GAME CHANGER REPORT 2026

The Future of the Construction and Real Estate Industry

Where Value Is Created & Why Business Models Are Being Restructured

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blackprint

DER NATIONALE INNOVATIONSHUB DES BAU- UND IMMOBILIENSEKTORS

Contents

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Foreword

Context for the Game Changer Research

The Game Changer research is built around a central question: How is value creation in the construction and real estate sector changing under increasing structural pressure? Not in relation to individual projects or isolated technological developments, but with respect to business models, governance logic, and economic viability across the entire value chain.
Since 2021, this question has been at the heart of blackprint's Game Changer research. Its goal is to systematically identify structural forces, analyze their interdependencies, and make their impact on business models comprehensible.

The Game Changers represent the first level of analysis: they describe the forces that permanently shift markets, organizations, and value creation structures. In a second step, the trends arising from these forces were derived. They show how structural pressure manifests operationally – in new market logics, changing roles, and shifting requirements for governance and leadership.
This connection between impact analysis and structured trend derivation forms the substantive core performance of this report.
The Game Changer Report brings this research together in a coherent overall logic. It provides orientation in a phase of cumulative pressure and forms a solid foundation for strategic decisions in an environment of regulatory, technological, and economic densification.
The engagement with these forces of change draws from years of work at the intersections of market players, innovation drivers, capital providers, and institutional framers. There it becomes visible that transformation decisions lose their impact when interdependencies are viewed in isolation and system boundaries are not overcome.

blackprint Institut understands itself as an analytical and transformative institution within the industry. The Game Changer Report is an expression of this claim. It combines analysis, translation, and a design impulse – and simultaneously forms the foundation for ongoing, systematic observation of structural market shifts.

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About Sarah Maria Schlesinger

Managing Partner of the blackprint Group
Academic Director of the blackprint Institute for Construction and Real Estate Economics

Sarah Maria Schlesinger is Managing Partner of the blackprint Group and, as its strategic lead, shapes the intellectual and strategic direction of the blackprint Institute for Construction and Real Estate Economics.

Her work focuses on the systemic classification of structural market shifts at the intersection of business models, technology, capital, and regulatory frameworks. As initiator and Academic Director of the *Game Changer* research initiative, she is responsible for identifying structural driving forces in the real estate sector and analyzing their impacts on value creation and capital allocation. In her role, she combines analytical research with entrepreneurial practice, strategic advisory services for market participants, and the development of collaborative innovation architectures. She is a member of the Innovation Think Tank of the German Property Federation (ZIA), serves on the board of the Digital Construction & Real Estate working group at Bitkom, and is a co-founder of the European Building Innovation Network (EUBIN). Prior to blackprint, she founded a PropTech company and was responsible for the development of new business models at mfi / Unibail-Rodamco. 2019, she was awarded the German Excellence Award in the category “Manager & Maker.”

Perspective from Practice

Implementation of Structural Shifts

Hardly any sector is as systemically relevant as the construction and real estate industry. Yet 2026 marks a turning point: the turbulence of recent years was not a temporary storm, but the beginning of a structural reordering. The interest rate reversal, ESG regulation, and Agentic AI no longer operate in isolation – they form an interdependent system that mercilessly tests every business model for its right to exist.

The Game Changer Report 2026 is not conceived as yet another catalog of measures, but as a governance framework. It shows which forces are permanently shifting the industry, where pressure is accumulating along the value chain – and how this creates clearly governable arenas for decisions. The second part of the report translates this pressure into concrete transformation pathways along data, lifecycle, risk, platform logic, and the role of real estate in the energy and supply system.
For board members and managing directors, the decisive question is therefore not whether the industry is changing, but who under the new rules can still actively shape it. Whoever continues to treat Agentic AI as an IT topic, reduces ESG to reporting, or organizes operations as a downstream residual function has already, in effect, made a strategic decision – against governance capability in an environment of structural simultaneity.

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About Dominik Kraatz

PropTech Advisor, blackprintpartners GmbH

Dominik Kraatz has been working with the construction and real estate industry for many years at the intersection of architecture, technology, energy, and capital. As a PropTech Advisor at blackprintpartners, he is responsible for trend analysis and research within the Game Changer research framework, contributing his experience from start-up, market leader, and research contexts.

His focus lies on the question of how structural pressure can be translated into viable governance and business model logics. Trained as an architect, he founded an early-generation PropTech company and subsequently worked as a project manager at a market leader in the energy sector. Today, he combines these perspectives in his role as an advisor to established market players at the intersection of digitalization, agentic AI, and the energy and real estate industries.

For around ten years, Dominik has also served as a lecturer at Bochum University of Applied Sciences. There, he focuses on digital tools for planning and value creation and led a two-year research project on intuitive CAD systems. His work combines hands-on implementation experience with a clear focus on leadership and governance issues—specifically how organizations can align their structures, processes, and decision-making models in ways that not only withstand the described game changers but actively leverage them for new value creation.

Management Summary

The New Logic of Value Creation in the Construction and Real Estate Sector

The building stock, with a net capital value of over 12 trillion euros, represents the dominant asset class of the German economy. Its capital intensity and high interest-rate sensitivity simultaneously make it a key amplifier of macroeconomic shifts. Revaluations resulting from regulatory requirements, physical risks, or structural changes in demand act directly on bank balance sheets, insurers, and private wealth situations. The construction and real estate industry is thus both a stability anchor – and a transmission belt of structural change.
Since 2021, blackprint's Game Changer research has systematically examined which structural forces are permanently changing this value creation. The present report brings this analysis together in a coherent overall logic.

1 Declining Margins and Inefficient Processes
- Data as the Operating System of Value Creation
- Decoupled Value Creation
- The End of the Asset Class

2 Skilled Workers Shortage
- Data as Operating System of Value Creation
- Decoupled Value Creation
- AI-Powered Control Capability
- Platformization of Value Creation

3 Technological Disruption and new Business Models
- AI-Powered Control Capability
- Platformization of Value Creation

4 Venture Capital
- The End of the Asset Class

5 Changing Stakeholder Demands
- The New Risk Geography of Real Estate
- The End of the Asset Class

6 ESG Regulatory
- Data as Operating System of Value Creation
- The Lifecycle Imperative
- The New Risk Geography of Real Estate
- Platformization of Value Creation

7 Climate & Weather
- The New Risk Geography of Real Estate

8 Price Increases
- The Lifecycle Imperative
- Platformization of Value Creation

9 Energy Transition
- The Lifecycle Imperative
- The New Risk Geography of Real Estate
- The End of the Asset Class

10 Agentic AI
- Data as Operating System of Value Creation
- Decoupled Value Creation
- AI-Powered Control Capability
- Platformization of Value Creation
- The End of the Asset Class

10 Game Changer and their Trends: effective together.

These forces act simultaneously and overlap. They transform valuation logics, risk assumptions, organizational structures, and capital allocation. Business models created under stable conditions are now encountering an environment of structural simultaneity.

These trends do not mark an additive innovation agenda, but a structural shift in market logic.
Competitiveness arises from the ability to recognize structural forces and to govern their consequences in an integrated manner. Data, capital, regulation, technology, and organization form a networked decision-making field in which isolated optimization loses its impact.

The Game Changer Report establishes an analytical framework for this new market logic. It creates transparency about the drivers, makes their impact on business models visible, and provides a reliable foundation for strategic positioning in an environment of increasing structural densification.

Part 1: The Game Changers – Ten Structural Forces

Classifying the Game Changers: Three Types of Structural Market Shift

The forces identified within the blackprint Game Changer research do not unfold in isolation, uniformly, or in synchrony. In order to systematically classify their structural significance for business models and value creation logic, a typological structuring is required.

The analysis of recent years yields an analytically consistent typology comprising three categories of Game Changers. They differ in origin, mechanism of impact, and strategic consequence for business models in the construction and real estate industry.

This typology does not serve to evaluate individual drivers, but to classify their structural power within the overall system. It forms the analytical framework within which the ten Game Changers are further ordered and elaborated chronologically in the report.

Type 1: **Systemic Primary Drivers**	**Type 2:** **Economic & Operational Pressure Drivers**	**Type 3:** **Market & Context Drivers**
set new frameworks and change the market environment from the outside	force adaptation within existing structures	change expectations, demand, and competitive dynamics
Systemic Primary Drivers act exogenously on the industry and change fundamental rules of the game. They are largely beyond the direct influence of individual market players and redefine what is regulatory permissible, economically viable, or technologically possible.	These drivers arise from structural deficits, efficiency limits, and changed cost and labor market conditions within the industry. They directly constrain the capacity to implement business model adaptations.	Market and Context Drivers act through changed actor logic, new financing structures, and social expectation horizons. They shift legitimacy, capital flows, and market acceptance.
This category includes:		
ESG Regulation	Declining Margins & Inefficient Processes	Climate & Weather
Agentic AI	Skilled Workers Shortage	Changed Stakeholder Demands
Energy Transition	Price Increases	Venture Capital
		Technology & New Business Models
Impact: They penetrate deeply into governance logic, investment decisions, and responsibilities, and change the structural prerequisites for business models.	**Impact:** They act less through new rules than through limited room for maneuver, and intensify adaptation pressure.	**Impact:** They change the conditions under which business models are financed, accepted, and scaled.
Relevance: They force strategic realignment and hold high significance for competitiveness and system stability.	**Relevance:** In combination, they weaken investment capacity, innovative strength, and organizational stability.	**Relevance:** They couple the construction and real estate industry more strongly to technological, social, and financial developments outside the sector.

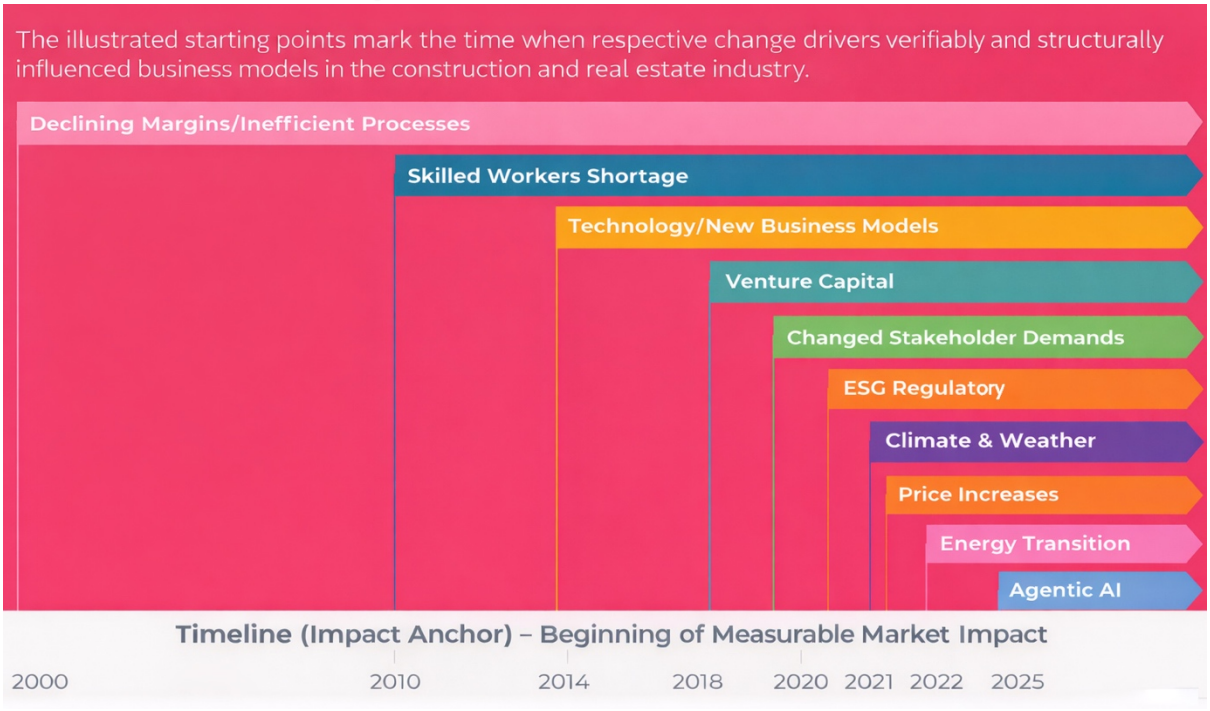
Interplay of the Three Types: Structural Simultaneity

What is decisive is not the impact of a single Game Changer, but the interplay of all three types. Systemic Primary Drivers define new frameworks, economic pressure drivers limit implementation capacity, market and context drivers shift expectation horizons and capital flows. The construction and real estate industry thus faces a fundamentally structural transformation. Simultaneously, new rules, limited resources, and changed market logics act in parallel. This simultaneity explains why isolated measures regularly fail structurally – and why competitiveness will increasingly depend on integrated governance capability.

Methodological Consequence for the Report

The presentation of the ten Game Changers deliberately follows a temporal logic of impact – from the early-onset structural drivers to the most recent o-nes, which overlay and amplify existing develop-ments.
This chronology makes visible that current challenges are not isolated events, but build on structural shifts that have been operating for longer. Business models do not come under pressure abruptly, but through the cumulative densification of multiple forces.
The typology presented here serves as an analytical reference framework. It enables the classification of the specific role of each individual Game Changer and at the same time captures the overall picture of an industry whose value creation logic is fundamentally changing.

Game Changers in the Construction and Real Estate Industry:
Start of Measurable Impact on Business Models



Game Changer: Declining Margins & Inefficient Processes

Impact Anchor & Classification

Impact Anchor: Early 2000s

The impact anchor for declining margins and inefficient processes lies in the early 2000s. Already in this phase, it first became empirically visible that increasing project volumes no longer led to proportionally increasing productivity and earnings quality. Productivity stagnated while complexity, coordination effort, and error costs increased.
Crucially: this margin erosion was not the result of poor market conditions, but the expression of a structural imbalance. The construction and real estate industry responded to growing complexity not with standardization, industrialization, or systematization, but with more individual effort, more coordination, and more improvisation.

Why this is a Game Changer:

Margin pressure arises systemically, not cyclically. Inefficiency becomes a permanent cost source. Economic success no longer depends primarily on project volume, but on process maturity, standardization, and governance quality.
This driver thereby changes the business model logic of the industry: growth no longer compensates for structural inefficiency. Scaling without systematization intensifies risks rather than returns.

Type: Economic & Operational Pressure Driver → acts permanently, limits implementation capacity, and amplifies nearly all other Game Changers

Key Insight: Declining margins are not a sign of poor markets, but of immature value creation.

Validated Status Quo 2024/2025

High Activity – Low Earnings Quality

Today the construction and real estate industry is highly active, but economically strained. Despite large project volumes, considerable investments, and high social relevance, the earnings quality of many business models remains fragile. Margins are exhausted, risks are high, and buffers are thin.

Central observations:

- Rework, delays, and interface losses are structurally widespread.
- Project durations extend without quality increasing.
- Earnings quality is reduced by friction losses, not primarily by individual costs.
- Personal effort compensates for missing systematization.
- Innovation and investment capacity remain structurally limited.

Change Dynamics

From Concealment to Exposure

1. **Concealment phase:** High demand compensates for inefficiency; margins decline gradually.
2. **Complexity phase:** More regulation, more actors, more coordination – processes remain the same.
3. **Exposure phase (today):** Compensation mechanisms no longer work. Skilled labor shortage, price increases, and ESG requirements expose structural deficits.

The dynamics show that declining margins are not a new phenomenon, but the **earliest warning signal** – one that can no longer be concealed today.

Bold Thesis: Declining margins are not the problem – they are the symptom of a system that can no longer master its own complexity.

Impact on Market, Stakeholders & Business Models

Market & Competition

- Competition shifts from performance promises to risk allocation
- Contracts become more complex; transaction costs rise
- Trust is increasingly replaced by hedging mechanisms

Stakeholders & Roles

- Generalist business models lose structural viability
- System integrators and highly focused specialists gain ground
- Organizations become dependent on individuals rather than standardized processes

Operations & Execution

- Inefficient planning has lasting effects on operations
- Operating costs rise structurally through lack of process integration
- Facility management remains reactive rather than value-creation-oriented

Typical Response Patterns – Why They No Longer Work

- More projects offset declining margins
- Technology compensates for a lack of process maturity
- Experience replaces process quality

What Successful Companies Do Differently Today

- They invest in process maturity before growth
- They shift decision-making upstream
- They reduce interfaces instead of managing them
- They measure productivity, not just costs

Outlook & Perspective

System Stability

Permanently margin-weak structures endanger the industry's ability to fulfill central tasks: housing construction, infrastructure, energy transition, and operational safety. A permanently margin-weak industry is not capable of transformation.

Perspective: Strengthening Germany & Europe as a Location

Productivity becomes a locational factor. Competitive are those markets that systematically master complexity – not those that compensate for it through individual effort.
Only an economically robust construction and real estate industry can: shoulder investments, integrate innovation, and fulfill social expectations.

- Finance investments
- Integrate innovation
- Meet societal expectations

Strategic Classification

The decisive question is not: "How do we cut costs?"
But: **"How do we organize value creation so that it remains viable with growing complexity?"**

Thesis
Declining margins were the industry's earliest warning call; those who took it seriously now possess structural room to maneuver. Those who ignored it are losing adaptability.

Game Changer: Skilled Workers Shortage

Impact Anchor & Classification

Impact Anchor: Early 2010s

The skilled workers shortage in the construction and real estate industry first became visible as a structural problem in the early 2010s. Demographic change, the withdrawal of the baby boomer generation from the labor market, and a lack of new talent in the trades and technical professions led to vacancies no longer being temporary, but permanently unfilled. Demographic change, the retirement of the baby boomer generation from the labor market, and a lack of new talent in skilled trades and technical professions have led to open positions remaining unfilled not temporarily, but permanently.

Why this is a Game Changer:

- Value creation is increasingly limited not by capital, but by available competence.
- Experiential knowledge is being lost faster than it can be replaced.
- Transformation fails not through strategy, but through implementation capacity.

Type: Economic & Operational Pressure Driver → acts permanently, limits implementation capacity particularly in construction execution and operations, and amplifies the impact of nearly all other Game Changers there.

Key Insight: Skilled labor shortage is not a labor market problem, but a structural constraint on value creation.

Validated status quo 2024/2025

Broader, Deeper, and More Critical Than Often Assumed

In central operational areas, the skilled labor shortage is structural reality. It affects not only construction execution and the trades, but equally planning, operations, facility management, building services engineering, and commercial real estate management.

Central observations:

- Vacancies remain permanently unfilled – even with high demand.
- Loss of experiential knowledge increases error rates and coordination effort.
- New competency profiles (digitalization, energy, systems management) are barely available.
- Operations & technical building management become a bottleneck for economic viability.

Change Dynamics

The dynamic of the skilled workers shortage has evolved from a temporary bottleneck to a permanent constraint. Earlier compensation mechanisms – overtime, subcontractors, the experience of individuals – are losing their effect.

Development path:

1. Displacement and concealment through high capacity utilization.
2. Demographic tipping point and accelerated knowledge loss.
3. Collision with transformation requirements (ESG, energy, digitalization).

Bold Thesis: Without structural reorganization, the skilled labor shortage will become the limiting factor for operational transformation goals.

Impact on Market, Stakeholders & Business Models

Market & Competition

- Projects fail not through financing, but through availability of skilled workers.
- Capacity becomes the decisive competitive factor.

Stakeholders & Roles

- Role profiles change faster than qualification systems.
- Overload and role erosion characterize organizations.
- Business models with high labor intensity lose structural scalability.

Operations & Execution

- Facility management and technical building management are particularly affected.
- Missing competencies endanger operational safety, energy efficiency, and user satisfaction.

Typical Response Patterns – Why They No Longer Work

- Focus on recruitment without process adaptation
- Use of technology without building competencies

What Successful Companies Do Differently Today

- Reduction of complexity and clear role logics
- System-supported processes instead of person-dependent solutions
- Investment in qualification and organizational maturity

Outlook & Perspective

System Stability:
The skilled labor shortage determines whether central tasks such as housing construction, operations, and energy transition can actually be implemented at all.

Perspective: Strengthening Germany & Europe as a Location:
The ability to organize value creation with limited human resources becomes the decisive locational factor.

Thesis:
The shortage of skilled labor is the litmus test of whether business models are robust in terms of processes, technology, and organizational structure.

Game Changer: Technology & New Business Models

Impact Anchor & Classification

Impact Anchor: 2014

The impact anchor for technology and new business models lies in the year 2014. With the political announcement of the 'Bestellerprinzip' (buyer-pays principle), a central legal framework of the real estate industry changed so fundamentally for the first time that existing business models came under structural pressure. Even before the law came into force, it became visible that new market participants were systematically building digital, platform-based, and scalable business models in the marketing and transaction environment.

What is decisive is not the individual law, but the effect it triggered: the industry recognized for the first time that regulation, technology, and new business models interact and that established value creation is no longer protected. From this point on, technology-driven startups, SaaS models, and platform logic also became visible in the real estate context – initially selectively, later systematically.

Why this is a Game Changer:

- Technology becomes structurally shaping, not merely supportive.
- New business models specifically attack and decouple individual value creation stages.
- Scaling, speed, and capital access become central competitive parameters.

Type: Market & Context Driver → changes competitive logic, entry barriers, and expectation horizons.

Key Insight: Technology is not an end in itself – it only becomes structurally transformative through new business models.

Validated status quo 2024/2025

High Innovation Density – Fragmented Systemic Impact

Today technology is ubiquitous in the construction and real estate industry, but its **systemic impact is unevenly distributed**. While individual value creation stages are strongly digitalized and partially disrupted, others remain almost unchanged in analog or partly digital logic.

Central observations:

- Marketing, transaction, and valuation are **most strongly changed.**
- Construction execution and operations remain comparatively fragmented.
- Technology is frequently introduced additively, not integrated into existing processes.
- Many solutions address symptoms, not system logic.

Change dynamics

From isolated digitalization to a business model question

1. **Digitalization phase:** individual processes are digitally supported (tools, software, isolated solutions).
2. **Platform & SaaS phase:** technology becomes the basis for new revenue models and scaling logic.
3. **Structural phase (today):** business models are being restructured along data, usage, platform logic, and systems management.

The dynamics clearly show that technology only becomes effective when it is **coupled with new roles, revenue logics, and responsibilities.**

Bold Thesis: The construction and real estate industry does not fail from lack of technology, but from the consistent translation into viable business models.

Impacts on the market, stakeholders, and business models

Market & Competition

- Entry barriers in individual value chain stages are declining drastically
- Speed and scalability relativize traditional size logics
- Competition shifts from regional to functional

Stakeholders & Roles

- New market entrants occupy profitable sub-segments of the value chain
- Established companies lose customer interfaces

Operations & Execution

- Operational processes often remain untouched
- Media discontinuities and parallel structures are widespread
- Digitalization creates additional complexity when not integrated systemically

Typical Response Patterns – Why They No Longer Work

- Procurement of tools without process change
- Innovation treated as a project rather than a business model question
- Hope for “industry standards from the outside”

What Successful Companies Do Differently Today

- They define clear roles between core services and technology
- They integrate technology into value creation instead of merely attaching it

Outlook & Perspective

System Stability

Without viable business models, technology remains ineffective. The industry risks accumulating digital complexity without deriving economic value from it.

Perspective: Strengthening Germany & Europe as a Location

The strength lies not in copying global platforms, but in combining technology with real industry logic — data management, process integration, and lifecycle governance.

Strategic classification

The central question is not: “Which technology do we implement?”
But: "Which business model do we want to sustain with it in the future?"

Thesis:
Technology only becomes a Game Changer when companies are willing to restructure their business models around it.

Game Changer: Venture Capital

Impact Anchor & Classification

Impact Anchor: 2018

The impact anchor for venture capital in the construction and real estate industry lies in the year 2018. With the founding of the first PropTech-dedicated venture capital funds in Germany, growth capital for technology-driven business models in the real estate context was mobilized systematically and in significant size for the first time. This changed not only the financing side of innovation, but also its speed, scaling logic, and strategic relevance.
Until then, the industry was considered barely investable: long sales cycles, low degrees of digitalization, fragmented customer segments. With the entry of professional venture structures, however, it became visible that the actual bottleneck was not a lack of innovation ideas, but missing capital and scaling logic.

Why this is a Game Changer:

- Innovation speed is determined by capital access.
- Scaling via capital replaces gradual organic growth as the dominant growth model.
  Value creation shifts into capital-strong, technology-driven structures.

Type: Market & Context Driver
→ massively accelerates technological and structural change.

Key Insight: Venture capital does not decide what is innovated – but how fast and by whom.

Validated status quo 2024/25

High Relevance – Limited Industry Understanding

Venture capital is today a central driver for innovation in the PropTech environment, but is still not understood as a strategic instrument by large parts of the construction and real estate industry – it is instead viewed as a peripheral phenomenon or a risk.

Central observations:

- VC-financed innovation concentrates on scalable, data-driven value creation stages.
- Construction execution and operational cores remain underinvested.
- Capital flows preferentially to where rapid scaling is possible.
- Industry-internal capital providers often act hesitantly or tactically.

Change Dynamics

From Innovation Impediment to Accelerator

1. **Pre-VC Phase:** Innovation emerges slowly, organically, and often without scaling perspective.

2. **VC Entry Phase:** First funds professionalize selection, governance, and growth.

3. **Structural Phase (today):** Venture capital shapes business models, market speed, and competitive dynamics.

The dynamic shows: venture capital does not act neutrally, but selectively shapes structures – influencing which value creation stages are developed and at what speed.

Bold Thesis: Whoever does not strategically understand venture capital cedes central innovation dynamics and the future of the industry to external actors.

Impact on Market, Stakeholders & Business Models

Market & Competition

- VC-financed companies grow faster than established market participants.
- Market consolidation is increasingly accelerated by capital strength.
- Innovation leadership is shifting.

Stakeholders & Roles

- Startups become strategic infrastructure providers.
- Established companies lose design and learning authority in certain segments.
- New power centers emerge outside classic industry structures.

Operations & Execution

- Solutions are often not aligned with operational reality.
- Implementation fails at interfaces, not at technology.
- Missing co-creation between industry and startups.

Typical Response Patterns – Why They No Longer Work

- Passive observation of the startup market
- Innovation projects without capital and scaling logic

What Successful Companies Do Differently Today

- They actively invest in PropTech-dedicated VC structures / build their own corporate venture arms
- They understand venture capital as part of their transformation strategy
- They understand venture capital as part of their transformation strategy

Outlook & Perspective

System Stability
Without strategically embedded venture capital, innovation remains fragmented. The industry loses the ability to shape and govern emerging technology cycles.

Perspective: Strengthening Germany & Europe as a Location
The speed at which European companies build professional venture structures determines whether they remain shapers of technology cycles or become recipients.

Strategic classification
The decisive question is not: “Whether we invest in startups.”
But: "How quickly and how professionally we understand venture capital as a strategic instrument."

Thesis:
Venture capital is not a foreign body in the construction and real estate industry – it is a benchmark for whether the industry is capable of transformation.

Game Changer: Changed Stakeholder Demands

Impact Anchor & Classification

Impact Anchor: 2020

The impact anchor for changed stakeholder demands lies in the year 2020. During this period, the pandemic-induced upheavals made visible for the first time on a large scale that expectations of real estate, work environments, service quality, and decision-making speed were changing dramatically — and that these changes would not "bounce back." 2020 was thus less a trigger than a catalyst: what had already been building socially and technologically (digitalization of everyday life, real-time services, platform logic) suddenly became the benchmark for companies and institutions in the construction and real estate sector as well.
Crucially: stakeholder demands are not a "soft" trend. They become hard market parameters because they change space demand, usage, willingness to pay, employer attractiveness, and thus the economic viability of assets and business models.

- Demand shifts: less "space," more "utility" and "experience."
- Transparency and speed become expectations, not differentiators.
- Employer attractiveness increasingly depends on digital maturity and service culture.

→ These shifts act directly on revenue models, lettability, and long-term value stability of assets.

Type: Market & Context Driver → changes expectation horizons, demand profiles, and competitive logic; forces business models to realign around user and employee perspectives.

Key Insight: Stakeholder demands are the new currency: those who underestimate them lose acceptance – and thus market share.

Validated status quo 2024/25

From Space Logic to Usage & Service Logic

The construction and real estate industry is experiencing an expectation leap simultaneously on multiple levels: users, employees, investors, public authorities, and media demand more transparency, more flexibility, more sustainability, better services – and above all: reliable governability. The industry is thus no longer measured primarily by building quality, but by the ability to organize real estate as an ongoing performance.

Central observations:

- Users expect service quality and transparency as in other industries: **simple, fast, reliable.**
- Leasing concepts shift from standard space to flexible, usage-oriented offerings.
- Reporting and communication capability becomes a quality benchmark for operators and owners.
- Employer attractiveness is visibly tied to process and tool maturity: organizations running on "fax & Excel improvisation" struggle to attract qualified talent.
- Existing portfolios come under pressure when usage concepts no longer match demand.

Change Dynamics

From Comfort Wish to Hard Market Requirement

1. **Expectation Buildup:** Digital everyday worlds shape the baseline expectation for speed, availability, and transparency.
2. **Catalysis Phase (2020)**
   Remote work, uncertainty, and usage fluctuations force organizations to rethink usage and service.
3. **Market Phase (today)**
   Expectations become immediately economically effective: they determine lettability, space requirements, turnover, reputation, and employer attractiveness.
   The dynamics are clear: stakeholder demands are not additive, but **structurally transformative**. They intervene deeply in product definitions, operations, contractual logics, and organizational structures.

Bold Thesis: In real estate markets, location alone will no longer be decisive – but the ability to meet expectations sustainably and transparently.

Impact on Market, Stakeholders & Business Models

Market & Competition

- Demand shifts from standardized space to usage- and service-oriented products.
- Vacancy becomes less cyclical, more concept- and usage-driven.
- Reputation and communication capability become part of competitive differentiation.

Stakeholders & Roles

- Owners bear greater responsibility for user outcomes and service quality – not just rental income.
- Operators and service providers become the central interface between asset and user.
- Service platforms gain importance because they can scale expectation management.

Operations & Execution

- Operations becomes the stage for expectation fulfillment: accessibility, transparency, comfort, safety, energy.
- Facility management evolves from a cost center to a value driver.
- Missing data and process maturity leads to service gaps — and thus to churn, dissatisfaction, or rent reductions.

Typical Response Patterns – Why They No Longer Work

- "It will settle back down" (return to old space logic).
- Service as add-on instead of product core.
- Employer branding without digital work capability.

What Successful Companies Do Differently Today

- They think about real estate consistently from the perspective of users and employees.
- They professionalize operations as value creation — not as a residual function.
- They build transparency and communication capability as a core competency.
- They measure satisfaction, retention, and service quality — not just square meters and occupancy.

Outlook & Perspective

System Stability
Changed stakeholder demands are closely linked to social stability: housing quality, affordable space, and accessible workplaces are prerequisites for social cohesion.

Perspective: Strengthening Germany & Europe as a Location
Locations become more attractive when they combine usability, quality of life, and reliable services — a decisive factor for residential and commercial real estate alike.

Strategic classification
The central question is not: "How do we fulfill more requirements?"
But: "Which expectations will be non-negotiable in the future – and how do we build a business model around them?"

Thesis:
Changed stakeholder demands are the market filter of the future: they determine which real estate is used, financed, and valued – and which is not.

Game Changer: ESG Regulatory

Impact Anchor & Classification

Impact Anchor: 2021

The impact anchor for ESG regulation lies in the year 2021. With the entry into force of the EU Taxonomy Regulation and the accompanying disclosure and benchmarking rules, sustainability was codified as binding for the first time in this form, made comparable, and rendered immediately financially relevant. From this point on, ESG was no longer a voluntary orientation framework, but a regulatory codified evaluation standard that acts directly on financing, valuation, and investment decisions.

What is decisive is not the individual regulation, but the systemic change: since 2021, a continuous regulatory wave has been rolling at the European level, which is being translated into national legislation (including EU Taxonomy, CSRD, EPBD, national energy and building laws). Despite transition periods and interpretive questions, the trend is clear: ESG regulation is developing into a permanent steering instrument for capital flows and business models.

Why this is a Game Changer:

- Sustainability becomes a hard financial, valuation, and risk metric.
- Transparency replaces interpretation.
- Regulation intervenes directly in business models and capital access.

Type: Systemic Primary Driver → sets new rules, continuously tightens requirements, and acts independently of market cycles.

Key Insight: ESG is not an attitude – ESG is capital impact and changes economic viability.

Validated status quo 2024/25

From a Reporting Question to a Business Model Question

ESG regulation today shapes the strategic framework conditions of the construction and real estate industry. It does not act in isolation, but deeply into existing value creation logic through **financing, valuation, reporting, and risk management**. Particularly relevant is that ESG compliance is increasingly treated as a **prerequisite** and no longer as a differentiating feature.

Central observations:

- ESG data quality determines access to capital and financing costs.
- Non-compliant assets face write-down and stranded asset risks.
- Reporting obligations tie up considerable resources.
- ESG regulation has its strongest economic impact on existing stock, where retrofit and compliance obligations apply directly.
- Operational implementation frequently lags behind strategic targets.

Change Dynamics

From Sustainability Discourse to Regulatory Densification

1. **Orientation Phase:** ESG is understood as a voluntary framework and reputational factor.
2. **Codification Phase (from 2021):** Sustainability becomes measurable, comparable, and auditable.
3. **Escalation Phase (today):** Requirements tighten continuously, transition periods expire, sanctions become effective.

The dynamic is clear: ESG regulation is not concluded, but continuously evolving. Organizations that treat it as a one-off compliance project will face permanent catch-up pressure.

Bold Thesis: ESG regulation is not a transformation goal – it is the new operating mode of the industry.

Impact on Market, Stakeholders & Business Models

Market & Competition

- Capital flows increasingly orient toward ESG compliance.
- Non-compliant assets lose liquidity.
- Markets increasingly differentiate between future-viable and fading stock.

Stakeholders & Roles

- Asset owners must actively take over ESG governance.
- Operators and FM providers become key stakeholders in ESG implementation.
- Valuation and financing stakeholders gain influence.

Operations & Execution

- Operations becomes the central lever for ESG performance.
- Energy, maintenance, and reporting processes move into focus.
- Missing data and systems increase operational and financial risks.

Typical Response Patterns – Why They No Longer Work

- Treating ESG as a reporting project.
- Focus on new builds instead of existing stock.
- Delegation to individual ESG officers without system integration.

What Successful Companies Do Differently Today

- They integrate ESG into investment, operations, and decision logic.
- They build robust data and governance systems.
- They link ESG targets with economic viability and risk logic.

Outlook & Perspective

System Stability
ESG regulation aims at stabilizing financial, energy, and building systems – its effectiveness depends on whether the industry consistently transitions to ESG-capable operating models.

Perspective: Strengthening Germany & Europe as a Location
Europe positions itself as a regulatory and transparency space. Locational strength emerges where companies turn regulatory requirements into competitive advantages.

Strategic classification
The central question is not: "How do we fulfill ESG requirements?"
But: "How do we design new economic viability that remains sustainably viable under ESG rules?"

Thesis:
ESG regulation does not separate sustainable from unsustainable companies – but future-viable from structurally inflexible ones.

Game Changer: Climate & Weather

Impact Anchor & Classification

Impact Anchor: 2021

The impact anchor for climate and weather lies in the year 2021. With the flood disaster in the Ahr valley on July 14, 2021, the construction and real estate industry in Germany was abruptly confronted with the fact that extreme climatic events are not abstract future risks, but real, location- and value-destroying factors. For the first time, not only individual buildings but entire regions were revalued in terms of usability, insurability, and economic viability.

What was decisive was not the event alone, but its consequence: climate and weather risks became relevant for valuation, insurance, and financing. What was previously considered a rare damage event was recognized as a systemic risk that must permanently be incorporated into location, investment, and operational decisions.

Why this is a Game Changer:

- Climate risks become hard market, valuation, and risk parameters.
- Insurability becomes a prerequisite for financi-ability.
- Location quality is redefined – beyond classic location factors.

Type: Market & Context Driver with systemic impact → changes valuation logic, risk models, and location decisions.

Key Insight: Climate is not an environmental topic – climate is a central risk factor in real estate valuation.

Validated status quo 2024/25

From Niche Topic to Exclusion Criterion

Climate and weather risks now have a direct impact on the economic value of real estate. What is particularly relevant is not the absolute probability of individual events occurring, but **their impact on insurability and financing.** A property that is no longer insurable is effectively **no longer financeable** and therefore becomes a stranded asset.

Central observations:

- Insurers adapt risk models or withdraw from regions.
- Financing is coupled to insurability and risk provisioning.
- Heat stress, heavy rain, drought, and flooding influence usage and demand.
- Existing properties face greater pressure than new builds, as retrofit and adaptation costs weigh directly on profitability.
- Location assessment shifts from "location, location, location" to resilience, adaptability, risk profile.

Change Dynamics

From Rare Events to Permanent Locational Factors

1. **Ignorance Phase:** Climate risks are treated as exceptional events.
2. **Event Phase (from 2021):** Extreme weather makes risks visible and prominent in public discourse.
3. **System Phase (today):** Climate and weather risks flow systematically into valuation, insurance, and financing.

The dynamic shows: climate risks do not act linearly, but escalatingly. Individual events accelerate structural repricing – particularly for existing stock in exposed locations.

Bold Thesis: The real estate market does not penalize climate change – but the lack of adaptability.

Impact on Market, Stakeholders & Business Models

Market & Competition

- Regions and locations differentiate anew.
- Resilient locations gain attractiveness.
- Non-adaptable existing stock loses liquidity and valuation stability.

Stakeholders & Roles

- Investors must actively manage climate risks.
- Insurers and financiers become central pace-setters.
- Municipalities gain strategic importance in adaptation matters, as they control spatial planning and adaptation strategies for entire districts.

Operations & Execution

- Adaptation measures become part of ongoing operations.
- Greening, shading, sponge-city concepts, and water retention gain importance.
- Operating costs and maintenance strategies change permanently.

Typical Response Patterns – Why They No Longer Work

- Relying on historical weather data.
- Treating climate risks as a special topic.
- Viewing adaptation as a one-off investment.

What Successful Companies Do Differently Today

- They integrate climate risks into location and investment decisions.
- They develop adaptation strategies for existing stock.
- They think of buildings as part of urban resilience systems.
- They cooperate across property and stakeholder boundaries.

Outlook & Perspective

System Stability

Climate-resilient buildings and districts are a prerequisite for stable cities, functioning infrastructure, and social cohesion.

Perspective: Strengthening Germany & Europe as a Location

Europe can become a pioneer for climate-adapted urban and building concepts. The ability to make existing stock resilient and future-viable is a central locational advantage.

Strategic classification

The central question is not: “Whether climate risks will occur.”
But: "How early we prepare our real estate, districts, and cities for it."

Thesis:
Climate & Weather are the Game Changer that co-determines which locations remain habitable, insurable, and investable in the long term.

Game Changer: Price Increases

Impact Anchor & Classification

Impact Anchor: 2022

The impact anchor for price increases lies in the year 2022. With the coincidence of several external shocks – disrupted supply chains, sharply rising energy prices, geopolitical uncertainties, and the abrupt rise in interest rates following a long period of low rates – the construction and real estate industry was confronted for the first time in a long phase of relative cost and interest rate stability with simultaneous cost and financing pressure.
What is decisive is not the individual price increase, but its simultaneity and volatility. Material, construction, operating, and financing costs rose in parallel and unpredictably. Calculation logics that were designed for stability, long-term assumptions, and low fluctuations lost their validity within a short time. Business models based on long-term calculational certainty came under structural pressure.

Why this is a Game Changer:

- Economic viability becomes a volatile quantity, not a planning assumption.
- Risk shifts from operational execution into predevelopment, financing, and calculation phases.
- Projects fail not through lack of demand, but through missing calculability.

Type: Economic & Operational Pressure Driver → acts immediately, intensifies margin pressure, and limits investment and implementation capacity.

Key Insight: Price increases are not a cost problem – they are a plannability problem.

Validated status quo 2024/25

Structural Uncertainty Instead of Temporary Exception

Price increases shape the economic reality of the industry today. While individual markets have partially stabilized, **volatility remains elevated** – and the structural cost burden persists.

Central observations:

- Construction costs remain high and volatile.
- Energy prices have a lasting impact on operating and ancillary costs.
- Interest rate levels fundamentally alter investment calculations.
- Project developments are being postponed, recalculated, or halted.
- Existing portfolios come under pressure when costs cannot be passed on.

Change Dynamics

From Cost Shock to Structural Revaluation

1. **Shock Phase (2022)**
   Price surges hit projects unprepared.

2. **Adaptation Phase:** Contracts, calculations, and risk buffers are being sharpened.

3. **Structural Phase (today):** Price volatility must be factored in as a structural component of business models.

The dynamic shows: price increases are not a temporary market phenomenon, but a new framework in which investment decisions, project calculations, and operating models must be designed.

Bold Thesis: Not high prices are the problem – but business models that depend on stability.

Impact on Market, Stakeholders & Business Models

Market & Competition

- Projects with low risk-bearing capacity disappear from the market.
- Economic viability becomes selective and location-dependent.
- Market activity shifts from new builds to existing stock and conversion.

Stakeholders & Roles

- Project developers bear higher pre-financing and calculation risks.
- Investors act more selectively and risk-oriented.
- Operators gain importance as operating costs become central.

Operations & Execution

- Operating costs move into the focus of economic calculations.
- Energy efficiency and cost management become competitively decisive.
- Missing transparency increases financial risks.

Typical Response Patterns – Why They No Longer Work

- Blanket cost-cutting programs. Passing on risks without system adaptation.
- Passing on risks without system adaptation.

What Successful Companies Do Differently Today

- They calculate with volatility instead of fixed values.
- They integrate operating costs early into investment decisions.
- They rely on flexible contract and project structures.
- They strengthen cost and risk transparency across the lifecycle.

Outlook & Perspective

System Stability

Permanent price volatility endangers the industry's ability to make long-term investments. Without adaptive pricing and calculation models, delivery of central societal tasks – housing, renovation, infrastructure – is at risk.

Perspective: Strengthening Germany & Europe as a Location

Locational strength emerges where companies learn to plan and invest under uncertain cost conditions – and where market conditions allow viable returns.

Strategic classification

The central question is not: "When will prices normalize?"
But: "How do we make our business models robust against permanent uncertainty?"

Thesis:
Price increases do not separate efficient from inefficient companies – but robust from fragile business models.

Game Changer: Energy Transition

Impact Anchor & Classification

Impact Anchor: 2022

The impact anchor for the energy transition lies in the year 2022. With the energy crisis, it became abruptly visible that energy supply, energy prices, and energy dependencies are not external boundary conditions, but central strategic factors for the construction and real estate industry. For the first time, energy was seen not only as an operating cost item, but as a central economic foundation for real estate, districts, and cities.

What is decisive is not the crisis as an event, but the change in perspective it triggered: real estate is no longer regarded exclusively as an energy consumer, but increasingly as an active element of energy, data, and supply systems. This paradigm shift changes role and value creation relationships between the real estate and energy sectors.

Why this is a Game Changer:

- Energy becomes a strategic core resource for real estate.
- Economic viability depends on energy efficiency, governability, and resilience.
- Real estate moves to the center of decarbonization and system stability.

Type: Systemic Primary Driver → changes the fundamental functional logic of real estate and its integration into superordinate systems.

Key Insight:
Key Insight: The energy transition turns real estate from passive consumers into active system components.

Validated status quo 2024/25

High pressure to act – limited depth of implementation

The energy transition shapes the strategic agenda of the industry today, but its implementation remains highly heterogeneous – concentrated on individual measures rather than systemic integration.

Central observations:

- Energy efficiency and energy performance indicators become value drivers.
- Statutory requirements (incl. GEG, EPBD) increase adaptation pressure.
- Operations and energy management gain strategic importance.
- The real estate and energy industries are converging – albeit with different levels of maturity.
- Many organizations focus on individual measures rather than systemic solutions.

Change Dynamics

From Efficiency Measures to System Integration

1. **Efficiency Phase:** Focus on insulation, technology replacement, and individual optimizations.
2. **Crisis Phase (from 2022):** Energy prices and supply security become business-critical.
3. **System Phase (today):** Real estate is understood as part of energy, storage, and control networks.

The dynamic shows: the energy transition forces the industry to think beyond property boundaries. Individual buildings are no longer self-sufficient energy islands – they become nodes in interconnected systems.

Bold Thesis: The energy transition does not fail through technology – but through fragmented responsibilities.

Impact on Market, Stakeholders & Business Models

Market & Competition

- Energy-efficient and controllable real estate gains attractiveness.
- Non-adaptable existing stock loses valuation stability and market liquidity.
- New competitors from the energy industry are entering the market.

Stakeholders & Roles

- Asset owners face the question of how much operational competence to build.
- Operators and energy service providers gain strategic influence.
- The separation of ownership, operation, and service is intensifying.
- Cooperation across ownership, sector, and stakeholder boundaries becomes necessary.
- Data, sensors and control systems become prerequisites for economically viable implementation.

Operations & Execution

- Energy management becomes a core function of operations.

Typical Response Patterns – Why They No Longer Work

- Individual measures without a system concept.
- Return-on-investment focus on charging infrastructure or PV without integration logic.
- Waiting for regulatory clarity.

What Successful Companies Do Differently Today

- They think about energy beyond building boundaries.
- They develop integrated energy and operations concepts.
- They actively cooperate with energy and technology participants.
- They anchor energy competence strategically in the organization.

Outlook & Perspective

System Stability

The energy transition determines whether buildings and cities remain governable under rising demand, volatility, and decarbonization pressure.

Perspective: Strengthening Germany & Europe as a Location

Europe has regulatory clarity, technological competence, and a large building stock. Whoever combines these three factors will be able to build a competitive advantage from the energy transition.

Strategic classification

The central question is not: “How do we make real estate more energy-efficient?”
But: "What role should real estate play in the energy and supply system in the future?"

Thesis:
The energy transition is the Game Changer that determines whether real estate becomes part of the solution or part of the problem.

Game Changer: Agentic AI

Impact Anchor & Classification

Impact Anchor: 2025

Agentic AI marks the point at which AI systems become capable of action in relevant fields of application for the first time. No longer merely analyzing, supporting, or automating, but able to pursue goals, prepare decisions, independently orchestrate processes, and process feedback loops.
The impact anchor lies where AI shifts from a tool to an actor in the system. What is decisive is not the technological maturity of individual models, but the structural change: decision logic shifts from humans as permanent executors toward autonomously supported systems.

- Value creation becomes scalable without proportionally building personnel capacity.
- Governance capability replaces permanent operational presence.
- Organizations evolve from work-centered to decision-centered systems.

Type: Systemic Primary Driver
→ changes the rules of the game, not just processes.

Key Insight: Agentic AI does not change how work is done – but who acts.

Validated status quo 2024/25

Between Fascination, Misconceptions, and Structural Underestimation

- Agentic AI is **not yet broadly implemented**, but strategically highly relevant.
- Most organizations still think of AI as an assistant, not as an actor.
- Productivity, governance, and operational potential are underestimated.
- At the same time, first autonomous decision logics are emerging in operations, energy, and systems management.
- The actual impact lies **not in the technology**, but in the change of decision and governance logic.

Change dynamics – From Automation to Autonomy:

From Automation to Autonomy

1. **Assistance phase:** AI supports humans in analysis, documentation, and optimization.

2. **Orchestration phase:** systems coordinate processes, prioritize measures, and respond to real-time data.

3. **Autonomy phase (beginning in first fields of application):** Agentic AI makes preparatory decisions, manages workflows, and learns systemically.

Bold Thesis: Agentic AI is not an efficiency tool – it shifts the boundary of organizational performance capability.

Impact on Market, Stakeholders & Business Models

Market & Competition

- Productivity is decoupled from personnel availability.
- Speed and governance quality become decisive.
- Markets reward system capability instead of size.

Stakeholders & Roles

- Asset-owners become system logic governors.
- Operational roles lose relevance unless augmented by governance and system competence.
- Service and platform models gain strategic power

Operations & Execution

- Operations becomes the central lever of autonomous governance.
- Energy, maintenance, and reporting processes are systematically optimized.
- Human work shifts toward goal definition, control, and accountability.

Typical Response Patterns – Why They No Longer Work

- "AI doesn't replace people, so it doesn't concern us."
- "We are waiting for mature solutions."
- "This is an IT topic."

What Successful Companies Do Differently Today

- They think of AI as an organizational operating system.
- They define clear goal and governance structures.
- They invest first in data, process, and decision maturity.

Outlook & Perspective

System Stability
Agentic AI determines whether highly complex systems – buildings, energy grids, cities – remain governable at all under growing pressure.

Perspective: Strengthening Germany & Europe as a Location
The strategic opportunity lies not in the race for the largest AI, but in the ability to deploy Agentic AI in real industry and infrastructure contexts:
Buildings, energy, infrastructure, operations.
This is where Europe's industrial and systemic strengths lie.

Strategic classification
The central question is not: "Do we implement agentic AI?"
But: "Which decisions do we want to no longer have to make manually in the future?"

Thesis:
Agentic AI is the first Game Changer that forces organizations to redefine themselves – not as labor-organizing structures, but as decision-governing systems.

Structural Classification – The Impact Matrix

The Impact Matrix shows the perspective impact intensity of the change drivers on the various value creation stages of the construction and real estate industry.

Impact Potentials of Game Changers – Perspective 2030

Impact Matrix – Game Changers Across Value Chain Stages	Declining Margins & Inefficient Processes	Skilled Labor Shortage	Technology & New Business Models	Venture Capital	Changing Stakeholder Demands	ESG Regulatory	Climate & Weather	Price Increases	Energy Transition	Agentic AI	TOTAL
Project Development & Smart City	3	2	4	4	4	5	5	5	5	4	5
Planning & BIM	4	3	4	2	4	5	4	3	4	5	4
Materials & Prefabrication	5	2	5	5	3	5	4	5	4	3	4
Construction Management & Execution	5	5	4	4	5	3	3	5	2	3	2
Leasing & Tenant Services	3	2	1	3	5	3	3	1	3	4	3
Facility Management	5	5	5	5	5	5	4	5	5	5	5
Commercial real estate management	2	2	4	5	4	3	2	2	3	5	3
Energy generation & supply	5	4	5	5	5	5	5	5	5	5	5
Transaction & sales	4	1	3	2	3	5	3	2	2	4	2
Valuation & financing	4	3	3	4	4	5	5	4	5	4	5
Investment & Portfolio	4	1	2	2	5	5	5	3	5	4	5
SUM	44	30	40	41	47	49	43	40	43	46	

Methodological Classification

The Impact Matrix is an ordering model.
The goal was not only to abstractly describe the structural impact of the ten Game Changers, but to systematically classify them along real value creation stages. What was evaluated was not short-term exposure, but the perspective, lasting shift in business models, capital and valuation logic, governance requirements, and operational performance capability.

- Business models
- Capital and valuation logics
- Governance requirements
- Operational performance

The initial assessment was made in an interdisciplinary blackprint expert circle. Each classification was discussed and justified along a comprehensible chain of reasoning. The goal was to expose implicit assumptions and make impact hypotheses transparent.
In a second step, this assessment was reflected against several AI systems, which condensed structural impact hypotheses on the basis of the complete research and analysis foundation of the Game Changer research. Deviations between expert assessment and model-based analysis were re-examined and evaluated in the expert circle. The final matrix is the result of this structured counter-running procedure. It combines qualitative market expertise with data-based counter-validation.

At the same time, it is transparent that the industry has so far lacked established, industry-wide recognized metrics to consistently and quantitatively measure the impacts of structural change across the entire value chain. The Impact Matrix is therefore a qualitatively validated structural diagnosis – not a mathematical scoring model. At the same time, it also marks the methodological starting point for a future data-driven structural monitoring of the industry, in which structural effects can be made regularly measurable on the basis of clearly defined indicators.

Where Impact Accumulates

The ten Game Changers do not act uniformly. Their structural force unfolds with differing strength along the value creation stages – from project development and construction to operations, financing, and portfolio management. The Impact Matrix makes visible where pressure for change accumulates, where new centers of power emerge and where business models come under structural pressure to adapt.

1. Operations and Energy Become Systemic Control Centers

The strongest cumulative impact is evident in facility management and energy generation and supply. Here nearly all structural drivers overlap: ESG regulation, energy transition, Agentic AI, margin pressure, skilled labor shortage, and changed stakeholder demands.
What long counted as a downstream function is becoming the strategic center of value creation: ESG compliance is determined here; lifecycle economic viability materializes here; the data foundations for capital access are created here; autonomous control systems act productively here.

- ESG regulation
- Energy transition
- Agentic AI
- Margin pressure
- Skilled Labor Shortage
- Changed Stakeholder Demands

This concentration is no coincidence. Operations and energy are the interfaces where regulation, cost pressure, data technology, and stakeholder demands converge.
What long counted as a downstream function is becoming the strategic center of value creation:

⇒ ESG compliance is determined here.
⇒ Lifecycle economic viability materializes here.
⇒ The data foundations for capital access are created here.
⇒ Autonomous control systems act productively here.

Operations evolves from an administrative unit into the central governance authority – with direct impact on capital access, valuation, and ESG performance.

2. Project Development and Capital Management Face Structural Transformation Pressure

Project development, valuation & financing, and investment & portfolio management also show high cumulative stress. The logic here shifts from short-term yield consideration toward integrated risk, data, and lifecycle management. These stages are particularly strongly affected by:

- ESG regulation
- Climate & weather
- Energy transition
- Changing stakeholder demands
- Agentic AI

Here the logic shifts from short-term return perspective toward integrated risk, data, and lifecycle governance. Project development is no longer defined primarily by site, planning permission and short-term exit logic – but by:

⇒ Decarbonization pathway
⇒ Resilience profile
⇒ Data capability
⇒ Regulatory-compliant financeability

Capital no longer follows location and usage alone. Capital follows governance capability.
Valuation and financing react particularly sensitively to these shifts. Transparency, data quality, and governance capability become decisive factors in credit and investment decisions.

3. Construction Execution Faces Operational Maturity Pressure

In construction execution and management, margin pressure, skilled labor shortage, and price increases dominate. The construction process suffers less from new rules than from missing structural maturity. Productivity, standardization, and industrialization become a survival question. Regulatory and capital-market-driven effects act more indirectly here. That means:

⇒ Construction execution suffers less from new rules than from missing structural maturity.
⇒ Productivity, standardization, and industrialization become a survival question – not primarily ESG reporting or platform logic.
⇒ The pressure is operational. The answer must be systemic.

Operational bottlenecks develop strategic relevance here:
Skilled labor shortage acts selectively high – particularly in construction and maintenance in operations – and directly limits implementation capacity.

4. Transaction and Classic Leasing: Disruption Already Complete – Strategic Levers Shifting

Transaction, sales, and classic leasing logic show lower cumulative systemic impact in the Impact Matrix.
This is not a sign of stability – but an expression of maturity.
These value creation stages were among the earliest and most intensively disrupted by platform models, data-driven transaction infrastructure, and data-based valuation – in some cases over the past decade.
The fundamental disruption of these stages has largely already occurred.

New Game Changers such as ESG regulation, energy transition, or Agentic AI intervene here less primarily than in operations, energy, or project development.
Value is increasingly created not at the transaction interface, but in the systemic governance of assets over their lifecycle. Transaction thus becomes the consequence of upstream system quality – no longer the primary site of value generation. The logic shifts from the project to the system.

Three Structural Shifts Become Visible

Three overarching structural movements can be derived from the matrix:

1. Value creation shifts from the individual project to systemic governance.
2. Capital follows governance capability.
3. Implementation capacity decides transformation capability.

Implication for Further Analysis

The Impact Matrix shows: the Game Changers do not act additively, but concentrate along clearly identifiable value creation stages and decision logics.
This is precisely where the seven trends of the following chapter emerge.
They are not thematic observations and not an innovation agenda. They are the structural response to a new market logic.

Part 2 therefore does not translate abstract change drivers, but concretely effective structural shifts – along the value creation logic of the industry.

Part 2: The Trends – Structural Consequences for Value Creation & Business Models

The analysis of the impact of the change drivers and their accumulation along the value creation stages shows how profoundly the ten Game Changers are shifting the logic of the construction and real estate industry. Cost structures, regulation, capital flows, technology use, and user behavior are changing not in isolation, but in systemic simultaneity. For decision makers, the question is no longer whether these forces act, but how they can be translated into concretely manageable future scenarios.

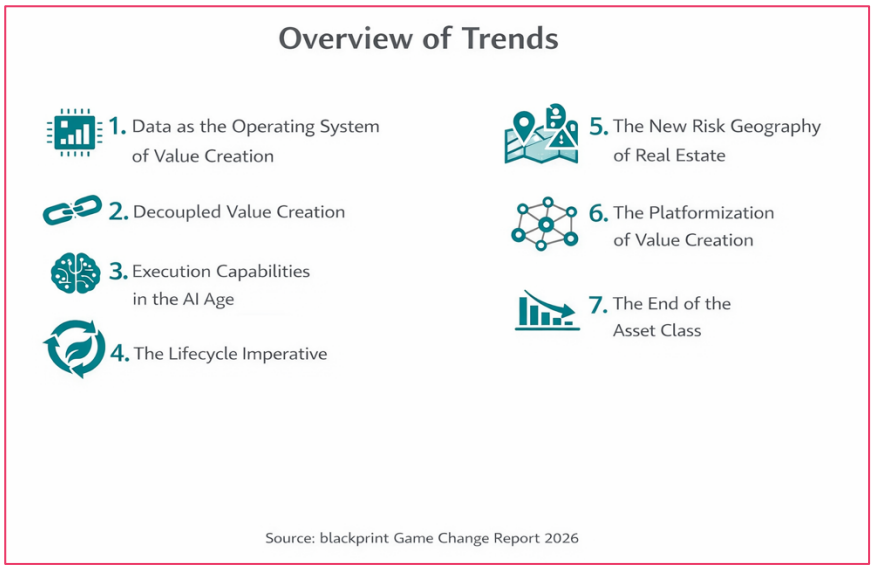
The seven identified trends are this translation: they bundle the impacts of the Game Changers into clearly delineated transformation paths along which business models, portfolios, and organizations must realign. They are not a wish list and not a "nice-to-have," but the operational response to the systemic changes in value creation – where pressure points and opportunities become new market logics.

Each trend addresses a clearly identifiable field of tension derived from the Impact Matrix. Together they define how value creation will be organized until 2030 – and which capabilities, partnerships, and investment decisions must be prepared today.

The following sections examine each trend along a uniform structure: (1) causal relationship – why the trend is unavoidable; (2) trend definition & status quo shift – what specifically changes; (3) evidence & validation – which market data and regulations support the development; (4) consequences for business models and actors – who wins, who loses; (5) practical examples – where the trend is already visible; (6) C-level decision agenda (24–36 months).

1. Causal relationship – why the trend is inevitable.
2. Trend definition & status quo shift – what is concretely changing.
3. Evidence & validation – which market data and regulations support the development.
4. Consequences for business models and stakeholders – who wins, who loses.
5. Practical examples– where the trend is already visible.
6. C-level decision agenda (24 to 36 months).

On this basis, the trend analysis begins with the fundamental prerequisite of all further developments in the construction and real estate industr



Trend 1: Data as the Operating System of Value Creation

Why without standardized, machine-readable data there remains no capital, no AI, and no market

1. The Causal Relationship: Why This Trend Becomes Mandatory

The construction and real estate industry operates in 2026 in an environment of structural overload: regulation, cost volatility, climate risks, and technological complexity act simultaneously on organizations with historically fragmented processes. What is decisive is no longer strategy alone, but the ability to systemically manage complexity.

Primary Driver ESG Regulatory	**Tech-Enabler** Agentic AI	**Catalyst** Declining Margins Skilled Labor Shortage
CSRD, EU Taxonomy, EPBD, and supervisory requirements force companies to make sustainability, risks, and performance measurable, reportable, and auditable – at scale.	Agentic AI expands organizational governance capability, but requires structured, machine-readable data as a prerequisite.	Declining margins and limited resources make manual compensation economically unsustainable. Missing data and process maturity directly impair competitiveness.

Data sovereignty is not an IT question, but the license for managing complex business models and the gatekeeper for all subsequent trends.

2. The Trend: Definition & New Market Logic

The trend describes the transition to data sovereignty as a central governance competence. Data is understood as a strategic resource with clear standards and responsibilities. The status quo shift: from 2026, CDEs, federated data spaces, and formats such as IFC, AAS, and DPP move into focus — not as an IT project, but as a prerequisite for ESG compliance, transactability, and the use of Agentic AI. These instruments are not ends in themselves, but infrastructure for capital, operational, and risk management.

3. Market Validation: Evidence & Market Signals

The significance of standardization is documented regulatorily, in financial markets, and technologically:

- **Market failure:** voluntary standardization is insufficient; interoperability remains a bottleneck for scaling, productivity, and automation.
- **Regulation:** the ESPR makes structured product data (DPP) mandatory, which will prospectively flow into building, portfolio, and ESG data models.
- **Financial market:** banks require valid, machine-readable data for risk, sustainability, and credit decisions in accordance with MaRisk, CSRD, and ESG requirements.

Parallel initiatives such as Coalition X and Construct X are building federated, secure data infrastructures and specifically strengthening European data sovereignty and interoperability.

4. The Impact: Effects on Business Models & Actors

Data sovereignty and standardization are fundamentally changing the competitive logic of the construction and real estate industry.

- **Winners:** companies that adopt open standards, consistent data models, and interoperable interfaces early secure governance capability over ESG, operations, risk, and capital access.
- **Losers:** actors with proprietary systems, fragmented data landscapes, and manual handoffs undercome structural pressure.
- **Management perspective:** data management develops into a leadership task.

Data sovereignty thus becomes a differentiating factor: not size or history determine competitive position, but the ability to govern assets, processes, and capital in a data-based, interoperable manner.

5. Market Adaptation: Where the Trend Is Already Visible

Market adaptation of data sovereignty and standardization is most visible where regulatory, financial market, and technological pressure converge.

- **Public sector & major projects:** public clients and infrastructure projects are increasingly establishing CDEs and open data standards.
- **Financing & transaction:** banks, investors, and valuers demand structured object, ESG, and operational data.
- **Operations & energy:** operators and FM service providers rely on standardized data models.
- **Industry & platforms:** initiatives around digital product passports, material registers, and federated data spaces.

These developments do not mark blanket implementation, but a clear directional shift: data sovereignty is evolving from a technical optimization topic to a strategic governance competence.

6. Executive Call-to-Action

For management boards and executives, data sovereignty from 2026 onwards is a non-delegable responsibility and a central component of strategic governance.

1. **Institutionalize governance capability:** define a binding, company-wide data architecture with clear responsibility.
2. **Enforce market-ready standards:** establish open standards (e.g., IFC, AAS, DPP, open APIs) as binding for service providers, manufacturers, and partners.
3. **Ensure AI and regulatory readiness:** structure product and building data so that they are regulatorily auditable.

7. Bold Thesis:

Excel is the asbestos of the real estate industry – not acutely lethal, but highly value-damaging in the long term.

Trend 2: Decoupled Value Creation

How growth without headcount expansion is enabled through autonomous systems

1. Causal Relationship: Why This Trend Becomes Mandatory

Decoupled value creation describes the structural ability to decouple growth and complexity from the proportional increase in personnel resources. Autonomous control systems are the operational instrument of this transition. They enable for the first time to decouple company growth from the linear increase in staffing needs and to systemically manage complexity.

 **Structural Driver** Skilled Workers Shortage	 **Economic Driver** Declining Margins	 **Tech-Enabler** Agentic AI
Long-standing vacancy periods in key positions render recruitment alone ineffective. Autonomous governance systems can partially compensate for missing capacity – without linear personnel build-up.	In an environment of rising costs and limited margins, inefficient processes are existentially threatening. Autonomous systems optimize cost-intensive operational areas without proportional personnel deployment.	The transition from generative to agentic AI for the first time closes the "execution gap." Agentic AI enables the autonomous execution of complex multi-step processes – not just assistance.

2. The Trend: Definition & New Market Logic

This trend describes the transition from humanly coordinated process management to autonomous control systems that independently plan, execute, and monitor operational workflows. Not pointwise assistant functions are in focus, but the ability to stably and scalably manage end-to-end processes with minimal human intervention.

The status quo shift: in 2023/2024, isolated AI applications such as text generation, classification, or forecasts dominated, merely supporting existing processes. From 2026, autonomous systems begin to independently orchestrate entire task bundles – such as invoice verification, maintenance management, standard reporting, or approval processes. The human role shifts from operational processing to design, monitoring, and approval.

3. Market Validation: Evidence & Market Signals

The market development confirms the transition from supportive automation toward autonomous governance logic in key operational areas.

- **Operations & facility management:** industry initiatives like Real Gain show that AI-based systems can independently prioritize and trigger maintenance measures and energy flows.
- **Approval & regulation:** platforms like ViBa BW mark the transition from analog to digitalized approval processes.
- **Construction & operations:** construction companies and FM service providers already use AI for automatic invoice verification, reorders, and project controlling.
- **Technology market:** specialized PropTech and ConTech solutions are emerging that integrate agentive capabilities directly into industry-specific workflows.

These signals show: autonomous governance is not a future vision, but is developing into a market expectation where efficiency pressure and data availability are high enough.

4. The Impact: Effects on Business Models & Stakeholders

Autonomous governance changes not only efficiency metrics, but the architecture of organizations and value creation.

- **Process logic:** workflows are restructured along their automatability. Classic administrative and processing roles with low decision complexity are being substituted.
- **Role profiles:** project managers, asset managers, and FM managers evolve from operational processors to governance and decision managers.
- **Market roles:** companies with consistent data foundations and clear process models can deploy autonomous governance faster and at lower cost.

Winners are stakeholders who build data quality, process standardization, and governance early. Losers are those who continue to rely on personnel-intensive manual processes without systematic automation.

5. Market Adaptation: Where the Trend Is Already Visible

Market adaptation of autonomous governance is already recognizable, but occurs selectively — where efficiency pressure, data availability, and process maturity are high enough.

- **Administration & Approval:** Digital approval platforms at state and municipal level are creating the infrastructural prerequisite for automated processing of standardized procedures.
- **Construction & Project Execution:** Construction companies are already using AI for automatic invoice verification, plausibility checks, and digital reporting – with significant time savings.
- **Operations & Facility Management**: In operations and FM, AI-based systems are increasingly taking over condition assessment, anomaly detection, and maintenance prioritization.

This shifts the central question from "Where can we deploy AI?" to "Which processes must be designed so that they are autonomous-governance-ready?"

6. Executive Call-to-Action

For management boards and executives, a clear action mandate emerges: autonomous governance is strategic infrastructure, not a technology project.

1. **Secure data and process foundation:** harmonize master data (master data, contracts, assets, processes), establish unified data models, and build governance-ready data landscapes.
2. **Choose entry through suitable processes:** start with clearly bounded, low-risk processes (e.g., invoice verification, reporting, energy optimization) to generate learning effects.
3. **Clarify governance before scaling:** define responsibilities, approval, and control mechanisms before autonomous systems make decisions.
4. **Empower the organization:** establish clear roles at the interface of specialist area, data, and AI (e.g., AI Owner, Process Governor).

7. Bold Thesis:

Organizations that continue to believe they can manage complexity exclusively with humans will fail under the weight of their own coordination overhead.

Trend 3: Execution Capabilities in the Age of AI

Why productivity becomes a question of human-system competence

1. The Causal Relationship: Why This Trend Becomes Mandatory

The transformation of the construction and real estate industry is not limited by missing technology, but by insufficient organizational execution capability. With the advent of data-driven governance and autonomous systems, the bottleneck shifts from the availability of tools to the ability of organizations to let humans and systems work together productively. Without this competence, automation and autonomous governance remain ineffective.

Primary Driver Skilled Workers Shortage	**Economic Driver** Tech. & Business Models	**Catalyst** Agentic AI
Recruitment alone is no longer sufficient. The required profiles — e.g., for AI-driven governance, data integration, ESG execution — are barely available on the labor market.	Data-driven platform models and autonomous governance are changing value creation and leadership logic. Productivity increasingly arises from the interaction of humans and systems.	Agentic systems shift work from execution to governance. The human becomes the pacemaker for goal definition, quality control, and responsibility allocation.

Logical consequence: execution capability becomes the core competency. Systematic upskilling and structured human-system cooperation are no longer optional.

2. The Trend: Definition & New Market Logic

This trend describes the transition from role-based qualification to execution capability in interaction with autonomous systems. What is decisive are not new job profiles alone, but competencies that enable AI-driven processes to be configured, monitored, evaluated, and continuously improved. The focus is on robust human-system competencies such as decision-making ability, problem-solving, systems understanding, data competence, and digital sovereignty.

The status quo shift: in 2024, many companies recognized the need for continuous learning, but invested insufficient time, budget, and commitment. From 2026, learning becomes an operational prerequisite. Companies must systematically build execution capability themselves – through internal qualification formats, role-related upskilling, and mandatory learning paths.

3. Market Validation

Several market signals confirm that missing execution capability is increasingly becoming a structural risk — regardless of company size or sector.

- **Labor market & qualification:** the DIHK Report 2024/2025 shows that skilled labor shortage continues to rank among the greatest business risks.
- **Knowledge dynamics:** international analyses document a declining half-life of expertise.
- **Role change:** industry studies show that functions like asset management, site management, or planning are developing into data- and AI-adjacent governance roles.

These developments make clear: without systematic competency management, a structural skills gap emerges that cannot be closed through recruitment alone.

4. The Impact: Effects on Business Models & Stakeholders

Execution capability in the age of AI fundamentally changes organizational logic, role profiles, & competitiveness.

- **Losers:** companies that continue to rely primarily on external recruitment and wait for "ready-made" construction-tech hybrid profiles that no longer exist in this form.
- **Winners:** organizations that systematically build human-system competencies and integrate AI as a productive working and decision tool.
- **New business logic:** qualification becomes strategic infrastructure. Internal academies, learning platforms, and structured upskilling formats gain importance.

Work thus shifts from administrative execution toward orchestrating ecosystems of humans, data, and autonomous systems.

5. Market Adaptation: Where the Trend Is Already Visible

The transition toward execution capability in the age of AI is already visible in first organizational & role changes.

- **Role transformation: classic** functions like asset management or construction management are evolving into data- and technology-integrated governance roles.
- **Entry through assistance systems:** many companies are deliberately using simple AI assistance solutions as entry points, to build competencies systematically and accept cultural change.
- **Learning ecosystems:** organizations are establishing structured learning paths for data competency, AI usage, ESG execution, and process governance.

This creates a continuous learning and improvement cycle that not only raises qualifications, but also increases organizational adaptability.

6. Executive Call-to-Action

The ability to productively bring together humans and autonomous systems is not an HR measure, but a central governance decision.

1. **Establish binding competency standards:** AI competency (e.g., workflow design, critical validation, data interpretation) must be defined as a binding skill for key roles.
2. **Build systematic capability:** establish structured learning paths and qualification formats that specifically target human-system interaction.
3. **Reorganize collaboration:** integrate AI assistance systems as standard in operational workflows and equip leadership with governance and AI literacy.

7. Bold Thesis:

Those who cannot steer AI-driven systems will be replaced by them – not by the machine, but by colleagues who can.

Trend 4: The Lifecycle Imperative

Integrated value and risk management defines new economic viability

1. Causal Relationship: Why This Trend Becomes Mandatory

This trend shifts sustainability from a regulatory duty to a governance-relevant financial and risk metric. Instead of punctual cost considerations, the question becomes how value, risk, and return can be managed across the entire lifecycle of an asset.

Primary Driver ESG Regulatory	**Economic Driver** Increased Prices	**Catalyst** Energy Transition
With EPBD and EU Taxonomy, Whole Life-Cycle Carbon (WLC) becomes a binding valuation standard. Regulatory requirements force lifecycle documentation and verifiable decarbonization pathways.	Volatile material markets and rising construction costs increase the economic risk of short-term decisions without lifecycle perspective.	As operational efficiency potentials are increasingly demanded regulatorily and partially already captured, the focus shifts to embodied carbon, material cycles, and end-of-life planning.

Logical consequence: no longer the construction price, but the governability of the lifecycle becomes the decisive competitive parameter.

2. The Trend: Definition & New Market Logic

This trend describes the transition to lifecycle metrics as central governance parameters of planning, construction, operations, and demolition. Whole Life Carbon (WLC) and lifecycle costs (LCC) replace punctual cost and efficiency considerations with a holistic view of value, risk, and cash flow over 30–50 years.

The status quo shift: while until 2020 construction costs and operational energy efficiency primarily dominated, since 2024 embodied emissions, material cycles, and demolition costs have moved into the focus of regulators, investors, and portfolio holders. New buildings without a reliable WLC certificate are losing financiability; existing buildings without a clear lifecycle and decarbonization pathway are developing into valuation and stranding risks.

This fundamentally changes the market logic: decisive is no longer what a building costs, but how much it costs and emits over its entire lifecycle — and whether this pathway is documentable and governable.

3. Market Validation

The growing importance of the lifecycle as a governance metric is documented regulatorily, data-based, and from a market perspective.

- **Structural facts:** the building sector causes around 15% of direct total emissions in Germany and about 35% of final energy consumption; globally around 37% of energy- and process-related CO_2 emissions are attributable to buildings and building materials. At the same time, the energetic renovation rate at under 1% is significantly below the required level.
- **Regulation:** EU requirements such as EPBD amendments, EU Taxonomy, and CSRD increasingly demand reliable climate and cost data across the entire lifecycle.
- **Financial market:** investors and banks are increasingly evaluating the lifecycle pathway of assets.

These signals show: lifecycle transparency is evolving from a sustainability topic to a hard financial and capital-market requirement.

4. The Impact: Effects on Business Models & Stakeholders

The lifecycle as a governance metric changes roles, investment logics, and value creation throughout the industry.

- **Project development & planning:** location, structural, and material decisions are consistently aligned with WLC and LCC parameters.
- **Portfolio holders & asset management:** portfolios are evaluated and prioritized according to decarbonization pathway, retrofitability, and residual value potential.
- **Manufacturers & construction industry:** building materials and systems must provide transparent material, emission, and deconstruction data – as a condition for market access.

Winners: stakeholders who early build lifecycle competency, data structures, and service-oriented business models, combining regulatory compliance with competitive advantage.
Losers: organizations that continue to focus primarily on short-term construction costs and ongoing rental cash flows, without actively governing the lifecycle.

5. Market Adaptation: Where the Trend Is Already Visible

The lifecycle as a governance metric is not a future concept, but already today embedded in investment, financing, and planning decisions.

- **Capital market & investors:** investors and banks increasingly demand reliable WLC calculations, renovation roadmaps, and stranding risk assessments.
- **Digital tools:** digital platforms, BIM-based models, material registers, and product passports are enabling lifecycle documentation and simulation.
- **Project practice**: first projects show that lifecycle-optimized construction and renovation strategies not only reduce emissions, but improve long-term economic viability.

This shifts the benchmark: no longer the lowest CapEx project serves as reference, but the one with the best documented lifecycle pathway.

6. Executive Call-to-Action

For management boards and executives, the lifecycle becomes the central governance metric for investment, risk, and strategic portfolio decisions.

1. **Anchor lifecycle transparency:** establish WLC and LCC standards bindingly in planning, tendering, and investment decisions.
2. **Segment portfolios strategically:** evaluate and prioritize existing stock according to decarbonization capability, retrofitability, and stranding risk.
3. **Govern CapEx programmatically:** bundle individual measures into multi-year programs that simultaneously reduce emissions, costs, and risks.

7. Bold Thesis:
Demolition is insolvency – buildings without reliable material and lifecycle documentation become balance sheet hazardous waste.

Trend 5: The New Risk Geography of Real Estate

The era of 'Uninsurable – Uninvestable – Unlettable'

1. The Causal Relationship: Why This Trend Becomes Mandatory

Physical risks are evolving from abstract environmental factors into hard economic locational disadvantages that directly influence cash flows, operating costs, and investment decisions. This creates a new risk geography: location quality is increasingly defined by exposure and adaptability – not just by location and usage type.

Primary Driver Climate & Weather	**Market & financing drivers** Changed Stakeholder Demands	**Regulatory Driver** ESG Regulatory
Increasing frequency and intensity of extreme events (e.g., heavy rain, heat, hail) increase damage probability and insurance costs.	Capital providers, insurers, tenants, and investors are shifting their requirements: risky locations and non-adaptable buildings become harder to finance, insure, and let.	Requirements such as CSRD, EU Taxonomy, and EPBD increase the binding nature of risk and transparency requirements for physical climate risks.

Logical consequence: the triad Unlettable – Uninsurable – Uninvestable becomes the new location filter. Assets that cannot exit this triad structurally lose market access.

2. The Trend: Definition & New Market Logic

This trend describes the transition from location-neutral assessment to risk-differentiated management of real estate portfolios. Physical exposure, adaptability, and vulnerability become central influencing variables for usability, cash flow stability, and value retention. The focus is not on emissions reduction, but on the ability of an asset to limit physical, financial, and operational risks.

The status quo shift: while resilience was frequently viewed as a byproduct of sustainability strategies in 2024, from 2026 location and risk profiles directly determine financiability, insurability, and valuation. Buildings in exposed locations or with low adaptability are developing into uncertainty factors for rental duration, ancillary costs, and exit multiples.

3. Market Validation

The growing importance of physical risks as a locational and value factor is documented from data, market, and regulatory perspectives.

- **Investment reality:** studies estimate the investment requirement for adaptation measures against heat, heavy rainfall, and flooding in Germany at a double-digit billion amount.
- **Market behavior:** investor and user surveys show pronounced flight to quality.
- **Regulation:** supervisory requirements explicitly integrate physical risks into credit, risk, and disclosure processes.

Additionally, local risk analyses show that location quality is increasingly determined not by classic location parameters, but by exposure and adaptability to physical risks.

Central Market Insight: The decisive metric of the coming decade is not the current CO_2 footprint, but the proportion of assets that are visibly at risk of entering the chain 'Unlettable – Uninsurable – Uninvestable.'

4. The Impact: Effects on Business Models & Stakeholders

A clear market bifurcation emerges along the risk triad Unlettable – Uninsurable – Uninvestable.

- **Winners – resilient Assets:**

Buildings with high adaptability remain lettable, insurable, and financeable. They benefit from selective capital flows and stable demand.

- **Losers – the Obsolescence Trap:**

Non-resilient assets lose user acceptance, insurance coverage, and capital access. Rising costs, coverage gaps, and impaired exit options create a structural downward spiral.

This shifts the business logic: value is no longer created primarily through short-term return optimization, but through systematic reduction of physical risk exposure.

5. Market Adaptation: Where the Trend Is Already Visible

The operational anchoring of the new risk geography is already recognizable, but has so far occurred selectively and often only in market segments with high institutional pressure.

- **Portfolio level:** first portfolio holders are integrating physical risk analyses, location exposure scenarios, and stranding assessments into investment and governance processes.
- **Asset level:** new builds and renovations are increasingly incorporating measures to secure usability under extreme weather conditions.
- **Financing & insurance:** banks and insurers are beginning to factor demonstrable risk reduction and adaptability into financing conditions.

Physical resilience is thus establishing itself as an independent valuation and governance dimension – not as an add-on, but as a structural component of asset management.

6. Executive Call-to-Action

For management boards and executives, a clear action framework emerges to systematically integrate physical risks into portfolio and asset strategy.

1. **Make risk profiles transparent:** systematically capture and document physical exposures (e.g., heat, water, storm) and transition risks for the entire portfolio.
2. **Govern adaptation programmatically:** define concrete adaptation and investment pathways for exposed assets, including cost estimation and prioritization.
3. **Anchor risks in governance:** integrate metrics on exposure, adaptation level, insurability, and stranding risk into investment decisions, reporting, and executive KPIs.

7. Bold Thesis:

Location beats address: a non-insurable building is no longer an asset – it is a risk with an address.

Trend 6: The Platformization of Value Creation

1. The Causal Relationship: Why This Trend Becomes Mandatory

The project-based value creation logic of the construction and real estate industry is reaching its structural limits under cost, time, and personnel pressure. At the same time, it is becoming apparent that pure relocation into rigid factory models with high fixed cost bases creates new risks. The bottleneck lies not in the construction process alone, but in the missing scalability of the entire value chain.

Primary Driver Skilled Workers Shortage	**Economic Driver** Increased Prices
The shortage of qualified skilled workers makes individual, highly craft-based service delivery no longer scalable.	Volatile material prices, rising financing costs, and fluctuating demand increase the risk of classic project-based value creation.
Regulatory Driver ESG Regulatory	**Technological Catalyst** Tech. & Business Models Agentic AI
Resource efficiency, waste avoidance, and circularity increase pressure toward reproducible, plannable, and data-documented construction processes.	Digital planning, data-based governance, and autonomous coordination for the first time enable a scaled industrialization that is simultaneously flexible and adaptive.

Logical consequence: industrialization becomes a platform question. Competitive are not monolithic factory models, but hybrid platform systems: standardized components – flexibly assembled.

2. The Trend: Definition & New Market Logic

This trend describes the transition from project-driven individual endeavors to platform-based, reproducible value creation. At the center is not a particular building product, but a system logic comprising standardized components, reusable planning and execution details, and digitally managed coordination of planning, manufacturing, logistics, and assembly.

The status quo shift: while serial construction and renovation concepts are growing in partial segments, rigid, monolithic module models with high fixed cost bases are coming under pressure. Successful are hybrid platform approaches that use prefabrication where it enables scaling and simultaneously maintain adaptability on the construction site.

This fundamentally changes the market logic: competitive advantages no longer arise through individual project craftsmanship, but through reproducible, scalable platform logic.

3. Market Validation

The market development documents both the necessity and the conditions for successful industrialization.

- **Productivity & time savings:** serial renovation concepts show that standardized components and prefabricated systems can significantly shorten construction times.
- **Business risks:** the recent insolvencies of several pure modular construction providers in Europe illustrate the significant economic risk of rigid factory capacities.
- **Labor market & technology:** industrialized value creation requires digital planning and coordination (e.g., BIM, digital twins).

The evidence clearly speaks for industrialization – but against monolithic solutions. Successful are flexible, data-based hybrid platform approaches.

4. The Impact: Effects on Business Models & Stakeholders

The platformization of value creation fundamentally shifts business models – away from project thinking, toward platform logic.

- **Winners:** companies that master hybrid platform models: standardized components (e.g., walls, ceilings, MEP skids, bathroom modules) combined with flexible assembly and project-specific adaptation.
- **Losers:** providers of rigid volumetric module or factory models with high fixed-cost base and low adaptability**.**
- **Economic impact:** standardization improves cost control and planability only with functioning logistics, digital planning, and modular system logic.

New roles emerge in parallel: platform and system providers gain importance, while isolated individual performers lose market access.

5. Market Adaptation: Where the Trend Is Already Visible

The platformization of value creation is visible where industrialization is understood and implemented as a continuous process and system – not as a product.

- **Serial renovation:** industrially organized renovation approaches show that standardized facade, roof, and MEP components significantly reduce assembly time.
- **System and platform providers:** successful stakeholders rely on repeatable components instead of closed room-module systems.
- **Technological enablers:** digital planning, AI-driven governance, robotics, and networked supply chains are connecting factory and construction site.

These examples show: industrialization works where data, processes, and business models are synchronized – not where technology is introduced in isolation.

6. Executive Call-to-Action

For management boards and executives, industrialization becomes a strategic transformation task – not an operational optimization.

1. **Define a hybrid system strategy:**
   Deploy standardized components (e.g., MEP skids, bathroom modules, facade and wall elements) precisely where repetition, quality, and time savings are economically compelling.
2. **Professionalize platform and partner selection:**
   Evaluate system and platform providers by integration capability (BIM interfaces, data standards), logistical performance, and adaptability – not price alone.
3. **Consistently scale serial renovation:**
   Systematically roll out industrial renovation approaches for existing stock to counter time pressure, skilled labor shortage, and cost pressure in parallel.

7. Bold Thesis:
The construction site is not dying – it is becoming the assembly hub of an industrially orchestrated value creation platform.

Trend 7: The End of the Asset Class

Why usage, value creation, and financing must be rethought and reconsidered together

1. The Causal Relationship: Why This Trend Becomes Mandatory

The construction and real estate industry is losing its central organizing principle: the rigid asset class logic. Real estate is no longer primarily evaluated by usage type, but by its ability to integrate different usages, revenue streams, and risks. This shift is not a vision, but the direct consequence of several structural Game Changers that are already today changing financing, operations, and value creation.

Primary Driver Changed Stakeholder Demands	**Economic Driver** Declining Margins
Users, tenants, and municipalities demand flexible usage concepts, hybrid living and working models, and integrated service offerings.	Classic, monofunctional rental income comes under pressure. Economically viable become assets that can manage multiple value creation streams and service revenues in parallel.
Financial Driver Venture Capital	**Technological Catalyst** Agentic AI
Capital increasingly follows scalable, platform-capable business models. Real estate conceived as isolated value creation units loses financing attractiveness.	Only autonomous governance systems make it possible to economically manage complex multi-use, energy flows, and service levels.

Logical consequence: the asset class as a static category loses relevance. Decisive becomes the ability to govern assets dynamically along cash flow, risk profile, and usage logic.

2. The Trend: Definition & New Market Logic

This trend describes the departure from the classic asset class logic as the central organizing principle of the real estate industry. Buildings are no longer primarily defined by formal usage categories, but by their value creation, operational, and earnings logic. Usage becomes variable, cash flows become combinable, and operations become an integral part of value definition.

The status quo shift: while asset classes long served as a stable foundation for valuation and financing, monofunctional structures are increasingly coming under pressure. Hybrid usages, additional revenue sources, and integrated operational models already influence financiability, risk assumptions, and valuation logic today.

3. Market Validation

The erosion of classic asset class logic can increasingly be documented at the valuation, financing, and risk level.

- **Capital & valuation logic:** investors and lenders differentiate assets increasingly strongly by cash flow structure, adaptability, and risk profile.
- **Risk consideration:** monofunctional usage concepts are increasingly regarded as concentration risks.
- **Market signals:** in investment decisions, due diligence processes, and credit checks, classic usage categories are losing explanatory power.

These signals show: the asset class is already today losing its function as a reliable governance metric — also in practice it is being replaced by cash flow, resilience, and governance logic.

4. The Impact: Effects on Business Models & Stakeholders

With the end of the asset class, competitiveness and value creation shift fundamentally.

- **Winners:** stakeholders who govern assets not in isolation, but as integrated value creation units. They combine usage, service, energy, and data governance into an integrated operating model.
- **Losers:** organizations that adhere to rigid asset class, fund, and organizational logics. Monofunctional usage concepts become concentration risks.
- **Organization & governance:** silos between investment, operations, development, and technology are losing their justification.

This changes not only the asset itself, but the underlying business model architecture: energy, data, service, and governance become integrated components – not separate functions.

5. Market Adaptation: Where the Trend Is Already Visible

The dissolution of asset class logic is visible where organizations are adapting their development, operations, and governance models.

- **Project development:** new projects are deliberately conceived as cross-usage to allow later adaptations without full conversion.
- **Operations & management:** operators bundle usage, services, energy, and infrastructure in integrated operating models.
- **Organization & governance:** first stakeholders are breaking down internal silos between investment, operations, and technology to enable integrated value creation.

These implementations mark the transition from the classic asset class to the integrated value creation unit — pragmatically and with measurable economic logic.

6. Executive Call-to-Action

For management boards and executives, the end of the asset class requires a fundamental adaptation of governance, financing, and organizational logic.

1. **Redefine asset logic:** govern assets no longer exclusively by usage class, but by return profile, risk exposure, and governance capability.
2. **Dissolve silos:** more closely link investment, operations, development, energy, and services organizationally. Define clear governance responsibilities across the lifecycle.
3. **Secure financiability:** transparently disclose hybrid revenue models, operational risks, and cash flow diversification to capital providers early.

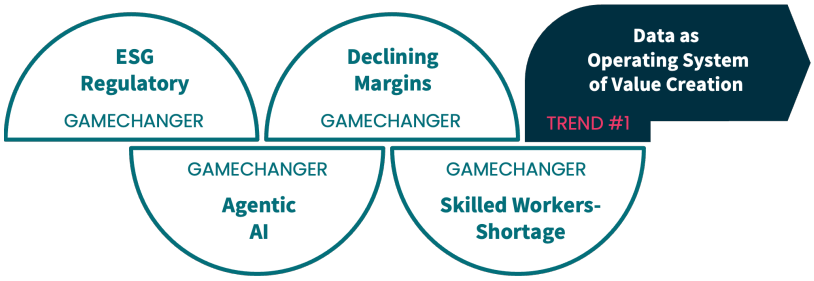
7. Bold Thesis:

The asset class as an organizing principle is dead. What counts is no longer what a building is, but how it creates value.

Market Theses – Strategic Consequences

The following market theses condense the seven trends into strategic consequences for business models, capital allocation, and organizational logic.

Trend 1: Data as the Operating System of Value Creation



LOGIC

Regulatory proof requirements + automation potential + margin pressure + Labor scarcity

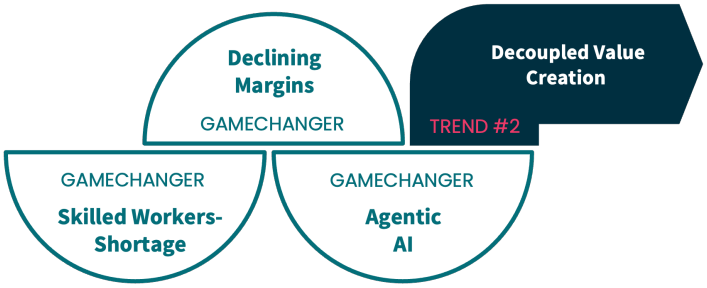
➡ Data becomes the control infrastructure

Bold Thesis:

Excel is the asbestos of the real estate industry – not acutely lethal, but highly value-damaging in the long term.

By 2030, real estate without standardized, machine-readable data structures will face structural pressure in the institutional market. Data sovereignty and standardization are evolving into the central prerequisite for governance capability in the construction and real estate industry. Regulation, capital market requirements, and the use of Agentic AI force consistent, machine-readable, and interoperable data structures across the entire lifecycle. Companies that continue to manage data in a fragmented, manual, or proprietary manner are gradually losing financiability, scalability, and operational control.

Trend 2: Decoupled Value Creation



LOGIC

Labor shortage + productivity pressure + technological leap

➡ Decoupling of Growth and Headcount

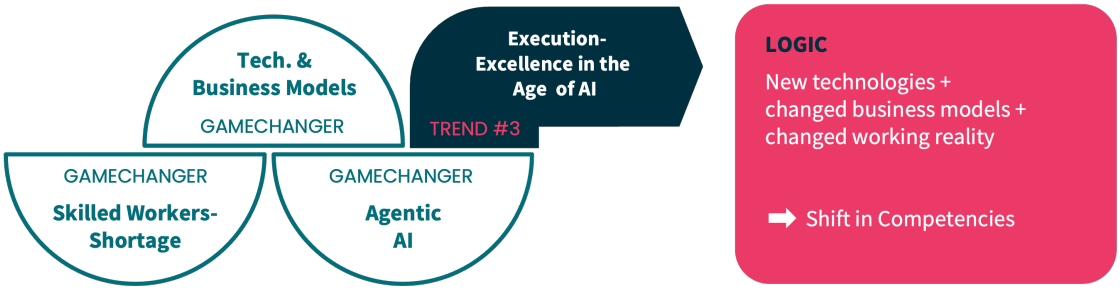
Bold Thesis:

Organizations that continue to believe they can manage complexity exclusively with humans will fail under the weight of their own coordination overhead.

Autonomous governance describes the transition from humanly coordinated organization toward independently acting control systems. Skilled labor shortage, margin pressure, and growing complexity force a decoupling of growth from staffing overhead. Companies that design processes so that they can be autonomously controlled gain speed, scalability, and operational stability.

Trend 3: Execution Capabilities in the Age of AI

Bold Thesis: Those who cannot steer AI-driven systems will be replaced by them – not by the machine, but by colleagues who can.

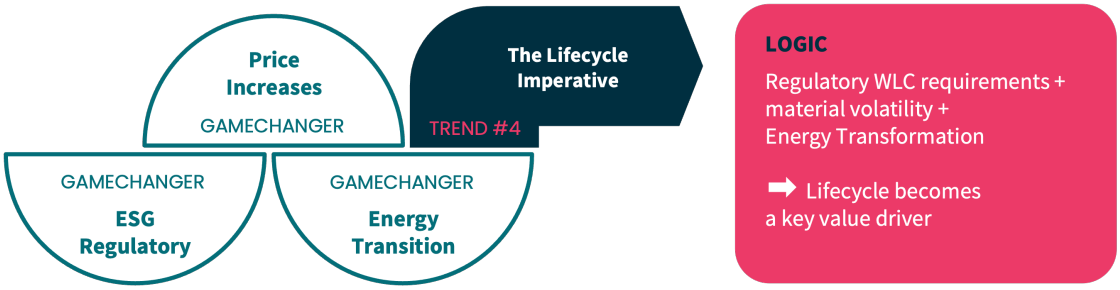


Bold Thesis:

Those who cannot steer AI-driven systems will be replaced by them – not by the machine, but by colleagues who can.

In the age of AI, competitiveness shifts from domain expertise to human-system competence. Data literacy, AI use, and process understanding become central for executives and key roles to productively govern autonomous systems. Companies that do not systematically build these capabilities are running into a structural skills gap.

Trend 4: The Lifecycle Imperative



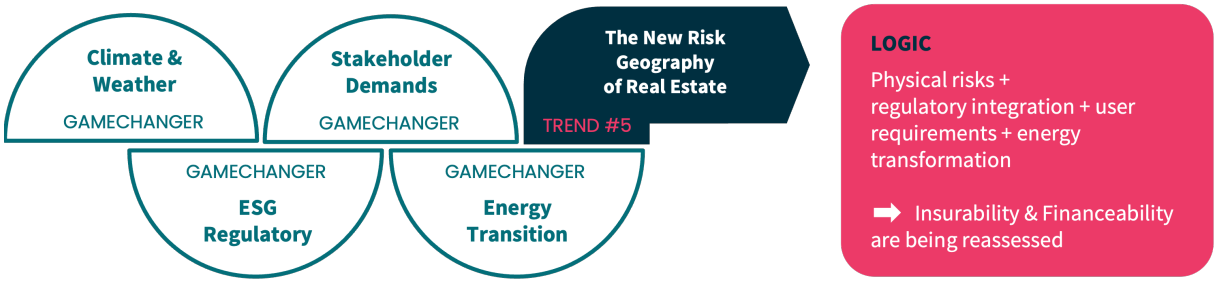
Bold Thesis:

Demolition is insolvency – buildings without reliable material and lifecycle documentation become balance sheet hazardous waste.

By 2030, the documented lifecycle pathway of an asset – including material data, WLC balance, and adaptability – will become the decisive factor for financiability, tradability, and valuation. Buildings without a transparent

lifecycle strategy are developing into balance sheet risks with a structural discount profile in the institutional market.

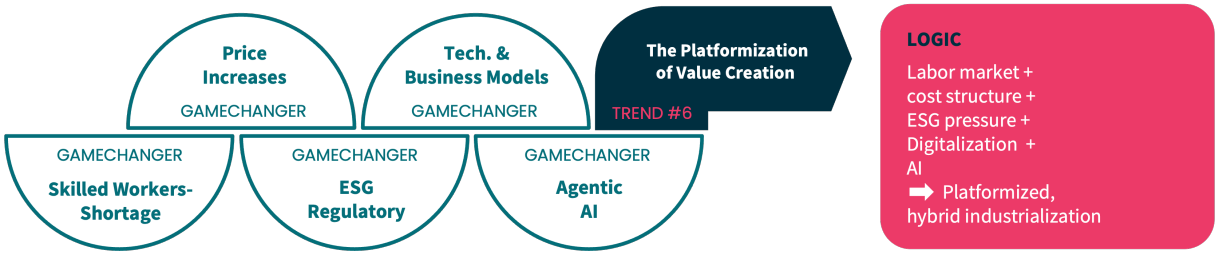
Trend 5: The New Risk Geography of Real Estate



Bold Thesis:
Location beats address: a non-insurable building is no longer an asset – it is a risk with an address.

Physical risks are fundamentally changing the valuation logic of real estate. Exposure, adaptability, and insurability become decisive factors for cash flow stability, financing, and exit capability. Real estate markets are evolving into a new risk geography in which location quality is defined not only by demand, but by loss probability.

Trend 6: The Platformization of Value Creation

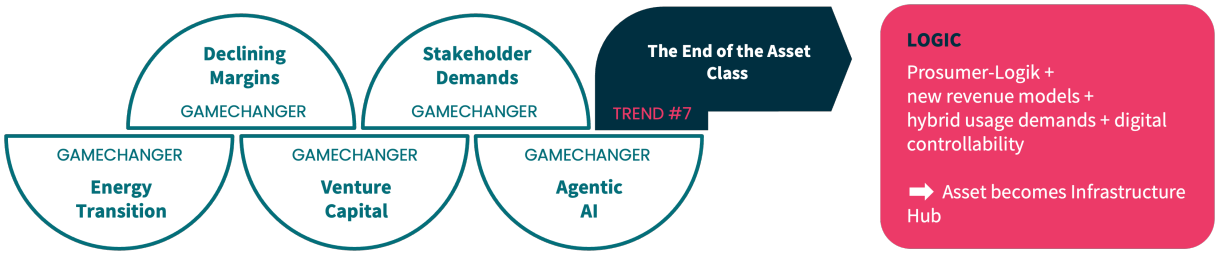


Bold Thesis:
The construction site is not dying – it is becoming the assembly hub of an industrially orchestrated value creation platform.

By 2035, a significant portion of value creation in building construction is shifting from the project-based construction site to standardized, reproducible system components. Planning, manufacturing, logistics, and assembly are increasingly orchestrated on a data basis. The construction site remains relevant – but primarily as a precisely timed integration and assembly location.

Trend 7: The End of the Asset Class

Why usage, value creation, and financing must be rethought and reconsidered together



Bold Thesis:

The asset class is dead. What counts is no longer what a building is, but how it creates value.

The classic organization of the real estate industry along rigid asset classes is losing its governance and explanatory power. Usage, operations, services, energy, and financing are increasingly interweaving and forming integrated value creation units. For investors, operators, and banks, what becomes decisive is how flexibly an asset can respond to market changes, diversify cash flows, and manage risks.

Strategic Classification

Classification: What This Report Achieves

This report bundles a systemic analysis of real forces of change that are already today acting on the construction and real estate industry – regulatorily, economically, technologically, and organizationally. The Game Changers and trends presented result as direct consequences of these forces and describe the new reality in which business models, capital allocation, and organizational logic are being redefined.

The focus of the report lies on classification and governance logic. In an environment of overlapping structural breaks, design capability arises where causal relationships are recognized and thought through systematically. Orientation arises from the ability to understand interdependencies and to derive consistent decision logic from them.
The report transparently classifies the shift in market logic, decision foundations, and value creation. The resulting consequences follow from analysis and market reality. Leadership is increasingly shown in the ability to structure complex framework conditions and make decisions viably.

The report thereby acts as a reality filter for strategic decisions: it sharpens priorities, increases clarity, and supports a governance quality appropriate to the dynamics of the market.

From Analysis to Designed Future Scenarios

The Game Changers and trends described in this report do not accumulate randomly, but bundle themselves in clearly recognizable design arenas in which the described dynamics concretely materialize.

Six thematic fields crystallize as central arenas in which transformation becomes concrete and can be translated into viable future scenarios:

City & District: The classic locational logic expands to the question of resilient, mixed-use living spaces. Climate resilience, usage mix, social density, and infrastructure integration are increasingly determining attractiveness, usability, and long-term value stability.

Construction & Renovation: Value creation shifts from the project-related unique piece toward industrially orchestrated, circular systems. Serial renovation, modular components, and data-based planning become levers for productivity, quality, and decarbonization in existing stock.

Operations & Services: Real estate evolves into actively managed systems. Data, automation, and agentive AI change building management from an administrative task to a continuous optimization of performance, costs, and user experience.

Energy & Infrastructure: Buildings become active nodes in energy and infrastructure systems. Generation, storage, flexibilization, and grid integration shape new business models and influence resilience, operating costs, and location quality.

Investment & Financing: Value definitions shift along lifecycle, risk exposure, and governance capability. Data quality, transformation pathways, and adaptability are increasingly shaping valuation, financing, and allocation decisions.

Leadership & Skills: Transformation materializes in organizations. New roles, competencies, and governance models decide whether technological and regulatory changes can be effectively managed.

These six fields of action mark the transition from analysis to design. They are not additional thematic areas, but the concrete operationalization of the structural shifts identified in this report.

Outlook: Design Capability as the True Competitive Factor

The analysis of the Game Changers and trends makes one central shift visible: competitiveness in the construction and real estate industry is increasingly arising from the ability to simultaneously manage complex requirements. Regulation, capital, operations, technology, and organization no longer act separately, but form an integrated decision-making environment.

This design capability develops systemically. It grows where structures enable learning, data is effectively used, decision-making processes are integrated, and responsibility is clearly anchored. Transformation unfolds its impact when it is designed along consistent organizing principles and does not remain fragmented in individual measures.

In this context, classification gains strategic significance. It forms the foundation for prioritization, for gover-nance, and for long-term capability for action. Market mechanisms are already today beginning to make diffe-rences in governance capability visible.

The new market order is not a scenario – it is already effective. Those who recognize it, design. Those who ignore it, are designed.

Methodology

Research Architecture
The Game Changer research is based on a three-stage analysis model: (1) identification of structural forces; (2) systematic classification of their impact along the value chain (Impact Matrix); (3) derivation of operational consequences for business models and value creation (trend condensation).

1. Identification of structural forces
2. Systematic classification of their impact along the value creation chain (Impact Matrix)
3. Derivation of operational consequences for business models and value creation (trend condensation)

The goal is not the description of individual trends or technological developments, but the determination of forces of change that permanently shift economic decision logic in the construction and real estate sector.

1. Identification of the Game Changers

blackprint clearly distinguishes between: social discourse; technological pre-development; regulatory framework-setting; and measurable market impact.

- societal discourse
- technological pre-development
- regulatory framework setting
- and measurable market impact

A topic is classified as a Game Changer only when it demonstrably unfolds structural effects on business models, value creation, and capital allocation.

A Game Changer is considered 'measurably effective' as soon as at least one of the following criteria is empirically observable:

- Lasting change in business models or market roles.
- Structural shift in investment, financing, or valuation logic.
- Adaptation of organizational and governance models in significant market breadth.
- Relevant capital reallocation or entry of new competitors in scalable dimension.

The so-called Impact Anchor marks the point in time from which these effects become effective across the sector. It describes not an origin story, but the transition into economic relevance.

Data Basis and Validation of the Game Changers
Identification and validation is based on a mixed-methods approach: qualitative market analysis from the blackprint network; structured expert interviews along the value chain; evaluation of regulatory developments at EU and federal level; analysis of financing conditions, investment flows, and valuation practices; observation of real business model changes and scaling dynamics.

- Qualitative market analysis from blackprint network (companies, investors, innovation drivers, institutions)
- Structured expert interviews along the value creation chain
- Evaluation of regulatory developments at EU and federal level
- Analysis of financing conditions, investment flows, and valuation practices
- Observation of real business model changes and scaling dynamics

This multi-source validation ensures that Game Changers are not discourse-driven, but impact-based.

2. Methodology of the Impact Matrix

The Impact Matrix translates the identified Game Changers into their structural impact along the central value creation stages of the construction and real estate industry. What is evaluated is not short-term exposure, but the lasting change of business models, capital and valuation logic, governance requirements, and operational performance capability.

The assessment was made in an interdisciplinary blackprint expert circle. For methodological counter-validation, the qualitative assessment was reflected against several AI systems. The final matrix is the result of a structured counter-running procedure of expert judgment and data-based model analysis.

- Business models
- Capital and valuation logics
- Governance requirements
- Operational performance capability

The assessment was made in an interdisciplinary blackprint expert circle including market stakeholders from project development, asset management, operations, consulting, and research.

For methodological counter-validation, the qualitative assessment was reflected against several AI systems, which condensed structural market data, regulatory changes, and international studies.

The final matrix is thus the result of a structured counter-running procedure of expert judgment and data-based model assessment.

The Impact Matrix is a qualitatively validated structural diagnosis. It is not a mathematical scoring model and makes no claim to statistical precision. However, it forms the conceptual foundation for a forward-looking development toward a data-based structural observation system.

3. Methodology of Trend Derivation

The seven trends are not isolated observations, but structured condensations of several Game Changers. Each trend fulfills two central prerequisites: (1) it arises from the overlap of at least three structural forces; (2) it directly influences the logic of value creation, capital access, or governance capability.
Each trend fulfills two central prerequisites:

1. It arises from the overlay of at least three structural forces.
2. It directly influences the logic of value creation, capital access, or governance capability.

The trend determination follows a three-stage process: (a) interdependency analysis – systematic examination of interactions between Game Changers; (b) structural condensation – capture of recurring patterns; (c) economic validation – comparison with real market implementations.

a) **Interdependency analysis:** Systematic examination of the interactions between Game Changers and identification of cumulative reinforcing effects.

b) **Structural condensation:** Capture of recurring patterns in business model adaptations, organizational restructuring, investment decisions, and governance changes.

c) **Economic validation**
Comparison with real market implementations, capital market reactions, regulatory interventions, and scaling patterns.

A trend is only included when it is observable across sectors, affects multiple market roles simultaneously, shows measurable effects on value, risk, or productivity, and possesses structural relevance beyond individual cases.

- is observable across sectors,
- affects multiple market roles simultaneously,
- shows measurable impact on value, risk, or productivity,
- and has structural relevance beyond individual cases.

Robustness and Connectivity

The combination of force identification, structural classification along the value creation chain, and trend derivation creates an integrated analytical framework.
The methodology is designed to make structural dynamics visible and to quantify their economic consequences. The Game Changer Report thus serves as an analytical instrument for evaluating business model resilience, capital relevance, and strategic positioning – a structured decision foundation for companies in transformation.

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