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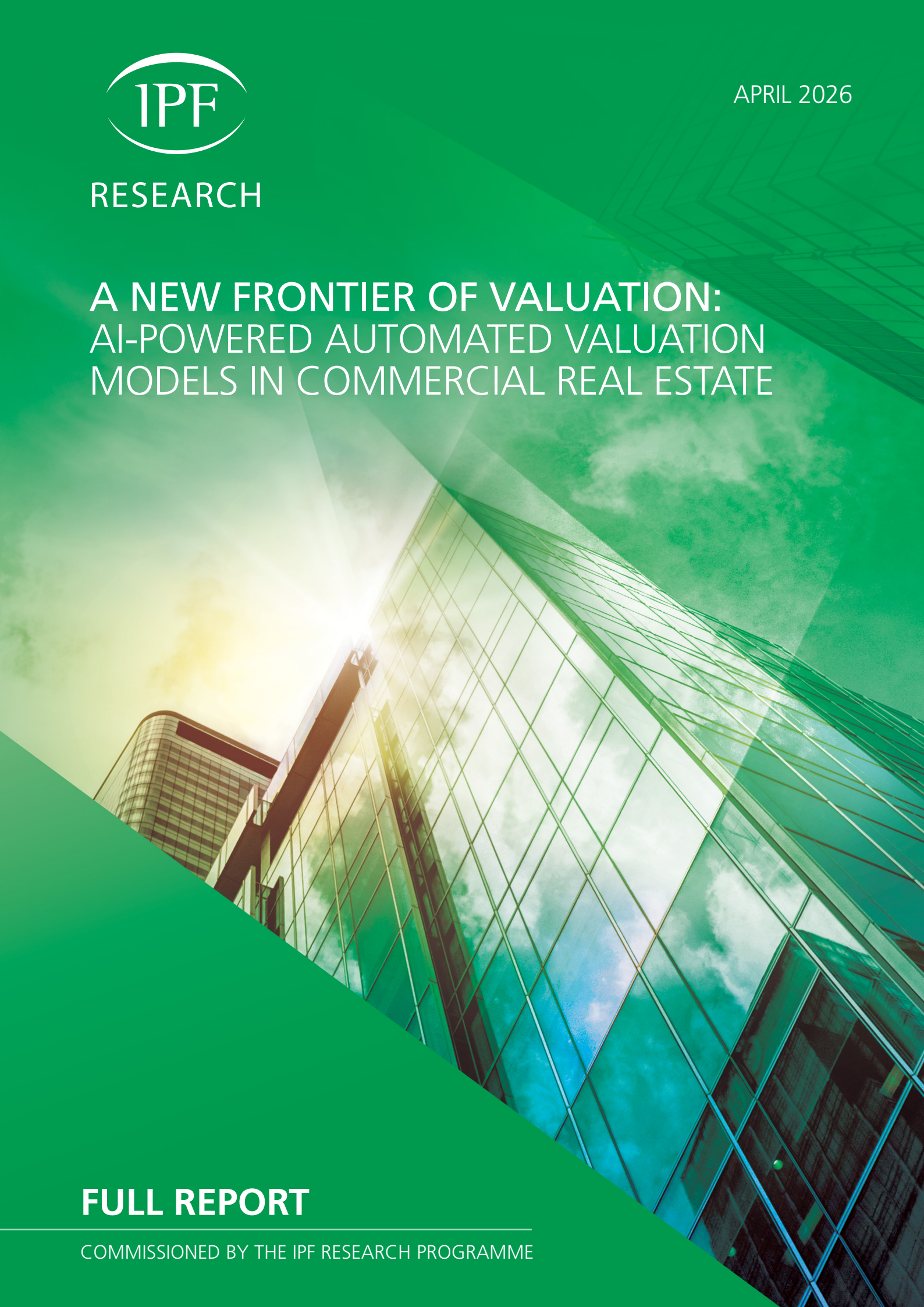
A NEW FRONTIER OF VALUATION: AI-POWERED AUTOMATED VALUATION MODELS IN COMMERCIAL REAL ESTATE



FULL REPORT

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A New Frontier of Valuation: AI-Powered Automated Valuation Models in Commercial Real Estate

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A New Frontier of Valuation: AI-Powered Automated Valuation Models in Commercial Real Estate

Report

IPF Research Programme

April 2026

A New Frontier of Valuation: AI-Powered Automated Valuation Models in Commercial Real Estate

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1 A New Frontier of Valuation: AI-Powered Automated Valuation Models in Commercial Real Estate

EXECUTIVE SUMMARY

The institutional real estate investment industry is at a pivotal point of transformation, driven by advancements in artificial intelligence (AI) and the increasing viability of automating legacy valuation workflows, and the adoption of automated valuation models (AVMs). These technologies promise to reshape valuation methods, enhance market transparency, improve liquidity, and introduce new workflows and professional roles. In the wake of the generative AI boom following the release of ChatGPT in November 2022, commercial real estate (CRE) stakeholders have explored new possibilities for data-driven, real-time, and algorithmically supported valuation systems.

This report, produced by Urban Neuron Ltd for the Investment Property Forum (IPF), explores the current landscape of AI in CRE valuation. It provides both a descriptive and normative analysis of AI adoption, outlining historic developments, present conditions, and future trajectories, including a vision for the evolution of institutional real estate investment valuation in the years to come. Importantly, this report details the implications and impacts of AI on the CRE real estate sector, as well as discusses the risks of wide AI adoption.

Key findings:

- **Value drivers of CRE in the future decades differ to 2025.** Automation will influence job design and firm size, affecting real estate typologies. The workforce of future decades will be older and will be working longer. This heightens the relevance of the health implications and accessibility of buildings. Real estate is also not on track to decarbonise by 2050, in our view, which will emphasise climate resilience as a value driver. Smart building technology adoption will enable streams of data to disrupt existing industry data dynamics, feed automated valuation models and enable new modes of analysis.
- **AI is being cautiously adopted in real estate valuation now,** primarily as a tool to augment traditional workflows (referred to as 'valuation automation'). Adoption of 'automated valuation', on the other hand, is highest in sectors more likely to have standardised data, such as residential and logistics, and lags in relatively more heterogeneous asset classes such as office and retail.
- **AI is likely to be adopted in three phases of CRE valuation workflows:**
  - *Descriptive:* automates data collection, lease abstraction, and comparables analysis.
  - *Predictive:* forecasts rental growth, vacancy rates, and market yields.
  - *Prescriptive:* recommends investment actions such as refinancing or divesting assets.
- **AI is already capable of automating some investment valuation tasks** and, with the development and integration of existing and future AI (and adjacent) technologies, a growing proportion of intellectual valuation labour can be undertaken by automated systems. Some social tasks may also become redundant as a result. Data access/abundance and social/governance factors are greater limiters of automation than technological capabilities.
- **Based on the top 50 critical tasks in valuation, we mapped out how quickly AI will likely take over.** Seven tasks may achieve full automation in quarters, while most of the tasks would only reach partial automation in near term. We believe some tasks may never be fully automated given the current trajectory of AI development.
- **Generative AI and other large-scale AI models have already influenced industry expectations,** pushing forward interest in continuous data capture, integration, and analysis. However, most use cases remain narrow and require human oversight.

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EXECUTIVE SUMMARY

- **Increased frequency of valuation introduces visible price volatility,** replacing the historical illusion of price stability caused by appraisal lag. This has implications for how risk is measured, reported, and managed.
- **Secondary markets for non-listed REITs and fractional CRE are emerging rapidly,** supported by AI-enhanced transparency and valuation trust. Many platforms are pioneering tradeable fractional ownership models. If these platforms are successful, the increase in data produced will speed up AI adoption.
- **Benefits of AI integration** include faster valuations, improved consistency, enhanced due diligence, scenario analysis, and greater investor transparency. However, these benefits are contingent on robust data governance, trust, and human judgment.
- **Risks of AI adoption in CRE valuation** include model accuracy and data bias, over reliance on AI, legal liability issues, market synchronisation, ethical complication and public trust.
- **AI is transforming the real estate workforce:**
  - Routine analyst tasks are being automated.
  - Demand is growing for hybrid professionals with property expertise and data fluency.
  - Valuers are shifting towards strategic, interpretative, and client-facing roles.
- **Professional bodies and regulators must act now** to update valuation standards, define accountability for AI use, and promote open, reliable data ecosystems to support ethical and effective AI adoption.

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1. AI AND REAL ESTATE INVESTMENT VALUATION

When contemplating what role emerging and evolving technologies such as AI will play in influencing the nature of institutional real estate investments, a sceptic might gesture to other recent technology hype cycles (such as blockchain and metaverse), which have not met initial expectations. However, this sceptic would be met with a deluge of purported evidence of how this time it's different. Expectations for this generalist technology diverge significantly, with resultantly divergent implications for institutional real estate investment valuation. Some of the more sensational AI forecasts predict artificial super intelligence (ASI) and an abundant post-work civilisation as soon as the 2030s. We have determined that such scenarios, presently the preserve of science fiction, are beyond the scope of this paper because it is likely that one or both of the below circumstances would eventuate:

1) Humans will no longer sit at desks in offices, manage logistics in warehouses, or transact goods in retail shopfronts. Any resembling activities that remain will likely be undertaken by a symphony of software and/or hardware, depending on the task. Human commerce ceases to exist (at least in any recognisable form), and the monetary 'value' of CRE comes into question.

2) Ownership of physical assets like land, buildings and the means of production gets murky. On one hand, longstanding wealth inequity trends might accelerate, resulting in a two-tiered society of owners and consumers (reminiscent of historic dichotomies like the landed gentry and feudal tenant farmers, or the bourgeois and proletariat as examples). On the other, an abundant neo-socialist society would designate these assets under collective ownership.

In either scenario, the frequency these assets are traded, and the commercial circumstances under which they are traded, fundamentally shift to something unrecognisable and unimaginable under present sector paradigms.

When accounting for the following factors, we assume a less sensationalised future of AI than the one posited by AI evangelists:

- **Data abundance:** there is a risk of exhausting organic, or real-world, data to feed 'hungry' AI models, increasing the prevalence of synthetic data, leading to AI ingesting AI-generated data, generating outputs, which are themselves used to train AI models, and so on. This has been referred to as 'AI cannibalism'.[1] There is also a danger that superior AI search leads to reduced public traffic for websites that can no longer rely on advertising spend.
- **Data access:** present and future restrictions on AI input data as a result of safety, privacy and intellectual property regulation and litigation. This also includes paywalled data and usage restrictions in the institutional real estate investment sector.
- **Diminishing marginal utility:** a diminishing marginal utility curve likely affects future iterations of generative AI models, agentic AI and other AI typologies, where improvements do not necessarily lead to proportionate improvements to utility. To illustrate this, GPT-3 comprised approximately 175 billion parameters upon its 2020 release and was regarded as a revolutionary 'leap'. GPT-4's 1-1.8 trillion parameters were a noteworthy improvement. However, the estimated seven-trillion parameter GPT-5 is regarded as a 'refinement' to what already exists.

1. Klein, S. 2025. Are we teaching the internet to eat itself?. LinkedIn.

1. AI AND REAL ESTATE INVESTMENT VALUATION

- **Hallucination and reliability:** there is a present and future risk of AI 'hallucination' controversies where unreliable outputs are generated, leading to a degradation of trust in AI models and a reversion to pre-generative AI era outputs and processes. Advice emerged in 2025 for users not to rely on large language model (LLM) outputs they are not qualified to scrutinise.[2] For example, a homeowner should not make use of an LLM to value their home as a substitute for a chartered surveyor.
- **Physical limitations:** pending investment appetite and social influences, there are limitations to AI-enabling technologies, such as materials, hardware, water and the development of data centres.

As a generalist technology, we view the future of AI and real estate to be reinforcing–much like what we saw with the internet revolution before it. This means AI impacts the built environment, which itself impacts AI, and so on. In order to most appropriately balance narrow insights with the breadth of impacts that are possible, we have focused our attention on specific AI and forward-looking megatrends and themes–asking first what impact these will have on institutional real estate as an asset class. Our views on institutional real estate investment in coming decades as it pertains to asset performance and value are listed below.

- **Automation of back-office functions:** the automation of back-office functions and 'remote work' will likely continue, increasing the proportion of front-office activities and decreasing the proportion of back-office activities, resulting in comparatively higher demand for the former. These demand dynamics will affect investment valuations for varying CRE attributes (including meeting spaces, comfort, aesthetics and other front-office attributes).
- **Miniaturisation of the firm:** the proportion of workers employed in low-headcount firms will likely continue to increase, intensifying the demand for, and prevalence of, flexible workspaces. Conventional leases will be phased out as operating companies ('OpCos') facilitate experiential working and hybrid spaces. Lease terms as investment valuation inputs will therefore continue to be affected.
- **Climate resilience:** even in optimistic scenarios, building stock will endure a starkly different climate to 2025.[3] Climate-responsive architecture will likely command a premium, furthering the prevailing 'brown discount' phenomenon of the 2020s.[4]
- **Real time and time series smart insights:** the proliferation of internet-of-things (IoT) technology in smart building and smart city applications creates increasingly reliable and comparable streams of data that can be used to feed automated and semi-automated valuation models. This could automate data gathering tasks and enable new modes of analysis.

2. Bo, Wan & Anderson To Rely or Not to Rely? Evaluating Interventions for Appropriate Reliance on Large Language Models, CHI '25: Proceedings of the 2025 CHI Conference on Human Factors in Computing Systems.
3. Buchholz, K. 2022. London could feel as hot as Barcelona by 2050. World Economic Forum. Published 27 June 2022.
4. Xiong, Q & Khroustaleva, O. 2025. The hidden cost of inaction—brown discounts in CRE. Building Atlas. Published 12 August 2025.

2. AI IN INSTITUTIONAL REAL ESTATE INVESTMENT VALUATION WORKFLOWS

Involving AI in the investment valuation process is in effect an undertaking to automate all or part of the valuation process. We offer two paradigms as a result of our observations: valuation automation and automated valuation (see Table 2.1). Valuation automation can be considered the automation of historically manual and/or analogue valuation tasks. It principally focuses on automated approaches to existing methods (tasks). For example, an LLM could be fed with traditional asset data and automatically generate a description for use in a valuation report, due diligence report or investment committee memorandum. AI might also be used to build discounted cash flow (DCF) models, and computer vision can be deployed to inspect and measure spaces. On the other hand, we refer to automated valuation as novel and/or alternative inputs and processes used to automatically undertake valuations (resulting in a comparable or superior output). Historically, automated valuations have not always been powered by AI, but we would expect the prevalence of AI in these models to increase, whether as a foundation of the respective model or as a feature.

Table 2.1: Valuation automation and automated valuation

	VALUATION AUTOMATION	AUTOMATED VALUATION
Description	Automating legacy valuation tasks	Designing models to replicate the outputs of legacy valuations
Paradigm	Valuation is a 'job' comprising a series of tasks, each of which can be automated to varying extents with existing and future technologies	Valuation is an outcome, which can be replicated with alternative methods involving machine learning, big data and/or proxy variables
Method	Same as, or similar to, legacy human methods	Alternative 'black box' algorithms
Outcome	Emulating legacy valuation methods to produce a sufficient, comparable or superior output with higher time and/or resource efficiency	Producing sufficient, comparable or superior valuation outputs to legacy methods by deploying alternative, automated and scalable methods
Examples	Improving the efficiency of an analyst or chartered surveyor by leveraging computer vision to increase the proportion of desk valuations Attaching an LLM to valuation software to enable automated descriptions and reports to be generated from input data and the valuer's analysis	Deploying a machine-learning algorithm to undertake a mass appraisal of a real estate portfolio Deploying a machine-learning algorithm to underwrite a low-risk residential mortgage within an acceptable margin of error

Using the term 'valuation' in reference to AVMs has been met with criticism and resistance within the real estate valuation community. This is due to an emphasis on valuation output (the appraised value) while concealing valuation inputs and the process (method) within what is termed a 'black box'. Critics highlight that this causes transparency and accountability issues, restricting their use to low-consequence use cases such as homogenous assets, data-rich assets, and/or low-risk transactions.[5] Automated valuations have become prevalent as an appraisal tool in residential real estate listings advice, as well as low-risk mortgage underwriting and mass valuations. However, their applications in CRE and higher-risk residential valuations have remained limited. Valuation automation, on the other hand, may serve as a more agreeable approach from the perspective of regulators and decision makers—particularly with qualified and competent human oversight.

5. Baum, A; Xiong, Q & Graham, L. 2021. The future of automated real estate valuations (AVMs). Oxford Future of Real Estate Initiative. Said Business School, University of Oxford. October 2021.

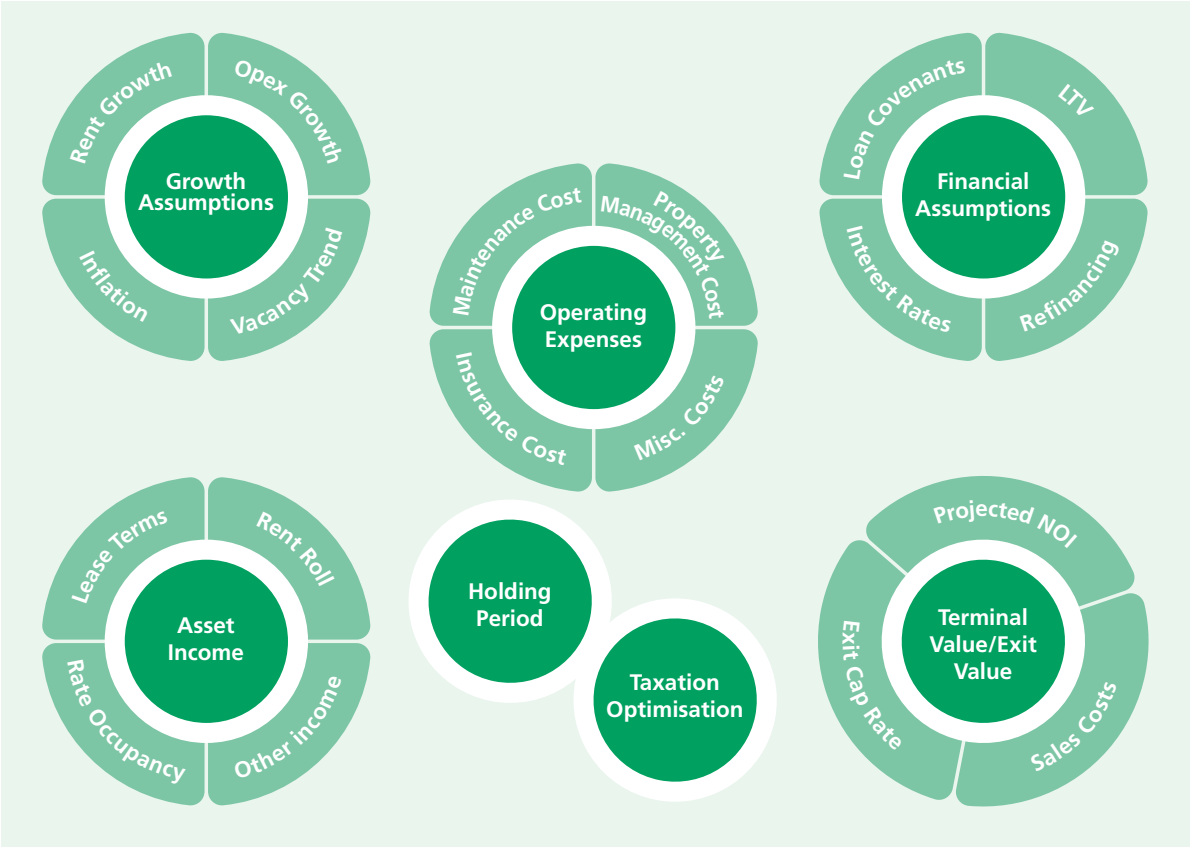
2. AI IN INSTITUTIONAL REAL ESTATE INVESTMENT VALUATION WORKFLOWS

2.1 Valuation automation: augmenting human tasks

Legacy real estate valuation remains a complex blend of established methodologies and nuanced market interpretation bound to industry norms, frameworks and regulations, such as the RICS 'Red Book'. Contemporary practice primarily relies on three core approaches: the Income Capitalisation Approach (forecasting and discounting future cash flows), the Sales Comparison Approach (benchmarking against recent transactions of similar properties), and the Cost Approach (estimating land value plus depreciated replacement cost). Among these, the dominant DCF model hinges on forecasting a labyrinth of interconnected variables over a holding period.

As illustrated in Figure 2.1, appraisers must meticulously project fundamental drivers like rental growth, occupancy rates, and vacancy trends to determine asset income, while simultaneously modelling escalating operating expenditure (including maintenance costs, property management, and other miscellaneous costs) and potential operating losses. DCF requires long-term growth assumptions tied to inflation and specific cost escalations (operating expenditure growth), alongside detailed lease term impacts. Financial structuring introduces another layer, demanding assumptions about loan covenants, loan-to-value ratios, interest rates, refinancing possibilities, and taxation optimisation. Ultimately, the model's output, the property's present value, is highly sensitive to the projected net operating income (NOI), the chosen holding period, the estimated exit capitalisation rate, anticipated sales costs, and embedded loss rates (e.g. credit loss). This intricate web of quantitative inputs and forward-looking assumptions, visually mapped in Figure 2.1, creates a complex, error-prone, and data-intensive process ripe for AI augmentation.

Figure 2.1: Discounted cashflow modelling inputs



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Within this complex valuation framework, AI offers transformative potential to enhance the accuracy and efficiency of nearly every task in institutional real estate investment valuation. Many discrete sub-tasks within the process are increasingly amenable to automation or augmentation by AI, pending data quality and availability. Fundamentally, AI can bolster valuation across three critical functional stages:

- **Descriptive:** aggregating, organising, and summarising vast datasets, including historical leases, market comparables, and property characteristics, to provide a comprehensive foundation.
- **Predictive:** generating sophisticated forecasts for key drivers such as rental growth, occupancy rates, vacancy trends, and associated risks, leveraging complex pattern recognition beyond traditional methods.
- **Prescriptive:** analysing model outputs and market dynamics to recommend strategic actions, such as optimal timing for refinancing, the value impact of refurbishment, or divestment opportunities.

Significant movement is occurring, especially in U.S. property technology (PropTech) companies such as Reonomy and Cherre, that are both U.S. based, have created datasets and tools that feed valuation models. Meanwhile, incumbent firms like CBRE, JLL, and Savills are investing in in-house data science teams and analytics platforms. Smart building technology is also enabling improvements to operating expenditure through data-led maintenance and continuous streams of building performance insights, with scope for this to affect the value of assets (through financial performance), as well as the valuation of assets (through data provision).[6]

2.2 Descriptive AI: assembling and structuring the past and present

Descriptive AI is where AI ingests, organises, and interprets raw data, transforming it into a usable format for valuers, lenders, investors, and other stakeholders.

Functions & examples:

- **Operational data acquisition:** acquiring and cataloguing building performance data in appropriate formats to enable real-time and time series insights into operational performance and implications for asset value (e.g. occupancy rates, plant machinery condition, energy consumption, occupier wellbeing, etc).
- **Lease abstraction:** AI extracts terms, expiry dates, break clauses, and rent escalation provisions from scanned leases and PDFs using Natural Language Processing (NLP). Tools like Leverton, Della, and Kira Systems already do this.
- **Comparables extraction:** Scraping or ingesting recent transactions and listings from sources like CoStar, or the Land Registry, then structuring the data into comparable tables based on asset type, location, size, and yield.
- **Data cleaning and structuring:** AI resolves inconsistencies across datasets, e.g. multiple spellings of a tenant name, missing fields in rent rolls, or mismatched Unique Property Register Numbers (UPRNs).
- **Visualisation tools:** Automated dashboards summarise market trends, vacancy rates, footfall, and lease expiries for quick consumption by analysts and investors.

6. Graham, L; Darby, M; Short, J; & David, S. 2025. The Annual Building Operational Performance Index, 2025. September 2025. Demand Logic & Urban Neuron.

2. AI IN INSTITUTIONAL REAL ESTATE INVESTMENT VALUATION WORKFLOWS

Impact on workflow:

- Enables higher-frequency (up to continuous) asset performance insights
- Dramatically reduces time spent on manual data gathering and cleansing
- Enhances data consistency and transparency across portfolios
- Allows smaller teams to handle larger and more complex asset pools

2.3 Predictive AI: modelling the future

Predictive AI involves forecasting asset performance, market dynamics, and potential valuation trajectories. This is where AI begins to provide real strategic value.

Functions & Examples:

- **Rental growth forecasting:** Machine learning models trained on historical rental data, economic indicators, employment levels, and tenant industry performance can project likely rental uplifts or declines for a given location and property type.
- **Vacancy and absorption models:** AI models predict expected vacancy levels using factors like lease maturity profiles, regional supply pipelines, macro trends, and tenant demand signals.
- **Risk assessment and creditworthiness:** AI uses tenant credit data, business filings, sentiment analysis, and market volatility to flag riskier income streams or likelihood of lease default.
- **Capitalisation rate forecasting:** Incorporates interest rate expectations, investor sentiment, inflation, and transaction trends to project movements in capitalisation rates and market yields.

The main point to note is that this does not utilise the current generation of generative AI, which largely depends on LLMs like ChatGPT or Gemini. Instead, more established, traceable, and statistically robust machine learning algorithms are used to handle essential tasks such as forecasting key variables and inputs for CRE valuation models. All those processes will require independent prediction model building and training. AI's ability to scale up and speed up the process will greatly benefit the data science teams who are tasked with predictive modelling.

Impact on workflow:

- Replaces gut-feel forecasts with data-driven projections
- Enhances portfolio-level risk analysis and asset-level strategy
- Supports scenario planning and stress testing, e.g. 'what happens if inflation hits 5%?'

2.4 Prescriptive AI: recommending decisions and actions post-valuation

After simulating and studying all scenarios, facts, and numbers, investment decisions must be made. Traditionally, experienced fund managers make these decisions. However, prescriptive AI, the most advanced form of AI support, goes beyond summarising the past or forecasting the future; it recommends specific decisions to optimise asset performance or reduce risk. Ultimately, this offers scope for AI to serve as a fund manager.

2. AI IN INSTITUTIONAL REAL ESTATE INVESTMENT VALUATION WORKFLOWS

Functions & examples:

- **Refinance advisory:** Based on yield compression and debt market trends, AI recommends refinancing a loan before expiry to lock in better terms.
- **Hold versus sell recommendations:** AI weighs net operating income forecasts, exit yield trends, and upcoming capital expenditure to suggest the best exit timing.
- **ESG optimisation:** Based on building energy data and green premiums, AI may recommend retrofitting heating, ventilation and air conditioning (HVAC) systems to improve BREEAM (or other) ratings and rental premiums.
- **Lease structuring suggestions:** Based on tenant risk and sector trends, AI proposes revised lease structures (e.g. turnover-based rent or ESG-linked rent escalations).

The biggest benefit of using AI at the stage of CRE valuation is the comprehensiveness and thoroughness of AI reasoning. AI can be very good at exhaustively exploring alternative options and comparing outcomes. Equipped with such an AI assistant at this stage will certainly benefit the fund managers in making wiser investment decisions.

For example: A property company is reviewing a high street retail portfolio. AI may suggest:

- Selling two assets where yields are compressing and tenant risk is rising
- Investing in a capital expenditure programme for a third asset, expected to yield a 7% increase in rental income after ESG retrofits
- Renegotiating a lease with a major tenant to include break clauses aligned with business performance triggers

2.5. Are humans still needed?

As AI transforms core valuation tasks—from data processing to forecasting and even strategic recommendations—a legitimate question emerges: what irreplaceable role do humans play? This is not just theoretical anxiety; the industry is actively exploring AI's most advanced frontiers. Consider these developments:

I. The 'AI committee member' experiment: At an April 2025 British Venture Capital Association event, 48% of attendees expected AI to be a voting member of their investment committees within five years.[7]

II. Industry giants leading the charge: BlackRock's real estate division is reportedly developing an AI system intended to participate as a member of its investment committee, aiding decisions on where and how to deploy billions in capital.[8] Confidential interviews undertaken for this research in 2025 revealed a similar intention among others in the institutional real estate investment sector.

This forces a crucial realisation: AI is not just a calculator anymore; it is becoming an advisor, an analyst, and potentially, a decision influencer. So, where does this leave the human valuer, fund manager, or committee member?

7. Nearly half of PE investors say AI will vote on committees, poll finds
8. BlackRock To Add AI Member To Real Estate Investment Committee As Tech Guides More Capital Decisions

2. AI IN INSTITUTIONAL REAL ESTATE INVESTMENT VALUATION WORKFLOWS

The rise of AI in CRE valuation is not a story of replacement, it is a transformation. While AI excels at processing data, identifying patterns, and generating forecasts, the valuer evolves from crunching numbers to a strategic orchestrator. Here is why human judgement remains irreplaceable, even as AI joins investment committees:

- **Judgement in the data gaps:** AI stumbles where data ends. Humans interpret the intangible: tenant loyalty during a downturn, the true redevelopment potential of a faded landmark, or the impact of a neighbourhood's shifting vibe. AI informs, humans understand. The more proxy data can infer intangibles, the more this dynamic evolves. For example, tenant loyalty might be measured and monitored by usage patterns captured with smart building technology.
- **Guardians against ethical and reputational landmines:** can an algorithm weigh the human cost of an eviction? Or spot sophisticated greenwashing in a sustainability report? AI lacks empathy and moral agency. Humans must navigate these minefields, ensuring decisions align with ethics, norms, regulations, and long-term brand trust.
- **Interpreting the anomalous:** unique lease structures, quirky income streams, or black-swan market events defy standard models. Humans adapt, applying experience and creativity where rigid algorithms falter.
- **The trust factor:** investors and lenders rarely bet billions on a black box. They demand human accountability: a named expert who interprets AI outputs, challenges assumptions, and stands behind the valuation narrative.

In this new paradigm, the valuer's value shifts to higher-order skills outline in Table 2.2.

Table 2.2: The hybrid valuer toolkit

CORE HUMAN ROLE	WHAT IT MEANS IN PRACTICE	WHY AI CANNOT REPLACE IT
AI Interrogator & Explainer	'Why did the model predict that cap rate?' 'What data is missing?' 'Adjust this output for local knowledge'	AI cannot critically challenge its own logic or biases
Strategic Narrative Builder	Weaving data, forecasts, and market intelligence into a compelling story for stakeholders	Context, persuasion, and emotional intelligence are uniquely human
Scenario Architect	Designing 'what-if' stress tests (e.g. interest rate shocks, tenant bankruptcies, climate risks)	Requires defining the right questions and interpreting nuanced outcomes
Decision Facilitator	Translating AI insights for boards, reconciling AI recommendations with human ethics and strategy	Mediates between algorithmic outputs and real-world consequences

2. AI IN INSTITUTIONAL REAL ESTATE INVESTMENT VALUATION WORKFLOWS

The future is not human versus AI. It is human with AI. The most valuable valuers will not fight the algorithm; they will master the art of augmented expertise: asking sharper questions, pressure-testing AI outputs, and translating complex data into actionable wisdom. In a world flooded with predictions, the human skills of context, ethics, and narrative become the ultimate differentiators. The question is not 'are humans needed?' It is 'how do we empower humans to wield AI's power responsibly?'

2.6. The valuation automation roadmap

In a July 2025 blog, Morgan Stanley Research claimed that its paywalled analysis of 162 REITs revealed 37% of tasks undertaken at these firms (spanning 52,500 employees) could be automated with AI. This purportedly represented USD 34 billion in operating efficiencies (primarily through 'labour cost savings') by 2030.[9]

For the purposes of this research, we used an LLM to extract 50 institutional real estate investment tasks from credible RICS sources (such as the Red Book and online career guide). Across these 50 tasks, three comprised 'physical' attributes; 31 comprised 'intellectual' attributes; and 18 comprised 'social' attributes.[10] We then leveraged our research and prior knowledge of AI and adjacent technologies to identify the imminent or longer-term scope to automate all or part of these tasks, commensurate with the 'valuation automation' paradigm addressed in Table 2.3.

9. Morgan Stanley. 2025. How AI Is Reshaping Real Estate. Published 2 July 2025.
10. Fernández-Macías, E & Bisello, M. 2021. A Taxonomy of Tasks for Assessing the Impact of New Technologies on Work. Social Indicators Research. 159:821-841.

2. AI IN INSTITUTIONAL REAL ESTATE INVESTMENT VALUATION WORKFLOWS

Table 2.3: Scope to automate valuation tasks as of 2025

AUTOMATABLE IN FULL OR MAJORITY (51-100% OF TASK)
Verify planning permissions, tenure, and legal title
Draft Red Book–compliant valuation reports
Produce homebuyer reports
Prepare mortgage valuation documents
Draft tenancy-related valuation sections and clauses
Monitor portfolio performance against business plans (IRR, MOIC)
Prepare investor reporting packs/quarterly valuations

AUTOMATABLE IN MINORITY (1-50% OF TASK)
Inspect properties
Measure, photograph, and document property features
Research comparable sales, lettings, and yields
Analyse market trends (demand/supply, local economics)
Assess property factors (size, condition, location, development potential)
Consider ESG factors (sustainability, carbon performance)
Build and run valuation models (DCF, investment method, residual, cost, profits)
Apply RICS Red Book and International Valuation Standards
Provide valuations for secured lending (mortgages)
Produce valuations for taxation (CGT, inheritance, stamp duty)
Produce valuations for financial reporting (IFRS, fair value)
Provide valuations for management, investment, development decisions
Recommend suitable rent levels (rent reviews, lease renewals)
Assess the economic viability of developments
Advise on development appraisals, highest and best use
Advise on ESG/climate risk implications for value

2. AI IN INSTITUTIONAL REAL ESTATE INVESTMENT VALUATION WORKFLOWS

AUTOMATABLE IN MINORITY (1-50% OF TASK) - (CONTINUED)

Suggest strategies for increasing profitability of property investments
Advise on property risk management and portfolio optimisation
Ensure compliance with RICS Red Book and ethics
Maintain audit trails and working papers
Stay updated on property law, taxation, landlord/tenant legislation
Undertake CPD (continuous professional development)
Construct portfolio cashflow models across multiple assets
Conduct sensitivity/scenario analysis (yields, rents, exit cap rates, interest rates)
Undertake sector/thematic research (e.g. logistics, retail, offices, living sectors)
Benchmark assets against market indices (MSCI/IPD, EPRA, etc.)
Prepare investment committee papers and presentations
Advise on asset allocation across geographies/sectors
Analyse fund/REIT performance and relative value vs. peers
Support acquisitions due diligence (financial, legal, technical checks)
Assist in debt structuring (LTV, covenants, refinancing)

AUTOMATION UNLIKELY IN NEAR-TERM

Advise on property values and land purchase strategies
Advise on tenure issues, leasehold reform, enfranchisement
Recommend suitable rent levels (rent reviews, lease renewals)
Negotiate on acquisitions, disposals, or lease matters
Negotiate business rates, compensation, and taxation liabilities
Present valuation outcomes to lenders, investors, boards, or courts
Defend valuation assumptions in audit, litigation, arbitration
Liaise with solicitors, accountants, planners, developers
Advise government/regulators on policy or compulsory purchase
Build and maintain client relationships, win instructions
Supervise and mentor trainees/junior surveyors
Model joint ventures, partnerships, promote structures
Present strategy and valuation findings to investors, boards, or fund managers

2. AI IN INSTITUTIONAL REAL ESTATE INVESTMENT VALUATION WORKFLOWS

When reviewing these tasks, they can be grouped into general technological and social milestones (shown in Table 2.4) to identify the likely timeframe of task automation.

Table 2.4: Valuation automation milestones and timeframes

MILESTONE	DESCRIPTION	TIMEFRAME
Machine learning diffusion	With statistical foundations, machine learning deploys data-driven algorithms to inform investment decision making.	Machine learning is decades old, and is becoming more prevalent in the real estate sector as AI and data scientists become more prevalent in the industry (and data becomes more abundant).
Specialist LLMs	Enterprise-grade natural language interface to interrogate asset documentation, best practices guidelines, company policies and regulations. Also to be used for drafting reports and other documentation.	Already possible as an LLM 'wrapper'. Many LLM wrappers already exist in the real estate sector and elsewhere. This should substantially shrink report drafting timeframes, but diminishing trust in LLMs requires narrow use cases. In addition, humans still operate LLMs. They are not autonomous.
Data access	An ability through digitalisation, API, download or other format to access and catalogue data relevant to the work of an investment valuation—automating data collection to feed models.	Increasingly possible through private sector and government-led initiatives, with the exception of market data that remains heavily siloed or behind paywalls, and building data that is held by the owner/asset manager. Likely to be fully digitalised and accessible by 2030-35, but information asymmetries remain a significant hurdle.
Data abundance	The growing abundance of highly granular asset, district and market data enabling the tracking of real-time portfolio and building performance, enabling digital twins and drawing causal links for automated valuation.	At existing adoption rates in the proptech sector, continuous building performance data will become the norm in the ten years from 2025 to 2035. Once aggregated, this may disrupt siloed market data.
Computer vision	Visual AI as another source of building and spatial data. It could be used to inspect the condition of assets unachievable with IoT devices. It can also measure spaces via LiDAR, thermal imaging, optical imaging, ultraviolet imaging, ultrasound and others.	Various handheld, robotic and satellite technologies already exist in this domain, but in many use cases, they remain inefficient or otherwise inferior to human judgement. Rather than replacing humans, it is more likely this *augments* the in-person inspection process and/or that other advancements reduce the proportion of in-person valuations. Autonomous drones with attached imaging devices, for example, are a possibility in the UK in the 2030s.
Agentic AI	An evolution from LLMs. Agentic AI is the autonomous execution of multi-step processes. In theory, AI agents could replace all of the sequential intellectual tasks of an investment valuation.	Some claim that rudimentary AI agents already exist, with 'agentic workflows' search activity spiking by mid-2025. Experts are heavily divided on their genuine existence and feasibility as small error rates can compound over multiple tasks. Instead, it is more likely AI agents will undertake short task sequences in the 2020s, with significant human oversight. Full realisation of AI agents undertaking complex tasks across domains threatens entire clusters of intellectual tasks by the 2040s, assuming present hurdles are overcome.
Relationship management, advice, presentations and other *descriptive* social tasks	Social tasks are vital in legacy valuation, but its eminence for descriptive tasks is largely unique to real estate. If the ambiguity of descriptive real estate valuation/appraisal tasks is mitigated by data access and abundance, trust in human judgement is not as vital.	If this is to be disrupted by data access and abundance, then the relevance of descriptive social tasks wanes over the same 5-10 year timeframe.
Relationship management, advice, presentations and other *predictive/ prescriptive* social tasks	Data access and abundance in other sectors has not necessarily diminished the relevance of predictive and prescriptive social tasks. People still rely on credible experts to offer a view of the future and actions that should be taken.	Due to the feedback lag on predictive and prescriptive AI, this will take considerably longer to achieve social proof than descriptive. Humans could therefore still be involved in such processes in the 2040s, unless data abundance shortens feedback lags on asset performance.

3. IMPLICATIONS FOR INSTITUTIONAL REAL ESTATE AS AN ASSET CLASS AND INDUSTRY

The automation of valuation tasks through AI is likely to affect institutional real estate investment markets, particularly in terms of liquidity and price dynamics.

3.1 AI-driven market efficiency: mechanisms and second-order effects

The integration of AI into real estate investment valuation will fundamentally enhance market liquidity and transparency through cascading mechanisms.

3.1.1 Liquidity enhancement via transaction cost reduction

Why this happens: traditional valuation inefficiencies stem from information asymmetry and appraisal lag. Buyers and sellers operate with fragmented data (e.g. stale comparable sales evidence, unverified lease terms), requiring costly due diligence to bridge knowledge gaps.[11] AI disrupts this by:

- **Automating data aggregation:** NLP algorithms ingest leases and/or contracts in hours (versus human weeks), reducing documentation costs by 40-60%.[12]
- **Continuous price discovery:** Machine learning models recalibrate values daily using real-time macro/micro-data (e.g. interest rates, foot traffic sensors), narrowing bid-ask spreads by 15-30%.[13] Transaction timelines compress from 6–9 months to 60–90 days, enabling fractional trading platforms and daily-NAV funds like BlackRock's AI-NAV REIT.[14]
- **Easing market entry and exit:** In effect, real estate might inch closer to behaving like public markets in terms of ease of entry and exit. Indeed, academic research has long noted that appraisal lag contributes to perceived illiquidity; removing that lag could tighten bid-ask spreads and reduce the need for heavy due diligence on each trade (as much information is already encapsulated in the AI valuation).[15] However, real estate will never be as liquid as equities due to other frictions (physical asset transfer, data access, legal complexity), but incremental improvements could be meaningful.
- **Instant data feedback:** An innovation that might serve to maintain information asymmetries is the aforementioned proliferation of IoT/smart building technology. The owner of this data (presumably the asset owner and/or manager) already has a second-by-second insight on a subject building's performance and usage, and therefore superior insight into value drivers such as space utilisation, plant machinery condition and other operational variables. We expect this data to be increasingly utilised for investment valuation purposes, and have observed this already emerging when appraising decarbonisation retrofits.[16]

11. How AI and Data Analytics Can Reduce CRE Lending Risk
12. The Role of AI and Big Data in Commercial Real Estate Transactions
13. The Impact of AI on Real Estate Market Dynamics
14. The Impact of AI on Commercial Real Estate (CRE) Decision-Making
15. Lin, Z. and Vandell, K.D., 2007. Illiquidity and pricing biases in the real estate market. Real Estate Economics, 35(3), pp.291-330.
16. Building Atlas. 2025. The Beauty in Boring Buildings: The Business Case for Retrofit Beyond Flagship Assets. July 2025.

3. IMPLICATIONS FOR INSTITUTIONAL REAL ESTATE AS AN ASSET CLASS AND INDUSTRY

3.1.2 Pricing disparity elimination through data democratisation

Why this happens: Human appraisers exhibit cognitive bias (e.g. anchoring to recent deals) and access limited datasets. AI models:

- **Standardise inputs:** geospatial analytics normalise location premiums; computer vision assesses building conditions objectively.[17]
- **Reveal hidden correlations:** machine learning identifies non-intuitive value drivers (e.g. proximity to micro-mobility hubs boosts logistics asset premiums by 8–12%).[18] Valuation variance for Class A offices in similar submarkets drops from ±15% to ±5%, creating trusted price benchmarks.[19]

3.2 Secondary impacts: jobs, skills, and real estate organisations

The integration of AI into real estate workflows, especially investment valuation, is set to reshape employment, skill requirements, and organisational structures across the industry.

Employment and evolving roles

AI and adjacent technology (such as the aforementioned IoT/smart building technology proliferation) will automate many routine tasks, such as data collection, basic modelling, and reporting, traditionally handled by junior analysts and valuers. This could reduce demand for certain roles, similar to how digitisation once reduced the need for manual data entry and handling. However, the story is less about job loss and more about transformation. Valuers will shift focus from manual processes to interpreting AI outputs and handling complex cases.

At the same time, new roles will emerge. Demand could rise for real estate data scientists, proptech analysts, and other hybrid professionals who can maintain models, validate data, and develop new analytical tools. As the sector's analytical capabilities expand, overall employment may grow in alignment with Jevons' Paradox, with increased hiring in technology, analytics, and client advisory roles.[20]

Skills of the modern professional

The skillset for real estate professionals is shifting. Data literacy, basic programming, and AI fluency will become essential alongside traditional domain knowledge in leases, law, and construction. Future valuers and asset managers will need to interpret data outputs and collaborate with technology teams. Industry bodies like the RICS are already updating competencies to reflect this shift. Multidisciplinary teams (combining valuers, data scientists, and developers) are becoming the norm, and leadership will need a strategic grasp of AI to guide adoption.

Changing job design and workflows

As AI handles repetitive tasks, human expertise will focus on judgement, ethics, and client engagement. Valuers will become more like consultants, advising on strategic asset decisions rather than just providing figures. Similarly, asset managers will use AI for monitoring and dedicate more time to planning, tenant engagement, and value creation. The human element—interpretation, trust, and communication—will be more important than ever.

17. The Impact of AI on Real Estate Market Dynamics
18. Ai-powered Revolution In Commercial Real Estate - Lens360 - iFieldSmart Blog
19. JLL's AI-Driven Revolution: Why Now is the Time to Overweight This CRE Leader
20. Inspired by steam engine efficiency gains during the Second Industrial Revolution, Jevons' Paradox occurs when technological advancements make a resource more efficient to consume which results in overall increased demand for that resource. This may apply to knowledge economy labour augmented with AI.

3. IMPLICATIONS FOR INSTITUTIONAL REAL ESTATE AS AN ASSET CLASS AND INDUSTRY

Organisational impact

Real estate firms are restructuring to integrate technology, forming partnerships with proptech companies and/or commissioning in-house innovation teams. Some traditional roles may shift to external technology providers, while firms centralise technical functions in talent hubs. However, client-facing roles will likely remain local due to the value of personal relationships. Internally developed technology will be necessary for competitive differentiation, but not for day-to-day tasks.

Training and upskilling

The transition will require significant investment in training. Professionals must upskill in data analytics and digital tools, with organisations supporting career shifts (for example, retraining valuation clerks as data quality auditors). Success in this new environment will depend on a culture that embraces both real estate fundamentals and agile technology practices. Real estate professionals may have to focus more on human centric skills such as compelling presentation; charming and preservative salesmanship.

3.3 Systemic vulnerabilities: latent flaws in algorithmic markets

AI-driven efficiency in valuation models can create structural risks due to model homogeneity and market psychology.

3.3.1 Endogenous volatility amplification

Appraisal smoothing historically masked volatility, but AI's mark-to-model approach exposes real-time fluctuations.[21] The key drivers are:

- **Sentiment overreaction:** NLP scrapes news and social media, triggering irrational value drops (e.g. -10% from single tenant bankruptcy headlines).[22]
- **Reflexive feedback loops:** Dominant AVMs (e.g. CoStar/Yardi) issue correlated sell signals during rate hikes, becoming self-fulfilling prophecies. March 2023's bank failures saw AVM-driven office devaluations exceed fundamental income declines by 14 percentage points.[23]

3.3.2 Synchronisation risk: the transaction-killing paradox

A high concentration of data providers and software platforms creates uniform training environments for valuation algorithms.

- **Data pipeline consolidation:** CoStar, Yardi, and MRI control 80% of valuation data flows, forcing models into identical training environments.
- **Algorithmic herding:** During stress events (e.g. inflation spikes), homogeneous models output near-identical valuations, eroding price differentiation.

21. The Impact of AI on Commercial Real Estate (CRE) Decision-Making
22. The Impact of AI on Real Estate Market Dynamics
23. How AI and Data Analytics Can Reduce CRE Lending Risk

3. IMPLICATIONS FOR INSTITUTIONAL REAL ESTATE AS AN ASSET CLASS AND INDUSTRY

3.3.3 The transaction paralysis effect

When buyers, lenders and sellers all receive nearly identical AI-generated valuations, bid-ask spreads compress toward zero. Rather than increasing liquidity, this can eliminate it.

- Buyers delay bidding because they expect the AI-consensus price to decline further.
- Sellers refuse to transact at what they perceive to be temporarily depressed 'model prices'.

The result is a **trade-free equilibrium**—a market with apparent price clarity but minimal transaction activity.

However, this outcome relies on an implicit assumption of identical financing conditions. In reality, the cost of capital varies widely across investors due to factors such as financing structure, institutional constraints, management credibility and investment track record. Transactions therefore occur only when differences in financing capacity are large enough to produce price divergence, not because investors disagree about the asset's fundamentals, but because they face different funding economics.

3.3.4 Procyclical Feedback Loops

Unlike human valuers, AI models lack contextual judgment and cannot deliberately act counter-cyclically. Consequently, they may reinforce market booms and downturns.

- **Misinterpretation of fundamentals:** During the 2022 logistics-property expansion, some AVMs overweighted e-commerce growth projections while underweighting land supply constraints, producing valuations materially above replacement cost.
- **Capital concentration and herd behaviour:** Algorithmic 'buy' signals channelled investment into high-growth multifamily markets, accelerating rent increases and contributing to regulatory and political responses.

Because investment decisions increasingly follow model outputs, valuation systems begin to operate as coordinating devices for capital allocation. Instead of stabilising markets, they can intensify cyclical dynamics—amplifying both bubbles and corrections.

3.4 Booming CRE secondary investment markets: AI as the catalyst

One possible outcome of AI implementation in the institutional real estate investment valuation processes is the likely revitalisation of the secondary market for fractionalised real estate assets. Secondary markets for fractional real estate and non-listed REITs can emerge as a solution to the asset class's historical illiquidity, aiming to enable stock-like trading of property shares. This shift is increasingly supported by three interconnected enablers:

- **AI-powered valuation – transparency**
- **Blockchain and tokenisation – transaction speed and security**
- **Regulatory and technology alignment – new industry norm**

While early platforms struggled with liquidity, next-generation models leveraging AI and unified regulatory frameworks could finally achieve critical mass.[24]

24. Graham, L; & Baum, A. 2023. A piece of the action: innovations in fractional ownership and use of space. Pi Labs. February 2023. Pi Labs. London, United Kingdom.

3. IMPLICATIONS FOR INSTITUTIONAL REAL ESTATE AS AN ASSET CLASS AND INDUSTRY

3.4.1. Why secondary markets for fractional real estate struggled pre-AI

Historically, secondary markets for fractional real estate have been underwhelming due to:[25]

Pricing opacity

Traditional property valuation relied on periodic appraisals, which often only occur once a year and sometimes only when financing or reporting requirements demanded it. Between those dates, nobody really knew what the asset was worth in the current market.

For a fractional investor this created a problem:

- sellers believed the property was worth close to the last appraisal figure; and
- buyers suspected the valuation was outdated, especially if interest rates or local conditions had changed.

The result was a wide bid–ask spread and very few completed trades.

High transaction friction

Fractional ownership was marketed as a 'liquid' alternative to property, but the legal infrastructure was still built on traditional real-estate processes. Even when only a small ownership share changed hands, platforms often had to handle:

- investor identity checks (Know Your Customer/Anti-Money Laundering);
- legal documentation updates;
- shareholder registers; and
- compliance filings.

These steps could take days or weeks, similar to selling an entire property.

Limited buyer pools

Liquidity depends on having enough active participants. Early platforms struggled to attract a large number of users. Without consistent turnover, prices became unreliable signals and discouraged new investors from joining, reinforcing the cycle of low activity.

Regulatory ambiguity

Fractional real estate often sits somewhere between property ownership and financial securities. Different countries classified it differently: sometimes as shares, sometimes as investment funds, and sometimes as property rights. This uncertainty created barriers:

- platforms hesitated to operate internationally;
- investors worried about tax treatment; and
- cross-border participation was limited.

25 Empirical evidence on the ownership and liquidity of real estate tokens; The Architecture of Trust: A Framework for AI-Augmented Real Estate Valuation in the Era of Structured Data

3. IMPLICATIONS FOR INSTITUTIONAL REAL ESTATE AS AN ASSET CLASS AND INDUSTRY

Trust deficit

Traditional property markets rely heavily on professional valuers and reputational intermediaries. Fractional platforms replaced many of these intermediaries with technology but did not initially replace their credibility. Because valuations were infrequent and not always independently verified, investors could not easily assess whether they were buying at a fair price. This lack of confidence reduced willingness to trade, and without trading, liquidity could not develop.

3.4.2. Difficulties faced by early fractional real estate platforms

Table 3.1: Difficulties faced by early fractional real estate platforms

PLATFORM & REGION	TRADING MECHANISM	EVIDENCE OF STRUGGLES
tZERO (US)	SEC-regulated Alternative Trading System (ATS) for security tokens	Aspen Digital security began trading Aug 2020; volumes modest compared to expectations. Thin order books limited liquidity.
RealT (US)	ERC-20 property tokens traded on Uniswap & others	Academic studies show low turnover (avg. monthly 0.23%) and infrequent trades despite 573 avg. holders per property.[26]
Property Partner (UK)	MTF bulletin board with periodic liquidity windows	£30M equity traded on secondary market by 2019, but only within fixed liquidity windows.[27] Limited flexibility for exits.
General RWA Token Markets	Blockchain-based trading venues for tokenised assets	Study finds low active address counts, minimal trading, and valuation opacity across RWA tokens, including real estate.[28]

26 Market Maturation and Democratization Effects of Tokenized Real Estate
27 Property Partner Receives First Multilateral Trading Facility License, Reports Over £30 Million In Equity Traded On Its Secondary Marketplace | Crowdfund Insider
28 Tokenize Everything, But Can You Sell It? RWA Liquidity Challenges and the Road Ahead

3. IMPLICATIONS FOR INSTITUTIONAL REAL ESTATE AS AN ASSET CLASS AND INDUSTRY

3.4.3. What changes when AI valuation becomes the industry norm?

AI-assisted valuation transforms financial markets by solving historical issues and boosting efficiency. This integration enhances market integrity, accessibility, and resilience through several key benefits:

- **Continuous, credible pricing:** AI enables real-time asset pricing, significantly reducing bid-ask spreads and ensuring transparency. This is especially transformative for illiquid assets, building confidence and fostering dynamic trading.[29]
- **Dynamic liquidity matching:** predictive AI algorithms identify and match buyers and sellers, unlocking value in previously illiquid or undervalued assets and improving overall market efficiency.[30]
- **Reduced discounting pressure:** accurate, real-time valuations from AI minimise liquidity discounts, allowing sellers to realise full asset value and attracting a broader investor base.[31]
- **Enhanced trust and regulatory alignment:** AI valuation models provide auditable trails, simplifying regulatory compliance, fostering cross-border acceptance, and streamlining international transactions.[32]
- **Increased market participation:** by mitigating risks and enhancing trust, AI-assisted valuation makes investment more appealing to both retail and institutional investors, leading to deeper and more vibrant financial ecosystems.[33]

The revitalisation of secondary markets for fractional CRE hinges on more than just technological advancement. It requires a coordinated shift in valuation practices, regulatory clarity, data transparency and market participation. AI-assisted valuation can provide the pricing transparency, trust, and efficiency that early platforms lacked, while blockchain and harmonised regulations lay the groundwork for scalable, cross-border trading. If these elements converge, the industry could see the long-promised transformation of real estate from an illiquid, long-hold asset class into a fluid, data-driven investment market. However, without sustained investor adoption and alignment across jurisdictions, even the most advanced AI valuation systems will struggle to overcome the liquidity gap that has defined this space for decades.

29 The Architecture of Trust: A Framework for AI-Augmented Real Estate Valuation in the Era of Structured Data
30 Deloitte: Digital dividends: How tokenized real estate could revolutionize asset management
31 EY: Real estate tokenization: A new era for property investment and Luxembourg's strategic role
32 FT: Crypto has designs on real estate
33 Explainer: What is tokenization and is it crypto's next big thing? | Reuters

4. KEY RISKS OF AI-DRIVEN REAL ESTATE INVESTMENT VALUATION

While AI offers transformative potential for CRE valuation, it also introduces significant risks that must be carefully managed. This section outlines the key concerns associated with widespread adoption.

4.1 Data silos and limited interoperability

The most important barrier has to be the fragmentation of CRE data across multiple stakeholders, including banks, investors, brokers, asset managers, public registries, and proptech platforms. Data is a proprietary asset. This creates data silos, where valuable information is locked behind legal, commercial, or technical barriers. For instance:

- Banks hold detailed loan and covenant data but rarely share it externally.
- Investment managers collect granular cash flow data on assets under management, but this remains internal. As previously mentioned, smart building data can also serve similar purposes.
- Brokers aggregate transaction and lease data but sell it on subscription or restrict its use under licensing agreements.
- Public registries may be incomplete, slow to update, or restricted by privacy laws.
- Third-party data providers may not be accessible to all market participants, be restricted in their geographic scope, and other limiting factors.

This siloed landscape makes it nearly impossible to build AI models with a truly holistic, representative dataset. Instead, models are trained on narrow slices of the market, introducing selection bias and reducing generalisability. Even when data sharing is technically feasible, concerns around privacy, competitive advantage, and data ownership limit collaboration.

Implications for model performance and equity

Because of these limitations, two AI systems trained on different datasets could produce materially different valuations for the same asset. This undermines confidence in the consistency and reliability of AVMs, and increases the risk of disputes. Moreover, the inability to access comprehensive datasets leads to models that are less robust, less explainable, and less responsive to market nuance.

From a fairness perspective, stakeholders with access to better data (e.g. large institutional investors) may benefit from more accurate or timely insights, while smaller players operating in opaque or underserved markets may be disadvantaged. This creates an asymmetry of information that challenges the principle of a level playing field.

Addressing bias and data fragmentation

Mitigating this issue requires a multi-pronged approach:

- **Bias auditing and fairness checks:** models should be regularly tested for disparate impact across regions, asset classes, and socio-economic groups. Techniques such as fairness-aware machine learning and model explainability tools can help flag and address bias.
- **Inclusion of qualitative context:** where data is lacking, combining AI outputs with qualitative assessments from local experts can mitigate blind spots and improve model accuracy and fairness.

In short, data bias and fragmentation are not just technical challenges, they are fundamental issues that affect the credibility, equity, and efficacy of AI in CRE valuation. Addressing them is a precondition for responsible and effective adoption.

4. KEY RISKS OF AI-DRIVEN REAL ESTATE INVESTMENT VALUATION

4.2 Data bias, fairness, and fragmentation

One of the most critical risks in AI-driven CRE valuation is the presence of data bias and the structural challenges of data fragmentation. Unlike conventional valuation, which relies on expert judgment and manual verification, AI systems are only as objective as the data they are trained on. Unfortunately, in CRE, much of this data is deeply flawed, incomplete, or held in silos, limiting the potential of AI and increasing the risk of systemic errors and inequity. During anonymised interviews undertaken for this research, it became apparent that real estate professionals were already leveraging generalist LLMs to complete valuation and due diligence reports, which is an alarming insight.

Historical bias embedded in data

AI models are trained using historical data, including past valuations, transaction prices, lease terms, and market conditions, but this data may reflect outdated or biased assumptions. For example, if a neighbourhood was historically undervalued due to socioeconomic or racial discrimination, those distortions may be captured and perpetuated by the model. Instead of correcting past inequities, AI could reinforce them. This is a process often described as 'automated inequality'.

This has significant implications for valuation fairness. Properties in historically disadvantaged or underinvested areas might be systematically undervalued, limiting access to financing or reducing sale prices unfairly. Even subtle valuation errors could compound over time, affecting investment flows, urban regeneration, and wealth distribution. If unaddressed, such biases could lead to regulatory scrutiny or legal action under anti-discrimination and fair lending laws. They may also have broader social externalities on urban planning and quality of life.

Asset class representation bias

There is also a form of bias based on asset type. Prime offices in major cities are extensively transacted, appraised, and monitored. This generates rich, high-quality datasets. In contrast, niche property types (such as community centres, small industrial units, or mixed-use assets in secondary cities) are less frequently traded and documented, meaning less data is available to train the model. The result is that AI systems may be significantly more accurate in valuing high-end, data-rich assets, while performing poorly on less common or less liquid asset types.

This imbalance risks skewing valuation outputs toward the 'known' and 'data-rich,' while marginalising less typical assets, which are often crucial for local economies and social infrastructure. This is not only a technical risk but a policy and investment risk, potentially diverting capital away from socially important but data-poor sectors.

4.3 Model risk and accuracy

AI-driven models can generate inaccurate valuations, especially in unfamiliar or rapidly changing market conditions. Unlike traditional errors, AI mistakes may be systemic, affecting large portfolios due to flawed assumptions or outdated inputs. For instance, models might fail to adjust quickly to shifts in office demand due to remote work trends. The complexity and opacity of AI models (the 'black box' problem) further exacerbate this risk. Regular validation, transparency, and human oversight are critical to managing model risk.

4. KEY RISKS OF AI-DRIVEN REAL ESTATE INVESTMENT VALUATION

4.4 Overreliance and skill erosion

There is a danger that valuers may become overly dependent on AI outputs, diminishing their analytical judgment and market intuition. Over time, this could lead to a loss of core valuation skills, especially among newer professionals trained primarily with AI tools. Human expertise must remain central, not just to catch errors, but to bring critical thinking and local insight. As RICS emphasises, keeping a 'human in the loop' is vital to maintaining professional standards.

4.5 Cybersecurity and data integrity

AI systems and digital valuation platforms introduce new vulnerabilities. Malicious actors could manipulate data feeds or hack AVM systems, distorting valuations for fraudulent purposes. Sensitive valuation data may also become a target for theft or ransomware. The sector must adopt robust cybersecurity protocols and use verified, tamper-resistant data sources (e.g. blockchain-logged records). AI infrastructure should be treated with the same security standards as financial systems.

4.6 Legal liability and accountability

AI disrupts traditional notions of liability. If an AVM provides an incorrect valuation that leads to financial loss, it is unclear who is responsible: the valuer, the AI developer, or the data provider. This legal ambiguity creates uncertainty for professionals and insurers. Without clear frameworks, firms may hesitate to adopt AI or face litigation unexpectedly. Contracts must clarify that AVMs are tools, with ultimate responsibility retained by the valuer or firm. New insurance products and legal standards may also be needed to manage this shift.

4.7 Systemic market synchronisation risk

If many market participants rely on similar AI models, there is a risk of synchronised behaviour that amplifies market cycles. This 'herding effect' could lead to collective overvaluation or undervaluation, increasing systemic risk. Regulators and risk managers should monitor model use across the industry and require stress testing against out-of-sample scenarios to reduce the potential for market distortion.

4.8 Ethical and public trust concerns

Valuations influence not just investors, but public outcomes like taxation, compensation, and lending. If AVMs are used in these areas, public confidence is critical. A lack of transparency could lead to distrust. This is especially the case if people feel decisions are made by opaque algorithms without accountability. Ethical use of AI requires explainability, transparency, and mechanisms for appeal. Property owners should be able to understand how their valuation was determined and challenge it if needed.

5. KEY RECOMMENDATIONS FOR NAVIGATING AI TRANSFORMATION IN CRE VALUATION

To ensure a responsible and effective AI transformation in CRE valuation, we outline six priority recommendations for industry stakeholders, including valuation professionals, firms, policymakers, and industry bodies.

5.1 Digitalise all data and build shared, open data ecosystem

AI's effectiveness hinges on access to high-quality, comprehensive data. Many custodians of data have not yet fully digitalised their data to modern standards. Consequently, the first step is to remedy this. In addition, a sizeable volume of real estate data remains locked in private silos held by banks, brokers, investors, proptechs, third-party data providers and public agencies. This limits AI's potential and reinforces structural bias. There is an opportunity to foster data sharing or collaboration between these stakeholders in the interests of supporting more advanced AI-enabled investment valuation use cases.

Without breaking down data silos and upgrading our data infrastructure, AI will remain constrained. Unlocking this data is a foundational step toward market-wide productivity gains. Those who perceive a benefit in maintaining analogue and/or siloed data in their present state will only see such a strategy last in the short-to-medium term until alternatives (including proxies) are able to emulate the same outputs.

Although the idea is appealing, widespread sector cooperation is unlikely. A company like OpenAI could potentially aggregate all data for new AI applications, but this would create a monopoly controlled by a third-party provider.

5.2 Invest in AI-ready skills and workforce transformation

The CRE sector must upskill its workforce to engage meaningfully with AI. This includes training valuers, investment managers and asset managers in data literacy, AI fundamentals, and interpreting model outputs. Firms should embed data specialists within valuation teams and foster collaboration through mixed teams, not isolated technology silos.

There is an opportunity for professional bodies to partner with universities to deliver executive programs in real estate analytics and proptech. AI adoption should be led culturally from the top, with senior leadership championing data-driven decision-making throughout the business. Some real estate firms are progressing in this area at a faster rate.

A 2025 MIT study adds weight to the relevance and importance of AI literacy. The report identified that 95% of enterprise AI projects failed to deliver a return, and cited a misuse of AI as a significant driver.[34] Like computer literacy before it, AI literacy will begin as a differentiator, and evolve to become a necessity over the coming years.

5.3 Establish AI standards and governance frameworks

There is an opportunity for RICS, IVSC, and other regulatory to develop and refine clear standards for AI use in valuation. This includes guidance on:

- model validation and documentation;
- periodic review and back-testing; and
- human oversight requirements.

34 Challapally, A; Pease, C; Raskar, R; & Chari, P. 2025. The GenAI Divide: State of AI in Business 2025. MIT NANDA. July 2025.

5. KEY RECOMMENDATIONS FOR NAVIGATING AI TRANSFORMATION IN CRE VALUATION

A formal AI governance framework would ensure consistent, responsible use of automated tools. Regulators such as the Financial Conduct Authority (FCA) and Prudential Regulation Authority (PRA) should issue guidelines clarifying where AVMs are acceptable, and what safeguards are expected. Just as audit standards evolved to incorporate data analytics, valuation standards must evolve to reflect AI.

5.4 Maintain human oversight and embed ethical safeguards

To prevent overreliance on AI, strong human oversight must be retained. We recommend firms establish internal 'AI audit' roles of committees to monitor model performance, bias, and assumptions. Protocols should flag and escalate unusual outputs for manual review, especially in high-value or high-risk contexts.

Ethical checks should be built into development processes; models should be tested across different property types and geographies for fairness. Clients must also be informed when AI is used, ideally with plain-language explanations of how values were derived. Trust in AI will depend on transparency, accountability, and the continued presence of professional judgement.

5.5 Engage policymakers early and proactively

Industry bodies should work closely with policymakers and regulators to shape the legal and regulatory environment around AI. For example, dialogue with the Bank of England and FCA can help ensure AVMs are understood and appropriately integrated into financial oversight, such as stress testing. Professional accreditations are therefore also an opportunity in this context.

Stakeholders should also advocate for open government data initiatives and provide input on legal frameworks, particularly around liability, professional responsibility, and data rights. Reliable, society-wide data infrastructure cannot be built by private firms alone. Public sector support is necessary.

5.6 Integrate AI gradually with risk controls

A phased approach to AI deployment will reduce risks. Initially, firms should run AI models alongside traditional methods to compare results and build trust. Use cases can then expand to lower-risk applications, like internal valuations or portfolio-level insights, before applying AI in high-stakes scenarios such as financial reporting or large transactions. 'Sandbox' initiatives are a well-worn framework to test new technologies in controlled environments, and offer a precedent for both automated valuation and valuation automation approaches.

Each step should be accompanied by impact assessments and performance monitoring. This cautious integration allows organisations to learn, adapt, and avoid unintended consequences while scaling AI use responsibly. In the context of automation valuation, easier-to-automate tasks with lower consequences should be automated first as the 'low hanging fruit'. One example of this would be reproducing data into a report format, or using LLMs as a 'red team' to an investment valuation completed by a qualified and competent human.

6. CONCLUSION

The institutional real estate investment industry is at an inflection point where decades of traditional practice are intersecting with cutting-edge technology. This report has explored the impact of artificial intelligence on valuations in the UK institutional real estate investment sector, placing it in a global context, and a forward-looking frame. Valuation practices are facing disruption from AI in two key directions: valuation automation, which digitises and automates legacy professional tasks; and automated valuation, which introduces entirely new ways of determining value through continuous, machine-driven, data-rich processes.

While both are significant, their long-term implications differ substantially. Valuation automation enhances the existing appraisal workflow, improving efficiency, consistency, and speed. It modernises how valuers access data, draft reports, build models, and manage compliance without fundamentally altering the nature of valuation as an exercise in expert judgement. By contrast, automated valuation has the potential to reshape the entire ontology of valuation, transforming value from a periodic professional opinion into an algorithmically generated, continuously updated market signal. As data abundance, digital twins, real-time building performance metrics, and agentic AI mature, automated valuation could become a core market infrastructure rather than a professional service.

AI is therefore set to become a foundational pillar of the institutional real estate valuation ecosystem, reshaping not only how property is valued but also how it is traded, managed and understood. The deployment of AI-powered tools promises to increase the speed and accuracy of valuation processes, enhance transparency, lower transaction costs and improve price discovery, which can potentially make real estate a more liquid and responsive asset class. Through real-time analytics, dynamic pricing, and automation of labour-intensive workflows, AI could move institutional real estate closer to the efficiency of public markets while preserving the tangible, income-producing characteristics that define real assets.

However, these transformations must be managed with exceptional care. Valuation remains a cornerstone of risk management, and systemic errors in automated valuation systems could propagate throughout lending, investment, and regulatory frameworks. As valuation increasingly shifts from human interpretation to algorithmic inference, questions emerge about accountability, interpretability, and fairness. The challenge is not merely whether AI can be adopted but how it should be governed. AI must augment rather than supplant human judgement; it must operate within transparent, auditable, and ethically grounded frameworks; and it must rely on robust, high-quality, and representative data ecosystems.

To ensure a sustainable transition, stakeholders, including valuation professionals, asset managers, investors, technologists, and regulators, will need to collaborate to define data standards, modernise professional practices, strengthen accountability mechanisms, and anticipate unintended consequences. Investment in talent, infrastructure and regulatory alignment will be critical. If executed thoughtfully, AI has the potential to elevate the credibility, agility, and efficiency of the CRE sector, unlocking new forms of value for both institutional and retail participants while enhancing the resilience of the industry in an increasingly data-driven world.

In summary, AI and automated valuation models are not merely incremental tools; they represent a profound shift in how we conceptualise, measure, and exchange the value of the built environment. While valuation automation will improve today's processes, automated valuation carries deeper and more transformative consequences for market structure, liquidity, professional authority, and the philosophy of valuation itself. Embracing this shift with wisdom and caution will position the institutional real estate investment sector to thrive in the generative AI era, with an approach to valuation that is as innovative as it is sound.

REFERENCES

- Altus Group. (2023). The rise of data-driven commercial real estate. Retrieved from https://www.altusgroup.com
- CBRE. (2022). How AI is impacting real estate investment management. Retrieved from https://www.cbre.com
- CoreLogic. (2022). Understanding Automated Valuation Models (AVMs). Retrieved from https://www.corelogic.com
- Dealroom. (2025). Opening moves in global AI. Retrieved from https://dealroom.co/reports/opening-moves-in-global-ai-venture-capital
- Della AI. (2023). AI-powered lease review platform. Retrieved from https://www.della.ai
- EG Radius. (2023). Property data, leases, transactions, and planning analytics. Retrieved from https://www.eg.co.uk/radius-data-exchange/
- HouseCanary. (2022). The role of AVMs in modern valuation. Retrieved from https://www.housecanary.com
- Graham & Baum. (2023). A piece of the action: innovations in fractional ownership and use of space. Pi Labs. Retrieved from https://ssrn.com/abstract=4927462
- Investment Property Forum (IPF). (2023). Trends in real estate data and technology. Retrieved from https://www.ipf.org.uk
- JLL. (2022). Global real estate transparency index. Retrieved from https://www.jll.co.uk
- Kira Systems. (2022). AI for lease abstraction. Retrieved from https://www.kirasystems.com
- Leverton. (2021). Intelligent data extraction for real estate. Retrieved from https://www.leverton.ai
- Measurabl. (2023). Automated ESG data management for real estate. Retrieved from https://www.measurabl.com
- Plentific. (2023). AI-driven property operations platform. Retrieved from https://www.plentific.com
- PropEval. (2023). Automated commercial real estate valuation tools. Retrieved from https://www.propeval.com
- Realyse. (2023). Real estate analytics and valuation platform (UK). Retrieved from https://www.realyse.com
- Royal Institution of Chartered Surveyors (RICS). (2024). RICS Valuation – Global Standards (Red Book). Retrieved from https://www.rics.org
- Savills. (2023). Savills Tech Cities report. Retrieved from https://www.savills.com
- Skyline AI. (2020). How machine learning improves real estate investment. Retrieved from https://www.skyline.ai
- VTS. (2023). AI-driven leasing and asset management insights. Retrieved from https://www.vts.com
- World Economic Forum. (2020). Jobs of tomorrow: Mapping opportunity in the new economy. Retrieved from https://www.weforum.org/reports/jobs-of-tomorrow
- Zoopla. (2022). Automated valuation models and the UK housing market. Retrieved from https://www.zoopla.co.uk
- Cohen & Steers (2023). 'Non-traded REITs: New fund structures improve fees, liquidity and transparency.' **CNSREIT** Insights. Regular NAV pricing and independent appraisals in modern non-listed REITs improve transparency (www.cnsreit.com) (www.cnsreit.com).

REFERENCES

- Kreppmeier, J., et al. (2023). 'Real estate security token offerings and the secondary market: Driven by crypto hype or fundamentals?' **Journal of Banking & Finance, 154,** 106940. Open-access study of 173 U.S. real estate tokens finds digital fractional ownership attracts many small investors and enables secondary trading for previously illiquid assets (Real estate security token offerings and the secondary market: Driven by crypto hype or fundamentals?) (Real estate security token offerings and the secondary market: Driven by crypto hype or fundamentals?).
- YieldTalk (2022). 'LEX Markets Review – Fractional real estate investments you can trade like stocks.' (Sept 27, 2022). Describes LEX Markets' model of IPO-ing individual properties under Regulation A+ and listing shares on an OTC secondary market for liquidity (LEX Markets Review -- Fractional real estate investments you can trade like stocks).
- BlockchainX (2025). 'Real estate Tokenization: Exploring Tokenized Marketplaces.' **Medium** (Feb. 2025). Explains how tokenization and platforms like RealT enable fractional property tokens, with rental income via smart contracts and instant liquidity through decentralized exchanges (e.g. Uniswap) (Real estate Tokenization: Exploring Tokenized Marketplaces | by BlockchainX | Feb, 2025 | Medium) (Real estate Tokenization: Exploring Tokenized Marketplaces | by BlockchainX | Feb, 2025 | Medium).
- Danny Nelson (2020). 'tZERO Plans to Support Trading of Aspencoin Ski Resort Digital Security.' **CoinDesk** (Jul 22, 2020). News of tZERO enabling secondary trading of the Aspen Resort token. Aspen Digital raised $18M via tokens (19% of St. Regis Aspen) in 2018; those tokens became tradable on tZERO in 2020 (tZERO Plans to Support Trading of Aspencoin Ski Resort Digital Security).
- Global Investment Strategy (GIS) UK (2025). 'Fractional Property Investment: The UK's New Real Estate Revolution.' (Jan 8, 2025). Overview of fractional ownership in the UK. Notes that platforms like Property Partner and Brickowner allow share ownership in properties, and many platforms offer secondary markets for early exit (though liquidity and pricing are not guaranteed) (Global Investment Strategy | Global Financial Services) (Global Investment Strategy | Global Financial Services).
- INREV (2018). 'Understanding Real Estate Illiquidity Premiums Better.' **Research Report** (Feb 2018). Analyzes illiquidity in UK real estate funds vs. REITs. Estimates an average illiquidity premium of ~84 basis points for non-listed real estate funds, highlighting the extra return historically required for illiquidity ().
- John Egan (2020). 'Non-Traded REITs Have Gotten a Bad Rap for Lack of Transparency. Can They Be Trusted?' **WealthManagement.com** (Feb 3, 2020). Discusses the evolution of non-traded REITs post-scandals. Quotes an attorney noting investors had 'no way to get out' due to no secondary market, an issue new liquidity measures aim to fix (Non-Traded REITs Have Gotten a Bad Rap for Lack of Transparency. Can They Be Trusted?).

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