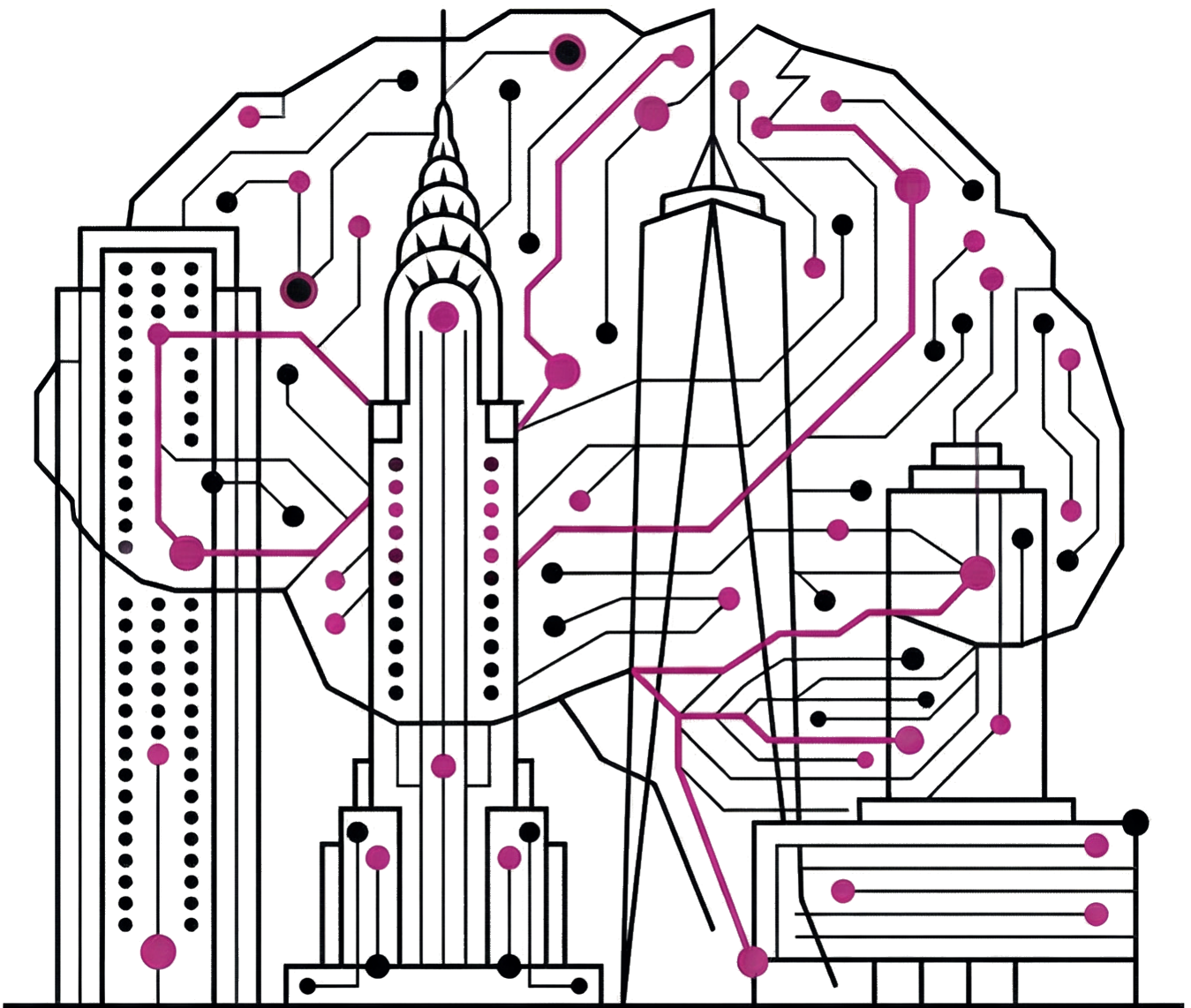


[PT1]

# HOW AI IS SUPERCHARGING PRODUCTIVITY IN THE BUILT WORLD

MARKET ANALYSIS,  
CASE STUDIES,  
INVESTMENT IMPLICATIONS



# EXECUTIVE SUMMARY

- \ Artificial intelligence is transforming the built environment at an unprecedented pace. What was once dismissed as hype is now delivering measurable productivity gains across property management, transactions, construction, and asset optimisation. This report examines how AI is reshaping real estate operations, presents a market map of key players, and offers tangible productivity metrics that investors and operators can use to evaluate opportunities.
- \ The headline numbers are compelling: property managers using AI tools report saving 10-12 hours per week on routine tasks; maintenance costs are dropping by 15-25% through predictive systems, and portfolios are scaling without proportional headcount increases. Morgan Stanley estimates the industry could unlock \$34 billion in efficiency gains over the next five years through AI adoption.
- \ Yet adoption remains uneven. Deloitte's 2026 Commercial Real Estate Outlook reveals that only 1% of firms report "transformative impact" from AI today, down from 12% the previous year as expectations recalibrate. The story isn't that AI has failed to deliver; rather, the gap between early adopters and laggards is widening. Colliers calls this the "AI productivity gap," and it's becoming a strategic differentiator.
- \ This report provides: (1) an overview of AI applications across the real estate value chain; (2) a market map of 40+ relevant startups across key categories; (3) detailed case studies with ROI metrics, including PT1 portfolio company AskVinny; and (4) practical guidance for real estate operators considering AI adoption.

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# 1. The AI Opportunity in Real Estate

## 1.1 Market Size and Growth

The global AI in real estate market was valued at \$2.9 billion in 2024 and is projected to reach \$41.5 billion by 2033, representing a compound annual growth rate exceeding 30%. In Europe specifically, the PropTech market was valued at €10.79 billion in 2024 and is expected to reach €50.70 billion by 2033, growing at 18.75% CAGR.

Several converging factors are driving this growth. First, the European Union's Green Deal and Renovation Wave initiatives are creating regulatory pressure for digital building management, targeting a doubling of annual energy renovation rates to 3% by 2030, covering 35 million buildings. Second, labour shortages and rising wage costs are making automation economically attractive. Third, the maturation of large language models and conversational AI has made natural-language interfaces practical for the first time.

Property management software alone represents a substantial market: valued at \$20.16 billion in 2022 and projected to reach \$35.46 billion by 2030. North America holds approximately 37% market share, with Europe and Asia Pacific as the fastest-growing regions.

## 1.2 The Productivity Imperative

Real estate has historically been one of the slowest industries to adopt technology. According to McKinsey, it ranks second-to-last among major sectors in digitisation. This creates both challenge and opportunity: the baseline is low, meaning productivity gains from AI adoption can be dramatic.

Consider the economics of property management. In the US, 240,000 property management firms spend approximately \$56 billion annually on salaries. In Europe, 214,000 firms spend around €35 billion. The traditional rule of thumb 'one staff member per 100 managed units' represents a fundamental constraint on scale. Breaking this ratio through automation unlocks significant operating leverage.

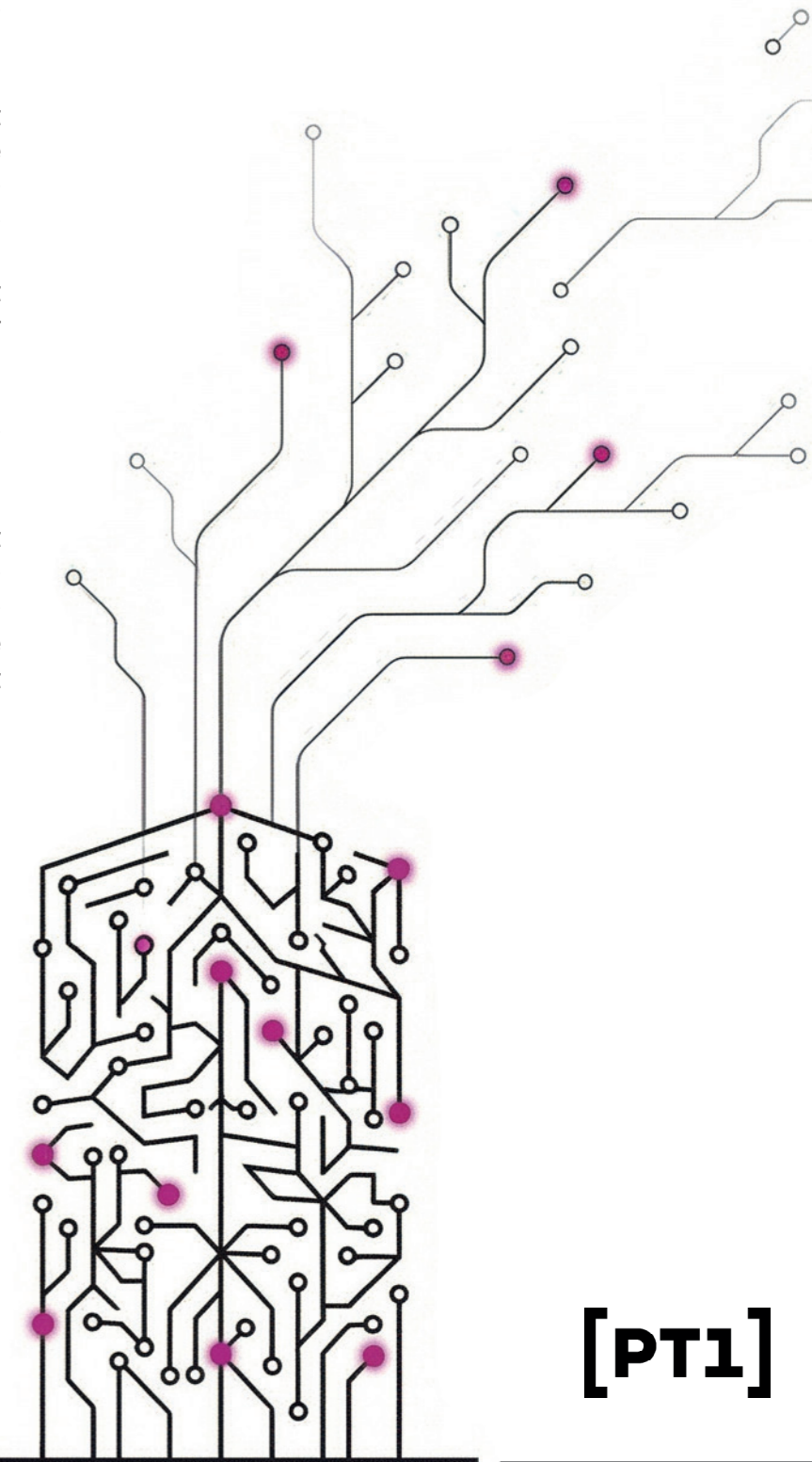
JLL's 2025 Global Future of Work survey confirms this shift is underway: more than 90% of C-suite leaders believe AI will change workforce operations over the next five years, and a similar proportion plan to accelerate AI investment. Yet the same survey reveals a critical gap: most organisations lack systematic approaches to implementation.

## 1.3 From Pilots to Production

The industry's relationship with AI is maturing. As StackDC noted in their 2026 outlook: "Real estate is still early in its AI journey, but the operational use cases are now proven, repeatable, and ROI-positive." The shift is from experimentation to deployment at scale.

CREtech's 2026 predictions highlight this evolution: "Commercial real estate is done with science projects. The priority is practical AI that deploys fast, integrates cleanly, and proves its worth on day one." Buyers now favour AI-first platforms built for CRE workflows over generic software with AI bolted on.

The firms pulling ahead share common characteristics: they've identified high-frequency, repetitive workflows; they've implemented integrated (not siloed) solutions; and they're measuring results rigorously. For these early movers, the productivity gains are substantial and increasingly difficult for competitors to match.



## 2. AI Applications Across the Real Estate Value Chain

AI is being applied across virtually every aspect of real estate operations. This section examines the most impactful use cases, organised by function.

### 2.1 Property Management & Operations

#### Tenant Communications & Leasing

Perhaps the highest-impact application of AI in property management is automating tenant and prospect communications. These interactions are high-frequency, often repetitive, and traditionally require significant staff time.

Modern AI leasing assistants handle the full prospect journey: responding to initial inquiries (within seconds, 24/7), answering property-specific questions, scheduling viewings, following up on no-shows, and pre-qualifying applicants. The best systems manage 85-90% of conversations without human intervention.

The productivity impact is measurable. AppFolio's AI tools save property managers an estimated 11.9 hours per week. One property using Zuma's AI assistant saved their team 21.9 years' worth of time in 2024 alone. EliseAI reports that 90% of leasing conversations are handled automatically, with approval-to-lease cycles 70% faster.

Beyond efficiency, these systems improve outcomes. Response time is critical in leasing: when teams take longer than 90 minutes to respond to prospects, they lose 50% of potential leads. AI eliminates this bottleneck entirely, responding instantly anytime.

#### Maintenance Management

Maintenance is the second major productivity lever. Traditional approaches are reactive: tenants report issues, staff log them manually, contractors are dispatched (often without adequate diagnosis), and costs accumulate through inefficient scheduling and emergency call-outs.

AI transforms this workflow in several ways. Intelligent triage systems engage tenants in diagnostic conversations, distinguishing urgent issues from minor complaints and often resolving simple problems through guided troubleshooting. When dispatch is necessary, AI systems match issues to appropriate contractors based on skills, availability, location, and pricing.

The results are significant. Predictive maintenance systems reduce emergency repair requests by 25% and cut overall maintenance costs by 15-25%. EliseAI reports more than \$12 savings per door through optimised maintenance coordination. One study found that landlords using manual processes incurred 20% higher maintenance costs than those using property management software.

#### Rent Collection and Arrears Management

Rent collection is another high-frequency, high-stakes workflow well-suited to automation. AI systems automate payment reminders, handle payment plan negotiations, and escalate appropriately based on tenant history and behaviour patterns.

These systems also identify at-risk tenants earlier. By analysing payment patterns, communication signals, and other data points, AI can flag potential delinquencies before they become serious, enabling proactive intervention rather than reactive collection.

### 2.2 Asset Management & Investment

#### Valuation & Underwriting

AI is accelerating property valuation and investment underwriting. Machine learning models analyse comparable transactions, market trends, demographic data, and property characteristics to generate valuations faster and often more accurately than traditional approaches.

Predictive analytics go further, forecasting price appreciation, rental demand & optimal transaction timing. Platforms like HouseCanary report that investors using their predictive tools reduce exposure to market volatility by 40% and make capital deployment decisions 70% faster.

#### Portfolio Optimisation

At the portfolio level, AI enables more sophisticated analysis and decision-making. Systems can identify revenue opportunities across portfolios, recommend rent adjustments based on market dynamics, and flag properties requiring attention.

The emerging frontier is "agentic AI," i.e. systems that don't just analyse but take initiative. These platforms surface opportunities proactively, recommend actions & automate routine workflows end-to-end. As CREtech notes, "owners and operators are adopting AI as a true business intelligence layer."

### 2.3 Energy and Sustainability

With buildings responsible for approximately 40% of global carbon emissions, energy optimisation

represents both an environmental imperative and a significant cost-saving opportunity.

AI-powered building management systems analyse occupancy patterns, weather forecasts, and equipment performance to optimise HVAC, lighting, and other systems in real-time. The results can be dramatic: JLL's AI-powered Hank technology achieved 708% ROI and 59% energy savings for Royal London Asset Management, reducing carbon emissions by up to 500 metric tons annually.

PropTech platforms like BuildingIQ and Metrikus report 25-40% reductions in HVAC energy use. Given that heating alone accounts for 64% of residential final energy use in Europe, and 75% of EU buildings are energy inefficient, the aggregate potential is enormous.

### 2.4 Construction and Development

AI applications extend beyond operations into construction and development. Document analysis tools extract key terms from contracts and leases, reducing review time by 90% or more. Planning optimisation helps developers identify sites, model scenarios, and navigate permitting.

On construction sites, computer vision and spatial AI are enabling automated progress tracking, safety monitoring, and quality control. Doxel and similar platforms use image recognition to compare as-built conditions against plans, identifying deviations early.

The next wave involves robotics and autonomous systems—prefabrication, modular construction, and even on-site robots for specific tasks. While still emerging, these technologies promise to address construction's persistent productivity challenges.

## 3. Market Map: AI in Real Estate

The following market map categorises key AI-enabled PropTech companies by primary function. This is not exhaustive but represents significant players across key segments.

Category	Companies	Key Capabilities
Property Management Platforms	 	Full-stack PMS with embedded AI for leasing, maintenance, accounting
AI Leasing & Communications	 	Conversational AI for prospect/tenant communications, 24/7 response
Maintenance Automation	 	AI triage, predictive maintenance, contractor coordination
Energy & Building Intelligence	 	AI-driven HVAC optimisation, energy management, sustainability tracking
Valuation & Analytics	 	Predictive valuations, climate risk, investment analytics
Tenant Screening	 	AI fraud detection, behavioural prediction, income verification
Construction Tech	 	Computer vision, progress tracking, document management
Document & Lease AI		Lease abstraction, contract analysis, compliance monitoring
Generative AI / Visualisation		AI-generated renders, listing descriptions, floor plans

## 4. Productivity Metrics: The Numbers That Matter

This section compiles specific, documented productivity metrics from AI implementations across the real estate industry. These figures provide benchmarks for evaluating AI investments and setting expectations.

### 4.1 Time Savings

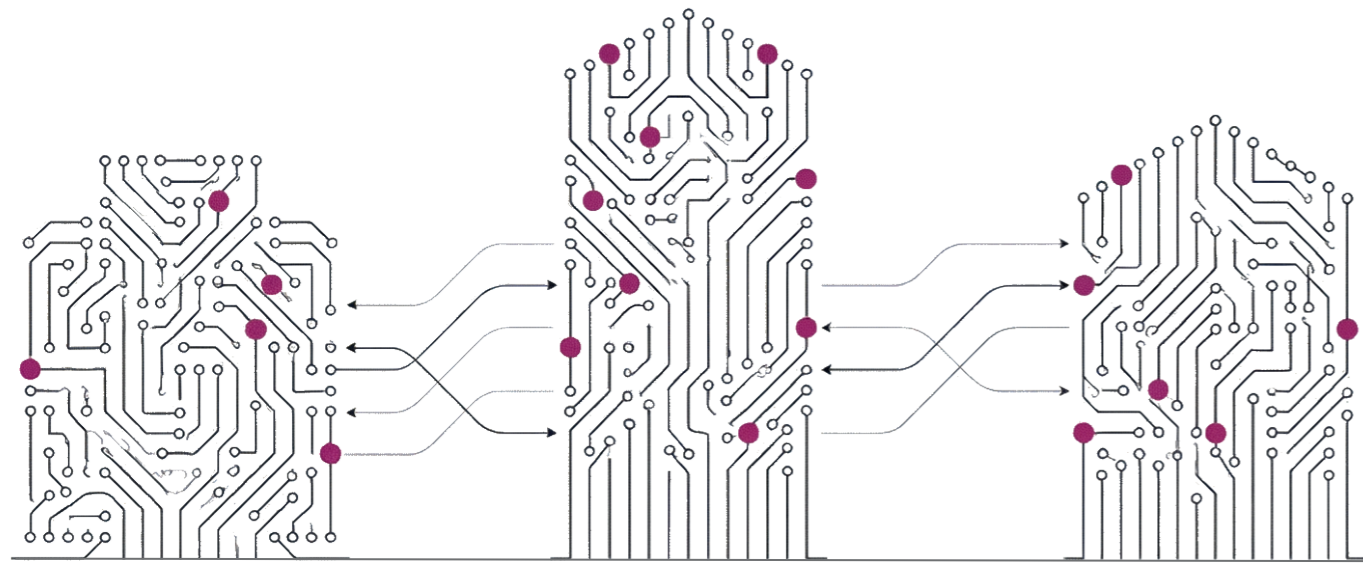
Metric	Result	Source
Weekly time saved per property manager	<b>11.9 hours</b>	AppFolio / AWS Case Study
Daily time saved per letting agent	<b>2.5 hours</b>	Letting Agent Today
Time saved on listing descriptions (per listing)	<b>10 minutes</b>	Reapit (450+ hours in one month)
Reduction in property search time	<b>70%</b>	Housivity
Faster approval-to-lease cycle	<b>70%</b>	EliseAI
Reduction in ML modeling time	<b>Up to 90%</b>	TRERC

### 4.2 Cost Reductions

Metric	Result	Source
Operational cost reduction (enterprise)	<b>15-25%</b>	EliseAI
Reduction in FTEs (residential)	<b>15% since 2021</b>	Morgan Stanley
Reduction in on-property labour hours	<b>30%</b>	Morgan Stanley
Maintenance savings per door	<b>&gt;\$12</b>	EliseAI
Energy cost reduction (HVAC)	<b>25-40%</b>	BuildingIQ, Metrikus
Reduction in emergency repairs	<b>25%</b>	Industry average (predictive maintenance)
Decline in after-hours maintenance calls	<b>35%</b>	EliseAI

### 4.3 ROI and Revenue Impact

Metric	Result	Source
Typical ROI from AI property management	5-10x	EliseAI
ROI from AI-powered HVAC	708%	JLL / Royal London Asset Management
% of brands seeing ROI within 12 months	75%	Entrepreneur Magazine
Increase in lead volume (AI tools)	Up to 300%	Industry research
Improvement in lead conversion	40%	Industry research
Increase in lead-to-tour conversion	20-30%	Raintree Partners / Zuma
ROI per unit/month	~\$15	Juniper Investment Group / EliseAI



## 5. Case Studies



### 5.1 AskVinny: Scaling Property Management Without Scaling Headcount

AskVinny (askvinny.com) is a PT1 portfolio company building an AI "teammate" for property management teams. Founded by Johnny Siu and Rory Buchanan, who previously worked together at Bulb, the renewable energy supplier, Vinny addresses a fundamental challenge: how to scale property portfolios without proportional increases in staff.

#### The Problem

Property management is extraordinarily labour-intensive. The industry rule of thumb 'one staff member per 100 units' represents a hard constraint on scale. Antler, an early investor, notes that 87% of property management tasks are repetitive and low-skill, yet these tasks consume most of a property manager's time: tenant communications, maintenance triage, compliance tracking, rent collection.

This creates a painful trade-off: grow the portfolio and watch service quality decline, or maintain quality and cap growth. As Bhavin Thakrar, Director of Venture Group Holdings, put it: "We want to manage 4,000 properties, and automation is the only way to keep staff sane."

#### The Solution

Vinny functions as an AI teammate that handles routine workflows: responding to tenant inquiries across voice, WhatsApp, chat and email; triaging and coordinating maintenance; managing compliance; processing

renewals. The system works across BTR, PBSA, multifamily, and traditional lettings.

Key technical features include: multi-channel communication matching brand tone; automatic language detection and response; predictable AI behaviour with policy safeguards; intelligent handoff to humans when needed; and integration with existing PMS, CRM, and messaging systems.

#### Results

Vinny claims to automate up to 90% of routine property management work, enabling agencies to scale portfolios without proportional headcount increases. The company reports:

- 80% of daily tasks automated (maintenance, compliance, move-ins, valuations)
- 50%+ reduction in repair costs through AI diagnostics and contractor coordination
- NPS above 80 from early users

#### Investment Implications

Vinny represents a broader trend: AI-first tools designed specifically for property management workflows, rather than generic automation bolted onto legacy systems. The company's approach of positioning AI as a "teammate" rather than a replacement reflects emerging best practice: augmenting human capability rather than eliminating it.

## EliseAI



### 5.2 EliseAI: Enterprise-Scale Automation

EliseAI is one of the most prominent AI property management platforms in the US market, having raised \$140 million to date. The company provides conversational AI across leasing, maintenance, renewals, and collections.

#### Key Metrics

- 90% of leasing conversations handled automatically
- 70% faster approval-to-lease cycles
- 15-25% operational cost reduction across enterprise portfolios
- 5-10x typical customer ROI
- >\$12 savings per door on maintenance coordination

#### Case Example: The Scion Group

The Scion Group, a student housing operator, achieved approximately \$1.3 million in annual cost savings by replacing their call centre operations with EliseAI's VoiceAI. By eliminating four separate solutions - an answering service, multimedia messaging software, experience management platform, and VoIP provider - Scion saved over \$500,000 per year in software costs alone, plus substantial labour savings.

### 5.3 JLL Hank: AI-Powered Building Operations

JLL's Hank technology provides AI-powered HVAC optimisation for commercial buildings. The platform analyses building systems, weather data, and occupancy patterns to optimise energy consumption in real-time.

#### Case Example: Royal London Asset Management

Royal London Asset Management, a leading UK investment firm, implemented JLL's Hank technology in an 11,600 square metre commercial office building. Results include:

- 708% ROI
- 59% energy savings
- Up to 500 metric tons of carbon emissions reduced annually

This demonstrates the potential for AI in building operations. This includes not just cost savings but meaningful environmental impact, increasingly important as ESG considerations shape investment decisions.

# 6. Implementation Guidance for Operators

For real estate operators considering AI adoption, this section provides practical guidance based on industry best practice and the experiences of early adopters.

## 6.1 Identifying High-Impact Use Cases

Not all AI applications deliver equal value. Focus initially on workflows that are:

- High-frequency: Tasks performed repeatedly throughout the day (e.g., tenant inquiries, maintenance requests)
- Rule-based: Workflows with clear decision criteria, even if complex (e.g., tenant screening, compliance checks)
- Time-sensitive: Processes where delays cost money (e.g., lead response, rent collection)
- Data-rich: Functions where historical data can inform predictions (e.g., maintenance, pricing)

The highest-impact starting points for most operators are tenant communications and maintenance triage: high volume, well-structured, and with clear ROI metrics.

## 6.2 Evaluating Solutions

When assessing AI property management tools, prioritise:

- Integration depth: Native connectors to your existing PMS, CRM, and communication systems
- Time-to-value: Target 30-60 day implementation, not year-long rollouts

- Industry specificity: Tools built for real estate workflows outperform generic automation
- Measurable outcomes: Vendors should demonstrate hours saved, errors avoided, NOI impact
- Human-AI handoff: Clear escalation paths for complex or sensitive situations

## 6.3 Measuring Success

Establish baseline metrics before implementation to accurately measure improvement. Key metrics to track include:

- Time metrics: Hours saved per employee, response times, cycle times
- Cost metrics: Cost per transaction, maintenance spend, staffing costs
- Quality metrics: Error rates, compliance incidents, customer satisfaction
- Revenue metrics: Vacancy days, rent collection rates, lead conversion

## 6.4 Change Management

Technology implementation is often easier than organisational change. Successful AI adoption requires:

- Clear communication: Frame AI as augmentation, not replacement
- Training investment: Budget for extended training periods and ongoing support
- Phased rollout: Start with pilot groups before full deployment
- Feedback loops: Continuous improvement based on user input

# 7. Investment Outlook and Conclusions

## 7.1 The Productivity Gap is Widening

The evidence is clear: AI is delivering measurable productivity gains in real estate. Property managers save 10–12 hours weekly. Maintenance costs drop 15–25%. Portfolios scale without proportional headcount. Energy consumption falls 25–40% in optimised buildings.

Yet adoption remains uneven. Deloitte's finding that only 1% of firms report transformative impact (down from 12%) reflects not failure but recalibration: expectations are becoming more realistic even as actual results improve.

The gap between early adopters and laggards is widening. As Colliers notes, this "AI productivity gap" is becoming a strategic differentiator. Firms that move from pilot to production will accelerate ahead; those waiting for certainty may find the gap too wide to close.

## 7.2 Where We're Investing

PT1 focuses on transformative technologies across real estate, energy transition, infrastructure resilience, and climate adaptation. Within AI, we're particularly interested in:

- Vertical AI: Purpose-built solutions for real estate workflows, not horizontal tools adapted to the sector
- Human-AI collaboration: Tools that augment rather than replace human judgment
- Measurable ROI: Clear, demonstrable productivity gains and cost reductions

- European focus: Solutions addressing EU regulatory requirements and market dynamics

Our portfolio company AskVinny exemplifies this thesis: vertical AI for property management, designed to work alongside human teams, with clear productivity metrics and strong product-market fit in the UK and European markets.

## 7.3 Key Takeaways

For real estate operators and investors, several conclusions emerge:

1. AI in real estate has moved from hype to production. The use cases are proven, the ROI is measurable, and early adopters are pulling ahead.
2. Start with high-frequency, well-structured workflows. Tenant communications and maintenance are the highest-impact entry points for most operators.
3. Prioritise integration over features. AI tools that connect seamlessly with existing systems deliver faster value than superior features in isolated silos.
4. Measure rigorously. Establish baselines, track key metrics, and validate ROI before scaling.
5. Move from pilot to production. The productivity gap is widening. Strategic advantage accrues to those who operationalise AI at scale.

The real estate industry is at an inflection point. AI won't replace property managers or investment professionals—but it will increasingly distinguish those who use it effectively from those who don't.

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**UPGRADING THE PHYSICAL WORLD**