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INVESTING IN LOGISTICS & DISTRIBUTION

A special supplement to *PERE* magazine





Going places

Looking back at 2018, the attraction of logistics over other property types – it nudged residential from top spot as investors' most-favored asset – was an important trend. The real estate world, it seems, views it as the best path right now to finding value and delivering growth. Some numbers help tell the story.

Logistics-focused funds raised just over $12 billion last year, according to *PERE* fundraising data, and of the total $28.6 billion raised for sector-specific funds, industrial accounted for 43 percent. Retail-focused funds, by contrast, garnered just $2 billion. Rewind to 2014, and capital allocation to the retail and logistics sectors was on an equal footing: $8 billion and $8.9 billion respectively.

The line connecting the differing fortunes of these two property sectors is the onward march of e-commerce. As consumers switch to online shopping in higher numbers each year, the need for more sheds grows in tandem; at least two contributors to this report highlight that millions of extra square footage of warehouse space is required in the coming years to keep pace. Investors have received the memo, which is why in 2018 we saw one major manager, best-known for retail investing, extend its focus to logistics, and many developers reporting an uptick in demand for industrial real estate from the retail world.

Capitalizing any old shed won't necessarily suffice. Consumer demand for ever-faster delivery times means tenants increasingly seek logistics and supply chains close to urban centers and to labor – location of property matters. And the progression of technology is changing how space is used; obsolescence of existing assets is a risk and potential cost, which explains why some big investors are allocating capital to new developments, identified in this report as a trend likely to gather speed in 2019.

The sector is also not immune to potential headwinds: the Brexit impasse, the slowing growth of the Chinese economy and prospect of a trade war with the US escalating are niggles liable to make investors a little nervy in the months ahead. But it will take a sea-change in consumer behavior to reverse the e-commerce trajectory currently helping to fuel the appetite for logistics. At this point, the signs are that in 2019 the overall direction of travel for industrial is onward and upward.

Enjoy the report,

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Piling into sheds

PERE headlines in 2018 regularly focused on the flow of capital, often from Canadian investors, into logistics properties, with Asia-Pacific and Europe the main beneficiaries

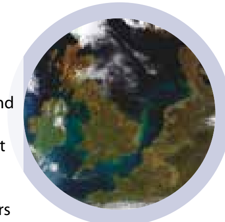
EUROPE

MIPIM 2018: brokers point to logistics boom

Research from two of the world's biggest property services firms shows industrial real estate has overtaken offices as European investors' preferred property type. The studies by brokers CBRE and Savills reflected investors' changing preferences, with logistics emerging as the top draw, riding the tailwinds of the e-commerce boom. CBRE noted that large investors gained access to the property type through platform-level deals, such as China Investment Corporation's €12.2 billion purchase of the Logicor Portfolio from Blackstone and GLP's $2.8 billion purchase of IDI Gazeley.

UK

Maslow moves to fill debt gap for regional UK logistics assets



Maslow Capital aims to fill the debt gap for developments of industrial and logistics assets in the UK's regional markets with the launch of a lending division targeting the sector. The London-based real estate development finance specialist will expand its debt offering – lending against assets greater than 50,000 square feet, including refurbishment and multi-let schemes. Maslow's new division will provide loans for logistics developers with a minimum value of £5 million ($6.5 million; €5.7 million). Pricing will start from 5.65 percent over one-month LIBOR and the maximum loan-to-value ratio will be 65 percent.

UK

Meyer Bergman sees logistics investments as first step to a wider strategy

Meyer Bergman, best-known for investing in the retail property market, is looking to broaden its strategy. *PERE* hired its first executive to focus on logistics assets across Europe as it sought to add last-mile distribution properties to its retail-heavy holdings. The firm hired Marco Riva from European logistics giant Logicor. Markus Meijer, the firm's chief executive, said: "We have to think as a retail investor and as a mixed-use investor and continue to adapt and to learn more about these spaces, so that we can continue to actively target them and make the right decisions."

2018

MARCH MAY JULY

JAPAN

ESR raises record $1.2bn for Japan logistics

ESR raised $1.2 billion in equity for its Japan-focused logistics development vehicle, on the back of a differentiated investment strategy and continuing demand for quality industrial facilities in the country. The record capital raise includes $575 million raised for the Redwood Japan Logistics Fund 2, a commingled discretionary logistics vehicle launched in early 2016, and the remainder for co-investment vehicles tied to the fund. The final closing includes an upsize by the German insurer Allianz, taking the investor's total equity commitment to around $185 million. Other investors include Azerbaijan's state oil fund SOFAZ, which made a $100 million commitment.

GERMANY

German banks capitalize on foreign logistics demand

Germany's DekaBank announced a €117.3 million financing of three German prime logistics facilities on behalf of KWASA Goodman, a co-investment between global industrial property group Goodman and Malaysia's biggest pension fund EPF, in a deal illustrating this trend. The financing, structured as a forward facility with three different drawdowns upon the completion of each asset, was jointly underwritten by DekaBank and pbb, with the former acting as debt arranger. One of the logistics assets, located in Ergolding, is fully let to BMW until 2032, while the other two are in Marl and let to the Metro Group on long leases, DekaBank said. The Metro properties, with a combined area of approximately 2.5 million square feet, are among the largest logistics assets in Europe.

GLOBAL

There's no need to beware of a logistics bubble… yet

Ask private real estate professionals about the prospects for logistics and most will rave about the growth outlook in a market buoyed by the e-commerce boom. However, some are sounding a note of caution. While investors continue to pile into logistics there are suggestions values look over-inflated in pockets of the market. Globally, CBRE has seen prime retail yields compress from 5.53 percent to 3.76 percent and prime offices compress from 6.29 percent to 4.2 percent since 2009. In keeping, investment volumes on a relative basis have been staggering. European investment volumes, which last year reached €41.3 billion, were up 80 percent compared with 2016, according to JLL. The data are starting to spook investors. Lenders too. For now, it remains important to look beyond that and recognize the structural shift in the way goods are stored and transported has pushed the asset class to more of a level pegging with real estate's traditional prime types. Until a supply-demand imbalance materializes, fearing a bubble in logistics lacks foundation.

CHINA
Surge in land prices prompts CPPIB to write bigger logistics check in China

Canada Pension Plan Investment Board has upsized its latest equity commitment to the Goodman China Logistics Partnership with Goodman Group, as the JV looks to develop multi-story warehouses in response to increasing land prices in China. In August, CPPIB announced $1.4 billion in fresh equity to GCLP, while Goodman committed an additional $350 million. The total investment capacity of GCLP is now around $5 billion. The JV, launched in 2009, has CPPIB taking a lion's share of the stake (80 percent) while Goodman owns the remainder. As of March 31, 2018, CPPIB's real estate equity AUM in Asia, across all asset classes, was C$13.3 billion out of a global real estate AUM of C$46.1 billion.

EUROPE
CPPIB, QuadReal back GLP for €2bn European logistics vehicle

Canada Pension Plan Investment Board and Vancouver-based QuadReal, the real estate company owned by Canadian pension plan bcIMC, have partnered with GLP to establish a €2 billion European logistics vehicle. They are committing €1 billion in equity to GLP Continental Europe Development Partners I. CPPIB's commitment will be €450 million. The capital raised will be invested in the development of logistics facilities in Germany, France, Italy, Spain, Netherlands and Belgium. The vehicle is expected to reach €2 billion in AUM when fully invested, according to a company statement. By then, GLP's total Europe AUM is estimated to touch $7.2 billion, compared with $4.9 billion as of end-September 2018.

INDIA
GLP enters India with ambitions of creating $20bn logistics portfolio

The Singapore-headquartered company has taken a big plunge into the Indian real estate market by forming a long-term partnership with the Mumbai-based industrial real estate firm IndoSpace. Through the partnership, GLP has become an investor in IndoSpace Core, a joint venture initially set up between IndoSpace and the Canada Pension Plan Investment Board in 2017 to acquire and develop modern logistics facilities in India. Given the huge customer demand forecasts for modern logistics facilities in India, it was a market that GLP needed to enter eventually, according to Ming Mei, the firm's co-founder and CEO.

JAPAN
CPPIB commits $700m to record-breaking Japan fund

Canada Pension Plan Investment Board made one of its largest capital outlays in Japanese real estate to date with its latest commitment to Singapore-based logistics provider GLP. *PERE* understands the Canadian pension plan committed approximately $696 million to GLP Japan Development Partners III. Of that, just over $100 million will be in the main fund, while the remainder will be allocated to co-investment opportunities. JDP III is the largest Japan-focused industrial real estate fund raised to date and marks the first commingled fundraise for GLP's Japan-focused development strategy, with CPPIB as the vehicle's cornerstone and largest investor.

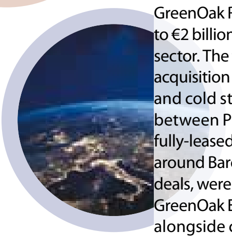
AUGUST SEPTEMBER OCTOBER NOVEMBER DECEMBER

SOUTH KOREA
High logistics yields in South Korea driving investor demand

A mismatch between growing demand for logistics assets in South Korea on the back of a thriving e-commerce sector and a relatively outdated supply of warehouses and distribution centers is attracting more institutional capital to the asset class. The latest example is the Canada Pension Plan Investment Board which made a $500 million commitment to a new logistics-focused investment vehicle set up by e-Shang Redwood in August. The vehicle's assets will be developed and managed by Kendall Square Asset Management, a South Korean subsidiary of Hong Kong-based logistics operator and developer ESR.

ITALY
Meyer Bergman makes logistics debut as part of diversification push

The London-based firm, best-known for making retail investments, has made its desired foray into the logistics sector, announcing the acquisition of a portfolio of logistics assets in northern Italy from its €816 million value-add fund Meyer Bergman Retail Partners III. The portfolio of nine assets was acquired from the Crema, Italy-based logistics specialist Logiman. The firm's expansion into logistics is understood to be part of a larger strategic expansion by the firm into property sectors connected to its primary retail strategy. The diversification to other property types comes at a time of declining total returns for European retail funds, according to industry body INREV's Retail Funds Index. In the fourth quarter of 2017, 2.02 percent total returns were recorded by INREV. Those returns dropped to 1.32 percent in Q1 2018 and 1.02 percent in Q2.



FRANCE AND SPAIN
GreenOak's European logistics platform reaches €2bn

GreenOak Real Estate has expanded its European industrial real estate to €2 billion, four years after making its first investment in the regional sector. The firm's recent European logistics transactions included the acquisition of two French portfolios comprising a total of 20 warehouses and cold storage assets, located along the primary logistics corridor between Paris, Lyon and Marseille, as well as the purchase of two fully-leased cold storage properties in the core Spanish logistics markets around Barcelona and Valencia. The transactions, which were off-market deals, were done through GreenOak's latest European real estate fund, GreenOak Europe Fund II, which closed this year on €656 million and, alongside co-investment capital, has total equity of €900 million.

AUSTRALIA
Overseas investors form bulk of Charter Hall's $2.9bn industrial fund

Commitments from overseas institutional investors have given Charter Hall, the Sydney-based real estate firm, further firepower in the Australian industrial market. The firm announced an oversubscribed equity raise of A$600 million ($434 million; €382 million) for its A$3 billion open-ended Charter Hall Prime Industrial Fund. Including this new equity raise, the fund will eventually end up with a net asset value of A$4 billion, including leverage. According to Richard Stacker, industrial CEO at Charter Hall, 60 percent of CPIF's investors are now from overseas markets. New commitments are understood to have come from investors from Japan, Singapore, UK, and continental Europe.

Six trends that matter

Helen Lewer identifies some key talking points in logistics

1
Sector of the few

The dizzy heights of 2015, when just over $15 billion was raised for logistics-focused funds, may not have been repeated in 2018. Nevertheless, a healthy $12.3 billion was reached, up from $8.4 billion in 2017, according to *PERE* fundraising data. Most notable is that amount was raised from significantly fewer funds – 12 compared with 16 in 2017. A select band of fund managers are attracting institutional money.

2
E-commerce propels demand

E-commerce penetration is on the rise globally as consumers switch from high-street to online shopping. The result: retailers require more warehouse space, with commentators estimating that millions of additional square footage is needed to absorb online demand. Capital flows reflect this transition with investors more "bullish" about logistics now. *PERE* fundraising data for 2014 showed retail and logistics on an almost even footing, capturing $8.1 billion and $8.9 billion respectively. In contrast, logistics raised $12.3 billion in 2018 with retail some way behind on $2.4 billion.

3
The location factor

The advent of online shopping means customers demand faster delivery times, often within a two-day window. Tenants therefore want property closer to population hot spots and transportation networks. High flow-through, last-mile logistics demand is rising, but so too is the need for bigger space. Proximity to labor and skills is even more critical. The result is that some locations are naturally more favorable than others. Investors and developers need to be acutely attuned to where tenants want to be if they are going to build and capitalize industrial property that will remain relevant and attractive to future occupiers.

4
Age of the robot

The impact of technology on the space and what it means for developers and investors is a common theme throughout this report. Robotics, autonomous trucks, drone deliveries; these are changing the shape and design of logistics property. Tenants of the future will require these features more and more. As one commentator observes, the need to build warehouses to accommodate these advancements is likely to fuel build-to-suit development activity, and for owners that get on top of the trend, it will be a "revenue maximizer," attracting tenants and keeping occupancy levels up.

5
Obsolescence is a risk

The speed of technological change has one obvious downside, highlighted by several contributors to the report; the risk that much of the current stock of logistics real estate will not be fit for purpose in years to come, unable to match next-generation occupier needs. For owners, costs likely will be incurred to reconfigure and modernize existing space. Failure to do this risks obsolescence and with that dwindling lease renewals and falling returns on investments. So now might be an opportune time to future proof assets in the portfolio.

6
Keep an eye on emerging markets

In terms of e-commerce penetration, markets in southern Europe, Asia and Latin America may be well behind the US and the UK, but they are on the same upward trajectory, so there is an opportunity to be grasped in these regional markets for those willing to get in early, as many contributors to this report have. As one writer highlights, there is room for growth and longer-term return potential.

Where to find value in US industrial in 2019

HFF's managing director Trent Agnew takes a look back at the performance of the US industrial market and considers where outperformance can be found in the year ahead

The industrial market goes into 2019 with record absorption and rent growth as companies focus on expanding and retooling their distribution networks. While industrial has always enjoyed a favored position within most asset manager's portfolio composition due to its lease profile and comparatively low capital expenditure nature, those that have chosen to overweight their portfolio with industrial in recent years have been riding a wave of strong performance and are likely outperforming their index.

NCREIF returns as of Q3 2018 show industrial leading all major property types both on a short-term basis, at 3.36 percent for the quarter, and long-term, at 8 percent compound average return over the last 10 years. The delta in industrial returns versus other property types becomes wider when looking at performance over the last three years; industrial averaged a 13 percent return versus 6-7 percent for the other major property types. This is due to a balanced combination of both income and capital appreciation.

Looking at large-scale public and private sector portfolio deals in the last 12-24 months, many have traded at a premium; Blackstone's Gramercy acquisition, for example, at 5 percent premium and Prologis' DCT at a 26 percent premium to NAV. Lately, we have seen non-homogenous portfolios come to market that have failed to generate the same level of activity and pricing; a sign that buyers continue to have discipline on what they are willing to pursue. Overall, transaction volumes continue to be at all-time highs with $64 billion of trades through Q3 2018 versus $55 billion at the same period in 2017, a 17 percent uptick according to Real Capital Analytics.

Based on a belief that we are late-cycle, if you factor in the strategy that a lot of institutional managers have employed with regard to low-CAPEX sectors, then the divergence in transaction volume becomes even more evident as low-CAPEX property types have taken on a larger share of overall volumes in the last few years.

How does property performance correlate to these historical returns/transaction volumes and what does the future hold for property-level fundamentals? Since 2010, demand has continued to outpace supply for 33 out of the last 34 quarters according to CoStar. That gap has narrowed significantly in the last few years due to an increase in the construction pipeline, but it was still expected that demand would be 10 million square feet more than completions/supply in 2018, according to Prologis' Q3 earnings call. Same-store NOI grew 5.4 percent across the sector for the public REITs and, according to CoStar, overall annual rent growth stood at 6.2 percent with a number of supply-constrained markets continuing to see double digit rent growth as of Q3 2018.

E-commerce key to outperformance

This year should be more of the same but less robust growth based on concerns about whether the market can keep up with the torrid pace of recent years in the face of more uncertainty regarding global trade. CoStar projects rent growth of 5 percent for US industrial US in 2019. Last-mile product is also likely to continue to drive rent growth as it has in recent years. So how does the market outperform projections for 2019? The likely answer circles back to e-commerce and overall retail sales. E-commerce accounts for nearly 50 percent of all industrial absorption. While overall retail sales are expected to grow another 4 percent in 2019, e-commerce is expected to grow 15-16 percent, according to Business Insider/US Census Bureau data, and result in a tremendous amount of absorption. Besides Amazon, there are several other large retailers – Best Buy, Home Depot, Lowe's, Five Below, Costco, Wal-Mart, Kroger – currently in the middle of significant expansions to supply chains via additional regional distribution centers as a result of focusing on the e-commerce space.

We believe the sector is in a strong position to continue outperforming the broader real estate space due to the underlying supply/demand fundamentals, ability to turn off the future supply pipeline faster than other product types and an increasing focus by tenants, both large and small, to compete in an environment that continues to value getting goods to the individual consumer in a faster and more efficient manner. □

Go forth and seek value

Three suggestions for opportunities in 2019

1. Continue to develop in markets where demand is outpacing supply
2. Invest in niche property like cold storage and truck terminals, which are becoming more mainstream
3. Pursue smaller one-off trades that may historically fall a bit below the radar of most institutions

Lining up: investors are eager to take part in an increasingly crowded sector

Logistics' blockbuster year

Investors look set to flock into the industrial real estate show again in 2019. For many, the snag is how to get hold of a ticket. By Stuart Watson

Logistics remains the star vehicle of private equity real estate investing in 2019. Like a superhero movie franchise, the product keeps getting bigger, more eye-popping and technically sophisticated, and the box office figures go on breaking records.

Last year was not a particularly strong year for garnering capital, but in a shrinking market logistics was the stand-out asset class, dominating sector-specific fundraising for private real estate strategies in 2018 with a total of just over $12 billion, $2 billion more than its nearest sectoral challenger, multifamily residential. Some 43 percent of the $28.66 billion raised for sector-specific funds went to logistics strategies.

Among equity investors, Canada Pension Plan Investment Board (CPPIB) has made by far the largest overall capital commitment to pure logistics funds, standing at $9.2 billion at the beginning of 2019. For the fund's global head of real estate investments, Peter Ballon, the sector's appeal is easy to summarize: "We are always looking for big risk-adjusted returns and in many markets industrial has continued to provide that," he says.

Olivier Téran, chief investment officer at the real estate arm of European insurance company Allianz observes that logistics remains investors' most preferred asset class globally. "As a sub-sector, logistics is still far less institutionalized than offices, retail or residential. In addition, the retail sector is moving out of favor in part due to the rapid increase of e-commerce, which in turn leads to a natural expansion of the need for logistics space. Meanwhile, logistics remains attractive on a relative basis to other sectors by a spread of around about 150 basis points, and relative to bonds by about 450 basis points. At the same time, an increase in construction costs combined with historic low vacancy rates is leading to further upward pressure on rents."

> **"There is no doubt that industrial is a very favored sector and a lot of capital from institutional players is flowing into the market"**
> **Peter Ballon**

Equity queue

As a consequence, a vast weight of capital is settling on an asset class that lacks the scale to carry it. "Everybody wants into the sector and they want in now," says Martina Malone, head of global capital raising at specialist logistics manager Prologis. "The main concern for investors is to get their capital deployed as quickly as possible, but the tricky part is deploying in an accretive manner within a reasonable time frame. For example, our European core fund has an equity queue of almost €1 billion."

In that context, investors are increasingly choosing to back development in order to secure stock and drive returns. Some are forming joint ventures with developers, including CBRE

Global Investors, which has established partnerships with Prologis in the UK, Montepino in Spain, and Virtuo in France. "We have clearly moved up the risk curve in that most of our logistics funding is for new development, and our investors are very willing to support that," says global chief investment officer Jeremy Plummer. "You can acquire the stock cheaper and the leasing risk is relatively low given the very strong demand. You are also acquiring modern buildings, so you are less affected by depreciation of the assets."

CPPIB is also pursuing development strategies and working through joint venture structures. "There is no doubt that industrial is a very favored sector and a lot of capital from institutional players is flowing into the market, but there is a limited amount of development taking place and not all of that capital has an appetite for development, so the dynamics are still reasonably positive for that type of strategy," says Ballon.

$28.66bn

Capital raised for pure logistics strategies in 2018

Tap into consumption

Institutional investors are also looking toward emerging markets to generate higher returns and participate in the growth generated by urbanization and increased consumption. Quebec-based Ivanhoé Cambridge was one of the first major institutional investors to enter the Indian logistics market with LOGOS in 2017, and has recently formed a joint venture with Prologis to build a platform in Brazil.

Rita-Rose Gagné, president for growth markets, says that the LP intends to double its investments in the sector in Asia-Pacific and South America in the coming years. "The modern industrial stock in Brazil is very small compared to the population, and it is one of the largest consumer markets in the world. The gross leasable area per household in Chicago is 14 times that in São Paulo, which has a larger population. Notwithstanding the negative political and economic noise at the global level, you want to find a way to tap into rising consumption, and retail and logistics are how you do that."

South-East Asia is also a popular regional market for logistics investors. China's vast population and enthusiastic embrace of e-commerce are an enormous draw. Meanwhile, the huge capital values achievable for multi-story warehouses in Japan's supply-constrained cities allow equity-rich investors to write big tickets.

"The Asia market has been going pretty mental for the last 12 months. Logistics is still the most sought-after girl at the dance," says Stuart Gibson, co-chief executive at Asian logistics specialist ESR. "We have new enquiries from pension funds and sovereign wealth funds. The demand for investments is not being met."

The only clouds on the regional horizon are the Chinese economy's faltering – albeit still comparatively strong – growth and the potential damage that could be wrought by a trade conflict with the US. "It looks like China might have hit a bump in the road, which makes me a bit more nervous about how aggressive I should be this year buying land in China, Korea and Japan when I think there is potential for a slowdown in consumption and growth," muses Gibson.

Competitive aggregation

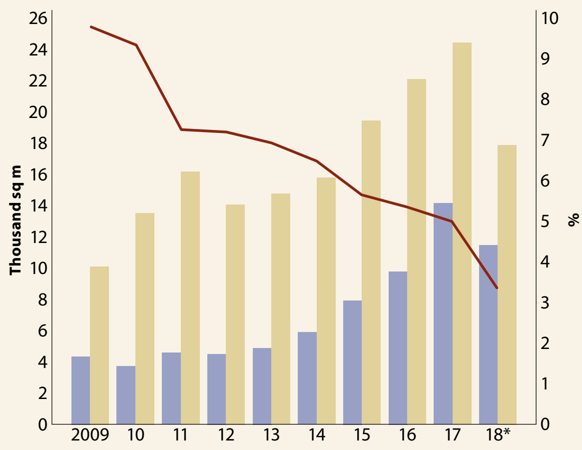
Much of the capital raised for industrial strategies is still focused on established western markets, however, in particular the US, which accounted for almost half of sector-specific fundraising in 2018. It is the most developed logistics market in the world, with more modern facilities in which to invest than any other, but even there, capital demand far outstrips the available assets.

"Most US institutional investors are now realizing we are under-weighted to an asset class that has good cashflows and offers better capital efficiencies than offices," says Anthony Breault, senior real estate investment officer at Oregon State Treasury. "However, their weighting and exposure has been determined by whatever the investor was capable of getting. Not many asset managers in the sector have national footprints, so it is difficult to establish a scalable relationship and build a portfolio. There will be a few large portfolio transactions, but for most it will be a long, slow process of competitive aggregation."

Europe is also considered a mature market, but the region

Development de-risked

European logistics take up has exceeded new supply every year since 2009



** up to end of Q3*

Source: *CBRE*

could yet see significant growth, suggests CBRE Global Investors' EMEA head of logistics, Philip Dunne: "The US still has between three and four times the modern stock compared to Europe, yet the European population and economy is larger overall, so we still have further to go in terms of the creation of product. When you compare the property cycles, Europe has probably already caught up in terms of value, but we are behind by a couple of years in terms of rental growth."

Could the flood of capital seeking a home lead to too much risky speculative building? Jack Cox, head of EMEA industrial capital markets at brokers CBRE, thinks not: "Even where we have seen completions rise, take up has exceeded completions by a substantial margin in every year since 2009, so vacancy rates have continued to compress and are now on average around 3.5 percent. With vacancy that low speculative development is naturally de-risked, so institutional investors are able to pursue development yields as opposed to investment yields, and lock that in on a very well risk-adjusted basis."

"Most of our logistics funding is for new development, and our investors are very willing to support that"
Jeremy Plummer

Ballon warns against complacency, however: "In 2019, there will be continued strong demand but also a continued supply of capital and that is something we pay close attention to. Investors sometimes just follow trends; if you are an investor without a lot of industrial exposure that could lead you to want to invest in the asset class. That is not how one should invest because it carries the danger of not assessing the risk properly and not getting the expected returns."

Investors can see plenty of attractive opportunities in logistics over the coming year. However, many also believe that the real estate cycle is at a late stage, and will think twice about taking on too much risk, even – or perhaps especially – in the market's hottest sector. □

Watch list

Five trends that could define the logistics real estate market in 2019

1. **Development picks up pace.** In 2018, capital flooded into development strategies. Among the biggest were the $2.29 billion GLP Continental Europe Development Partners I, the $2.2 billion GLP Japan Development Partners III and ESR's $1.2 billion Redwood Japan Logistic Fund 2. A swathe of investors have formed build-to-core joint ventures with developers on every continent and several of the big platforms that traded in 2017-18 included significant land banks. Supply is low in most major markets, and a marked increase in development activity looks inevitable.
2. **Indian logistics goes mainstream.** In 2018, Allianz Real Estate made a foray into Indian logistics in partnership with ESR, while global logistics operator GLP bought into developer IndoSpace's joint venture with CPPIB. They followed Ivanhoé Cambridge, which launched its own Indian partnership with LOGOS in 2017. With the ice broken, other investors are likely to follow. "India should be part of an industrial and logistics strategy for a global investor," argues Ivanhoé Cambridge's Gagné. "In this sector you try to get ahead of the curve in markets where there is evident growth and India is one of the growth markets most in need of this product."
3. **Japanese capital makes its presence felt.** Global real estate markets have been expecting a flood of capital from Japan for some time, and as the most popular asset class, logistics is expecting a slice of the action. "We have seen Japanese mega-investors like Post Bank, Japan Post Insurance and GPIF looking at real estate and logistics within that," says Prologis' Malone. "They are expected to invest billions of dollars in the sector, especially on the core side."
4. **Rental growth replaces yield compression.** The US market has seen several years of robust rental growth and observers are now predicting that the European market will follow in its wake. "Values are at a level we have never seen before and likely to stabilize. With a stabilized value environment and continued strong demand I think we will see upward pressure on rents," predicts Dunne. "The only counter to consistent upward rental growth would be excess supply, and so far supply is pretty well constrained. Rental increases will become an important feature of the growth in returns."
5. **Profit-taking.** Could early movers choose to cash out in a market that has only become hotter? CBRE's Cox thinks so: "This is a year in which we will see profits being taken ahead of business plan by huge investors that bought in the 2014-16 period. Some investors are sitting on very attractive paper profits and they will take the opportunity to realize those and lock in portfolio premiums. We know there are a lot of willing purchasers out there. It will be interesting to see how many vendors step up to the mark."

The investment case for US high flow-through logistics

Realterm's director of research, Nathan Kane, explains the cyclical performance of general industrial and high flow-through, and why the latter could offer better return prospects

In demand: HFT properties like Realterm's cross-docked transload facility in Northlake, Illinois, are attractive prospects for investors

Commercial property values in the US have rebounded dramatically since reaching bottom in the wake of the global financial crisis (GFC). These gains are the result of a business climate improved by technological advances and lower taxes, and a post-quantitative easing shift to alternative assets. During this time, industrial properties have outperformed other property types, with values doubling since their post-recession low. Investors have gained confidence in the financial outlook for these properties in part because of their belief that e-commerce and general consumer demand for more rapid, cheaper delivery will drive demand for more industrial space. High flow-through (HFT) properties, logistics facilities critical to this mission, have been a primary beneficiary of these trends. Value increases of HFT properties have been similar to the broader industrial sector during this cycle.

> "Industrial returns are likely to be much lower in coming years. In contrast, HFT properties, especially those in infill locations, are likely to maintain their value"
> Nathan Kane

As the current real estate cycle matures, investors may question the extent to which gains made during it are sustainable. In the last three recessions, real estate values declined by an average of 18 percent, according to NCRIEF data. A review of previous investment cycles and the factors underlying their performance in a downturn helps to answer the following questions:

1. How has the industrial sector performed through previous real estate cycles?
2. What have been the drivers of superior industrial returns relative to other major real estate asset classes post-GFC to the present?
3. What conclusions can we draw for future HFT outperformance relative to other real estate asset classes, including the general industrial sector?

Realterm believes that the property performance characteristics of the HFT sector provide an opportunity for higher risk-adjusted returns in the coming years, even as value growth across the broader commercial real estate universe, including the general industrial sector, may pause or start to reverse.

Industrial sector performance from 1980 to 2007

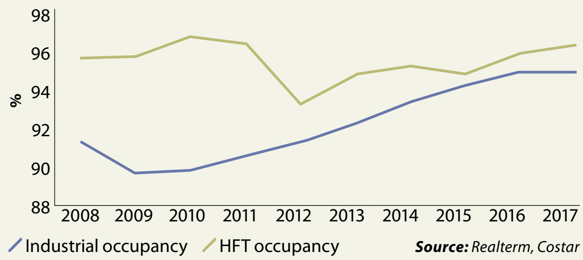
Prior to 1994, industrial real estate demand was largely determined by domestic production and consumption patterns. Between 1980 and 1994, rent growth averaged around 1.5 percent per year, according to Costar, and deviated little from this average. HFT properties built before 1994 were primarily concentrated near major highway interchanges and in mature industrial real estate submarkets because of their proximity to other facilities with which they interacted and because of the lower cost to build in these areas. Often, they were small infill warehouse properties, and an excess of these properties led investors to attach little value to them.

During the 1994 to 2007 cycle, the success of the free trade movement, mainly through the North Atlantic Free Trade Association (NAFTA) and the World Trade Organization (WTO), led to a transformation in the performance of the industrial real estate sector. Trade globalization led to significant economies of scale requiring larger distribution centers from which to supply stores. This period experienced a boom in the development of new 'big box' general warehouse properties despite the generally commoditized nature of this type of space for tenants. In this cycle, Costar data shows net absorption averaged 1.9 percent of inventory annually and rents grew by close to 2 percent per year. However, this growth was more volatile because of the relative ease of adding new supply in the face of stronger demand. Much of this growth was lost in the wake of the GFC.

With the shift of distribution centers (DCs) to locations farther from stores, HFT facilities became an increasingly important component of the supply chain, serving as critical transfer points in the pipeline through which freight stored in the DCs was ultimately delivered to the end user. These newer HFT properties were much more efficiently designed than earlier constructed properties. Due to zoning restrictions and higher development returns for larger warehouse properties, they did not experience the supply response observed in the broader industrial sector. This helped to preserve the value gains made prior to the GFC.

Occupancy rising

HFT rates are consistently higher than general industrial, providing a stable income stream



Source: *Realterm, Costar*

Post-GFC industrial sector performance

The GFC led to a crash in industrial demand that persisted for more than a year. This event provides a stark demarcation between two separate phases in industrial demand. Pre-GFC growth was based largely on trade globalization and generating efficiency for transnational freight movement of imported goods. Post-GFC, e-commerce has been the leading driver of industrial demand growth and has been responsible for the diverging performance between the industrial and retail property sectors. Between mid-2008 and mid-2018, the industrial sector experienced annual NOI growth of 3.3 percent. In contrast, retail NOI growth averaged 1.8 percent over this time.

Post-GFC to the present, industrial returns have outperformed the broader NCREIF Property Index (NPI) because of the property type's superior NOI growth. Occupier demand has been driven largely by the need for warehouse space to accommodate the expansion of e-commerce. Supply growth during this period has also been strong, catching up with demand in 2018. The national industrial vacancy rate, as measured by CoStar has fallen below 5 percent, the lowest level since tracking began. In turn, market rents have increased by 36 percent since they hit bottom in 2011. Rents in 2018 are almost 10 percent above their level a year ago.

Between mid-2008 and mid-2018, industrial properties experienced an average annual pace of capital appreciation of 1.5 percent, and a 2 percent annual increase in values when the value of capex is added. Over that same period, values of HFT properties increased at a much faster rate. The annualized appreciation return for HFT properties across Realterm's portfolio over that time was 6.2 percent.

Kane: supply constraints of the HFT sector will intensify the use of these properties

HFT occupancy and rents did not fall nearly to the same degree post-GFC as did industrial occupancy and rents, and therefore HFT NOI did not benefit as much from the recovery in those factors. In contrast to lease renewal rates for most properties that range from 50-70 percent, HFT lease renewal rates are consistently much higher at around 90 percent. Because of historical constraints on new HFT supply, tenants rarely replace their HFT facilities unless they have been outgrown because there are often limited alternatives. Additionally, when properties are vacated, they typically require a shorter downtime before they are re-let. These factors lead HFT properties to have a higher occupancy rate than other core property types throughout an economic cycle, and a more stable income stream.

Outlook

After an unprecedented run-up in values, US commercial property returns are starting to weaken. The NPI total return in 2017 was 7.2 percent, compared to a 20-year historical average of 9.2 percent. High prices paid in recent years have left little room for value increases, as they assume a pace of rent growth that is likely not sustainable, given historical trends.

Nearly doubling in value since reaching the cyclical bottom in 2010, industrial real estate values in this cycle have been supported by strong NOI growth and heightened investor demand. However, little has changed to alter the traditional heavy supply response in the general industrial sector that has eroded rent gains during previous market cycles. Industrial returns are likely to be much lower in coming years. In contrast, HFT properties, especially those in infill locations, are likely to maintain their value. The same structural economic factors generating increasing industrial demand are generating demand for HFT properties, especially near consumer population centers. However, unlike general industrial, supply constraints of the HFT sector will intensify the use of these properties as more goods flow through each HFT property. This increased utility to users will provide upward rent pressure supporting continued value growth for HFT properties even as increases weaken in the rest of the industrial sector. □

Logistics is now a mainstream asset class

The global logistics sector has become a highly attractive investment class in the past decade, and momentum in the market shows no sign of waning, says Allianz Real Estate's CIO Olivier Téran

Fueled by the ongoing rise of e-commerce, and the need for sophisticated distribution networks and ever-more efficient supply chains, logistics is attracting strong interest from all real estate stakeholders across all markets. The environment is dynamic and the opportunities remain competitive.

Logistics has become, according to many investor surveys, one of the most preferred asset classes both in the private and public sphere for 2019. Capital is likely to continue being invested for a number of reasons: for instance, while logistics has become an excellent portfolio diversifier for institutional investors, as a sub-sector it is still less 'institutionalized' than sectors such as office, retail or residential.

In addition, in Europe returns remain very attractive on a relative basis to other sectors – about 150 bps + spread – and relative to bonds (about 450 bps spread). And increasing construction costs and land scarcity combined with historical lows in terms of vacancy rates are leading to upward pressure in terms of rents.

Global appeal

The focus is truly global, too. Asia benefits from several trends supporting the growth of the sector, including increasing exports, rises in domestic consumption, fast-growing middle classes, very strong e-commerce penetration rates and structural reforms. Japan, India, China and Australia currently dominate the focus, but peripheral Asian markets could soon move onto investors' radars.

In China, the reorientation of the economy from an export-led model to a domestic consumption-based one, coupled with the region's highest e-commerce penetration level, are very strong drivers for continued growth. In India, a fast-growing middle class and a dedicated government-led push on infrastructure and manufacturing are creating compelling opportunities for investors.

Allianz Real Estate has itself materially increased its allocation to the logistics sector, both through direct and indirect investments, over the past few years.

Logistics accounted for €4.8 billion of the firm's circa €60.1 billion in total AUM as of June 30, 2018. Since then the logistics investments of Allianz have rapidly increased by around another €1 billion, with further acquisitions around the globe. After further investments in Europe, we completed two logistics transactions in a short period of time in Asia: a 50 percent stake in a portfolio of core modern logistics assets in China; and a partnership with ESR Group in India. Recently, Allianz committed to invest around €150 million in logistics buildings in the Nordics and another €290 million in the UK, which underlines our trust in British real estate investments.

Challenges may be ahead, but overall outlook is positive

Looking ahead, the sector will not be wholly immune from challenges. The astonishing rise of e-commerce usage as well as increased global trade has helped drive the growth of the sector: an economic downturn or crisis will likely not only test the resilience of this sector but also the will of institutional investors, particularly those that may be overweight single sectors and not adequately diversified.

"The environment is dynamic and the opportunities remain competitive"
Olivier Téran

However, the commensurate rise of sub-sectors in the logistics industry, such as hi-tech smart distribution centers, more urban facilities and the demand for 'last-mile' logistical capabilities, means it is likely to remain a key investment opportunity for many years.

The dynamics reshaping the retail sector, away from the high street to online services and prime shopping centers, will continue to support logistics. Increased demand for more technological innovation – for example, drones or automated delivery methods – will also keep logistics very much in the headlines and in the minds of multi-sector institutional investors such as Allianz. □

€4.8bn

Amount of Allianz Real Estate's €60bn AUM accounted for by logistics


Oxenwood.com
Capital of logistics
OXENWOOD
REAL ESTATE
020 3535 8800
Jeremy Bishop
Co-founder
Stewart Little
Co-founder

E-commerce drives demand for tomorrow's warehouses

Macquarie Capital Real Estate Investments' Eric Wurtzebach tells Marine Cole why he thinks logistics is a good opportunity through the cycle

Since starting to invest in logistics more than 15 years ago, the sector now represents about 30 percent of Macquarie Capital's $38 billion portfolio on a global basis. Eric Wurtzebach, senior managing director at the firm, explains why Macquarie is bullish on the space, particularly US modern warehouses, on the heels of changing consumer behaviors, the continued rise of e-commerce and an aging millennial demographic.

PERE: Can you talk through some of the factors driving demand for US logistics?

Eric Wurtzebach: There are two main factors driving logistics/industrial space demand in the US. The first is the rapid increase in e-commerce as a percentage of total retail sales. In 2018, e-commerce was only 10.9 percent of total retail sales – but is projected to expand 15 percent per year going forward compared to the modest retail growth of just ~2 pecent.

The impact of the growth of consumers' use of e-commerce on logistics demand and importantly of the requirement for next-day or same-day service has grown in the past several years and will continue.

E-commerce is dramatically increasing demand for logistics space. Part of this growth is due to the fact that e-commerce tenants generally require three times the amount of distribution space than that of traditional retail users because customers are seeking a greater variety of goods, and speed and delivery. As a result, for every additional $1 billion of retail sales, brick-and-mortar tenants require an additional 325,000 square feet of industrial space while e-commerce tenants require 1 million square feet. That's the e-commerce impact. We project the US, just from an e-commerce growth perspective, will need an additional 33 million square feet per annum in the next few years.

The second important factor is changing demographics, especially the aging millennials. Millennials are the largest segment of the population and will comprise the majority of the workforce by 2025. The majority of millennials prefer to shop online versus in store and that's a trend that appears to be accelerating. It's driving the increase in e-commerce same-store growth that everyone is aware of. However, as millennials age they are coming into their prime-earning years. They have increased disposable income. We believe this will magnify the impact of e-commerce growth in future years.

PERE: How have those trends impacted the industrial real estate market recently?

EW: It has boosted industrial warehouse demand by 30 to 40 percent in 2017 as an example. As mentioned already, this is largely due to online sales requiring three times as much space because of the same-day and next-day imperatives in the market. These faster delivery times have also created a greater demand for infill sites. There's a shortage in that space, and that forces developers to alter their development strategies to vertical. The availability rate for these products has dropped 7 percent. Asking rent has increased by 20 percent since 2014.

All these trends are expected to continue regardless of the economic cycle.

> **"If investors go the development route, they need to find the right operating partner, a specialist with a deep knowledge of the space and that understands tenants' demand"**
> **Eric Wurtzebach**

PERE: In your view, what should a modern US logistics portfolio look like?

EW: It should be well located with access to key infrastructure and a deep labor pool. The buildings should have modern technical specifications. The portfolio should probably consist of logistics warehouses in central locations and, if possible, distribution centers close to key infrastructure. It's important to be in a market that's centrally located for regional distribution and access to infrastructure and transportation. As an example, Chicago is a great market. It's the largest inland port in the country, can service 25 percent of the US population within a one-day truck drive and 40 percent of the US population in two days. From a location perspective, we also think there should be barriers to entry. Proximity to labor pool is also important. Tenants want to make sure it's always front and center.

The second thing is clear height – the height of usable space and how much volume can be stored in a structure. Today, our US development platform, Logistics Property Company, is building 36- to 40-foot clear height because e-commerce tenants have more automation of the warehouses and are thinking of rent in terms of total volume of the building. It's an important piece of the puzzle. As of 2017, only 19 percent of warehouses nationally were 32-foot clear height, but 40 percent of the total demand is for 32-foot clear height. A tremendous amount of existing logistics is becoming more inefficient and potentially obsolete as a result.

Bay depth and width is also critical. It gives tenants more space to accommodate and efficiently move goods. Additionally, we are finding car, trailer and truck parking is important. E-commerce puts more stress on the supply chain. E-commerce facilities also can be up to five times more labor-intensive than traditional distribution facilities. There tends to be larger car parking requirements for employees.

Lastly, proximity to an adequate labor pool is critical and often overlooked.

PERE: What do tenants look for from logistics space nowadays?

EW: From the tenant perspective, we're in a very tight US labor pool. The first employee from a prospective tenant that comes for a site visit is human resources, not the real estate guy. If you can't meet the high employment requirements, if your site can't provide the proper local labor pool, there's no point in the tenant being there, regardless of anything else. That's a critical piece in looking at logistics today. Tenants will take an inferior location or building if they can get close to a good labor pool.

PERE: For institutional investors looking at US logistics, how should they approach the market?

EW: Given where we are in the cycle, it's imperative that investors are selective in asset class allocation. Yields and cap rates are extremely tight in all asset classes. However, logistics looks very attractive over the long term. The e-commerce and demographic trends discussed may provide a logistics portfolio with advantages compared with other assets classes through cycles.

Wurtzebach: Macquarie invests in sectors that are supported by long-term structural tailwinds – industrial is one such sector

In terms of geographic locations, key markets are those with strong demographics and in-place infrastructure; Los Angeles / Inland Empire, San Francisco Bay Area, Chicago, Atlanta, Seattle, Northern New Jersey, Pennsylvania, Miami, Dallas and Houston. In terms of segment, right now we prefer developing industrial assets as opposed to buying core. Core asset pricing is very high. If investors go the development route, they need to find the right operating partner, a specialist with a deep knowledge of the space and that understands tenants' demand.

Then you must make sure you get your alignment right with your partner. Because of significant institutional demand for quality assets, there is a lot of capital available. As a result, a lot of the deals that are getting done are very operator and developer-friendly. Investors should also be wary of the rise in construction costs, the impacts of recent tariff wars, and the shortage of labor.

Modern logistics

Four essential features to minimize obsolescence risk

1. Good location
2. Clear height
3. Bay depth and width / Car, trailer and truck parking
4. Labor

PERE: What about last mile?

EW: Last-mile is definitely part of our logistics strategy. We believe the demand drivers and the logistics model supports growth in demand for large distribution centers and last-mile facilities. There's probably too much focus on infill with little regard to functional obsolescence due to low clear height, truck court depth, etc. For us, it really depends on the specifics of the asset and on location. I am not a big fan of last-mile obsolete building acquisitions if the plan is to own the asset with a sub 28' clear height. Macquarie Capital pays close attention to volume-based rent. If you can have a modern logistics facility in an infill area, that's phenomenal.

PERE: How do you view the logistics space in Latin America?

EW: Latam is experiencing the same tailwinds in demand as the US. Brazil and Mexico have been our most recent focuses. The issues we manage in Latam are obviously a little bit different than in the US: the volatility of the political environment, the lack of regulatory environment, the lack of transparency, and educating institutional investors on those spaces. But Latam in general, and Brazil specifically, do offer an attractive entry point at this stage in the cycle. There's ongoing economic recovery in those markets and improving credit markets, and we should expect that to support local consumption. Brazil is the largest e-commerce market in Latam and one of the fastest-growing e-commerce markets in the world. It's also one of the most underserved logistics markets globally. You put all these pieces together and if you can manage the risk well, that is a compelling location and opportunity. □

The number games

The largest deals closed or still being finalized in 2018 all involved the sale of large portfolios or companies, observes Jim Costello, senior vice president of Real Capital Analytics

Big numbers of big properties is the story of the global logistics markets in 2018. Rather than smurf together large portfolios by buying one asset at a time, investors often pursued megadeals to get at the underlying assets.

Commercial real estate investors have found the growth story around the logistics sector to be compelling. As more consumer spending shifts from bricks to clicks, investing in logistics assets is a way to tie into that activity; buying logistics assets is effectively a way to buy into the back-end of the Internet.

Single assets too small

The challenge, however, is that often the lot size for an individual logistics asset is too small for institutional investors to spend time on them. If one must deploy capital for a multi-billion-dollar portfolio, there simply is not enough time to chase down every little $5 million deal in the hinterlands of the great global cities.

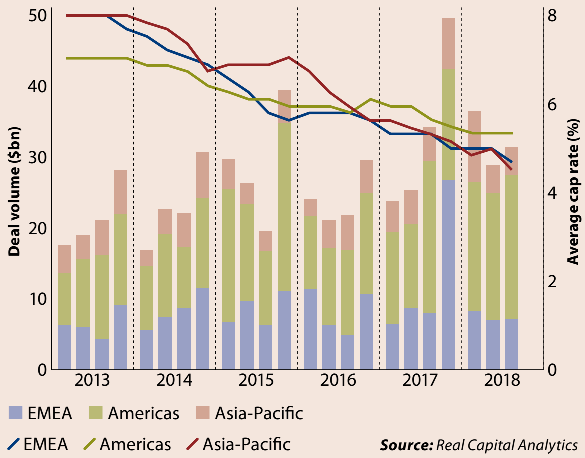
To develop scale in the logistics sector, investors bought the scale of existing companies. The largest deal in 2018, for example, involved a consortium of investors from China buying out the REOC Global Logistics Property. Capital flow from China has become more nuanced in recent years given regulator concerns over excessive speculation, but a platform focused on global trade flows does not present the same sort of speculative risk as, say, condominium development.

Blackstone and Prologis are the two largest owners of logistics assets worldwide, but Prologis had the bigger deal for the year. The Prologis merger with CDT industrial involved 355 assets across the US and Mexico. The largest logistics acquisition by Blackstone involved the merger with Gramercy with 274 logistics assets located only in the United States.

With capital still hungry for the story of the logistics sector and the structural impediment to small deals, expect to see more large logistics deals in 2019. ◻

Go west

The Americas are ahead in the deal volume race in Q3 2018; cap rates continue on a downward trajectory globally



Source: *Real Capital Analytics*

Bigging it up

The 10 largest global logistics deals of 2018

Deal	Region	No. of Properties	Buyer	Seller
Nesta investment buyout of GLP	Global	1,066	Hope Investment, Bank of China, China Vanke, SMG Eastern, Hillhouse Capital	GLP (REOC)
DCT Industrial Prologis merger	Americas	355	Prologis	DCT Industrial
Blackstone Gramercy Merger	US	274	Blackstone	Gramercy
Exeter Mapletree US Industrial Portfolio	US	85	Mapletree Commercial	Exeter
PURE Industrial REIT Takeover	Americas	143	Blackstone, CDPQ	Pure Industrial REIT
Cabot Canyon Industrial	US	96	BREIT	Cabot Properties
Prologis/NBIM EUR & US Industrial	Global	37	Mapletree Investments	Prologis, NBIM
MDH Last Mile Industrial	US	69	Blackstone	MDH Partners, Harvard Management Co
Laetitia Portfolio	Germany	32	Swiss Life AM, BEOS AG	Aurelis Real Estate
K Eco Logis SK Logistics Portfolio	South Korea	2	ADF Asset Management, GIC	Halla Corp

Source: *Real Capital Analytics*

US industrial still delivering the goods

Robust demand from e-commerce and low vacancy should continue to underpin strong returns in the US logistics market, say Clarion Partners' David Confer and Tim Wang. Stuart Watson reports

West Imperial, Los Angeles: modern logistics close to population hubs and local infrastructure are Clarion's preferred assets

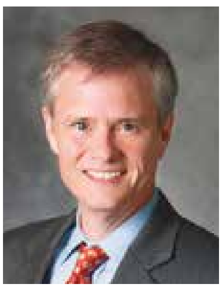
Logistics real estate in the US has already seen sharp cap rate compression as investors pile into the sector. The market still has considerable runway left, however, even in the event of a US-China trade war, argue David Confer, managing director, and Tim Wang, managing director and head of investment research, at New York-headquartered investment manager Clarion Partners, which has owned and managed industrial assets for more than 30 years and currently manages $15.4 billion of US industrial property.

PERE: What is the outlook for US industrial real estate?

Tim Wang: Over the past year, the US industrial sector provided an unlevered return of 14 percent, more than twice the benchmark index and head and shoulders above the other core property sectors. We think that outperformance will likely continue for the next few years. Net operating income (NOI) growth of about 5 percent year-on-year is very strong, and we think the cap rate for US core industrial is still relatively high at 5.1 percent, compared to other core property sectors, so there is a high probability that cap rates will continue to compress as more capital flows into the sector.

"Online retailers prefer locations where they can find plenty of good quality labor. That is causing some markets to be stressed and creating opportunity in others"
David Confer

David Confer: There is still very strong demand for space at a time when supply is being held in check, so we are looking forward to some rental growth in most markets. E-commerce has been a big driver for that demand and that will continue. Before the year 2000, less than 1 percent of sales were online – now the number is 12 percent and rising.



Confer: demand remains strong while supply has remained manageable, which we expect will drive continued rental growth in most markets

TW: That process is less than halfway through. E-commerce's market share is projected to at least double to 25 or even 30 percent, so the warehouse boom should last several more years yet. E-commerce sales in the US have been growing at 20 percent year-on-year compared with general retail sales growth in the US of 3-4 percent. Demand for retail space is being transferred to warehouses. Today vacancy for US warehouses is about 4.2 percent, more than 300 basis points below the long-term average of 7.4 percent. Many e-commerce orders are being delivered in one-day, or even two-hour, delivery slots. In order to serve that market, warehouses must be located much closer to the population in dense infill areas. It is a landlord's market in which property owners have the ability to drive rents, which means strong NOI growth.

PERE: How is that affecting investors' capital allocation decisions?

DC: Industrial has been the best performing US real estate sector now on a one, three, five, seven and 10-year perspective and investors have been taking notice of that. In addition to US funds, we have seen European, Asian and Australian investors very actively looking at the space. On an absolute basis, real estate pricing is historically high, but compared to stocks and bonds, it still looks pretty attractive as foreign investors weigh the strong fundamentals of the industrial sector with the alternative investments available around the world.

TW: Investor allocations to industrial within their real estate portfolios right now are only 14 to 15 percent on average. We think that is very low. Our current allocation to industrial in one of our core funds is 22 percent and our target is 25 percent. That is how much conviction we have about the sector. The pace of the tech-driven shift from retail to warehouse has caught many investors by surprise, so suddenly they are realizing they're severely under allocated to the industrial sector. They are increasing their investment in the asset class in order to catch up, but it is not that easy because warehouse assets tend to be smaller in value terms than a downtown office block. Building a portfolio takes time and expertise.

PERE: What are the most effective strategies for investors to access US industrial assets?

TW: They need to partner with a reputable, highly experienced platform. Relationships with tenants, brokers and developers are very important to investors' ability to effectively can deploy capital in the sector. They can partner with an operator to source deals one at a time, but sometimes a more efficient way to allocate capital is to invest in an open-end fund so they can achieve instant diversification and leverage the portfolio cash flow from day one.

DC: It is still possible to achieve attractive risk-adjusted returns through value creation strategies and active portfolio management. Adopting and maintaining a robust build-to-core strategy is also an attractive way to acquire assets compared to simply outbidding other investors in an auction process. The competition for land right now is very tough; because finding good sites and getting land entitled is such a challenge, we have seen supply and demand remain balanced. If it was easier, given the amount of capital seeking higher-than-core returns, there would probably be a bit of an oversupply. We prefer owning modern assets that are located close to the larger local and regional population bases in markets that possess really good local infrastructure. Access to labor has become a very important part of occupiers' decision-making. Online retailers prefer locations where they can find plenty of good quality labor. That is causing some markets to be stressed while creating opportunity in others. In some traditionally strong markets, for example certain sub-markets in Central Pennsylvania, labor is harder to find and some tenants are starting to look elsewhere.

TW: One of the new markets we are betting on is Las Vegas – partially because compared with Southern California the land is less expensive, and labor is cheaper and not unionized.

PERE: Are there any potential downsides that investors should look out for?

DC: Obsolescence is always a concern. Investors are very focused on buying buildings with adequate parking and good truck access,

Wang: demand for retail space is being transferred to warehouses

and with clear heights likely to be attractive to occupiers. A little under half of US warehousing was built before 1980, and we will see more buildings approaching obsolescence in the coming years. That could create build-to-core opportunities for investors and covered land plays, where investors have the opportunity to buy an existing investment in a location where the land may have a higher-value use in the long term.

TW: Technological changes like driverless cars and drone delivery may impact warehouse demand or locations. Another concern is a potential full-scale trade war between the US and China that could shift global trading patterns. That hasn't caused any major changes in tenant demand so far, although some of them are a little bit cautious. Ultimately, whether US consumers are buying goods from China, or from Malaysia, India and Vietnam, the demand for warehousing will continue to grow along with US consumption. A trade war could affect the attractiveness of some locations though. Perhaps the US west coast might become less important over time.

"Relationships with tenants, brokers and developers are very important to investors' ability to effectively deploy capital in the sector"
Tim Wang

DC: Product returns are a bigger challenge for e-commerce businesses than for traditional retail stores. Substantially more product purchased online gets returned – around 30 percent compared with 10 percent of products bought in a store. How companies adjust their strategies to try to minimize the impact on their bottom line will be interesting to watch. Some are rolling out brick-and-mortar stores where they can sell returned products, others are very aggressively trying to figure out their reverse logistics, and some will change their pricing policies to disincentivize returns.

TW: Because there are more processes like returns to accommodate, e-commerce requires three times more warehouse space than traditional brick and mortar retail. Every $1 billion of new e-commerce sales will translate into 1.25 million square feet of new warehouse demand. If you believe the projections on e-commerce growth over the next five years, we need at least 260 million square feet just to contain that.

4.2%
Vacancy rate for US warehouses today, compared with a long-term average of 7.4%

DC: That is another reason why people are betting on the industrial market. The structural shift in the way people buy their merchandise is having a big impact in our sector and causing people to look at it as a good place for their money to be in the long term. □

Breaking up is hard to do

As the prospect of a disorderly Brexit grows, logistics investors are evaluating the potential costs and benefits of the UK's impending divorce from the European Union. By Stuart Watson

In mid-January, the Brexit sound and fury reached deafening levels as the UK parliament overwhelmingly rejected Theresa May's withdrawal agreement. In the meantime, the country's logistics operators, retailers and manufacturers were quietly buckling down to the task of preparing against the growing possibility of a disorderly exit from the EU.

For some months, occupiers in the industrial sector have been vacuuming up excess distribution space (see below) to ensure their supplies keep flowing if there is chaos at the ports. For the immediate future, that is good news for anyone with a vacant warehouse to let, but the longer-term effects are less clear-cut.

More than 40 years in a shared European market has shaped the cross-border supply chains on which UK business relies. Depending on the trade deal eventually struck with the UK, most Brexit scenarios involve some extra friction at the country's borders, and in the case of a no-deal Brexit on World Trade Organization Rules (WTO) serious delays are likely. The Port of Dover estimates that if each truck takes two more minutes to pass through customs, that would create 17-mile backups on the motorway network. How could ongoing disruption impact the future of UK logistics warehousing and its attractiveness to real estate investors?

> **"If we see the pound devaluing by a further 10-15 percent and a recession, that will hit all segments of the economy including logistics"**
> **Olivier Téran**

Opportunity knocks

The most likely consequence is one that will please warehouse landlords: increased demand for space. "Whatever trade deal we end up with, the supply chain dynamic will alter. It is about managing two sides of an equation: capacity and flow. If you interrupt flow, you need more capacity to maintain the same delivery times. That means more warehousing," explains Peter Ward, chief executive of logistics sector trade body, the UK Warehousing Association.

For Ward, that is part of a "perfect storm" of adverse conditions battering his members that also includes a shortage of speculative-built warehouse space and land on which to construct it, and a skills and labor shortfall compounded by a fall in sterling that has made the UK a less attractive destination for warehouse workers from eastern Europe.

Those conditions have been less troublesome for logistics real estate, however. According to CBRE figures, 2018 big-box warehouse take-up in the UK reached an all-time record 31.5 million square feet. The sector is more likely to view Brexit disruption in a positive light, suggests Walter Boettcher, director of research and forecasting at Colliers International and author of a report on Brexit property impacts: "Investors and developer see the imminent changes in supply chains as creating a huge amount of opportunity to revisit the existing supply structures and develop new facilities to accommodate whatever changes are coming as a result of Brexit," he says.

Brexit may lead to changes in the location of warehousing as well as the quantity of demand. Ward predicts that some UK businesses that have been supplying continental Europe from domestic warehouses will look to open facilities across the channel. The converse will also apply, he predicts: "There are companies supplying into the manufacturing and retail sectors with just-in-time delivery from warehouses in the Benelux region that are saying they will have to have a UK hub now."

Soft or hard deal … and why it matters

Increased need to reserve space around ports to carry out customs inspections could boost real estate activity both portside and elsewhere, argues Mike Hughes, CEO of logistics investor-developer Verdion. "The principle of our iPort inland port scheme near Doncaster was to take shipments by rail from ports like Felixstowe and Southampton that want to reduce congestion portside. In a Brexit situation there is an opportunity for inland ports to do even more business. We are applying for bonded status at iPort so you can do customs checks there."

While supply chain restructuring forced upon tenants may well benefit landlords, the long-term economic consequences of a form of Brexit that makes it harder and more expensive to do business are potentially damaging. "The question is, will it be a soft or hard Brexit?" asks Olivier Téran, chief investment officer at Allianz Real Estate.

"The UK remains under-provisioned in large modern facilities, and if GDP growth and consumption remain at their current level I think the demand for space will remain strong. That demand was demonstrated by takeup for the first three quarters of 2018 that was up 18 percent compared with the same period in 2017. In the case of a hard Brexit, the economy will suffer. If we see the pound devaluing by a further 10 to 15 percent and a recession, that will hit all segments of the economy including logistics. Production and consumption will slow down, which should have a negative impact at a minimum on future asking rents given strong development pipeline, and possibly on vacancy. That is the concerning issue for hard Brexit in the long run."

While a consumer market of 66 million people will always generate demand for distribution warehouses for retailing, there are concerns that the disruption caused by a hard Brexit might force manufacturers to relocate outside the UK. Carmaker Honda has estimated that parts arriving from Europe could take as long as nine days to reach its plant in Swindon, and that holding so much stock in reserve would require more than 3 million square feet of warehousing, a prospect that is neither practical given the space available, nor affordable.

"Arguably the China-USA trade war has been instructive here," says Sabina Kalyan, global co-head of research at CBRE Global Investors.

"In the case of a presumed short-term disruption, operators find workarounds or simply add to the cost of operations. They can choose to take the hit on their margins or pass it onto the consumer. However, if the assumptions shift to long-term disruption – a no-deal and then protracted negotiation for a new trade deal – then we would see what is starting to happen in China: operators shift capacity to non-affected markets, in the case of China to Vietnam and other lower-cost South-East Asian markets, or in the case of Brexit to EU markets."

On the other hand, she observes, a further fall in the value of the pound could act as a powerful stabilizer: "An interesting question is whether the increased costs will be offset by the cheapness of UK real estate via the devaluation of sterling and a property price correction."

For the logistics property market, as with all other areas of the UK's economy and society battered by the turbulence of Brexit, it seems that the only certainty is uncertainty. □

3m square feet

Warehouse space required to hold nine days' supply of parts at Honda's car plant in Swindon

Building a Brexit buffer

Warehouse occupiers scramble for space as 'Brexit day' approaches

Whatever the long-term impact of Brexit may be, many UK companies have been seeking to draw the sting of a potential crash-out Brexit on March 29 by taking additional logistics space to provide a buffer of stock and supplies. "Usually in early January you expect a bit of a lull while stocks start to rebuild after Christmas," says Ward. "Last year and the year before our members might be running at 75-80 percent of capacity, but this year as a result of Brexit enquiries that is more like 95 percent. We have a mass of anecdotal evidence that there has been an upsurge in demand for warehousing space."

A survey of UKWA members conducted in December 2018 shows 85 percent have received Brexit-related enquiries. "It started trickling through the summer, gathered momentum in September, and as the likelihood of a day one no-deal scenario began to mount through November and December it really started to escalate."

In real estate terms, the impact of that increased demand is likely to be limited because most requirements are for short-term storage, and many are likely to result in existing unfilled "incremental" space being taken up. However, some UK investors have sought to turn the situation to their advantage. "Contingency planning is driving short-term requirements and we deliberately put in place in the summer a strategy to go and buy relatively unloved buildings in very prime locations in order to capitalize on that," says Stewart Little, co-founder of logistics asset manager Oxenwood Real Estate.

Survey of UK Warehousing Association members about Brexit enquiries

Have received Brexit-related enquiries	85%
Have been able to fill incremental space	75%
Now full, unable to take on more business	75%
Have turned business away (enquiry too large to handle)	60%
Have taken on business from new customers	75%
Have expanded business for existing customers	70%
Short-term requirements (3-6 months)	85%

Source: *UKWA*

Staying on top of trends is key to growth

GLP's CIO Alan Yang explains how building specialist domain expertise across global M&A, technology, rezoning and development of new assets has allowed the firm to increase its AUM almost sixfold since 2014 to over $60bn. By Mark Cooper

GLP began operations in Asia in 2003 and now has assets across US, Europe and Brazil, with India the latest market to be added to its global portfolio in 2018. The company listed on the Singapore Stock Exchange in 2010 but delisted last year. Chief investment officer Alan Yang tells *PERE* how the company has expanded so rapidly and created specialist teams across global M&A, technology, rezoning and development of new asset classes to grow the business beyond developing warehouses.

Yang: there is a strategic link between our traditional core logistics business and what technology innovators are doing

PERE: GLP's expansion in the past few years has been dramatic. How did this come about?

Alan Yang: From the beginning we could see the potential in logistics assets given three major drivers for the space globally. First, globalization; all our customers were beginning or enhancing their cross-border capabilities, whether it was from a supply chain standpoint or a distribution standpoint. So that meant increasing footprints for our customers and demand for logistics services and facilities globally.

Second, demographics; the millennial generation was becoming increasingly powerful from a consumption and purchasing standpoint, but also increasingly sophisticated and demanding consumers. This generation was also driving e-commerce innovation, which has now set the standard for all distribution and retail companies to try to meet.

The third trend was the implementation of technology into the supply chain. The earliest adopters were tech companies, but as more people realized this consumption dynamic relied on the supply chain, more and more innovation happened.

In 2014, we had the opportunity to acquire the IndCor business from Blackstone in an $8 billion transaction, which allowed us to establish a scalable platform in the US. Given our global, strategic and disciplined approach, we were able to drive the expansion and become the second largest landlord in US logistics within 12 months of entering the market.

The European expansion happened end of 2017 when we acquired the Gazeley platform and in under a year we roughly doubled our AUM to $7 billion. Then in 2018, we entered the Indian market through a strategic joint venture with IndoSpace. Our expansion has been fast, but it has also been methodical and grounded in global themes that are still driving the market.

PERE: Tell us about your entry into India and the potential you see in that market.

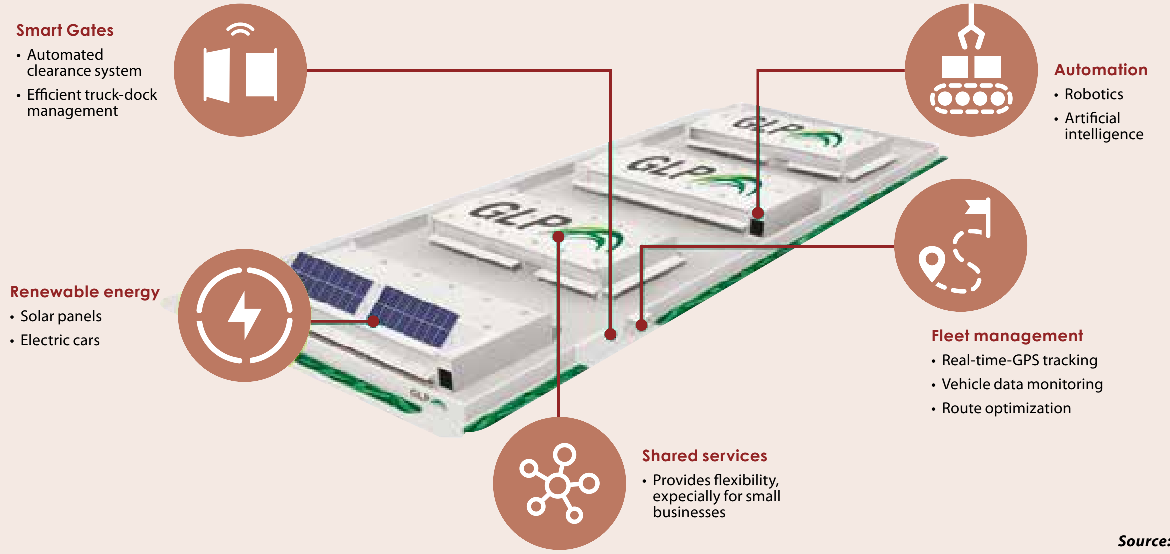
AY: In India, we see a big push from the government on infrastructure, which is critical for logistics, and rapidly growing purchasing power, along with tremendous growth in digital penetration. We think there's going to be accelerated institutionalization for the logistics real estate sector in India, as multinational companies coming to India expect to see international standards. Our AUM in China is $20 billion today, and we think India could become as big as that over time. The two markets share many similarities – a large population, favorable demographics and rapidly developing e-commerce and organized retail channels driving demand for modern logistics infrastructure.

Partnering with IndoSpace is a strategic fit for us given they are the largest in the market, with a strong track record. We bring our DNA, in terms of being able to scale a business in any market, understand what's driving customer demand and see where real estate should be strategically located. We also launched a venture with Everstone, one of the sponsors of IndoSpace, to invest $500 million in strategies and technologies

Big in Japan: in December 2018, GLP raised a third fund for logistics development in the country

Inside a GLP smart warehouse

GLP identifies and incubates technologies that support and advance the logistics of e-commerce



Source: *GLP*

to enhance logistics efficiency, to capture opportunities across the logistics value chain in India, including express delivery, smart trucks, telematics and robotics.

PERE*: We see a lot of developed markets far into the late stage of cycles. How are you looking to add value and to make your returns in these markets?*

AY: We pay very close attention to economic and business cycles. There are global cycles for sure, but there are nuances between each market and we target our efforts accordingly. So, in recent months we raised a third Japan development fund and a Continental European development venture, focusing on Germany, France, Italy, Spain, the Netherlands and Belgium. That shows how we think about each market and the opportunities in each one.

More importantly, those tailwinds – globalization, demographics and technology – are still driving warehouse demand, across markets and cycles. We see the line between technologically driven operating businesses and real estate is blurring. Consumer demand for e-commerce is growing much faster than the logistics infrastructure supporting it and for us the opportunity is to help bridge that gap with both technology and a global real estate footprint.

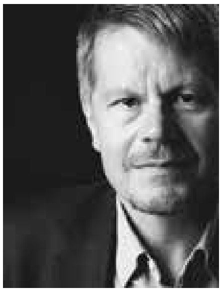
PERE*: Technology is obviously important for you, both as a driver for the logistics market but also as another area where you have invested in specialist expertise. How do you see logistics real estate tech developing?*

AY: Logistics real estate sits at the back end of the supply chain versus the consumer-facing side at the front. There is a technology gap between the front and the back end, which has to close in order to maintain the levels of service people are coming to expect. Roughly three years ago, we started to build specialist teams with domain expertise distinct from traditional real estate development to drive the expansion of our logistics platform and ecosystem. With that expertise and our global footprint and access, we've been able to identify the right technology and incubate it within our real estate portfolio in a way that gives those technologies more data points and customer feedback, and ultimately growing those businesses.

Just to give a couple of examples of technology which we've invested in that have really grown, one of which is G7, a trucking telematics company, which builds "boxes" that track detailed vehicle information and movements. This makes delivery more efficient, reliable and safer. There are almost a million trucks in China with this G7 technology now. And we've also been investing in robotics, on the picking and sortation side. Automating these processes improves speed, efficiency and accuracy, and paired with sensors creates more knowledge about inventory. So the technology is about making sure the trucks are full, taking the right route, and being as fast as possible with it. There is a strategic link between our traditional core logistics business and what technology innovators are doing, which ultimately makes our warehouses the most efficient they can possibly be for the customer. □

Weaving a web of logistics, e-commerce and retail

Online retailer Zalando's vice-president of corporate real estate, Raimund Paetzmann, explains how a functional logistics network is key to e-commerce meeting customer demands



It has only been 20 years since I started using the internet, ordering my first books in 1998. At that time, I would hardly have thought that just a little later, in May 1999, I would embark the Amazon ship, exploring the unchartered waters of e-commerce and changing the way I view logistics.

I still remember the first parcel being delivered, the odor when I opened it and holding the book in my hands. It was a new experience. However, technically it was only a gradual improvement of an already well-established ordering system that book retailers used in Germany, which made it possible for customers to order almost every published book and collect it from the store the next day. The only small difference the product was now delivered directly to customers, who could search and order it via a website without physically going to the bookshop to pick it up.

Keeping up with the customer

I mention this because we underestimate 'supposedly small' differences and improvements. The book retailers were proud to have a system that made books available within 24 hours. The customer seemed satisfied. However, as Jeff Bezos, founder of Amazon, once said: "Customers are always dissatisfied, even when they report being happy and business is great. Even when they don't yet know it, customers want something better, and your desire to delight customers will drive you to invent on their behalf."

To be successful, e-commerce was forced to innovate and introduce new services to sell a less tangible product on a website. Hence it is e-commerce that has driven most of the innovations and a greater customer focus in the retail sector. The traditional retail offering often watched all this in disbelief, and probably hoped that this would simply be a temporary episode, still in the firm belief that the customer does not need all that and would never buy certain products without 'touch and feel.' Now I work for Zalando, Europe's largest fashion e-commerce platform, which sells fashion, a product that, according to the logic of the time, should be seen, touched and tried on.

If you want to understand what e-commerce and logistics might look like in the future, it is helpful to understand the motivation and mechanisms behind the innovations. Looking at developments in recent years, you can see that these are not gradual, but exponential. Bill Gates once said that we tend to overestimate what will change in the next two years while underestimating how it might evolve in the next ten years. We can no longer look at a single field in isolation because parallel developments and innovations are combinatorial and amplify each other. Therefore, we will continue to see innovations on behalf of the customer improving the convenience of shopping. With an increasingly connected world, the boundaries between online and offline are blurring, and in the future it will be hard to distinguish between an online and a stationary purchase. However, customer centricity, vast selection and fast delivery will continue to drive success.

Critical logistics

To accommodate rising e-commerce penetration, we will continue to see demand for all sorts of buildings for logistic networks. Considering that the share of e-commerce across Europe is still relatively small – approximately 12 percent – and that most e-commerce players still report substantial double-digit growth, the demand for logistics buildings will continue to be strong during the next decade.

However, challenges along the way, like scarcity of land in urban areas together with difficulties securing the necessary labor will drive changes in building designs and locations. Again, the answers to the two problems will amplify each other: the challenge to the workforce will drive more automation, enabling multi-story buildings for logistics that can help to respond to land scarcity. More automation will also allow the consideration of locations that have not yet been on the radar of warehouse operators.

"To accommodate rising e-commerce penetration, we will continue to see demand for all sorts of buildings for logistic networks"
Raimund Paetzmann

One, although not the main, focus will be city logistics, where we will see local mini-fulfillment centers and a variation of delivery stations and micro hubs. □

Quantum leap

E-commerce has brought about a rapid transformation in the European logistics sector, swelling investor and occupier demand to unheard-of volumes, says Robert Dobrzycki, CEO of Panattoni Europe.

By Stuart Watson

European logistics is high on many investors' wish lists, not least because the online shopping revolution seems to provide a strong structural rationale for backing the sector. The sheer weight of capital and fast-changing nature of distribution networks can make it a challenging space in which to operate, however. Robert Dobrzycki, chief executive officer of developer Panattoni Europe, offers his tips for navigating the rapidly evolving market landscape of Europe's hottest asset class.

***PERE**: What are the critical factors influencing the European logistics market?*

Robert Dobrzycki: Two or three years ago, we all knew e-commerce would have a big effect on logistics, but it has been even more of a driving force and a dominant theme than we expected. Traditional retail is losing out in a big way. No one anticipated the trend would come on so quickly and with so much force. Over the past 12 months many investors have begun to perceive logistics as the best asset class going forward and started to acquire properties in the sector to hedge against the weaker performance of the retail assets they hold.

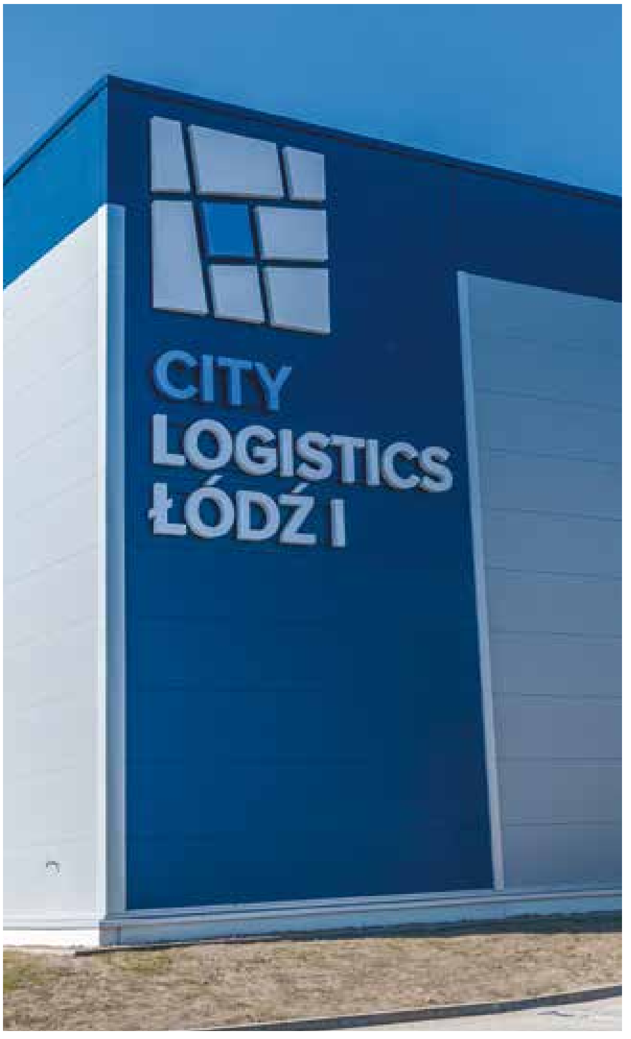
Meanwhile, we have also seen strong demand from occupiers for huge buildings. Take up has reached a historic high for our business, much higher than the late stages of the last cycle. Deal volumes, occupancy rates and the strength of sentiment in favor of the asset class all exceed anything we have seen in the past.

Dobrzycki: one of the best ways to access the asset class this late in the cycle is through development

***PERE**: How is the surge in e-commerce-related activity reshaping the market?*

RD: E-commerce buildings are more labor-intensive than regular warehouses, so while proximity to the customer is still very important, labor is an even higher priority. We are being asked by e-commerce operators to find sites for big distribution centers close to large labor pools as well as a wave of smaller last-mile facilities located much closer to the customer. The increased use of robotics and automation by some e-commerce companies is having a significant effect on the layout of buildings. They need higher, multi-level facilities, which present difficulties in terms of the construction process and costs, but is even more challenging from an investment standpoint. Investors are asking: what will happen when the lease expires and the existing tenant leaves? That question leads to a discussion over how many potential occupiers there are likely to be for that type of space going forward, as well as around the lease length, and about how much it will cost to make that building reusable when the tenant vacates.

In spite of the challenges, e-commerce's growing share of the market is a very positive trend for the sector because it uses three times as much distribution space as regular retail. It accounts for around 30 percent of our business today compared with less than 5 percent five years ago. Traditional retail as a



Bigger the better: there is ever greater occupier demand for huge logistics buildings share of the market is declining and being replaced by ecommerce. You can see the physical evidence of that in buildings that our retailer clients are using for both traditional distribution to stores and e-commerce: the latter is gradually swallowing up the space that was allocated for the former.

"In central Europe tenant demand is booming and vacancy is very low. That market is underinvested so there must surely be some scope for cap rate compression in the short run"
Robert Dobrzycki

PERE: Panattoni operates in both Europe and the US. How do the two markets compare?

RD: Europe is behind the US in the cycle and European yields are still higher. We are still in a low interest rate environment in Europe whereas in the US borrowing costs have started to go up. As a result, yields are now stabilizing in the US, but there is still potential for compression in Europe, more so the further east you go.

As the logistics market Europe is more fragmented than the US, with lots of different jurisdictions. Because of the variation in labor availability and cost occupiers are moving east. However, while the occupier market is moving in that direction, risk-averse investors are more focused on western Europe, which creates a yield gap that is still bigger than it should be. For example, there can be a 150 basis point yield spread between identical buildings that are only two kilometers apart, but which sit on opposite sides of the Polish-German border.

~30%
E-commerce's share of Panattoni Europe's business

<5%
That share, five years ago

PERE: What are the key opportunities and challenges facing investors in European logistics markets right now?

RD: The uncertainty surrounding Brexit has deterred some investors from the UK market, but we feel that is a short-term trend because there is a continuing need for more logistics real estate there. The e-commerce story is helping the sector in the UK as it is in other countries. Germany is very expensive and very liquid, but there are still opportunities to be had in the value-add space by amalgamating a number of smaller projects into portfolios. Meanwhile, in central Europe tenant demand is booming and vacancy is very low. We feel that market is underinvested, so there must surely be some scope for cap rate compression in the short run.

Over the past year, rental growth across Europe has been driven by an increase in land and construction costs. Building costs alone went up in some places by 25-30 percent. Part of that is due to a lack of capacity, which can have consequences for the amount of time projects take to deliver, but commodity pricing and increased transport costs have also had an effect. Rents have gone up by around 10 percent across Europe on average, so in the short run developers' margins are under pressure. Liquidity and investment appetite are increasing in the meantime though, so higher costs are partly offset by yield compression.

PERE: What strategies are currently favored by institutions looking to invest in the sector?

RD: One of the best ways to access the asset class this late in the cycle is through development. Across Europe we have seen investors looking to get into the market at a lower price level while taking a slice of the development profit by forming joint ventures with developers. The pricing of completed and let assets is very high, so by doing that it provides a bit of a cushion against the potential downside.

Investors often like to partner with a developer that can give them exposure across a number of countries in both western and central Europe because that provides them with diversification across national boundaries. Very few of the investors we deal with today focus on individual countries. They also want sufficient volume to make the joint venture worthwhile. They expect the developer to perform in areas including land assembly, the development process, debt origination, asset management and sometimes even in devising an exit strategy.

From the developer point of view, entering a large-scale arrangement with an investor saves them the hassle of capitalizing deal by deal. Also, to be competitive in the current market, efficiency of execution is the key. Decision-making processes need to be smooth and efficient. Allying with a large investor gives the developer the firepower to execute deals quickly in highly competitive conditions. It also provides a degree of stability, because having an ongoing relationship with a strong capital partner gives the developer confidence to proceed.

For those relationships to work at their best, they have to be a long, steady association so that the partners can concentrate on the platform play. You have to compromise, be flexible on individual transactions and look to the future, and we think that despite the obvious geopolitical turbulence, very strong demand, limited supply and the e-commerce story will all still support the European logistics sector in 2019. □

Change for the better

Warehousing developers are adding value by seeking new uses for industrial sites in growing and maturing cities, reports Mark Cooper


BMW China R&D Center: formerly a Beijing manufacturing facility

The concept of highest and best use is an important one in property; however, cities are not static and the optimum use of land today may not be the same in a decade's time. Industrial landlords are aware of this as their sector often – but absolutely not always – ranks below other uses; land zoned for residential or office use tends to be more valuable than that allocated for manufacturing and distribution. However, getting in at the bottom of the value chain opens opportunities for industrial landlords to cash in as cities grow and develop around their assets.

Urban opportunities

China has seen dramatic urbanization over the past two decades and people continue to flock to its major cities; the government estimates that 300 million people will move to cities between 2010 and 2025. This provides an opportunity for landowners in those cities, one of which is logistics specialist GLP, which has created a specialist arm to exploit opportunities for change of use. The I-Park business now has 80 staff and 600,000 square meters of R&D and business park space.

Angela Zhao, co-president – real estate, GLP China, says: "We have been operating in China since 2003 when urbanization was experiencing its most rapid growth. GLP's portfolio has sites that were previously on the periphery of cities, but which are now part of the city and could be rezoned to drive more value. For example, we redeveloped a manufacturing facility in Beijing into BMW's largest research and development center, while in Shanghai, the construction of a new subway station near one of our sites has made it suitable to be rezoned as commercial space."

The potential in GLP's China portfolio is significant, says Zhao. "We estimate that 10-15 percent of our existing $20 billion portfolio could be rezoned, which could increase its value fivefold. That would increase the overall portfolio value by a third."

Change of use potential is not limited to rapidly growing developing markets such as China. Prologis, one of the longest established industrial specialists, has a long history of adding value through change of use. The company acquires infill and brownfield sites in the US and Europe with an eye on change of use potential, says Mark Hansen, managing director, investment division. "In an infill environment, change happens as cities grow or new transport links are built. Our base case is industrial and warehousing, but we are always looking for opportunities to add value."

> "We have capabilities to execute different property types. A warehouse is essentially just a big box and you can put it to different uses, such as fitting it out for a data center, offices or retail – we are even looking at conversions to rental apartments"
> **Angela Zhao**

Prologis' investment teams look for opportunities to create value through conversions to achieve higher and better uses across its US and European portfolio and such projects net the firm on average around $50 million a year. Sites with planning permission for residential development will be sold to a specialist developer, but in the case of a project such as One Workplace in Santa Clara, California, Prologis carried out the conversion of a warehouse to a corporate headquarters, showroom and distribution center for a furniture business.

Change of use can be extremely profitable: in 2015, Prologis sold a warehouse site in Menlo Park, California to Facebook for $400 million, having acquired the site around seven years previously for $110 million and subsequently gaining permission for office campus, housing and retail uses, and with more density on site. As a minimum, Prologis seeks a 20 percent value uplift from change of use, says Hansen, but often achieves more.

Having industrial and warehousing as a core business can be an advantage for companies such as Prologis. "Our long-term strategy is to maintain industrial use. Therefore, we can wait across cycles for the right time and value to seek change of use," says Hansen.

In Australia, Goodman Group, which has been developing industrial property for more than 30 years and thus benefits from long-term landholdings, has a substantial number of residential projects in the pipeline and generated impressive receipts from land sales for urban renewal. The company has a pipeline of more than 35,000 apartments in various stages of planning and over the past five years has sold A$2.5 billion of land for alternate uses.

Major deals include the sale of a former industrial estate in Erskineville, Sydney to Hong Kong developer Golden Horse for A$380 million. The site is earmarked for a housing-led mixed-use development. Australian residential developer Meriton bought two Sydney sites from Goodman for a total of $450 million.

Goodman chief executive Greg Goodman says: "Goodman has a number of planning initiatives underway in various urban centers around the world. Cities around the world face challenging planning decisions around land use, driven by this competition for land that's close to consumers.

"In making these decisions, there needs to be greater recognition of the opportunities presented by transitioning industrial precincts for broader use, where industrial, residential and other uses can co-exist."

A key factor for logistics real estate owners considering seeking a change of use is their existing tenants. "It is important for us to co-ordinate our efforts, to ensure our customers are happy. Due to our scale and presence, we can find a new space for them in one of our other buildings if necessary, while optimizing sites for new users," says Hansen.

Cashing in on the data boom

Rapidly increasing demand for data centers is a boon to warehousing owners, as modern buildings can often be fitted out by data center operators, with access to power being the most important consideration. Goodman, for example, converted a 16-story logistics complex in Kwai Chung, Hong Kong to a data center and sold it to PAG Real Estate for HK$1.3 billion ($166 million; €146 million) in 2015.

In markets with robust demand for data centers, Prologis ensures new warehouses have the power and other requirements to allow them to be fitted out as data centers, says Hansen. Tenancy agreements require data center customers to remove their fit-out so the building can be returned to industrial use.

GLP's Zhao says: "We have capabilities to execute different property types. A warehouse is essentially just a big box and you can put it to different uses, such as fitting it out for a data center, offices or retail – we are even looking at conversions to rental apartments, as there is high demand in the first-tier cities of China for this."

The world's largest cities are attracting new inhabitants and putting constant pressure on land prices, all of which means savvy owners of industrial and logistics assets could engineer sharp rises in the value of their portfolios. □

Not unidirectional

Increasing demand for warehousing and the development of multi-story facilities means it might trump other uses

Alan Yang, chief investment officer of GLP, says: "Even in developed markets, logistics real estate still has a lot of catching up to do to meet the demands of the consumer. The use of technology and data analytics has enabled better demand and inventory forecasting, which is driving increased demand for warehouses closer to the consumers, in major population centers, not just a singular, large-scale fulfilment center.

"The economics of these sites historically may not have worked for traditional logistics real estate, but they now may be viable given the high level of demand and new innovations in technology and development. As a result, we could see sites which once had a higher value as office or retail or another asset class being redeveloped for logistics."

"Sometimes industrial is the highest and best use," says Mark Hansen, managing director, investment division at Prologis. In London, Prologis bought a large site, which was part of the Stockley Park office campus and gained permission to develop 450,000 square feet of logistics space. Also in London, GLP is developing a multi-story warehouse – its first in the UK – on a Docklands site it acquired from Galliard Homes and Cain International. The development is in line with Greater London Authority's commitment to make land available for 'last-mile' distribution close to central London.

Increasing use of automation in warehouses means they can be developed on smaller plots; in land-constrained Japan, multi-story warehouses are often served by lifts rather than ramps.

Automatic for the shed: tech is intensifying how space is used

Building for the next generation

Development is the best strategy to build a portfolio suited to the needs of tomorrow's warehouse occupiers, argue LCP's James Markby and Kristof Verstraeten.

By Stuart Watson

Increased automation and the need for economies of scale are propelling demand for bigger, higher distribution centers, of which few currently exist. Meanwhile, outbidding rivals in a fiercely competitive market for existing assets can be an expensive approach. In that context, James Markby and Kristof Verstraeten, joint managing directors at developer and asset manager Logistics Capital Partners, make the case for development, and analyze southern Europe's burgeoning institutional warehouse investment market.

***PERE**: What's the key to building an institutional logistics portfolio in today's market?*

Kristof Verstraeten: Everything points to development. Aggregating quality assets in this sector is increasingly difficult because there's a lot of capital allocated to logistics chasing the same product. At the same time, all the trends in the sector – e-commerce, consolidation at increased scale, mezzanines and multi-level buildings, automation and robotics – have triggered much more development and reconfiguration of existing buildings. A lot of the future demand from occupiers will be a poor match for the buildings currently available. That has two effects: first, old buildings in key locations close to city centers will be upgraded. That is the rationale for a value-add strategy we're pursuing in Italy with The Carlyle Group, acquiring older buildings and doing asset management with an upgrade component to it. Second, a substantial part of demand in each market doesn't fit any existing building. That is especially true for extra-large logistics buildings of 50,000 square meters and more. There's virtually no availability of existing buildings of that size, so that demand is all pushed toward new development. So is demand from occupiers keen to use more robotics and automation, because that cannot usually be easily accommodated in existing buildings. Meanwhile, labor shortages in a number of key European locations are forcing occupiers toward rethinking their networks and using more automation.

James Markby: Automation leads inevitably to intensification of use. It requires higher cubic capacity. Often occupiers are still designing the buildings and automated systems while concurrently running their real estate search, and it is only at the last minute that all those things come together and the developer gets informed about it.

***PERE**: Does that favor build-to-suit development?*

KV: To some extent yes, but if you have enough contact with occupiers you can figure out the features and elements that work for everyone and design a flexible shell building for speculative construction, provided you're prepared to run a customization project for your specific tenant afterward.

JM: Today, many operators are asking for build-to-suit designs that might have been considered non-standard a few years ago. You still need to design buildings that allow enough flexibility to be re-used at the end of the lease, but because a growing section of the market wants higher buildings with more mezzanines and bigger yards, and higher energy and amenity specifications, those features are becoming less bespoke.

KV: Not only is there is very substantial demand for buildings that need to be developed, but if you approach the market through development you are more likely to end up with buildings that are future-proof because they already have the modern features that conform to the next-generation specification rather than a current or older one. Those are two of the main reasons for taking a development approach to investing in this market.

***PERE**: What are the challenges involved in securing capital backing for a development-based strategy?*

JM: There's clearly lots of equity capital of every type available for logistics at the moment. However, following where occupiers want to go and developing the buildings they need requires institutional capital at scale that's comfortable with a moving set of targets and risks. Buildings are designed and evolve, locations change and factors like planning restrictions come into play, so there's a whole set of timing and practical complexities. You have long lead times then very compressed timescales to execute all the contracts. We ran a process to find that kind of capital and in November we formed a partnership with Invesco. They provide capital into LCP's balance sheet as a corporate finance facility that gives us a broad degree of discretion over how we secure and build out the development pipeline. If we couple that with existing bank and lending relationships, over the medium term we can build out over €1 billion of end value. This fits nicely with another, complementary, strategic partnership with the listed Tritax Eurobox fund. We are the exclusive asset manager to Eurobox in all countries (except Germany, where they also work with Dietz) and it is the aim that our development pipeline is offered to Eurobox for acquisition. The Tritax Eurobox management team have set themselves apart from other general logistic funds and managers from the outset by anticipating the importance of these evolving market dynamics and teaming up with a specialist developer such as ourselves. This allows them to follow customers across Europe, to provide immediate access to the latest generation of buildings coming from our development pipe in multiple markets, and then future enhance performance and operational efficiencies from us managing those buildings and key occupational relationships for the longer term.

KV: Generally speaking, logistics is popular with banks and alternative lenders and funders, but we're seeing a bit of a differentiation between the institutions and companies that are willing to lend for development and understand the evolution of buildings and technology, and those that don't. A very large building can either be perceived as a liability – the old-fashioned view would be 'If it becomes vacant how will I re-let this?' – or it can be seen as a positive because the tenant is less likely to move out and if they do you'll probably own the only large building in a market where the demand for large buildings is strong. Some lenders understand the opportunity and are very actively pursuing it; others are sitting on the fence and haven't made the jump yet.

Verstraeten: everything points to development

Markby: growing section of the market wants higher buildings

JM: Senior lenders, in particular, are also becoming divided between those that can follow in the development process and those that cannot, and which are only looking for buildings of the type designed five years ago. It may be that the latter group will find it harder to allocate their loan books because they're missing a major part of the future growth of the market.

***PERE**: LCP has been very active in southern Europe. What is the investment opportunity there?*

KV: The economic cycles of northern and southern Europe are running at a slight offset with southern Europe slightly behind, so if there's a downturn then economies there will go into recession later, and because they are more state-subsidized than those in the north they tend to do so at a slower pace. Growth in the south is also less closely related to manufacturing and trade, and more to general consumer spending, consumption and demographics.

"There is an opportunity in southern Europe similar to the one that existed in Germany more than five years ago"
Kristof Verstraeten

JM: We think there is relative value to be captured there, and a competitive advantage if you can operate effectively in those markets compared with others that are already saturated with other strong developers.

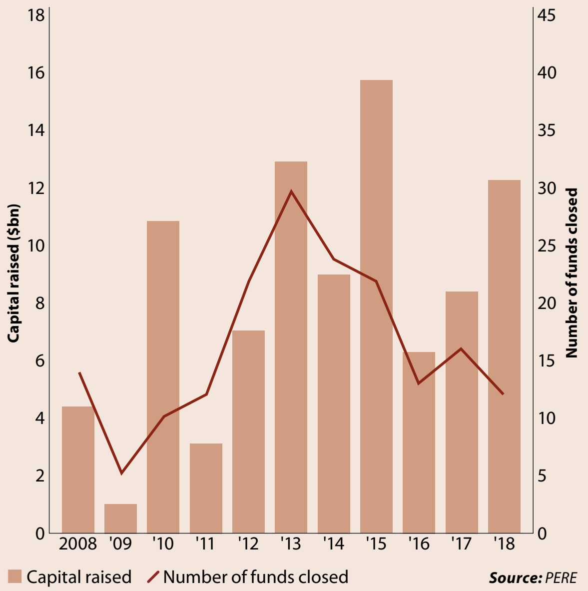
KV: Another difference today still between northern and southern Europe is the depth of the market and the number of institutionally accepted locations. In Germany, the big brokers report on 17-20 logistics hotspots, located around every big city. That has evolved, because 20 years ago they would only have reported on Hamburg, Munich and Frankfurt. By contrast, if you look at where institutional investors focus in Italy, it is limited to Milan and maybe Rome, whereas in fact there are probably 10 sizeable logistics markets linked to urban centers. In France, investors traditionally look at Lille, Paris and Lyon as the three key markets, but there are a lot of other interesting markets near big population centers. The same applies in Spain; the Malaga area has a population of three to five million people depending on how wide you draw your radius. It's a substantial logistics market, but it would not traditionally be on the radar of many investors. There's an opportunity in southern Europe similar to the one that existed in Germany more than five years ago when institutional investors began to spread their wings a bit. It's a less crowded market with the potential for growth and improvement because it is earlier in the cycle. Those factors will contribute to longer-term returns. □

Year of the shed

For many investors, logistics was the property asset of choice in 2018, and this is reflected in *PERE*'s fundraising data

Less is more

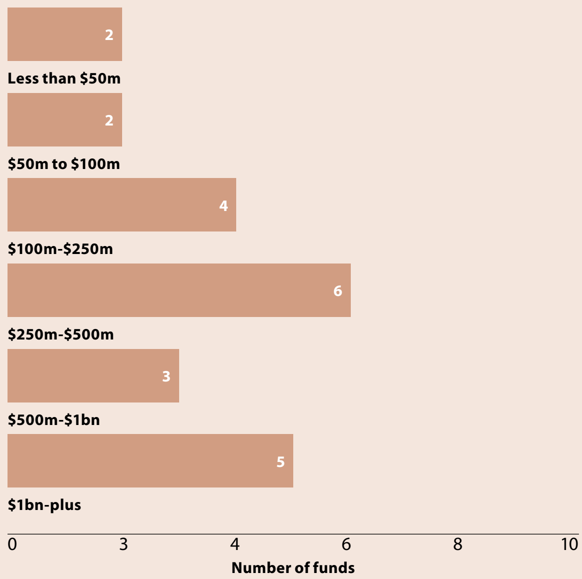
The last decade in logistics has been an up and down story, but in 2018 more capital was raised from fewer funds than in 2017



Source: *PERE*

Aiming higher

Funds in market are targeting capital raises at the mid to upper range



Source: *PERE*

Premier league

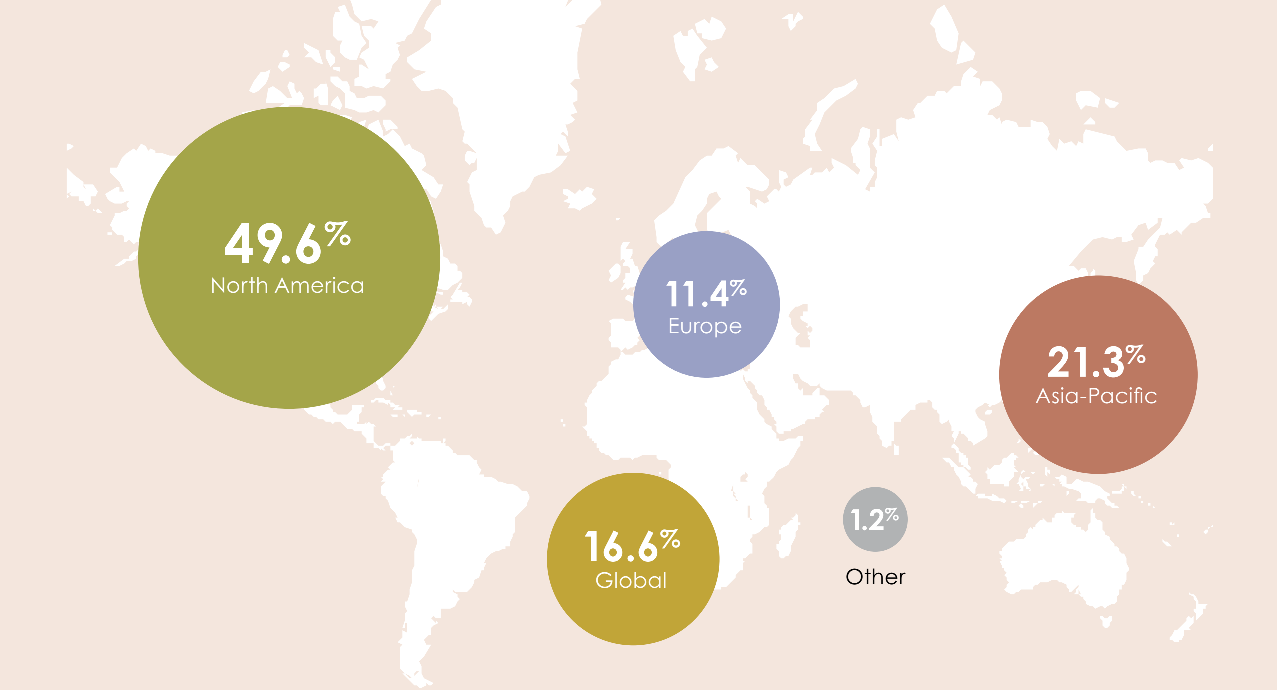
Half of the 10 largest logistics funds currently in market are targeting Europe

Fund name	Head office	Fund manager	Target size ($bn)	Fund strategy	Regional focus
GLP Continental Europe Development Partners I - Joint Venture	Singapore	GLP	2.29	Opportunity	Europe
Black Creek Industrial REIT IV	US	Black Creek Group	2	Core	North America
GLP China Value-Add Venture II	Singapore	GLP	2	Value-added	Asia-Pacific
Prologis UK Logistics Venture	US	Prologis	1.28	Core	Europe
Logistics Warehousing Fund	China	China Life Investment Holding Company	1.24	Value-added	Asia-Pacific
Cabot Industrial Core Fund II	US	Cabot Properties	0.6	Core	North America
Patrizia Pan-European Logistics Real Estate Fund	Germany	Patrizia Immobilien	0.57	Core-plus	Europe
Gramercy Property Europe IV	UK	Gramercy Europe	0.51	Core-plus	Europe
Stoltz Industrial Fund II	US	Stoltz Real Estate Partners	0.5	Core	North America
RLI Logistics Fund - Germany II	Germany	RLI Investors	0.46	Core-plus	Europe

Source: *PERE*

Familiar territory

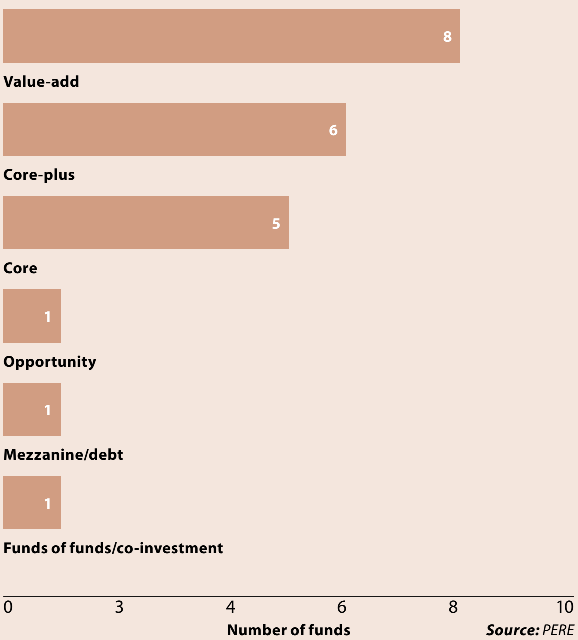
Logistics funds continue to target North America, but APAC has overtaken Europe to occupy second position



Source: *PERE*

Value seekers

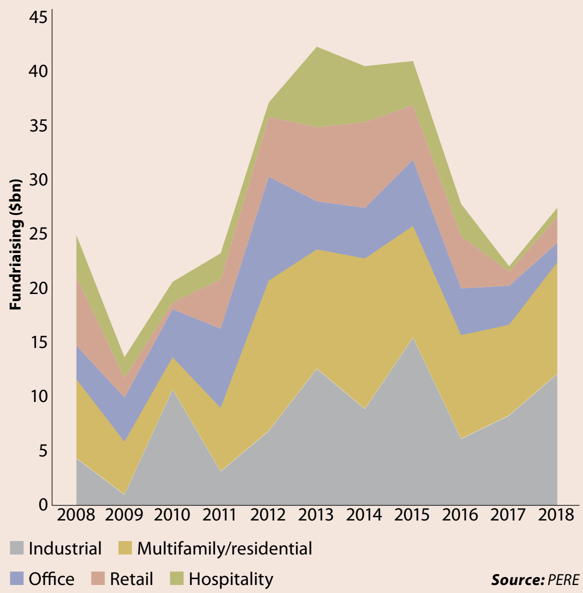
Logistics funds in market by investment strategy



Source: *PERE*

Sheds edge ahead

Logistics nudged out residential in the race for capital in 2018, bringing in $12bn and $10.6bn, respectively



Source: *PERE*

UK logistics keeps its balance

Concerns over Brexit and increased development have done little to upset the equilibrium of a market where tenant and investor demand remain vigorous, say Oxenwood's Jeremy Bishop and Stewart Little. Stuart Watson reports

In July 2018, London-based investor and asset manager Oxenwood Real Estate secured its first big logistics portfolio exit, selling £207 million ($268 million; €236 million) of real estate to Singaporean REIT Ascendas. Jeremy Bishop and Stewart Little, who co-founded the business almost five years ago, assess the prospects for the UK industrial sector in 2019 and consider how mid-size managers can best attract and deploy capital in the asset class.

50% share of new-build UK logistics space taken up by retailers in 2018

Amazon expands UK presence: the online giant recently took on logistics space in northern England

***PERE**: How resilient is the demand for logistics space in the UK?*

Stewart Little: There is strength and depth in the UK occupational market thanks to the continuing march of online retail. While overall consumption and spending is level or even slightly down, the shift away from traditional high-street stores into e-commerce is happening at great pace. Fashion retailer Next is usually a good bellwether for the fortunes of our retail customers. In the third quarter of 2018, their sales were up 1.5 percent overall, but their online sales increased by over 11.5 percent. Over time, as lease events come up in physical store portfolios, the move away from bricks-and-mortar in favor of retailers' online business will gather momentum. Meanwhile, as levels of automation and the use of just-in-time delivery concepts come in to play, building heights and configurations are changing. Consequently, around 50 percent of new-build space in 2018 was occupied by retailers, and that will continue to drive development. In our underwriting, we spend lots of time focusing on power and labor supply. Those factors will create challenges at some established logistics locations and will open up others. This year Amazon took two large buildings in the north of England. That's not because it is close to the markets they are delivering to. Amazon has gone there principally because there is an available labor supply, and they have also chosen locations of former heavy industry where I would expect excess power capacity.

***PERE**: What are the principal challenges that will confront UK market participants in 2019?*

SL: Broadly speaking, at present the UK market for larger buildings is in a state where demand is a little ahead of overall supply, but it is only in the last couple of years that development and development funding have really picked up. That has happened as confidence in occupational demand has increased, but also development funding for trader-developers to build speculative space has only returned quite recently. New entrants to the UK market, like developer Panattoni, will probably increase the pace of speculative construction, and the potential for increased supply may present a challenge. However, the risk of oversupply is not as great as it was in 2005-06 because there is more demand now from online retail and other new entrants to the market.

Jeremy Bishop: Often one hears about a speculative development financing, but when you delve into it a little more deeply you find there is an income-producing building next to the speculative one, or some other form of cross-collateralization. There is a degree of protection against loose financing, which is a blessing. Brexit is causing some investors to adopt a wait-and-see posture. For other capital allocators, particularly from overseas, Brexit is of less consequence because they are driven by diversification outside their home markets or an opportunistic currency situation. Occupiers say it is a big issue, and contingency planning is driving short-term requirements, but I do not foresee a disaster because of Brexit. We have a very resilient sector and there are vast quantities of capital looking at logistics at the expense of the other asset classes, so it feels like there is a degree of insulation.

> "If you really drill into what tenants want then you can find very sensible investments with value-add-type returns"
> Jeremy Bishop

***PERE**: What type of investors are keen to allocate capital to UK logistics?*

JB: There is a broad base of investors in UK logistics: UK institutions, REITs and local authorities, as well as international buyers, notably from Asia, Korea and now the Middle East. Middle Eastern investors frequently seek diversification and have grown to view the asset class as increasingly acceptable, whereas in the past they have often invested in offices and residential. Korean investors are taking a bit more risk. Traditionally, they have bought very prime long-let buildings, but we have seen some taking a more core-plus or value-add approach to the asset class. On top of that, there are private equity houses that want to get in, or which have invested already and want to top up or add a bit of development exposure to their portfolio. Then you have examples of UK family offices. It is really diverse.

SL: When we started our careers 25 years ago, the dominant share of UK institutional investors' property portfolios was invested in office and retail, with a little bit of industrial. We expect to see weightings increased toward the logistics sector and that will give depth to the market for exit strategies for the likes of us that are trying to find, buy or build product for institutional buyers.

"We expect to see weightings increased toward the logistics sector and that will give depth to the market for exit strategies"
Stewart Little

***PERE**: How does a mid-size company like Oxenwood carve out a niche in a market where there is a lot of emphasis on big ticket fundraises?*

SL: Before the global financial crisis, many global investors really had only the pooled funds in which to invest their capital if they wanted access to the sector. Now they want a greater degree of control, but they still want access to the asset class in different geographies. If you are an international investor looking to access UK and European logistics today then there are not many smaller specialist businesses with expertise and the ability to co-invest. You can go into the private equity funds, but if you want a one-on-one bilateral relationship with an operating partner, which a lot of investors prefer at the moment, then companies like us benefit from that.

Little: we spend lots of time focusing on labor and power supply

JB: Investors like operating partners with entrepreneurial flair, and that can deploy capital skillfully, but also with a disciplined institutional reputation. When it comes to securing product, there are always opportunities that are mispriced. If you really drill into what tenants want then you can find very sensible investments with value add-type returns. However, for overseas investors, it can be challenging without a local partner. There is a shortage of people who can operate well in this market, compared to the number of investors from all over the world that want to invest in logistics here.

Bishop: there is a broad base of investors in UK logistics

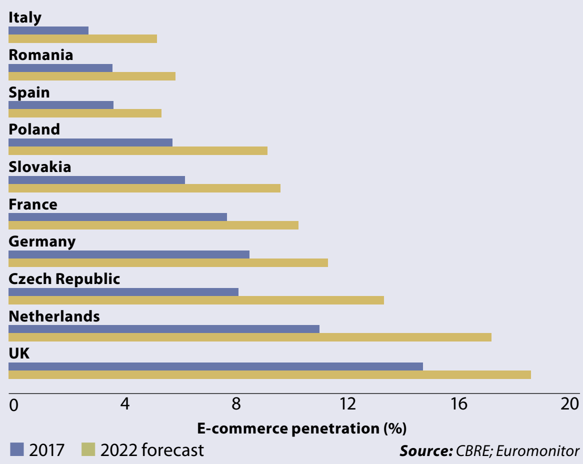
***PERE**: You have recently begun to invest outside the UK, with acquisitions in Germany and Ireland. Which markets offer the best potential for investors in the coming year?*

SL: Germany is hotly sought after at the moment. It is a manufacturing-based economy and close to the main European ports. We would look at France and Spain, and given the underlying economy and the way in which it supports German consumption we think Poland is interesting. There is probably a 250-basis point yield differential between the same asset in Germany and Poland, which is quite compelling for an investor.

JB: E-commerce penetration in most continental markets is behind that in the UK, so there is further mileage there. For our income-based capital partners, compared with the UK, financing in Germany and other European markets is extraordinarily cheap and that drives a very healthy cashflow from high-grade covenants. For someone willing to take a euro versus sterling view, it makes sense because the cash-on-cash yields are superb. □

Click of a button

E-commerce penetration is projected to rise across Europe in the next five years, presenting more opportunity for logistics players



Dynamic use of space, not occupancy, is key to unlocking opportunity

As e-commerce continues to grow, bold and flexible use of logistics property should become a major area of focus for investors, writes Dominic Wilson, managing general partner of Pi Labs

As an asset class in real estate, logistics has become a top performer, breaking recent records in 2018. In the UK, a recent report by Savills confirmed that nationwide take-up of logistics assets in 2018 had reached 34.1 million square feet. This represented a 32 percent increase on 2017 and a 14.1 million square feet increase on the long-term average.

Vacancy rates stand at approximately 5 percent. No wonder then that 77 percent of major real estate investors believe logistics has become the most attractive sector for investment and development. Yet amidst all this laudatory headline performance, an alpha returning investor's role is to maximize the value of their holdings. So, can capital allocators to this sector perform even better?

The answer is yes. It is tempting with large new entrants to the market, like Wayfair, to focus on yield, income and banking covenant KPIs. But the explosion of the logistics industry – estimated at $4.6 trillion globally – represents an exponential rise in e-commerce, driven by micro-players plugged into huge platforms like Amazon. For asset holders in this sector, focusing purely on the three aforementioned areas risks overlooking the change coming to the industry and the opportunities that come with it.

Nimble approach required

WeWork has blazed a trail for a paradigm shift in how we demand, use and value space. Eschewing traditional long-term, low-quality user experience-focused offices in favor of small, high-quality office space with a focus on maximizing revenue through shorter terms at a higher, albeit riskier, rent. For start-ups – WeWork's initial target market – flexibility, and the ability to scale up dependent on demand are highly prized features worth a more expensive rent on a per square foot basis. Furthermore, most start-ups cannot afford a long-term lease liability initially. Like start-ups, small micro e-commerce retailers and suppliers value this flexibility, and logistics asset owners need to respond in kind.

Emerging technologies focusing on dynamic utilization of space and pricing for asset owners have the potential to be a revenue maximizer for capital allocators, as well as solving variable and unpredictable inventory needs for tenants. This then is no longer a focus on a shed, but a pallet. Like hotels or airlines break their inventory down into rooms or seats, it is time to break these large warehouses down into individual units by the pallet or consignment, which can be tailored to individual demands or flexed according to seasonal trends. The logistics industry has traditionally been defined by large, slow-moving goliaths with considerable tracts of assets under management or ownership. Companies like Flexe or Stowga, which track demand and provide an interactive marketplace from as small as one pallet provide a nimble technological counterpoint.

"Emerging technologies focusing on dynamic utilization of space and pricing for asset owners have the potential to be a revenue maximizer for capital allocators, as well as solving inventory needs for tenants"

There are also technologies that make good bedfellows to this overall theme of dynamism. Innovative products which track and compile data that can be better used for predictive analytics on utilization can then be offered to manage capacity. Pricing algorithms can also be built, which would result in the optimal pricing being used on short-term space and storage applications. Lastly, and perhaps this is tangential or an extension further down the timeline, logistics assets and owners will become operators of autonomous trucks and will extend the level of service they provide to their tenants to transportation and shipping. In so doing, capital allocators to logistics assets will be embracing the overall trend of real estate moving to a service business, which sits alongside the capital aggregation of the asset approach. □

China logistics: more second-generation facilities are springing up

Harnessing Asia's growth potential

ESR's co-founder and co-CEO Jeffrey Shen tells *PERE*'s Mark Cooper he expects rising consumption and the growth of e-commerce to continue propelling the warehousing market in Asia-Pacific

Formed in 2016 by the merger of the e-Shang and Redwood groups, ESR operates in six Asia-Pacific markets and has a portfolio of approximately 11 million square meters of gross floor area across the region. In the past 12 months, ESR has welcomed Chinese e-commerce giant JD.com as an investor and launched two joint ventures: a Japan core vehicle with AXA Investment Managers – Real Assets; and an India partnership with Allianz Real Estate. Co-CEO Jeffrey Shen talks to *PERE* about what's driving the logistics business in the firm's core markets and how investor interest in the sector is developing.

***PERE**: Tell us what's driving the logistics real estate business in China, Japan and South Korea.*

Jeffrey Shen: In China, demand in the last seven to eight years has come largely from retail, especially from e-commerce. And if you look at some of our largest customers in China right now, you'll see the names of top e-commerce players such as JD.com, Cainiao, Vipshop and NetEase. The total volume of domestic consumption is very close to that in the US, but it is growing at 9-10 percent a year, so there is enormous potential still.

In Japan, e-commerce growth has begun accelerating, but is still behind China where digital consumption is around 20 percent of the total, compared with under 6 percent in Japan. With only about 5 percent of logistics capacity being modern, in Japan there is robust demand for modern logistics facilities to replace older, smaller warehouses. An important difference between the markets is that in Japan, retailers generally do not do their own logistics, so our major customers are domestic third-party logistics (3PL) companies. Korea is similar to Japan in that e-commerce is growing and that 3PLs dominate.

***PERE**: In which cities in China, Japan and Korea are you seeing the most logistics demand from tenants?*

JS: For manufacturing logistics in China there is demand in all the big cities. However, for logistics serving domestic consumption, demand is focused on the first-tier cities of Beijing, Shanghai and Guangzhou. One of our e-commerce tenants recently estimated that more than half its business comes from these cities. In Japan, the most active cities are the three traditional metropolitan areas of Greater Tokyo, Greater Osaka, Greater Nagoya whereas in Korea it's all about the Greater Seoul Area, which is home to half the country's population.

***PERE**: What about the logistics real estate itself, how does the warehousing you develop differ between markets?*

JS: Across our core markets you can see three generations of modern logistics space. The first-generation China warehouses were US-style big boxes with around 9.5 meters height. Now in China we see more second-generation facilities, such as multi-story buildings with a ramp, as you might also see in Japan and Korea, where the land cost is higher.

As the industry continues to evolve, two features are getting more and more crucial for prime logistics facilities: automation and human-centric design.

In China we are starting to build third-generation warehouses, that is multi-floor facilities with high-density storage equipment, to accommodate automation and robotics. We are seeing more demand for automation due to rising wages and the need for maximum efficiency.

In Japan, we put much effort in bringing a human-centric design to our warehouses. For example, we created the BARNKLÜBB, a day-care center offering childcare services, to help encourage women to re-enter the workforce. We also have the KLÜBB Lounge, a well-equipped lounge for employees to relax.

***PERE**: ESR has also been expanding into new markets: Singapore, Australia and India. What's driving these new ventures?*

JS: Singapore is a major market for REITs in Asia and we had an opportunity to become a REIT manager there with Cambridge Industrial Trust, which is now ESR-REIT. Last year we also took the opportunity to expand by merging ESR-REIT with another REIT, Viva Industrial Trust. Although Singapore is a smaller logistics market, it plays an important strategic role, in particular from a capital perspective. Having a position as a manager of Singapore REITs has great value for us, with regard to potential future vehicles.

Australia is an important market in our regional growth strategy. Similar to Singapore, there are assets and platforms available. After our strategic investments in Propertylink and Centuria, ESR bought Australian developer CIP.

We intend to leverage CIP's land bank and development capability to seed a new funds management platform.

We see strong interest from our capital partners in India and have built a great local team in Mumbai. India is like China 10-15 years ago with a lot of new development to serve manufacturing that is moving to India and to serve growing domestic consumption. E-commerce is at an early stage in India but growing. We launched the India business in 2017 and already have approximately 700,000 square meters of developable GFA and a robust pipeline of projects in prime locations across tier-one cities.

Shen: e-commerce is at an early stage in India, but growing

The ESR network has been growing hand in hand with our tenants and capital partners as they expand and thrive in Asia-Pacific. Our network of modern logistics facilities and investment vehicles provides good regional synergies for them.

There's interest from customers and capital partners in other potential markets in South-East Asia – Bangkok, Jakarta and Ho Chi Minh City, for example – so we're always exploring opportunities in both developed and developing markets.

***PERE**: What are investors looking for in logistics real estate and how are they allocating capital to the sector? What sort of returns do investors expect?*

JS: There is a somewhat different approach depending on whether we are talking about international or domestic investors. International investors continue to show a strong interest in this sector across the region, and very often they are looking in at least two or three markets in Asia. For example, one of our long-term investors, APG, is a capital partner in both China and Korea.

For domestic investors, Korean investors are similar to their international peers that they are keen to diversify their exposure in various Asian markets.

"International investors continue to show a strong interest in this sector across the region, and very often they are looking in at least two or three markets in Asia"
Jeffrey Shen

In China, investors such as insurance companies, are increasingly interested in holding local logistic assets because of the stable cash dividends and their expectations in rising land values and rents.

We've been able to attract leading institutional investors – both international and domestic – because of our development capacity and our relationship with tenants across multiple geographies. Moreover, we have a network that allows us to take advantage of growth opportunities in various markets at different stages of the investment cycle, and provides flexibility to our capital partners to deploy their capital across different geographies and risk profiles via different types of funds and investment vehicles.

The typical return expectation for the development funds depends on the market. For instance, in China investors might typically expect a 12-15 percent IRR for a development fund and a high single-digit return for a core fund.

***PERE**: Should we expect to see pan-Asia logistics funds emerge, as we have seen growth in regional core property funds?*

JS: There is demand due to the prosperous outlook of the region, and that there is a natural hedging effect among the countries. However, we need to build the infrastructure for such funds; there are challenges with different tax regimes, different currencies and different political and economic outlooks. You also need to be careful to avoid conflicts with the country funds. ◻

Logistics' global growth story in numbers

Managers and investors showed a penchant for logistics property with some big-ticket deals and commitments featuring in 2018

235.41 yuan

Per square foot price for industrial land in Shanghai in March 2018, the highest since 2008, according to China's Ministry of Natural Resources

3,000

Number of robots put in place at Europe's second largest e-commerce center near Szczecin, Poland, acquired by BNP Paribas REIM on behalf of Vestas Investment Management in June 2018

$1.4bn

Fresh equity committed by CPPIB to Goodman China Logistics Partnership

9

Assets in the northern Italy logistics portfolio purchased by retail-focused asset manager Meyer Bergman as it expands into the industrial space

5%

Anticipated growth of US industrial rents in 2019, according to CoStar

$700m

Committed by Canada Pension Plan Investment Board to GLP Japan Development Partners III

6%

Average vacancy rate in UK industrial, according to Savills

60%

Proportion of Sydney-based Charter Hall's Prime Industrial Fund made up of foreign investors

19m square feet

Size of GreenOak Real Estate's European logistics footprint after the firm's acquisitions in France and Spain in 2018

$20bn

Amount GLP is aiming to grow its India logistics portfolio over time after entering the market in 2018

▲21%

Predicted increase in South Korea's e-commerce market in 2018, according to Statistics Korea in June

PERE

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