Private Real Estate

Mastering the last mile

Partners Group's roadmap to source and develop the best opportunities in European last mile logistics real estate

Executive summary

- **Last mile logistics is now a crucial supply chain element for a growing range of businesses. Long-term trends supporting the sector include continuing urbanization and the expansion of ecommerce, which is driven by factors such as digital native generations entering the consumer market.**

- **But investors interested in the space have to navigate increasing complexity due to constantly evolving occupiers' needs, growing technical specifications and stricter ESG requirements. To address that, Partners Group has created a comprehensive framework to source and develop opportunities in last mile real estate in Europe.**

- **Our proprietary model ranks 28 European locations according to their relative attractiveness. It uses around 20 metrics and our in-house expertise, combined with a bottom-up analysis of assets, to objectively assess individual investment opportunities.**

- **We take the occupiers' perspective to build this framework. This includes interviewing tenants of different profiles as well as drawing on the knowledge of our own portfolio assets to understand location preferences, building specificities and ESG factors. Our research also maps the triggers of potential risks and new trends shaping the sector.**

- **As the sector continues to grow and becomes more competitive, successful managers will be those that can deal with complexities and turn them into advantages. We believe Partners Group's focus on understanding and anticipating occupier needs and local market dynamics gives us a competitive edge in this rapidly evolving market.**

Partners Group's Spanish Logistics Portfolio

What is last mile real estate?

Partners Group defines last mile real estate as properties located exclusively in urban locations, typically within a 30-minute drive of densely populated areas and with technical specifications that enable final processing before reaching the end-user. For us, more than just a technicality, a clear definition of the sector is key to ensuring we create the right solutions for the occupiers and investors in our portfolio.

Partners Group's last mile focus

- ~30-min drive to city centre
- Capitals and larger cities
- High barriers to entry and supply
- <5% vacancy rate
- Strategic supply chain corridors

1. Introduction

The continuous rise of online shopping and consumers seeking more convenience have turned last mile logistics operations into a vital area for a growing range of businesses. Opportunities to own and develop facilities that house such operations have proliferated as a result, attracting more investor attention.

As an experienced investor in the industrial real estate sector – having operated in the space since 2014 and with more than USD 3.5 billion in gross asset value (GAV) globally – Partners Group believes it is key to look at real estate as a business to create long-term value. This is especially the case in a sector such as last mile logistics, which requires an approach that factors in the dynamics of local markets and the rapidly changing needs of occupiers.

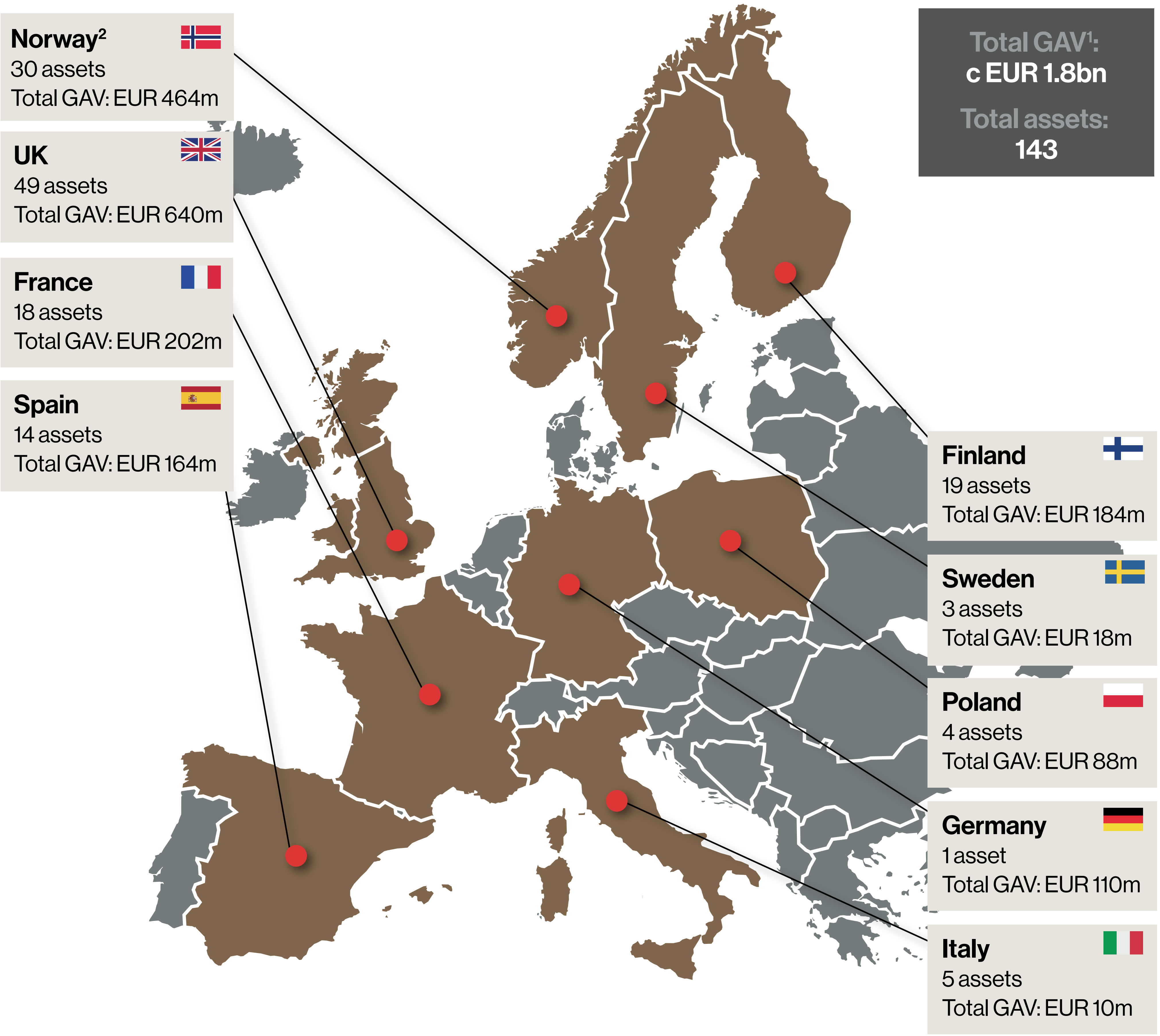
Partners Group considers last mile real estate a high conviction investment area supported by transformative trends unfolding for years to come, including the increasing share of digital natives in the population and continuing urbanization. However, these trends will undoubtedly play out in different ways across the sector.

The expanding range of business types adopting last mile logistics solutions and the growing emphasis on environmental, social and governance (ESG) factors mean that technical requirements will keep evolving. And this is why we believe that having a comprehensive investment framework is crucial.

In this research paper, we explain how our real estate team approaches the sector, presenting the

Partners Group's last mile and industrial real estate European platform

Number of assets and investment size (as of April 2024)



[1] Gross asset value (GAV) is based on asset-by-asset valuations and does not yet account for a portfolio and platform premium.
[1] Partners Group is 54% majority shareholder in this platform.
Source: Partners Group (2024).

framework we built by analyzing data on several local markets and interviews with occupiers. Focusing on the European market, where we have a last mile and industrial platform of more than 100 properties with approximately EUR 1.88 billion of GAV, our paper describes the evolving sector trends and triggers of potential disruption.

We also describe our strategy of having boots on the ground and embedding ourselves in local networks.

For us, this is crucial to selecting the right locations and the operators to partner with in order to have an edge on the rapidly evolving and increasingly competitive last mile real estate space.

2. Building conviction

Our conviction in last mile real estate as a growing and resilient sector is underpinned by three structural trends that have been unfolding in the last decade:

- Growing pressure on businesses to reduce the time between manufacturing and delivering products to consumers, due to the impacts of digitization and changing consumer behaviors.
- Urbanization and the rise of mega cities increasing the scarcity of land in urban locations and creating higher barriers to entry with higher rents and prices.
- The shift in developed economies in the use of industrial space from manufacturing to distribution functions, a result of the impacts of globalization on supply chains.

In addition to these trends, we believe there is a series of factors supporting the potential of last mile real estate to deliver above-average growth in the medium- to long-term, including:

The rise of the digital native consumer
Demand for faster and reliable delivery will accelerate as digital native generations, such as Gen Z, occupy more decision-making positions.

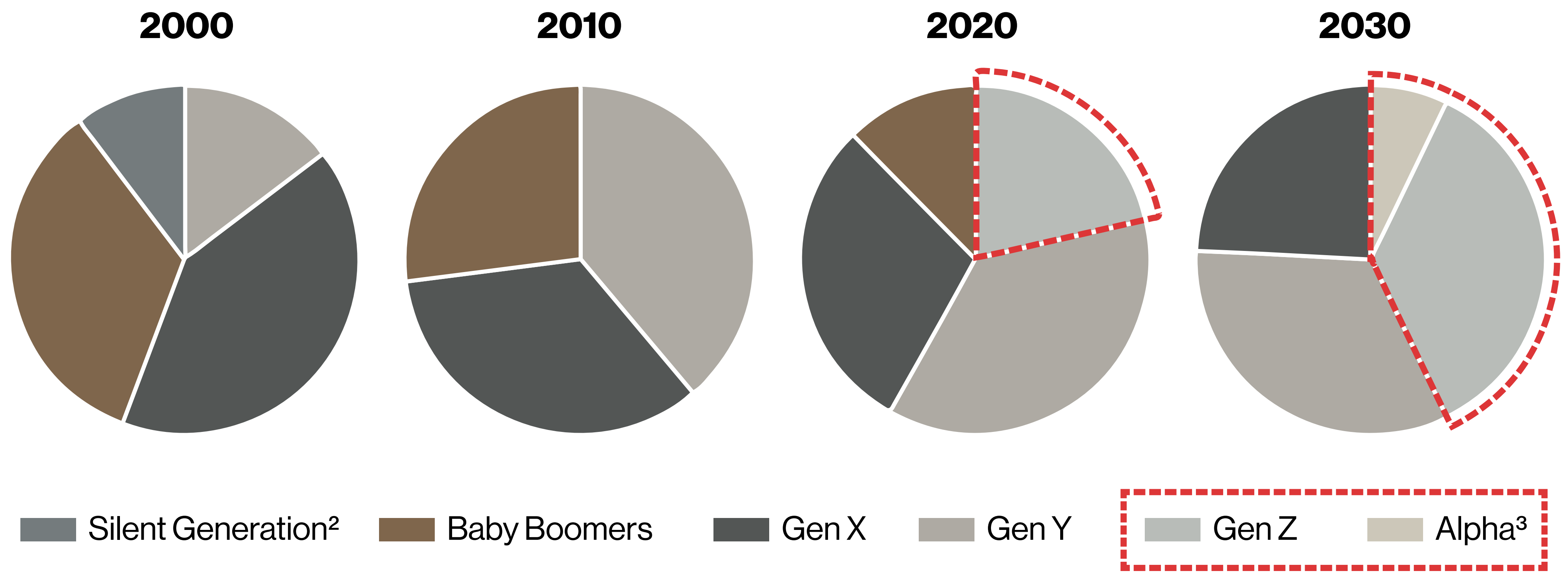
This change in demographics will add more pressure to moving supply chains closer to customers, resulting in increased demand for last mile real estate near city centers and additional logistics points for time-sensitive deliveries.

European ecommerce growth and under-penetration
The share of online shopping in continental Europe lags more mature markets like the UK, the US and some Asian countries such as China and South Korea. According to data and analytics provider Green Street, ecommerce penetration in continental Europe is as low as 10% for markets like Italy and Portugal, compared to 27% in the UK. But online retail is forecast to grow across the continent and reach an average of 20% market share by 2030.

This will likely bolster demand for last mile real estate, as online retailers often require two to three times more industrial space than traditional retailers due to larger inventories and complex fulfilment needs. Reverse logistics will also support demand, as online returns are two to three times higher than at storefront.

Projected share of digital natives in global working age population[1]

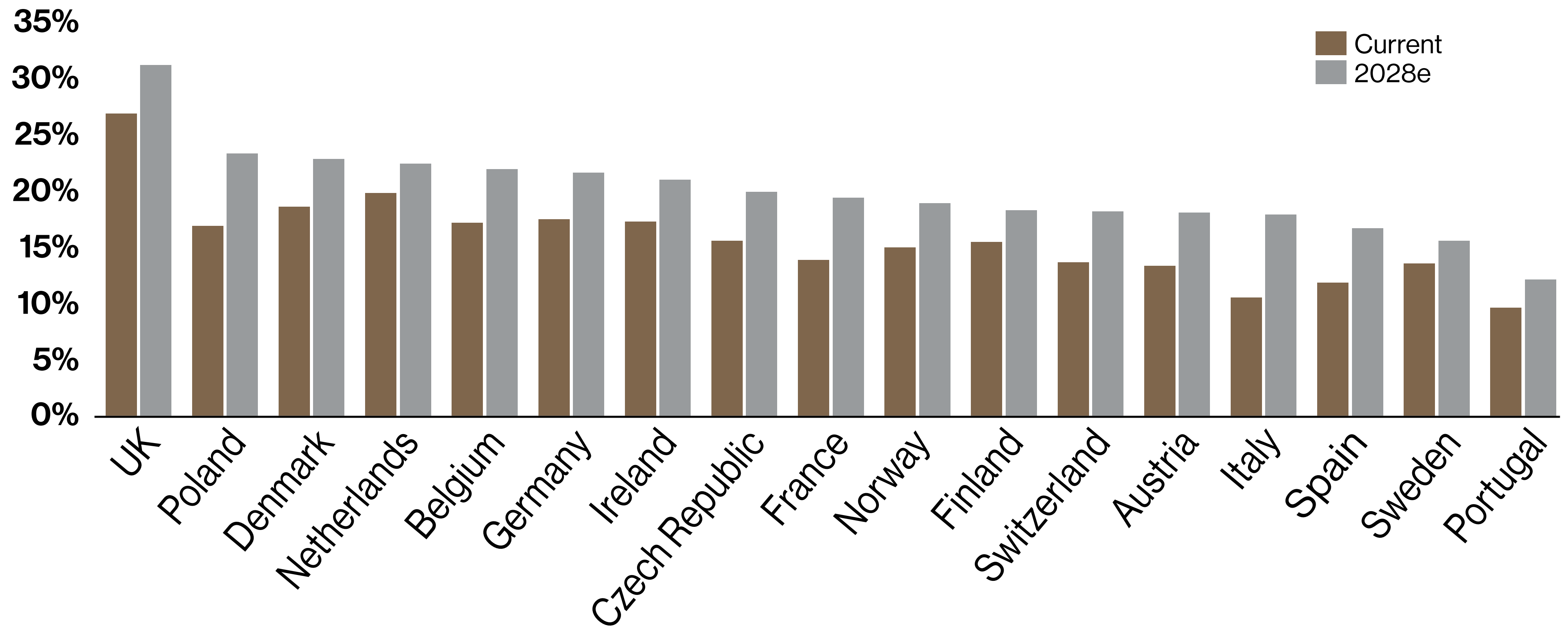
Gen Z and Alpha set to comprise nearly half of the workforce by the next decade



[1] Working age population defined as 15-64 year olds. [2] Silent Generation: born from 1928 to 1945. [3] Generation Alpha: born from 2013 to present.
Sources: United Nations, Cushman & Wakefield, Partners Group (2024).

Ecommerce penetration growth forecast in Europe

Average online retail market share is expected to grow to 20% in continental Europe



Source: Green Street (2024).

High barriers to new supply
Constraints on the supply of last mile real estate are intensifying as urban areas continue to experience limited land availability, strong planning restrictions and competition from higher land uses. With vacancy rates particularly low in urban locations and development activity highly restricted, demand has continuously outpaced supply, a factor that we expect to support sustained rental growth in the sector.

An emerging asset class
Historically dominated by private investors and owner-occupiers, last mile real estate is attracting

Insights from the occupier

CEO and founder of Swedish B2C grocery delivery company

"Location is crucial and finding the right locations close to city centers, and particularly around the Nordic capitals, has impacted our growth to date.

We operate exclusively in cold storage deliveries and, given groceries are regulated, it means the time goods can be on a truck is limited. This drives our location strategy: we have opted for a granular network to be close to our customers and consumers, while creating a scale effect that acts as an entry barrier to competitors. We need 8-10 gates in cooling compatible buildings close to city centers. We are able to compromise on other aspects as new builds are hard to find in the locations we need."

interest from institutional investors and going through a consolidation phase in Europe. This shift creates opportunities for skilled managers to build large scale platforms that can address the structural deficit of last mile space as well as factors such as increasingly complex technical specifications and a growing emphasis on ESG themes such as decarbonization. Partners Group, with a comprehensive coverage of local real estate markets and the expertise it can draw on from its diversified investment platform, is well positioned to benefit from this trend.

3. Framing opportunities

While the last mile sector comprises attractive investment opportunities, not all of them are created equal. Local markets are exposed to different macro and micro dynamics, and facilities cannot offer one-size-fits-all solutions, especially with stricter ESG requirements and technical specifications becoming more complex.

In the next sections, we present the framework created by Partners Group's private real estate team to analyze the different markets across Europe and deepen our understanding of occupier preferences.

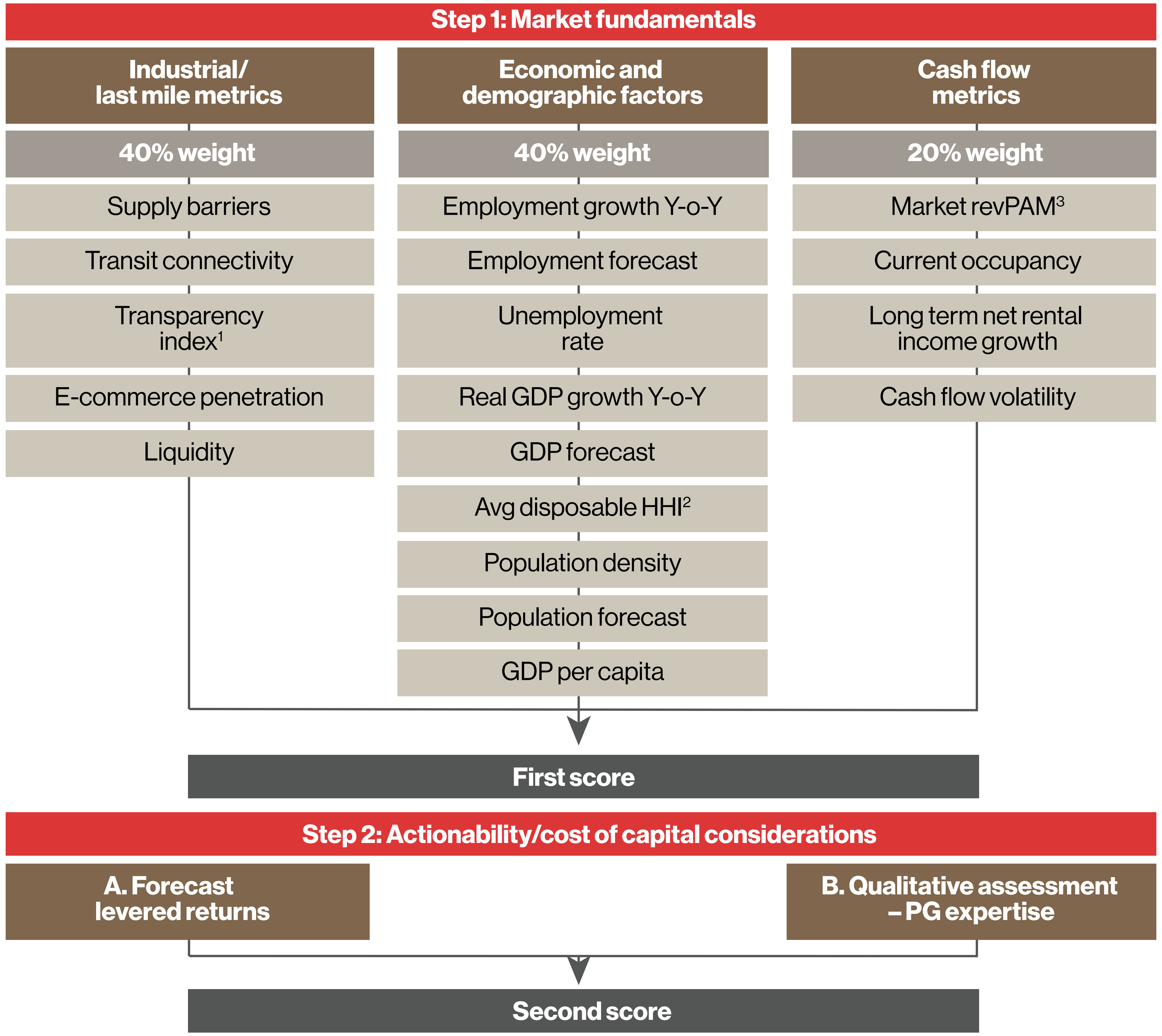
a. Finding the European hot spots

Europe comprises many last mile real estate markets with different characteristics and risk profiles. Our framework combines the findings from data analysis and Partners Group's in-house and local network's expertise to understand their specificities.

This proprietary model analyzes approximately 20 indicators, which are categorized into

Partners Group's proprietary classification methodology

How we assess last mile opportunities and rank Europe's 28 main real estate markets



Step 3: Overall conviction final score

Location	Step 1	Step 2 - A	Step 2 - B	Final Score
Copenhagen	3.6	14.0%	4	5
Paris	3.3	10.9%	5	5
Stockholm	3.6	12.9%	3	4
Amsterdam	3.5	11.6%	3	4
Barcelona	3.0	11.2%	5	4
Oslo	2.9	10.4%	4	4
Berlin	2.9	10.3%	4	4
Warsaw	2.3	11.4%	5	4
London	4.2	10.3%	2	3
Dublin	3.4	11.9%	2	3
Munich	3.2	11.2%	2	3
Brussels	3.1	9.8%	3	3
Madrid	2.5	9.9%	4	3
Milan	2.4	12.0%	4	3
Lyon	2.4	12.9%	4	3
Gothenburg	2.4	8.0%	3	3
Helsinki	2.3	10.4%	4	3
Manchester	2.3	8.9%	3	3
Birmingham	2.3	11.0%	3	3
Hamburg	2.1	12.9%	4	3
Frankfurt	1.8	11.0%	4	3
Prague	2.5	10.2%	2	2
Vienna	2.5	10.1%	3	2
Rome	2.4	11.9%	2	2
Dusseldorf	1.7	10.5%	3	2
Cologne	1.7	10.0%	3	2
Edinburgh	2.0	11.6%	1	1
Lisbon	1.3	10.7%	2	1

Conviction
High Low

[1]Global Real Estate Transparency Index by JLL and LaSalle. [2]Disposable household and per capita income. [3]Revenue per available meter
Sources: Green Street, Partners Group (2024).

industry metrics, economic and demographic factors, and cash flow metrics. The findings are compared against cost of capital considerations and qualitative assessments done by our team. The result is a ranking of 28 locations in Europe according to their relative attractiveness.

Based on their scores, we divide the locations according to three investment strategies:

- **High conviction:** Primary target markets where we concentrate sourcing efforts. Investment appetite is high, including for higher risk strategies.
- **Medium conviction:** Secondary target markets where we have moderate investment appetite due to less attractive fundamentals or misalignment with our target returns. Clear risk-mitigation strategy is required to create conviction on an asset's potential to outperform.
- **Low conviction:** Low investment appetite and outside our strategic focus. Investments can be considered on an opportunistic basis, such as when market concerns can be mitigated (e.g. excellent micro locations, proven operator or very attractive risk-return profile).

When an individual opportunity is considered, this assessment is then complemented by a bottom-up investment analysis. Partners Group also uses local real estate operators to achieve better access to granular, off-market investment opportunities and to handle operational complexities on an ongoing basis. After conducting a detailed assessment of more than 30 of the best operators in Europe, we have selected a few of them to partner with to provide us with boots on the ground and be deeply embedded in the local networks.

We also leverage our platform of properties to generate proprietary, and often off-market, investment opportunities, such as with analyses of neighboring sites and rent roll mining.

b. Understanding occupier needs

To understand the evolving preferences of tenants and industry requirements, we believe it is fundamental to view the last mile sector through the lens of an occupier, and not just as a landlord.

Insights from the occupier

Co-Founder of one of the UK's largest wine distributors, with 20-plus years of experience

"Our industry has changed massively since Amazon came into play with next day delivery – this is now the standard that we need to work with in order to be relevant for customers.

Yard space, loading and docking capacity is of highest priority for us.

Some fleets are starting to become electric vehicles (EV) , but our problem is the weight capacity. Electric vans are taking 200-800kg per load, whereas diesel vans take 1,200kg."

Assessing occupier needs

Partners Group's framework to evaluate tenants' priorities and evolving requirements

	Criterion	Occupier expectations	Tenants willing to compromise?	Criteria expected to evolve?
Location	Distance to nearest city center	Avg. 20-30 min drive from the closest urban center	No	Criteria unlikely to evolve further in the future. Driving time and catchment to remain crucial.
Location	Highway proximity	Ideally close to highway junction	Yes	
Location	Avg. population catchment	Close to large catchment area	No	
Building specifications[1]	Warehouse layout	Rectangular, T- or L-shaped	Yes	Factors unlikely to be industry disruptors. But given variations in demand, specifications might evolve over time.
Building specifications[1]	Gross leasable area (GLA)	About 5,000-10,000 sqm	Yes	
Building specifications[1]	Coverage ratio	Standard range: 25-45% of a total land plot	Yes	
Building specifications[1]	Clear ceiling height	6-12 meters (no need for much racking as stock not held on site for long)	Yes	
Building specifications[1]	Floor load capacity	2-8 t/sqm	No	
Building specifications[1]	Number of loading bays	1 for every 200-1,000 sqm	No	
Building specifications[1]	Manoeuvring depth	≥30 meters in front of truck bays and ≥15 meters in front of van bays	Yes	
Building specifications[1]	Fire safety	Fire detection, manual extinguishers and hose reels; sprinklers, smoke vents, escape route signaling, emergency lighting	No	
Building specifications[1]	Office	Typically 10-20% of GLA	Yes	
ESG	EV charging points	1-10 EV-to-parking ratio per employee + van EV charging infrastructure	Yes	Demand for assets with ESG credentials driven by European 2050 net-zero emission goal and tenant requirements.
ESG	Energy efficiency	LED lighting, air source heat pumps, improved insulation, greeneries to dampen heat	Yes	
ESG	Renewable energy	On-site generation covering c.10% of total electric consumption	Yes	
ESG	Sustainability in operations	Rainwater harvesting for landscaping, natural light, access to public transport, employee amenities	Yes	

[1]Other considerations such as number of van/car parking per square meter, cross-docks and rolling docks can be relevant based on building type and/or location. Source: Partners Group (2024).

To do so, we leverage the knowledge of our own last mile portfolio and combine that with interviews with tenants that have different profiles. We also draw on the knowledge of our private equity portfolio companies around adjacent themes, such as ecommerce, supply chain management and manufacturing automation, to understand changing consumer preferences and occupier needs.

The first part of this assessment is to identify the variety of occupier types and their different necessities. For example, "pure play" online retailers typically require large spaces to install dedicated fulfilment centers, while businesses with a smaller online presence tend to outsource fulfillment to third-party logistics providers. More traditional businesses – not purely dedicated to ecommerce – typically use last mile real estate for warehousing, distribution, light industrial activities, or showroom purposes.

Despite the different profiles, however, our research shows that tenants have relatively similar priorities. As described in the table on the previous page, some of the most common priorities (which tenants across the board are less likely to compromise on) include operational efficiency and location, for example, being close to urban centers and large population areas.

Our occupier analysis also highlights that most building specifications are expected to keep evolving and are subject to trade-offs between cost and location. ESG appears to be more prominent in large corporations, but our research shows there is growing awareness of it across the tenant universe, driven by regulation such as the European 2050 net-zero emissions goals.

CASE STUDY

Warsaw Green Logistics

Partners Group's last mile real estate portfolio in Warsaw, Poland, is an example of how we use our framework to transform properties. Located in a high-conviction market, the Warsaw Green Logistics platform offered us the opportunity to leverage our advanced understanding of design and operational solutions and to deepen our relationships with existing occupiers.

Our real estate team has drawn upon the expertise of the Partners Group platform to transfer best-in-class practices to the Polish market. This included knowledge transfer from VSB, our portfolio company specialized in renewables, to implement a rooftop solar project at the park. Techem, an energy specialist in our private markets platform, also contributed to the project, providing an all-encompassing assessment of the site's energy requirements and solutions, looking at the potential for solar energy, heat pumps and EV charging, among others.

City Point Targówek, the largest asset in the portfolio, is located in one of the best connected districts of Warsaw. In 2022, Partners Group acquired a brownfield project in a post-industrial site, which is undergoing a full redevelopment. Upon completion, it will offer 100,000 sqm of modern and sustainable space split between six buildings perfectly suited to serve the needs of logistics companies, ecommerce businesses and tenants seeking city logistics or manufacturing and warehouse space.

Together with existing and potential tenants, we defined a detailed scope of technical specifications, with review meetings and visits to other sites from our occupiers to better understand their requirements. Using a leading architecture practice in the local market, we were able to offer a bespoke concept that accommodated the tenants technical and environmental requirements, including top certification ratings such as BREEAM Outstanding, LEED Platinum and WELL.

Developed on a built-to-suit basis, the first building has already been fully leased and delivered to DPD Poland, with 7,000 sqm of space tailored to the needs of the world's leading courier company. It includes a rooftop solar photovoltaic (PV) system to provide at least 25% of the energy consumed on site. A state-of-the-art building management system (BMS) has also been deployed. The building has 20 parking spaces with EV chargers, and bicycle shelters. With the comfort and health of employees in mind, the design features green areas and a recreation area with site amenities for outdoor relaxation.

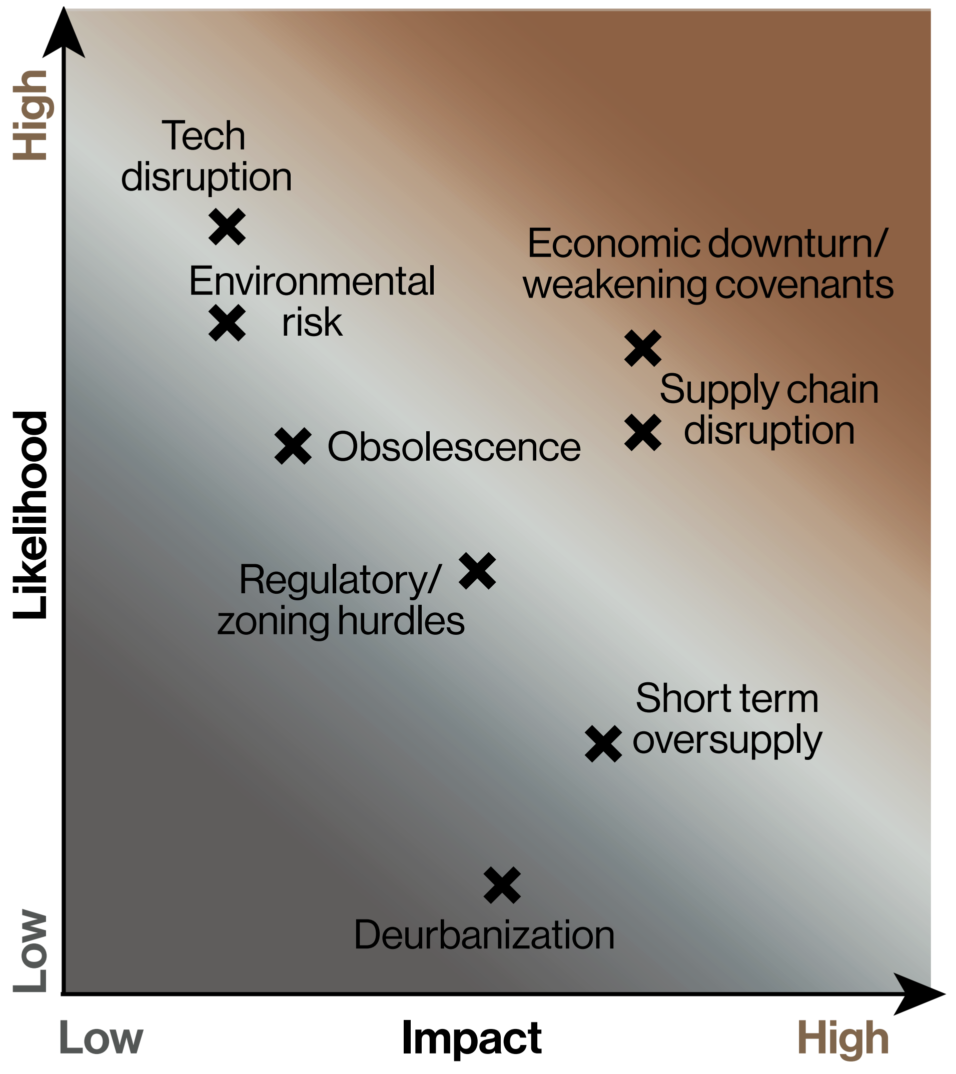
4. Risks and emerging trends

Our research efforts also seek to map out the triggers of potential disruption in the last mile sector. While difficult to quantify, we look to position risks according to the magnitude of their impact on business and the likelihood of occurrence, as illustrated by the chart below.

One of the risks identified in our study is early obsolescence, especially in relation to ESG-related specifications, in the context of evolving requirements

Last mile key risks and considerations

Matrix of identifiable risks



Source: Partners Group (2024).

and changing regulation. Nonetheless, we believe this risk can be efficiently dealt with using our in-house expertise in the theme and active asset management.

Technology disruption is another risk of high likelihood. Mitigating this risk requires detailed assessments of the technological forces driving the underlying industry. In the near- to medium-term, we expect the impact of technological changes to be lower on the last mile sector than on other parts of the supply chain.

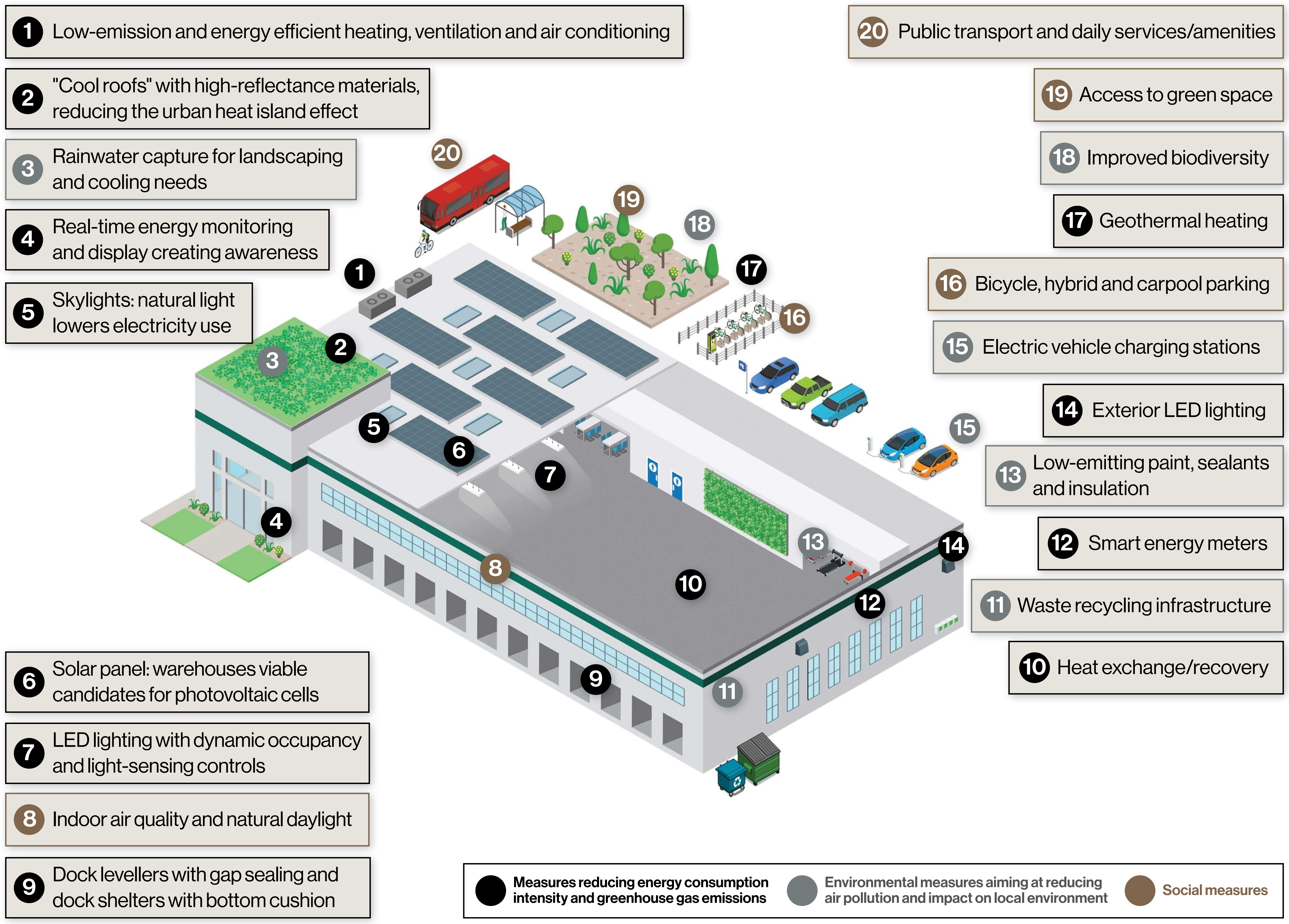
For instance, the last mile will likely be among the last areas within the broader logistics sector to fully adopt self-driving vehicles. This is due to the additional difficulties of using self-driving technologies in cities, such as narrow streets or delivery routes that can change daily.

Overall, we believe that most of the sector-specific risks can be minimized by investing in assets with technical specifications that meet current and future occupier needs and that are in the right locations.

Our research also seeks to anticipate other trends shaping the future of last mile real estate. To do so, besides the data analysis and tenant interviews, we draw upon the expertise of the wider Partners Group platform and the teams across other asset classes. For example, we use our Private Infrastructure team's expertise in areas like transport and logistics. We also count on our Private Equity team dedicated to the Goods & Products space, which actively invests in various themes connected to last mile logistics, such as supply chain management, manufacturing automation and changing consumer preferences. In the last few

How to meet occupiers' ESG needs

20 ways to improve last mile real estate and adapt to tightening ESG requirements



Source: Prologis, Partners Group (2024).

Partners Group's Northern Italian Last Mile Logistics Portfolio

years, for example, they have invested in two logistics businesses, Ecom Express and Apex Logistics, which handle millions of annual deliveries in over 15 countries across the world. Our cross-team collaboration enables us to have access to the senior leadership of such businesses, which gives us a deeper understanding of their operational methodologies and the challenges they face as large-scale logistics operators.

Through this broad research we have identified two key trends that are likely to significantly reshape the last mile real estate market:

- **EV adoption: fast and slow**

The growing use of electric vehicles (EV) is set to create more demand for last mile facilities that allow for a relatively shorter driving range and that have better charging infrastructure. However, while large logistics players are gradually increasing their electric fleets, wider EV adoption could be a slow process as occupiers will need to change part of their supply chain models. EV charging, for example, requires higher power capacity and more space to park during recharging times, as well as adapting shifts.

- **Multistorey warehousing**

We see strong growth potential in Europe for last mile multistorey facilities, which are already common in densely populated, land-constrained urban centers in Asia. Scarce and expensive land is the main driver of this trend, but developers will have to circumvent drawbacks in terms of high costs and planning restrictions. We have already seen examples of last mile multistorey facilities in Europe, such as a 50,000 sqm warehouse in the port of Genevilliers in the Greater Paris area that serves as a distribution center for IKEA, and a 200,000 sqm development from CTP in Amsterdam. Besides these, a strong pipeline is under construction across the continent.

Conclusion

Last mile real estate is already a crucial component of efficient supply chains. Its importance is due to increase as a generation of digital natives expands its presence in the workforce and online shopping grows in under-penetrated markets across continental Europe. These structural trends will continue to create compelling investment opportunities for years to come.

But the sector is also bound to become more complex, with new ESG and occupier-specific requirements and land becoming scarcer. We believe that these factors can be turned into opportunities in the hand of capable investors and operators. To achieve this, we focus on understanding and anticipating occupier needs and priorities. At the same time, we remain alert to the up-and-coming locations that best fit our platform of last mile real estate across Europe.

Insights from the occupier

Head of Property Management at global leading third-party logistics provider (tenant at Warsaw Green Logistics)

"It is our ambition that our entire fleet of both trucks and vans will be fully electric by 2030 across all of our locations in Poland. Currently, this is less than 10%.

We are actively looking at introducing more automated solutions across our sites, especially in relation to automating storage and picking of goods from racks.

Finding the right location for a new asset is of absolute importance and we are willing to pay a high price for that."

About Partners Group

Partners Group is a leading global private markets firm. Since 1996, the firm has invested USD 210 billion in private equity, private real estate, private credit and private infrastructure on behalf of its clients globally. Partners Group seeks to generate superior returns through capitalizing on thematic growth trends and transforming attractive businesses and assets into market leaders. The firm is a committed, responsible investor and aims to create sustainable returns with lasting, positive impact for all its stakeholders. With USD 147 billion in assets under management as of 31 December 2023, Partners Group provides an innovative range of bespoke client solutions to institutional investors, sovereign wealth funds, family offices and private individuals globally. The firm employs more than 1,900 diverse professionals across 20 offices worldwide and has regional headquarters in Baar-Zug, Switzerland; Denver, USA; and Singapore. It has been listed on the SIX Swiss Exchange since 2006 (symbol: PGHN). For more information, please visit www.partnersgroup.com or follow us on LinkedIn or X.

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