought changing investor expectations and shifting perspectives for the market. As a result, prime yields in the office sector showed significant changes over the 12 months, starting below 4.50% for prime office assets negotiated in the first half of 2022, before experiencing a sharp rise in the second half of the year. Due to tightening monetary policy decisions by central banks, investors are adjusting their expectations, with ongoing negotiations already taking place at higher yields. Prime office assets in Warsaw are currently valued at rates of 5.25-5.50%, while yields for the best assets in regional cities are

approximately 6.25-6.50%. This change in sentiment will likely be reflected in transactions signed in the coming months.

From the beginning of the pandemic, the warehouse sector outperformed its competitors in the investment market. **2022, HOWEVER, SAW THE WAREHOUSE SECTOR IN SECOND POSITION IN THE STRUCTURE OF INVESTMENT TRANSACTIONS, WITH 34% OF INVESTED CAPITAL AND A VALUE OF OVER EUR 1.94BN.** The warehouse investment volume in 2022 was significantly shaped by single-asset transactions. Portfolio transactions, which dominated the investment volume in previous years, accounted for some 35% of the invested capital. The largest portfolio transaction last year

The Polish investment market closed the year with a total investment volume estimated at EUR 5.78bn. Despite negative sentiment in the investment market in the final quarters, the result was comparable to the volume recorded in 2021. The first half of 2022 brought uncertainty to the market due to the outbreak of war in Ukraine, while in the second half of 2022, investors became increasingly cautious due to changes in the global economic situation and the spectre of interest rate increases pursued by central banks. The trend seems likely to continue in the first half of 2023, at least until interest rates in the Eurozone stabilize.

Annual investment volume in Poland 2007-2022 (EUR million)



Source: Knight Frank

was the acquisition of the Hillwood warehouse portfolio by CBRE IM for a value exceeding EUR 0.5bn. In 2022, other significant transactions were the purchase of the 7R portfolio by CTP, the acquisition of Panattoni's warehouse portfolios by ARES and Accolade, and the sale of the Cromwell portfolio to Partners Group & Peakside.

Due to the changing cost of financing, forward funding deals are becoming increasingly popular in the warehouse sector. One such example is the sale of the MDC2 Park Krakow South project in Skawina, which was purchased by Generali Real Estate. The 90,000 sq m project will be developed in cooperation with the vendor - MDC2.

As in the office sector, yields for warehouse assets increased, and were estimated at the end of 2022 to be around 5.50%-6.00% for prime multi-tenant warehouses located in the main concentration areas in Poland. It should be noted that due to higher financing costs and changing investor expectations, ongoing negotiations are taking place at higher yields.

After two years of constrained demand for retail assets from capital investors, the retail sector has been gradually regaining its share in the investment market. **IN THE PAST 12 MONTHS, RETAIL ASSETS HAVE ATTRACTED CAPITAL OF APPROXIMATELY EUR 1.45BN.** Compared to 2021, the retail investment volume increased by over 60%, although the result remained below pre-pandemic levels, when it averaged around EUR 2bn annually. A significant impact on last year's result was made by two portfolio transactions by EPP (totalling EUR 653m), and the acquisition of two shopping centres by NEPI (Forum Gdańsk purchased for EUR 250m and Atrium Copernicus for EUR 127m). The remaining volume was invested predominantly in small retail parks with areas of up to 5,000 sq m, and in stand-alone grocery shops.

In recent years, there had been no prime asset transactions on the Polish investment market in regional cities, until the acquisition of Forum Gdańsk at a yield of around 6.00% in Q4 2022. The retail assets sold in recent months have mainly been in smaller projects

(small-scale retail parks and convenience shopping centres), priced at 7.50%-8.50%. For such assets, yields have remained stable.

THE ECONOMIC SITUATION IN POLAND AND TRENDS IN GLOBAL MONETARY POLICY WILL CONTINUE TO HAVE A KEY IMPACT ON INVESTOR SENTIMENT IN THE POLISH REAL ESTATE MARKET. Current challenges for the commercial real estate sector include the energy crisis, rising interest rates, and the growing costs of financing new developments. These factors are influencing developer activity in each real estate sector and, in the longer term, will impact on the availability of new investment products.



Selected investment transactions in Krakow (2022)

Sector	Property name	GLA (sq m)	Price (EUR million)	Buyer	Seller
Office	Browar Lubicz (office part)	7,500	19.40	PAREF Gestion	Balmoral Properties
Office	High Five 3	11,250	40.70	Stena Real Estate	Corum
Office	Zabłocie Business Park B	14,500	36.25	Uniqa Real Estate	IMS Budownictwo
Industrial	Centrum Badawczo-Rozwojowe Grupy BWI	10,985	27.30	REICO	7R & InSite Real Estate
Industrial	MDC2 Park Krakow South	-	-	Generali	MDC2
Residential	Trio	9,214	28.19	Van der Vorm Poland	CRIM (Catella)
Residential	LiveUp Krakow	3,000	7.50	Aurec RE Europe	Galinvest Sp. z o.o.

Source: Knight Frank

Krakow

A CITY OF MODERN BUSINESS

In the latest **FDI EUROPEAN CITIES AND REGIONS OF THE FUTURE 2023** compiled by the prestigious fDi Magazine, Krakow has once again been recognised for its merits, climbing to **third place in the "Large Cities" category**.

Such a high position in the global ranking is due to securing first place in the „**Business Friendliness**” subcategory, along with second place in the „**Human Capital and Lifestyle**” category.

3rd place in the ranking **Top 10 Large European Cities of the Future 2023**
category: **OVERALL**

1st place in the ranking **Top 10 Large European Cities of the Future 2023**
category: **BUSINESS FRIENDLINESS**

2nd place in the ranking **Top 10 Large European Cities of the Future 2023**
category: **HUMAN CAPITAL AND LIFESTYLE**

6th place in the ranking **Top 10 Large European Cities of the Future 2023**
category: **ECONOMIC POTENTIAL**

Krakow has proven to be a resilient investment destination, even in times of crisis. Every crisis is both a threat and an opportunity, something Krakow has already experienced many times in its history. The last quarter century has shown that the city is very good at seizing opportunities and successfully overcoming crisis situations. The most important factors in these small and large victories are flexibility and diversification. The success of this strategy can be seen in international rankings and economic data.

The fDi Markets data shows that the number of projects invested in Krakow has increased by 40% in 2022 compared to pre-pandemic levels. Moreover, in 2022 the city continued to attract leading global companies, despite the effects of the conflict in neighbouring Ukraine. For example, Google has expanded its local presence by creating a team of engineers specialising in the most advanced cloud technologies in Krakow, and Ryanair announced an expansion of its operations in Krakow to the tune of USD 800m.

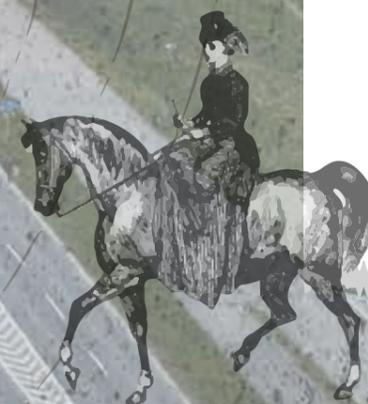
During the last two years, that is, during years affected by the pandemic and war in Ukraine, companies such as: TFX, Backbase, BCD Travel, Bitpanda, Bystronic, Cytiva, Devire, EQ Tek, GFT, Harvey Nash Technology, Mohawk Group, OANDA, PepsiCo, Splunk, Tivron and Verisk, Dyson, GlobalLogic, Infosys, Kyndryl Polska Business Services, N3, First Advantage and Teleperformance Polska have all arrived in the city.

Krakow belongs to the group of global metropolises experiencing the fastest and most mature growth in the technology industry, as indicated in the „**KRAKOW IT MARKET REPORT**” by MOTIFE. The Report showed that the IT market in Krakow records an annual growth of over 10% and companies in this sector employ almost 60,000 specialists in total.

Financial institutions and high-tech companies are also investing in the city, and startups are thriving. In the **GLOBAL STARTUP ECOSYSTEM REPORT 2021** (analysing 275 global startup ecosystems) prepared by Startup Genome, Krakow was listed as one of the top 100 emerging ecosystems (Top Emerging Ecosystems), ranking 71-80, similar to Rome, and ahead of other European hubs, such as Luxembourg, Malta (81-90), Prague, Reykjavik (91-100).

Krakow, in assuming the role of an advanced technology hub, is positioning itself at the centre of the world of innovation and new technological solutions. The city is home to numerous centres, companies, technological hubs, universities, and entrepreneurship clusters, which all generate development. Of key importance is the cooperation between the scientific community and entrepreneurs, whose main goal is innovation transfer. An important element of the Krakow centre’s strategy is the cooperation of science institutions with small and medium-sized enterprises. This collaboration is supported by clusters operating in Krakow, as well as the Krakow Technology Park.

The city is made up of people, so all development scenarios for Krakow affect and draw upon its most valuable asset: **THE ACTIVITY, KNOWLEDGE AND CREATIVITY OF ITS RESIDENTS.**



CONTACT IN POLAND:
+48 22 596 50 50
www.KnightFrank.com.pl

COMMERCIAL AGENCY - KRAKÓW
Monika Sułdecka-Karaś
monika.suldecka-karas@pl.knightfrank.com

STRATEGIC CONSULTING EMEA
Marta Sobieszczak
marta.sobieszczak@pl.knightfrank.com

CAPITAL MARKETS
Krzysztof Cipiur
krzysztof.cipiur@pl.knightfrank.com

INDUSTRIAL AGENCY
Michał Koźdrój
michal.kozdroj@pl.knightfrank.com

RESEARCH
Elżbieta Czerpak
elzbieta.czerpak@pl.knightfrank.com

VALUATION & ADVISORY
Małgorzata Krzystek
malgorzata.krzystek@pl.knightfrank.com



**THE REPORT WAS PREPARED IN COOPERATION
WITH DEPARTMENT FOR ENTREPRENEURSHIP AND INNOVATION KRAKOW CITY OFFICE**

As one of the largest and most experienced research teams operating across Polish commercial real estate markets, Knight Frank Poland provides strategic advice, forecasting and consultancy services to a wide range of commercial clients including developers, investment funds, financial and corporate institutions as well as private individuals. We offer:

- ◆ strategic consulting, independent forecasts and analysis adapted to clients' specific requirements,
- ◆ market reports and analysis available to the public,
- ◆ tailored presentations and market reports for clients.

Reports are produced on a quarterly basis and cover all sectors of commercial market (office, retail, industrial, hotel) in major Polish cities and regions (Warsaw, Kraków, Łódź, Poznań, Silesia, Tricity, Wrocław). Long-term presence in local markets has allowed our research team to build in-depth expertise of socio-economic factors affecting commercial and residential real estate in Poland.

OUR PUBLICATIONS:

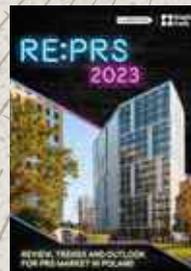
Warsaw. City attractiveness
and office market. 2022



Commercial Real Estate Market
in Poland. Outlook. 2022



RE:PRS 2023. Review, trends
and outlook for PRS market
in Poland



Effective marketing
for buildings. 2023



Knight Frank Research Reports
are available at
www.knightfrank.com.pl/en/research/

© Knight Frank Sp. z o.o. 2023

This report is published for general information only and not to be relied upon in any way. Although high standards have been used in the preparation of the information, analysis, views and projections presented in this report, no responsibility or liability whatsoever can be accepted by Knight Frank for any loss or damage resultant from any use of, reliance on or reference to the contents of this document. As a general report, this material does not necessarily represent the view of Knight Frank in relation to particular properties or projects. Reproduction of this report in whole or in part is not allowed without prior written approval of Knight Frank to the form and content within which it appears.



The brochure was printed on Cocoon Eco paper, which is made of 100% recycled paper in environmentally friendly technology.

Graphic design:

Anna Młyniec / Art Director PR & Marketing / Knight Frank