



# Property Market Analysis LLP

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## Global Data Centres – Service Overview

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# PMA: Global Data Centre Monitoring Service *new*

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## Key Deliverables

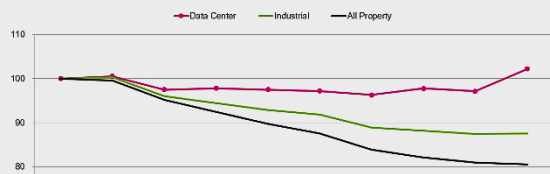
1. **Regional Overview Slide Decks** *Updated annually*
  - APAC, Europe, US
2. **Supporting Data Workbooks** *Updated annually*
  - Market size estimates, transaction volumes, cloud service provider region counts, etc.
3. **Key Operational and Pipeline Data Centre Listings** *Updated six-monthly*
  - by country (top 5 states in the US)
4. **Data Centre Investment Listings** *Updated quarterly*
  - Standing investments, land sales and M&A (entity) deals
5. **Policies and Regulations** *Updated annually*
  - Country-by-country Databank
  - Net Zero Transition Risk Report on Data Centres
6. **Enquiry Support** *On-call*
  - Support from our regional and local analysts

# 1. Regional Overview Slide Decks: APAC, Europe & US

## Capital Markets

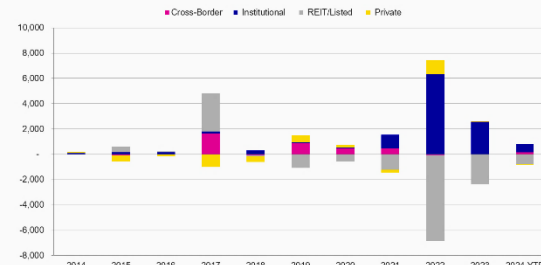
Data Center values have been more resilient than wider market...

NCREIF capital value index



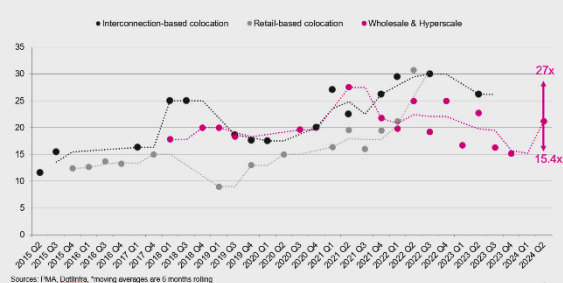
Where centers have traded, institutions have been the main net investors and REITs the major vendors...

Data Centers - US Net Acquisitions, \$mil.



Multiples had contracted from post-Covid highs of c. 30x Limited evidence of emerging recovery, but with large range...

EV/EBITDA multiples (x)



## Market Size & Structure

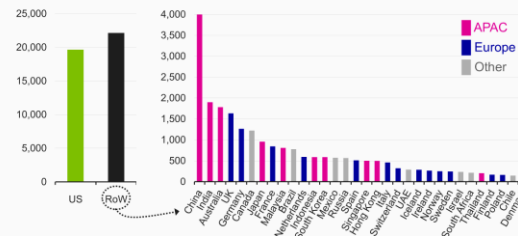
Despite physical proximity European countries have higher concentration of cloud region availability

Cloud Service Provider\* Regions\*\*



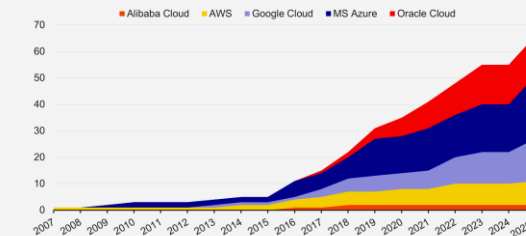
Global Data Centre Market Size Estimates

Total known operational colocation DC capacity (MW)



Hyperscaler cloud service growth in Europe has been rapid

Global Top 5\* Cloud Service Provider DC Locations in Europe (# of Regions\*\*)



Sources: PMA calculations based on Digit Infra | Including pipeline DCs  
\*AWS, Azure, Google, Alibaba, Oracle | \*\*Regions are sets of data centres that are interconnected via a massive and resilient network. (Source: Microsoft)

## DC Explainers

What's driving demand?

Growth in total volume of data

- Digital transformation
- Digital content (social media, OTT streaming services)
- 5G

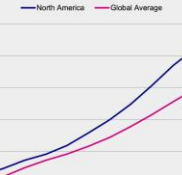
Changes in ways of data management

- Cloud computing
- On-premise to education

New technologies and infrastructures

- Edge computing
- Smart cities
- Internet of Things (IIoT)
- AI/ML/robotics/digital

Mobile data traffic per active smartphone (GB per month)



Things to Know: A Few Key Concepts

Power & water (not land) are the key constraints in many markets

- Power & water shortages are apparent in many markets, with DCs competing with people and businesses
- Power contracts often need negotiating years in advance

Power Usage Effectiveness (PUE)

- The ratio between total DC power consumption (including auxiliary equipment such as cooling, lighting) and energy delivered to computing equipment
- PUE = 1 is the theoretical min. (best) ratio. <1.2 is considered highly efficient.
- Combined power and heat (CPH) can improve the PUE by converting heat generated from DCs to electricity to then cool the centre.

Data Centre Interconnect (DCI)

- Networking infrastructure which connects two or more DCs to enable communication between servers directly, instead of over a wide-area network (WAN, i.e. the 'internet').
- DCI enables several benefits such as high-speed, low-latency B2B connectivity, rapid data replication, disaster recovery, resilience, and redundancy.
- Demand for DCI as a service is growing, delivering business advantage to larger operators with multiple DC assets in

Things to Know: DC Tiers

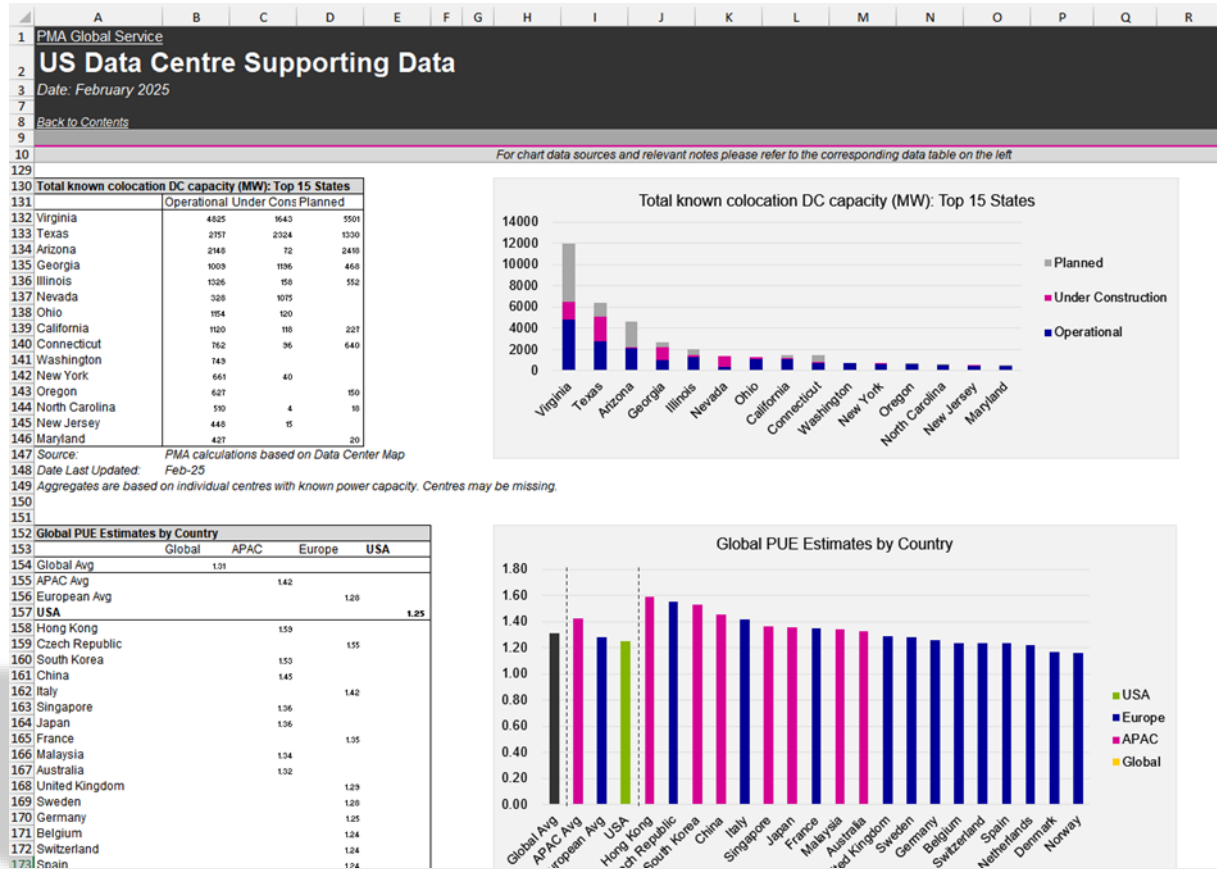
Uptime Institute Certification Standards

Tier 1 - 99.67% uptime	Tier 2 - 99.74% uptime	Tier 3 - 99.98% uptime	Tier 4 - 99.99% uptime
Basic Capacity	Redundant Capacity Components	Concurrently Maintainable Components	Fault Tolerant
Site-wide shutdowns are required for maintenance or repair work. Capacity or distribution failures will impact the site.	Site-wide shutdowns for maintenance are still required. Capacity failures may impact the site. Distribution failures will impact the site.	Each and every capacity component and distribution path in a site can be removed on a planned basis for maintenance or replacement without impacting operations. The site is still exposed to an equipment failure or operator error. <i>Typically seen as most optimal</i>	An individual equipment failure or distribution path interruption will not impact operations. A Fault Tolerant site is also Concurrently Maintainable.
<b>Related concept: Redundancy</b> System in place on standby in contingency to ensure continuity of service	<b>Tier 3 Redundancy:</b> N+1: Additional component to support a single failure (e.g. 1 extra UPS for every 4)	<b>Tier 4 Redundancy:</b> 2N or 2N+1: Fully mirrored	

Source: Uptime Institute

# 2. Supporting Data Workbooks

## Data Behind Key Charts – Market size estimates, transaction volumes, etc



# 3. Key Operational and Pipeline Data Centre Listings

## Key Schemes – Operational & Pipeline

	A	B	C	D	E	F	G	H	I
1	PMA Global Service								
2	<b>UK Key Schemes</b>								
3	Table 1 - Operational Centres								
4	Table 2 - Centres Under Construction or Planned								
5	<i>NB Top 10 centres by known MW size shown</i>								
6									
7	<a href="#">Back to Contents</a>								
8									
9									
10									
11	<b>Table 1 - Operational Centres</b>								
12	<b>Name</b>	<b>Owner / Operator</b>	<b>Stage</b>	<b>Type</b>	<b>City</b>	<b>Market</b>	<b>State / Province</b>	<b>Size in sqm</b>	<b>Size in MW*</b>
13	Vantage CWL1, Cardiff	Vantage Data Centers	Operational	Datacentre	Newport	Wales	United Kingdom	186,000	148
14	CyrusOne London, Woking	CyrusOne Data Centers	Operational	Datacentre	Woking	London	United Kingdom	20,000	94
15	LGW14, Woking	Digital Realty	Operational	Datacentre	Woking	London	United Kingdom	18,580	84
16	Global Switch London East	Global Switch	Operational	Datacentre	London	London	United Kingdom	65,542	60
17	Colt London North, Welwyn	Colt Technology Services	Operational	Datacentre	Welwyn Garden City	London	United Kingdom	44,000	41
18	GTR London GB One Campus	Global Technical Realty	Operational	Campus	Slough	London	United Kingdom	16,125	41
19	Green Mountain LON1-East	Green Mountain Data Center	Operational	Datacentre	London	London	United Kingdom	11,000	40
20	Kao Data Harlow Campus	KAO Data	Operational	Campus	London	London	United Kingdom	13,936	40
21	NTT London 1	NTT Global Data Centers	Operational	Datacentre	London	London	United Kingdom	12,800	32
22	The Chess Building	CapitaLand Data Centre	Operational	Datacentre	Watford	London	United Kingdom	25,000	31
23	Source: Data Center Map, PMA   *May refer to fully built out capacity once all planned phases are delivered								
24	<i>Details as reported, centres may be missing.</i>								
25									
26	<b>Table 2 - Centres Under Construction or Planned</b>								
27	<b>Name</b>	<b>Owner / Operator</b>	<b>Stage</b>	<b>Type</b>	<b>City</b>	<b>Market</b>	<b>State / Province</b>	<b>Size in sqm</b>	<b>Size in MW*</b>
28	NEP3, Cambois	QTS Data Centers	Planned	Campus	Blyth	North East	United Kingdom	538,838	720
29	DC01UK Campus	DC01 UK Ltd	Planned	Campus	London	London	United Kingdom	187,000	320
30	ADA London Docklands Campus	Ada Infrastructure	Planned	Campus	London	London	United Kingdom	142,170	210
31	Corscale Court Lane	Corscale	Planned	Campus	Slough	London	United Kingdom	65,032	103

# 4. Data Centre Investment Schedules

**Key Investments** – Standing investments, land sales, M&A deals

	A	B	D	H	I	J	K	L	M
1	<b>European Data Centres</b>								
2	<b>Standing Investment Report</b>								
3	2020-onwards								
4									
5	<b>Property Location Details</b>				<b>Investor / Vendor Details</b>				
6	<b>Country</b>	<b>City</b>	<b>Address</b>	<b>Investors</b>	<b>Investors Sectors</b>	<b>Investors Nationalities</b>	<b>Vendors</b>	<b>Vendors Sectors</b>	<b>Vendors Nationalities</b>
7	United Kingdom	Redhill	Redhill Data Centre, Foxboro Rd, St Annes Blvd	Castleforge Partners	Fund Manager	United Kingdom	Undisclosed		
8	France	Paris	CyrusOne PAR1, 1 boulevard Arago	Invesco Real Estate	Fund Manager	United States	Argan	REIT / Listed Property Company	France
9	Netherlands	Schiphol	Keppel Amsterdam, Tupolevlaan 101-109, Rijk						
10	Spain	Zaragoza	Data centre in Aragón, Calatarao	Blackstone Group	Fund Manager	United States			
11	Sweden	Gothenburg	Gompute data center, Byfogdegatan 6	atNorth	Private investor	Sweden	Gompute	Others - corporate, conglomerate etc.	Sweden
12	Norway	Oslo	na						
13	France	Paris	Sungard Data Center Campus Paris, 93 Cr des Petites Écuries, Lognes	Penta Infra	Private Property Company	Netherlands	Sungard Availability Services		
14	United Kingdom	Slough	LHR26 & 27 - Slough Trading Estate Campus, (ex-Cyxtera), 630-631 Ajax Avenue	Digital Realty Trust	REIT / Listed Property Company	United States	Brookfield Asset Management	Fund Manager	Canada
15	United Kingdom	Newcastle upon Tyne	Albany Ct, Newcastle Bpk	AP Wireless Italia	Others - corporate, conglomerate etc.	Italy	Canal & River Trust	Insurance / Pension fund	United Kingdom
16	Netherlands	The Hague	THG1 - DFDC The Hague, Moezel 5	Ellada Holdings	REIT / Listed Property Company	Netherlands			
17	Netherlands	Diverse Portfolio	2 data centers in Groningent and Rotterdam	Eurofiber	Others - corporate, conglomerate etc.	Netherlands	Bytesnet	Others - corporate, conglomerate etc.	Netherlands
18	Ireland	Dublin	DUB1, Profile Park, Grange Castle	Vantage Data Centres	Private Property Company	United States			
19	United Kingdom	Southall	International TE, Trident Way	Global Technical Realty	Fund Manager	United States	Royal London	Fund Manager	United Kingdom

# 5. Policies and Regulations Databank

## Regulatory Databank (Spring 2025)

	A	B	
1	PMA Data Centre Service - Regulations Databank		
2	<b>Asia-Pacific</b>		
3	Release: 2025		
4			
5	<a href="#">Back to Contents</a>		
6	<b>Table 1: National Regulations</b>		
7	Country	Area	Details
8	Australia	Data Protection	Whole of Government Hosting Strategy; all government hosted services must be with a Certified Hosting Provider. Existing contracts for hosting services must be with a Certified Hosting Provider. The Attorney General proposes a Privacy and Information Commissioner (PIC) with greater control over their personal information. The reforms include a new Privacy Act 1988, requiring disclosure in automated decision-making processes.
9	Australia	Data Protection	Overhaul to the Privacy Act 1988: the Attorney General proposes a Privacy and Information Commissioner (PIC) with greater control over their personal information. The reforms include a new Privacy Act 1988, requiring disclosure in automated decision-making processes.
10	Australia	Sustainability & Energy Efficiency	Data Centre Panel; The Australian government's Digital Transformation Panel (DTP) has established a new Data Centre Panel, which will advise on data centre issues. The panel will: <ul style="list-style-type: none"> <li>Meet the requirements of the Government's ICT Sustainability Strategy</li> <li>Comply with emission thresholds under the NGER Act &amp; the NABERS framework</li> <li>Have a 5-star NABERS rating or equivalent environmental certification</li> <li>Target a Power Use Efficiency (PUE) of less than 1.4</li> <li>Have a roadmap to meet net zero emissions through innovation</li> </ul>
11	China	Network Data Security	Cybersecurity Law (CSL) (Nov 2016): focuses on protecting network data and information security.
12	China	Network Data Security	Data Security Law (DSL) (Sep 2021): <ul style="list-style-type: none"> <li>Introduces rules for data security administration through data processors</li> <li>Requires data processors to identify and protect data, and to conduct security assessments</li> </ul>
13	China	Network Data Security	Personal Information Protection Law (PIPL) (Nov 2021): <ul style="list-style-type: none"> <li>Establishes legal framework for handling personal information</li> <li>Covers compliance for data processors, cross-border data transfers</li> </ul>
14	China	Network Data Security	Regulation for the Administration of Network Data Security (RANS) (Nov 2021): <ul style="list-style-type: none"> <li>Introduces specific controls for network data processors</li> <li>Provides guidance on personal data protection, security, and data processing</li> <li>Includes implementation details and penalties for non-compliance</li> </ul>
	China	Network Data Security	Penalties of non-compliance of the CSL, DSL and PIPL: <ul style="list-style-type: none"> <li>Fines up to RMB 10million for organisations; up to RMB 1million for individuals</li> </ul>

## Net Zero Report on DCs (available now)

**Executive Summary**

Data Centres in media, retail and decarbonisation. Whilst mandatory performance requirements are being introduced, inefficient PUE remains a challenge. Investor and operator engagement is key to driving down PUE. The top open Europe shows the most progress in reducing PUE.

The lack of a global standard for PUE is a challenge. The need for decarbonisation targets, and regulatory support, is clear.

**Data Centre Market Transition Risk: Tertiary Summary**

A 2D chart showing transition risk (Low to High) vs demand regulator (Low to High). Regions are categorized into Low Transition Risk (e.g., Hong Kong, Singapore), Medium Transition Risk (e.g., Australia, Vietnam), and High Transition Risk (e.g., Rest of EU markets, Rest of US markets).

**Global DC Power Usage Effectiveness (PUE)\* Estimates**

A bar chart showing PUE estimates for various regions: Global Average (~1.3), APAC Average (~1.4), US Average (~1.3), European Average (~1.2), Hong Kong (~1.1), Czech Republic (~1.1), South Korea (~1.1), China (~1.1), Italy (~1.1), and Singapore (~1.1).

**Wholesale & Hyperscale Investors - NZC Commitments Coded Up**

A stacked bar chart showing the percentage of investors categorized by NZC commitment level: A (NZC Leader), B (NZC Midding), C (NZC Laggard), and Rest. Europe shows the highest percentage of NZC Leaders.

**Wholesale & Hyperscale Investors - % Investment per region of A/B + NZ Strategy investors**

A bar chart showing the percentage of investment in A/B + NZ Strategy investors across Europe, Asia, North America, and Oceania. Europe has the highest investment percentage.

# PMA Data Centre Service: Subscriptions

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- All outputs, including support, are delivered as standard.
- Data Centre subscriptions are by Region: APAC, Europe, US or Global.
- Fees are discounted for multi-region subscriptions

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Service

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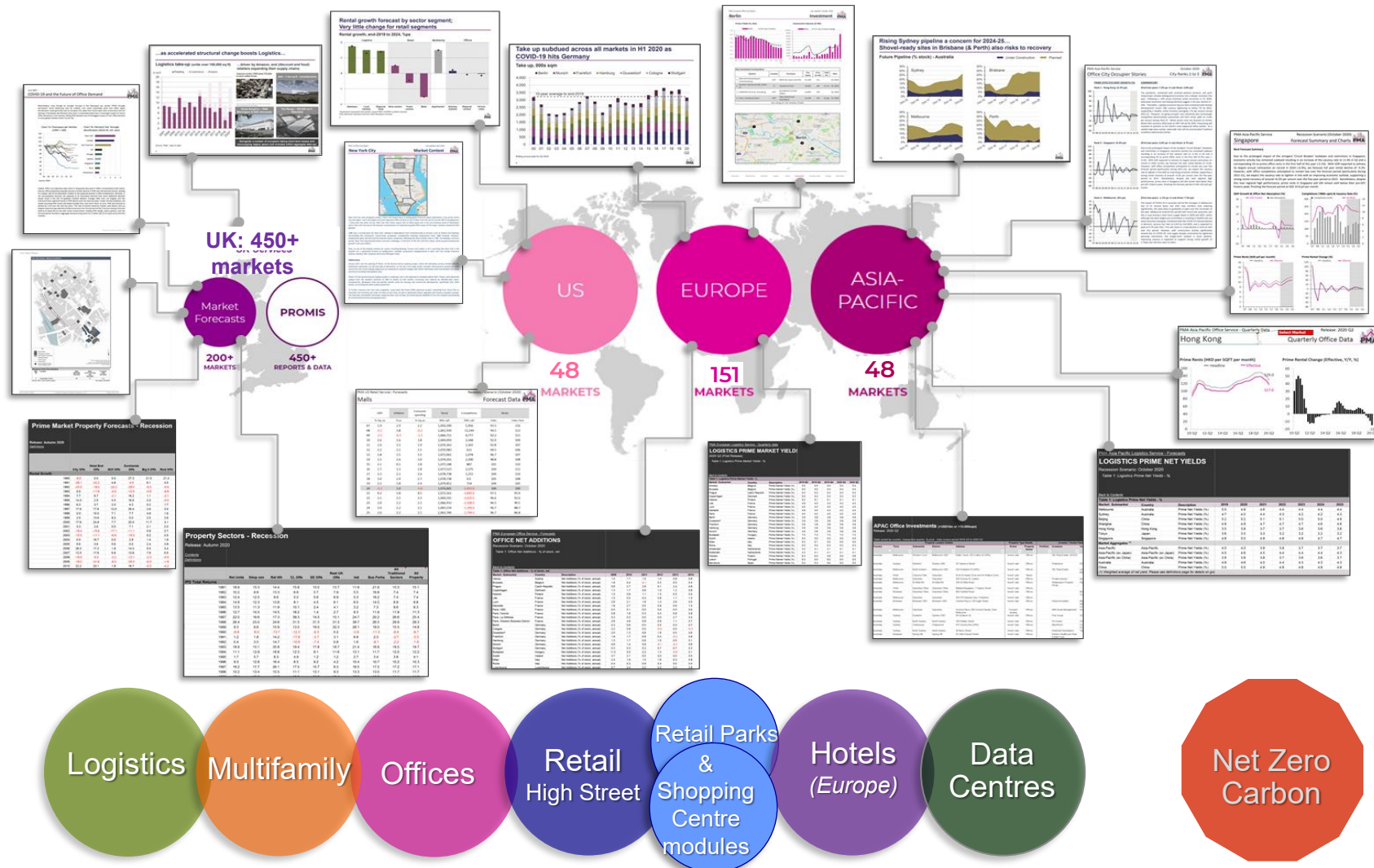
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