

Framework Handbook for Architects and Real Estate Investors

Pushing Beyond Conventional
Investment Processes, Enabling
Greater Value Co-Creation in the
Urban Residential Investment
Practice.

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Foreword

The knowledge gap between Real Estate Investors and Architects is not an abstract problem to me. It is one I have observed, navigated, and been shaped by throughout my past years. My grandfather began as an Architect and evolved to simultaneously embody the role as an Investor, a dual perspective that defined my earliest understanding of how inseparable these two disciplines are, and how rarely that interdependence is acknowledged in practice.

My education and career have been deliberately constructed to bridge both domains. I have operated across Real Estate Finance and Architecture, learning both languages. That position has consistently suggested that possessing deep knowledge of both sides can be profoundly beneficial, and that its absence can be costly, particularly in a more complex market environment. Investors often apply assumptions across fundamentally different residential contexts and with little non-monetary value in mind. Architects design without awareness of the financial consequences of their decisions. The gap persists not from indifference, but from structural separation.

The central proposition of this Handbook is collaboration, Research by Design: a continuous, iterative loop in which the Investor's financial assumptions are tested through the Architect's design, and the Architect's spatial proposals are validated through the Investor's financial analysis. This back-and-forth process, when conducted openly and collaboratively, can generate value that neither profession typically creates alone. It challenges assumptions on both sides, surfaces misalignments early, and produces typological outcomes that are simultaneously spatially adequate and financially attractive.

The Handbook does not claim to resolve the structural contradictions of capitalist real estate markets, nor to transform sector-wide behaviour overnight. It proposes something more precise and more achievable: that evolved individual practice, earlier collaboration, shared understanding of value created, supply-demand aligned typological thinking, and above all, the discipline of Research by Design, can support measurably better outcomes within existing market structures.

This work began long before this programme. Delft University of Technology provided the intellectual rigour to formalise it. The ambition, however, is its own.

User Guide

A quick-reference guide to navigate the Framework Handbook for Architects and Real Estate Investors.

When to Use It

Real Estate Investors

- When defining a new residential investment case or assessing typological strategy
- When seeking to integrate non-monetary values into valuation models
- When wanting to evolve within the industry

Architects

- When commissioned for a residential project and seeking to understand financial constraints
- When design proposals require validation against investment logic
- When aiming to align spatial strategy with actual household demand

Regulatory Authorities & Municipalities

- When evaluating residential development proposals for supply-demand alignment
- When assessing whether projects meet densification and sustainability objectives
- When seeking a common framework to mediate Architect-Investor dialogue

Residents & Public Stakeholders

- When advocating for housing that reflects actual household needs
- When engaging in participatory planning processes

How to Use It

As a process tool: Use the Handbook to challenge and evolve your own practice, not as a checklist, but as a structured thinking approach.

Research by Design: Apply the iterative loop: test financial assumptions through design, validate spatial proposals through financial analysis, and repeat.

Collaborative sessions: Use the Handbook as a shared reference during early-stage Architect-Investor dialogue.

Context-specific application: The framework is generic and European in scope; adapt it to local market conditions and regulatory requirements.

Why Use It

Co-create greater value: Bridge the knowledge gap between spatial intelligence and financial feasibility.

Align supply with demand: Develop residential typologies that match actual household composition.

Drive impactful outcomes: Enable designs that are simultaneously spatially adequate and financially attractive.

Build long-term asset stability: Translate non-monetary values into measurable performance over extended holding periods.

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Introduction

This chapter sets the stage for the handbook to be understood accordingly. It establishes the assumptions, limitations and scope of the integrated framework handbook.

How to read the Handbook

This Handbook develops and defines a framework for Architects and Real Estate Investors within the residential investment process. Its positioning and assumptions are derived from extensive experience, literature, expert interviews, and data collection. It is not a scientific paper and does not claim to eliminate assumptions.

The created tool is not a finished product. The residential investment market, household demand patterns, and regulatory frameworks continue to shift. This Handbook will therefore always require iteration to remain effective. What it does offer is a valid framework and a structured thinking approach: one that identifies where practice must evolve, why it must evolve, and how that evolution can begin. It is a working tool, not a final answer.

The Process

The positioning of this Handbook cannot be derived from literature alone. It addresses a gap within a broad spectrum of real estate investment practice and therefore requires a methodology that covers multiple perspectives.

Phase 1 - Generic Theoretical Foundation: A carefully assembled body of literature forms the backbone. The literature was not only reviewed but also challenged, discussed, and placed into context. The ideal positioning of the Handbook and its chapters is largely derived from literature and the projections drawn from it.

Phase 2 - Derived Projections Challenged: The derived projections were challenged, contextualised and reiterated through qualitative and quantitative data collection, expert interviews, questionnaires, spatial mapping, and typological analysis.

Phase 3 - Framework Formation through Research by Design: The framework has been developed through the iterative process of Research by Design. Where projections were tested and challenged, through the perspective of design and financial awareness, reiterated and adapted to form an integrated operational framework Handbook.

The Framework, covering Chapters A.1, A.2, and A.3, is generic and European in scope. It is designed to be scalable and applicable across comparable urban housing markets. The application and testing of this framework in a specific urban context, the city of Zurich, is documented separately in the Appendix. The Handbook is what it is: a scalable approach. The Appendix is what the design, it becomes when applied.

Positioning the Key Actors

Four actors operate within the residential investment process addressed by this Handbook. Their roles, decision-making authority, and interdependence define the system this framework seeks to improve.

a) Real Estate Investor: The Investor allocates capital into residential assets, defines the investment case, assesses financial feasibility, and determines whether expected returns justify execution. The Investor commissions the Architect, ensures regulatory compliance, and leases the completed asset to Residents, generating returns on invested capital. Within this Handbook, the Investor is the primary decision-making authority.

a) Real Estate Investor: The Investor allocates capital into residential assets, defines the investment case, assesses financial feasibility, and determines whether expected returns justify execution. The Investor commissions the Architect, ensures regulatory compliance, and leases the completed asset to Residents, generating returns on invested capital. Within this Handbook, the Investor is the primary decision-making authority.

b) Architect: The Architect is commissioned by the Investor to design and deliver a built asset that fulfils financial objectives while meeting regulatory and design standards. The Architect translates investment goals and spatial requirements into built form, coordinating specialists throughout the process. Within this Handbook, the Architect is the primary spatial intelligence provider.

c) Regulatory Authorities: Regulatory Authorities establish and enforce the legal, financial, environmental, and ethical standards within which both Architect and Investor operate. They define the boundaries of feasibility and design freedom simultaneously, and their requirements must be satisfied throughout the full project lifecycle.

d) Public / Residents: Residents are the end-users of housing, directly affected by design quality and affordability outcomes. Through occupancy, they sustain the building's life-cycle and generate the rental revenue stream that enables Investor returns. Their spatial needs, which are increasingly misaligned with current supply, are the central demand signal this Handbook responds to.

Understanding the Value this Handbook Creates

This Handbook addresses the essential gap between two interdependent parties: Investors and Architects. The following paragraphs elaborate on the value this Handbook, and its approach to closing that gap, holds for each.

For Investors: If real estate investors develop a deeper understanding of non-monetary qualities, such as spatial quality, layout flexibility, and spatial efficiency, those qualities will begin to influence monetary assumptions. Investors who learn to read assets below their surface may find that spatial qualities created by architects can have a measurable effect on vacancy volatility, tenant retention, and supply-demand alignment. Hence, the collaboration and, more specifically, the research by design becomes crucial as a process. A great floor plan is not just a floor plan. Over a long holding period, it can function as a risk-management instrument and a revenue driver.

For Architects: If architects develop a stronger understanding of financial feasibility and the effect that specific design decisions have on the monetary performance of an asset, they can direct their creativity toward designs that not only innovate spatially but also work in alignment with investment logic. Architects who better understand what drives monetary value can innovate designs that create spatial quality, social value, and financial performance simultaneously, potentially improving the success rate of their projects.

It is not possible to extend the knowledge of both practices to one another; hence, the collaboration and, more specifically, the research by design, becomes the crucial element to evolve the process to co-create greater value.

Relevance

The knowledge gap this Handbook addresses is not peripheral; it appears to sit close to the core of a broader structural challenge. Architects lack financial feasibility awareness; Investors lack spatial adequacy understanding. This mutual absence of comprehension is most damaging in residential development, where typological decisions carry long-term consequences for occupancy, affordability, and asset stability.

European housing shortage, structural rather than cyclical: Across European urban contexts, vacancy rates in core cities have declined to levels well below the 1,5% equilibrium threshold associated with market stability. This does not seem to be a temporary imbalance driven by a single economic cycle. It is the product of sustained population growth, decades of under-investment in residential supply, and a regulatory environment that has made development progressively more complex and costly. The shortage will not self-correct without deliberate intervention at both the investment and design levels (Federal Statistical Office, 2025; Baum & Hartzell, 2020; Conrads, 2022).

Typological mismatch as a likely root cause: The issue does not appear to be simply a shortage of dwellings in absolute terms; it indicates a shortage of the right dwellings. Single- and two-person households now constitute the majority of urban household growth across Europe, yet residential supply continues to be dominated by larger, family-oriented units. This mismatch appears to place acute pressure on affordability: smaller households are forced to occupy oversized units, inflating their per-capita housing costs, while multi-person households are displaced toward the periphery or into housing that does not meet their needs. The issue is one of distribution, not merely quantity (Teige, 2002; Gorlin & Newhouse, 2024; Federal Office for Housing, 2016).

The mutual knowledge gap: Architects typically demonstrate limited awareness of financial feasibility, focusing predominantly on design and spatial considerations. Conversely, Investors possess adequate knowledge for developing conservative Core and Core+ strategies but lack the spatial understanding necessary for more complex, innovation-driven investments. This gap persists not from indifference, but from structural separation: two professions that are fundamentally interdependent, yet rarely share a common language (Jewell, 2024; Coulter, 2023).

Why this matters now: Demographic acceleration, regulatory pressure, and a vacancy squeeze appear to be converging simultaneously. Household composition is shifting faster than supply can respond. Regulatory frameworks, from the EU Taxonomy to national densification mandates, are tightening the conditions under which development is permitted and financed. **And vacancy rates in core urban markets can be low enough that demand pressure may mask underlying inadequacies of supply.** When that pressure eventually releases, assets developed without careful typological thinking may face higher risks of obsolescence, vacancy, and declining returns (Federal Office for Housing, 2016; Federal Statistical Office, 2025).

The valuation of not-yet-monetary values: A central challenge within the current market is that many of the qualities that determine long-term asset performance, spatial adequacy, tenant satisfaction, and typological flexibility do not yet carry a recognised monetary value in standard valuation models. They are consequential, and they will become measurable through operational performance over time. But because they are not yet priced at the point of transaction, they are systematically underweighted in investment decisions. This Handbook proposes a process through which those values can be built, tracked, and ultimately translated into monetary terms.

Positioning the Current Housing Market in Europe

Investor's side - the residential investment market: Residential real estate has become a much more sought-after asset class in Europe, driven by sustained population growth, urbanisation, and a persistent structural shortage of supply. Institutional investors have increasingly allocated capital to residential assets, attracted by stable income streams, low vacancy rates, and inflation-linked rents. However, the market is also under growing pressure. Construction costs have risen sharply, interest rate volatility, building permits remain depressed in many urban centres, and the regulatory environment, particularly around sustainability and ESG compliance, is tightening. Investors operating on short fund cycles of three to seven years are finding it increasingly difficult to balance financial feasibility with the demands of a more complex market. The residential investment market is not broken, but it shows signs of structural stress (Conrads, 2022; Baum, 2020).

From the Architect's side - the building market environment: Architects operating in the residential sector face a constrained environment. The majority of commissions are investor-led, meaning the design brief is defined by financial parameters before the architect enters the process. Innovation is possible, but it is regularly subordinated to cost targets and investor guidelines that reflect conventional typological assumptions. At the same time, regulatory pressure around energy performance, densification, and social housing quotas is increasing. Architects are expected to deliver more with tighter margins, less time, and guidelines that do not always reflect actual household demand (Gorlin & Newhouse, 2024). The building market environment often tends to reward project delivery success over typological evolution.

The Generational Distribution of Space and the Urgency of Typological Evolution

Beneath headline figures on housing shortage, the market and demographic patterns suggest a structural imbalance that may be as much generational as it is numerical. The post-war baby boom generation, broadly those born between 1945 and 1965, accumulated residential space during a period when housing supply was expanding, land was comparatively affordable, and household formation patterns favoured larger units. Many members of this generation continue to occupy family-sized apartments and houses, often as one- or two-person households, long after the original household composition that justified those units has changed. Across European contexts, the generation between fifty and eighty years of age occupies residential space at significantly higher ratios of square metres per person than any other demographic group.

This is not a criticism of individual behaviour. It is a structural observation about how space has been distributed across generations over time. The generation currently entering the housing market, broadly those between the ages of twenty and forty, faces a fundamentally different set of conditions. Purchasing power has declined sharply in most European urban centres. Household sizes are smaller. And the residential supply available to this generation continues to be dominated by typologies designed for the demographic profile of a previous era: larger units, family-oriented layouts, and spatial configurations that do not reflect how younger and mid-career households actually live, thus not matching their targeted rent, space and location demand.

This generational asymmetry appears to be one of the structural drivers of the current urban housing crisis. It may not be resolved simply by building more housing in absolute terms. What appears to be required is typological evolution: a deliberate shift in the composition of residential supply toward configurations that reflect the actual size, structure, and spatial expectations of the households who need housing today and in the coming decades. Providing more of the same, larger units, conventional layouts, and standardised floor plans may not address a mismatch; it can deepen it. Every new development that replicates outdated typological assumptions can represent a missed opportunity to align supply with the demographic reality that is already present and accelerating.

Typological evolution is not a radical proposition. It does not require abandoning established design principles or accepting lower spatial quality. It requires asking a more precise question at the outset of every residential project: for whom is this being built, and does the configuration of this asset reflect what those households actually need? Designing for demand, with capacity to adapt to a set degree. This Handbook is built around that question. The answer requires both Architects and Investors to evolve their practice, and to do so in closer collaboration than current market structures typically allow.

Clarification of the Aim

The housing shortage is real, but its root is more specific than it is often presented. It is not only a shortage of dwellings; it also indicates a mismatch in how square metres are distributed between segments of society. The households most acutely affected are younger and mid-career professionals who have not accumulated the capital gains of the preceding generation and are now competing for housing in dense urban contexts where available space per person is shrinking and purchasing power is under sustained pressure.

This Handbook does not propose a single typology or a universal solution. It proposes a process: one through which supply can be aligned with actual, evolving societal demand. That process has a direct consequence: it likely needs to cross the gap between Architects and Real Estate Investors. The aim is not for each profession to do the other's job. Specialisation has clear value. The argument is simpler: when Architects understand what Investors are trying to protect, and when Investors understand what spatial quality actually generates, the typological decisions that result tend to be stronger, in monetary and non-monetary terms.

A plausible mechanism for translating non-monetary values into monetary ones lies in the holding period and in Research by Design. Non-monetary qualities, spatial adequacy, design precision, and supply-demand alignment do not appear in a standard valuation at the point of sale because there are no market comparables. But when an investor holds an asset over a long period and manages it with active stewardship, those qualities surface in tenant retention rates, willingness to pay, and vacancy stability. Over time, this operational track record can function as a form of evidence, helping convert what was once intangible into something measurable, comparable, and ultimately monetary. Research by Design can accelerate this translation by testing assumptions before capital is committed.

Limitations and Assumptions

This Handbook operates within clearly defined boundaries. Understanding those boundaries is essential for applying them correctly. The following assumptions and limitations shape the applicability of this framework.

Assumption of market-based operation: This Handbook assumes that both Investors and Architects operate within capitalist real estate markets. It does not claim to resolve the structural contradictions of such markets, nor to transform entire sectors. Rather, it proposes that evolved individual practice, earlier collaboration, shared understanding of value creation, and supply-demand-aligned typological thinking generate measurably better outcomes within existing market structures.

Assumption of patient capital availability: The framework assumes access to capital with long-term holding intent. Short-horizon fund structures with fixed exit dates and sensible leverage strategies cannot fully operationalise the strategies proposed here. The alignment between capital structure and investment philosophy is a precondition for the evolved practice this Handbook describes.

Limitation of regulatory transferability: The regulatory frameworks referenced throughout this Handbook, including the EU Taxonomy, SFDR, and Swiss FINMA guidance, are specific to European and Swiss contexts. Applying this framework in jurisdictions with fundamentally different regulatory environments still works from the perspective, but will need to be adapted.

Limitation of data availability: The household demand data and demographic projections used to inform this framework are derived from European statistical sources and hands-on field work. The accuracy of typological recommendations depends on the quality and granularity of local household composition data. In contexts where such data is unavailable or unreliable, the framework's demand-alignment logic cannot be fully applied.

Limitation as a working tool: This Handbook is not a finished product. The residential investment market, household demand patterns, and regulatory frameworks continue to shift. The tool will therefore always require iteration to remain effective. It offers a current-valid framework and a structured thinking approach, not a final answer.

Scope

The following boundaries define the scope within which this Handbook is designed to operate.

Geographic scope - Europe: The framework is designed for European urban contexts. It draws on European regulatory frameworks (EU Taxonomy, SFDR), European market structures, and European demographic trends. Extending the framework globally would compromise its applicability, as fundamentally different regulatory environments and housing market structures require fundamentally different approaches. The application and testing of this framework in a specific context, Zurich, is documented in the Appendix.

Typological scope - conventional residential: This Handbook focuses on conventional residential typologies: apartments and housing units designed for individual households. Co-living, student housing, and other collective residential formats operate under different demand dynamics, regulatory conditions, and investment structures. They are therefore excluded from the scope of this framework.

Investor scope - institutional residential investors: The Investor addressed by this Handbook is an institutional or semi-institutional real estate investor operating within regulated European markets. Private individuals, opportunistic developers with no holding intent, and public housing authorities operate under sufficiently different constraints that this framework does not directly apply to them without significant adaptation.

The Capital Addressed: Institutional Capacity for Adaptation

It is important to be precise about the type of capital this Handbook addresses, because not all capital is suited to the evolved strategy it proposes. The primary audience is institutional real estate capital: pension funds, insurance companies, listed and unlisted real estate investment vehicles, and family offices with a long-term residential mandate. These actors share a defining characteristic: they have the scale, the regulatory framework, and the structural incentive to hold assets over extended periods and to manage them with active stewardship. They are not driven by a single exit event. Their returns are generated through sustained operational performance, and their obligations to beneficiaries, regulators, and society require a long-term view, often even creating a benefit for the capital's public image.

Private capital, individual investors, small-scale developers, and opportunistic funds are less central to this Handbook for two reasons. First, private actors typically operate at a lower volume of market share in terms of total asset value, meaning that their typological decisions, while individually significant, do not carry the same systemic weight as institutional allocations. Second, private capital is frequently more profit-driven and shorter in horizon, making the patient capital logic of this Handbook structurally less applicable without significant adaptation.

The critical point is this: the evolved strategy this Handbook proposes, longer holding periods, typologically adequate supply, active stewardship, and early Architect-Investor collaboration, must be matched with capital that has the capacity to support it. Capital capacity here means more than financial depth. It means structural flexibility: the ability of the financial vehicle itself, including its fund structure, debt arrangements, investor base, and reporting obligations, to adapt to evolving market conditions over a 10- to 20-year horizon. Just as the design of the asset must be built with capacity to adapt, so too must the capital structure that finances it. A rigid fund structure with a fixed exit date is unlikely to support a patient investment strategy, regardless of the investor's stated intentions. The alignment between capital structure and investment philosophy is a precondition for the evolved practice this Handbook describes.

This means that the most relevant capital for this Handbook is not simply institutional in scale, but institutional in orientation: investors who are structurally positioned to hold, to adapt, and to allow non-monetary values to mature into monetary ones over time. The evolved strategy needs to match the right capital. Without that match, the framework described in the following chapters may not be fully operationalised.

Panel Discussion

To test the gap this Handbook addresses beyond theory, a panel discussion brought together perspectives from institutional investment, architectural practice, and sustainable finance, confirming that the disconnect is structural, noticeable in both professions, and ready to be closed.

Panellists:

1. Tia van Beek (Principal Asset Management)
2. Joran Kuijper (Delft University of Technology, Architecture)
3. Michael Peeters (Delft University of Technology, Sustainable Finance)

Purpose and Context

This panel discussion was conducted as an extension of the master's thesis to validate the central proposition of this Handbook: that the knowledge gap between Architects and Real Estate Investors is not theoretical but observable in practice, and that closing it requires deliberate evolution on both sides. The discussion brought together three perspectives, institutional investment, architectural practice, and sustainable finance, to examine whether the gap exists, how it manifests, and what steps might begin to close it.

The key theme was to discuss the relevance of the gap and the various perspectives on it. Each panellist brought distinct expertise: Tia van Beek offered the institutional investor's view on conviction-based investing and non-monetary value; Michael Peeters contributed insights on sustainable finance and evolving valuation models; Joran Kuijper represented the architect's position within the development process and the challenge of communicating spatial quality to financial stakeholders.

Key Takeaways

The panel confirmed that the gap is real and noticeable in both practices. Investors acknowledged that spatial qualities, flexibility, adaptability, long-term liveability, are rarely communicated in terms they can defend to investment committees. Architects recognised that they often operate at the bottom of the decision chain, receiving financial constraints as fixed inputs rather than as parameters open to iteration. The disconnect is structural, not intentional: both professions are necessary to build the built environment, yet they remain separated by language and process.

A critical observation emerged around non-monetary value. Investors struggle to price qualities that have not yet been monetised by the market, spatial flexibility, typological adaptability, tenant well-being. As one panellist noted, investing in such qualities requires self-belief and conviction, because the market has not yet validated them. Yet these are precisely the qualities that determine long-term asset stability: reduced vacancy and maintenance costs, lower refurbishment costs, and alignment with shifting household demand.

1. Evolution Must Begin in Education:

The first step to closing the gap is twofold and must start in education. Architects must be taught awareness of financial feasibility, not as a constraint on creativity, but as a tool to strengthen design decisions. Feedback on architectural projects should include financial viability alongside spatial critique. Students must learn how their design decisions translate into cost structures, revenue assumptions, and investment risk profiles. This financial literacy does not diminish architectural ambition; it grounds it in execution potential.

Equally, real estate and finance students must learn what spatial quality the figures they assume actually represent. A rent-per-square-metre assumption is not neutral, it embeds expectations about layout efficiency, flexibility, and liveability that students rarely interrogate. They must develop the self-belief and conviction to invest in not-yet-monetary values, understanding that long-term asset stability and in particular value, also depends on qualities that markets have not yet priced. Education must cultivate the ability to see beyond the spreadsheet and recognise that the numbers represent physical space inhabited by people.

2. Evolution Must Continue in Practice:

The second step is evolution in practice, and it must be driven from the top. Investment boards and decision-makers must push for representation of spatial quality within financially presented deals, not as an afterthought, but as a core risk-mitigation strategy. When spatial adaptability is understood as reduced vacancy risk and lower future refurbishment costs, it becomes defensible to investment committees. The panellists confirmed that when architects explain the innovation of their design, how spaces can be reconfigured, how layouts accommodate changing household compositions, investors are willing to pay for that quality because it translates into long-term stability.

On the architectural side, practitioners must reposition themselves: not as executors of briefs, but as co-creators of value capable of defending their designs in financial terms. Architects possess spatial intelligence that investors lack, the ability to envision how people dwell, how spaces adapt over time, how typological innovation can align supply with demand. This quality must be communicated in terms investors understand. The discussion revealed that architects are often perceived as concerned primarily with materialisation and façade aesthetics, while the deeper spatial logic, flexibility, efficiency, adaptability, remains unexplained.

The iterative loop, Research by Design, offers one solution to bridge this divide. Fast, collaborative iteration where financial assumptions are tested through design and spatial proposals are validated through financial analysis makes the process more efficient and the outcomes more robust. Rather than sequential handoffs, investor defines brief, architect executes, the two parties work in parallel, challenging and refining each other's assumptions continuously.

Impact of the Handbook

The discussion reinforced that this Handbook addresses a genuine industry deficiency. Both professions operate with incomplete knowledge of the other's domain, producing outcomes that do not reach their full potential. The thesis proposes that evolved individual practice, earlier collaboration, and the discipline of Research by Design can generate measurably better outcomes within existing market structures.

The panellist's experiences confirmed this proposition. When spatial quality is explained in terms investors understand, flexibility, adaptability, reduced vacancy risk, it becomes defensible. When architects understand the financial consequences of their decisions, their designs gain credibility and execution potential. The current process, where architects receive fixed financial parameters and fill in square metres according to predetermined tables, leaves no room for iteration or value co-creation. This Handbook proposes an alternative: an integrated framework where both parties evolve their practice, develop shared language, and collaborate earlier in the process to produce residential typologies that are simultaneously spatially adequate and financially attractive.

The gap is not hopeless. It requires deliberate effort, in education and in practice, but the panellists agreed that the potential for value creation is significant. Long-term institutional investors, holding assets for 15 to 25 years, have particular incentive to capture non-monetary qualities that translate into stability over extended horizons. Architects, repositioned as co-creators rather than executors, can leverage their spatial expertise to influence outcomes. The Handbook provides the framework; the panel discussion confirmed its relevance.



A.1 Investor's Value-Perspective

Key question: How must the Investor's Value-Perspective evolve?

This chapter positions real estate investors on how their value perspective must evolve to address the residential typological mismatch while maintaining financial feasibility. The central evolution required is a shift from short-term, exit-driven investment strategies toward patient capital stewardship with a 10-20 year horizon. Within this extended time-frame, three critical shifts must occur:

First, investors should recognise that many residential projects exceed budget not primarily due to macroeconomic factors, but due to the misalignment between financial assumptions and the actual product being designed. This misalignment shows the direct consequence of sequential, rather than integrated, Architect-Investor collaboration.

Second, the valuation model itself does not need replacement, but the quality of assumptions feeding into it must dramatically improve. Non-monetary values, spatial quality, tenant retention, and supply-demand alignment must enter the DCF model as more case specific informed inputs rather than generic market data.

Third, and most critically, investors must adopt Research by Design as a core practice: testing financial assumptions through actual design proposals and iterating both the design and the financial model until alignment is achieved. This iterative loop, conducted in close collaboration with the Architect, is one mechanism through which non-monetary value becomes visible and ultimately monetizable in the long run. Providing the Investor with conviction of not yet monetary values. The first project using this approach will be more demanding, but subsequent projects will benefit from accumulated learning, refined assumptions, and a demonstrated track record of demand-aligned development.

A.1.1 Context: Current Investor Practice

This subchapter outlines the current investor practice, the aims, strategies, and constraints that define how residential investments are currently assessed, and identifies the key challenges that result from the existing structure of practice.

The Aim: Profitability, Liquidity and Risk-Management

The conventional real estate investor operates within a clearly defined value framework. Three pillars structure the investment case: profitability, risk, and liquidity. Profitability is assessed through risk-adjusted returns, measured primarily by the Internal Rate of Return (IRR), cash-on-cash return (CoC), and Net Operating Income (NOI) growth. Risk is maintained through the market environment, tenant quality, lease duration, diversification, and capital leverage strategy, ensuring stable cash flows and minimising downside risk. Liquidity is preserved through regulatory compliance or risk-mitigation, particularly around sustainability performance standards and debt provider alignment, ensuring assets remain financeable and can be exited without valuation discounts (Conrads, 2022; Baum, 2020).

Beyond these three pillars, institutional investors are increasingly required to align with ESG standards. Environmental, Social, and Governance criteria have moved from voluntary consideration to regulatory expectation, particularly for investors operating within or adjacent to European markets subject to the Sustainable Finance Disclosure Regulation (SFDR) and EU Taxonomy (European Commission, 2019, 2020). For many investors, ESG alignment is now a condition of access to capital, not a preference.

Perspective and Strategy: Short Horizons, Exit-Driven Logic

Despite growing regulatory pressure, the investment strategy of real estate assets in the past two decades has shifted more towards short-term holding periods and exit-driven returns. Which, in essence, is not the quality and root of real tangible assets. Fund structures typically operate on five- to seven-year cycles, with value creation focused on capital appreciation rather than operational cash flow generation (Conrads, 2022). The asset is acquired, stabilised, repositioned or redeveloped, and sold; the holding period is a means to an end, not a stewardship commitment.

Within this logic, non-monetary values, spatial quality, typological adequacy, and tenant satisfaction are treated as secondary considerations, if they are considered at all. They do not appear in the standard Discounted Cash Flow model as distinct line items, and they carry no recognised market value at the point of sale, due to the fast capital appreciation and short holding periods. The result is that investment decisions are made based on measurable values and assumptions that are often too broad, too conventional, and too disconnected from the actual spatial needs of the end-user.

Valuation: The DCF Model and Its Limits

The Discounted Cash Flow model is the dominant valuation instrument in European residential real estate investment. It translates projected income streams, rents, occupancy rates, operating and other costs into a present value by discounting future cash flows at a rate that reflects the perceived risk of the asset. The IRR (Internal Rate of Return) and Cash-on-Cash (Cash return in percentage of the Cash spent) are then derived from this model and used as the primary benchmark for investment decisions (Conrads, 2022).

The model is robust as a comparative tool. It enables Investors to assess and rank opportunities across different assets, markets, and risk profiles using a common metric and comparable monetary assumptions. The KPIs it generates, IRR, NOI, and yield, are market standards that allow meaningful comparison. The problem is not the model itself. The problem is the quality of the assumptions that feed into it. Rent levels, vacancy rates, and tenant retention are typically derived from experience and broad market data and are often applied more generically across assets that are fundamentally different in their spatial quality, typological fit, and demand alignment. The model's output is only as good as the assumptions fed into it.

Beyond the DCF, other valuation approaches exist, including comparable transaction analysis and cost-based valuation, but they share the same limitation: they reflect past market behaviour rather than forward-looking asset quality. In a market defined by structural typological mismatch, past comparables are a poor guide to future performance. However, the crucial element here is the input data, which is decided by the real estate investors, which needs to evolve their perspective to improve the accuracy of the input used for the asset.

Sustainability: Practice and Struggles

Sustainability has become a management requirement for institutional real estate investors in Europe. The EU Taxonomy Regulation (2020/852) defines criteria for environmentally sustainable economic activities, while the SFDR (2019/2088) requires transparency on sustainability integration across financial products (European Commission, 2019, 2020, 2021a, 2021b). Swiss investors face parallel requirements through FINMA guidance on greenwashing prevention and climate risk management (FINMA, 2021, 2023).

In practice, the residential investment market is struggling to keep pace. Many assets do not meet the energy performance thresholds required for Taxonomy alignment. Retrofitting existing stock is costly, disruptive and especially requires more knowledge and time. New development that meets Taxonomy criteria commands a premium that is difficult to justify under short-horizon fund structures. The result is a market that is increasingly compliant in its reporting but inconsistent in its asset-level performance. Sustainability is being managed as a disclosure obligation rather than an asset quality driver (Federal Office for Housing, 2016; Federal Office for the Environment, 2025).

For this Handbook, sustainability is defined as long-term stability. An asset that is spatially adequate, well-managed, and future-proofed against regulatory and demographic change is, by this definition, a sustainable asset. The two objectives, financial sustainability, ecological sustainability and social sustainability, are not in conflict. They are aligned, provided the investment horizon is long enough to capture the benefits.

1. European Sustainability Benchmarks:

a. EU Taxonomy Regulation: Defines the criteria for environmentally sustainable economic activities. For residential real estate, this includes energy performance thresholds (typically aligned with EPC ratings of A or B), lifecycle carbon assessment, and compliance with the Do No Significant Harm (DNSH) principle across six environmental objectives. Assets that meet Taxonomy criteria access a broader and lower-cost capital base.

b. Sustainable Finance Disclosure Regulation (SFDR): Requires investment managers to disclose how sustainability risks are integrated into their investment decisions and how their products align with sustainability objectives. Article 8 and Article 9 classifications under SFDR have become de facto quality signals in the institutional market, influencing investor appetite and capital allocation.

2. Swiss Regulatory Compliance Framework:

a. FINMA Guidance: The Swiss Financial Market Supervisory Authority has issued guidance on greenwashing prevention and climate risk management, requiring institutional investors to substantiate sustainability claims with asset-level evidence. This creates a compliance obligation that goes beyond disclosure to verifiable performance.

b. AMAS Self-regulation and Fiduciary Framework: The Asset Management Association Switzerland has established self-regulatory guidelines on sustainability integration, aligned with European standards. Fiduciary obligations increasingly require institutional managers to consider long-term sustainability risks as material financial risks, not optional considerations (Asset Management Association Switzerland, 2024).

Housing Market and Competitive Advantage

The real estate investor's perspective and strategy are, for most, a reaction to the market environment. As described, the urban real estate market has shifted increasingly toward short-term holding periods and exit-driven capital appreciation. This is the result of multiple elements: inflation and exit-factor volatility, building cost uncertainty, and, most importantly, an extremely high demand for housing. The high pressure on the urban housing market allows investors to be less attentive to the quality of the assets they supply, because demand within the market takes whatever is available, even if the apartment is too costly, spatially inadequate, or requires other compromises.

Once that pressure may release, as described in the introduction, investors will need to direct much greater care to the assets they supply into the market. A pressured housing market is a rabbit hole: because society struggles to secure housing supply in urban contexts, investors can provide almost anything, which progressively worsens supply quality and fuels the short-term, exit-driven holding perspective. This strategy is extremely demand-constrained, meaning the asset is not future-proof once pressure releases, because tenants can move to a more qualitative asset.

Key Current Challenges

The Problem of Budget Overruns: Misalignment Between Assumptions and Product Projects exceeding budget are often attributed to macroeconomic factors, but the root cause is frequently the misalignment between the Investor's financial assumptions and the actual design/product created.

A significant proportion of residential development projects exceed their original budget projections. While macroeconomic factors, construction cost inflation, supply chain disruptions, and regulatory changes certainly contribute, these external factors are often cited as the primary cause when the underlying issue is more fundamental: a structural misalignment between the financial assumptions embedded in the investment case and the actual product being designed and built.

This misalignment occurs because the conventional investment process is sequential rather than integrated. The Investor defines the financial parameters, cost envelope, target yield, and unit mix assumptions before the Architect is engaged. The Architect then designs within those parameters, often discovering that the assumptions do not reflect the spatial realities of the site, the actual costs of delivering the specified quality, or the demand profile of the target market. By the time these discoveries are made, the investment case is already committed, and the only options are to reduce quality, increase budget, or accept lower returns (Love, 2016).

The consequence is a pattern of budget overruns that appears to be driven by external factors but is, in fact, driven by internal process failure. The financial model assumed one product; the design process delivered another. The gap between assumption and reality is the budget overrun. This is not a failure of financial modelling or architectural competence. It is a failure of integration. When the Investor's assumptions are not tested against actual design feasibility before capital is committed, the probability of misalignment, and therefore budget overrun, is structurally elevated.

Research by Design addresses this problem directly. By engaging the Architect early and using design as a tool to test financial assumptions, the Investor can identify misalignments before they become costly. The design reveals whether the assumed unit mix is achievable on the site, whether the specified quality can be delivered within the cost envelope, and whether the target tenant segment will actually pay the assumed rent for the proposed product. This iterative testing, conducted before capital commitment, dramatically reduces the probability of budget overruns by aligning assumptions with reality at the earliest possible stage (Hong, 2020).

Typological bias toward the conventional: The current investor practice perpetuates typological mismatch by preferring conventional typologies and penalising innovation. Because short-horizon fund structures require assets that can be valued and sold on the basis of existing market comparables, there is a systematic bias toward the familiar. Larger units, traditional layouts, and standard specifications are preferred not because they are the best response to actual household demand, but because they are the easiest to value and exit. Innovation, smaller units, flexible configurations, and demand-aligned typologies are regularly declared financially infeasible before it has been properly assessed (Gorlin & Newhouse, 2024).

Regulatory stranding risk: Regulatory pressure is building. FINMA, the EU Taxonomy, and SFDR are creating compliance costs that are increasingly difficult to absorb for investors operating on short cycles. Assets that do not meet energy performance standards face the risk of regulatory stranding, a loss of value that is not captured in current valuations but will materialise as enforcement tightens (FINMA, 2023; European Commission, 2021a, 2021b).

Market pressure masking deferred vacancy risk: A pressured housing market creates a specific and dangerous form of complacency. When vacancy rates are near zero and demand is extreme, almost any asset will perform. Tenants accept what is available because there is no alternative. This masks the underlying inadequacy of the supply. When market pressure eventually eases, as demographic transitions, new supply, or economic shifts will eventually cause, assets developed without careful attention to typological quality may face a higher risk of rapid obsolescence. The vacancy risk that appears low today is, in reality, deferred.

A.1.2 Theory: Patient Capital

Patient capital theory provides the theoretical foundation for the evolved investor perspective this Handbook proposes. Its origins lie in value investing, famously used by Warren Buffett, and its application to real estate offers a coherent alternative to the short-horizon, exit-driven strategies that currently dominate the residential investment market.

Origin: Graham and Buffett

Patient capital as an investment philosophy originates in the value investing principles articulated by Benjamin Graham and operationalised by Warren Buffett at Berkshire Hathaway (Buffett, 1957-2024; Cunningham, 1998). The core proposition is straightforward: superior long-term returns are generated not by timing markets, but by identifying high-quality assets trading below their intrinsic value and holding them long enough for that value to be realised through operational performance.

Buffett's own articulation of this philosophy is direct: "Our favourite holding period is forever. An investor should ordinarily hold a small piece of an outstanding business with the same tenacity that an owner would exhibit if he owned all of it" (Buffett, 1988, as cited in Cunningham, 1997). This is not passive ownership. It is active stewardship, continuous improvement, long-term thinking, and resistance to the pressure of short-term market movements.

Core Components: Quality, Discipline, Leverage

Frazzini, Kabiller, and Pedersen (2018) decompose the empirical outperformance of patient capital, what they term Buffett's Alpha, into three components: quality focus, emphasising profitability, growth stability, and low earnings volatility; value discipline, targeting assets trading below intrinsic value; and leverage application through stable, low-cost financing that enables compounding without forced liquidation (Frazzini et al., 2018).

Applied to real estate, these three components translate into: selecting assets with strong locational fundamentals and genuine demand alignment rather than simply those with the highest short-term yield; acquiring at prices that reflect intrinsic quality rather than market momentum; and financing with adequate but not excessive leverage, preserving the capacity to hold through market cycles without being forced to sell.

Long-Term Stability as the Primary Value Driver

Patient capital theory identifies long-term cash flow stability as the primary determinant of investment value. Buffett's valuation framework centres on owner earnings, the cash flow available for distribution after all capital expenditures necessary to maintain the competitive position of the asset (Cunningham, 1997). For real estate, this translates into a focus on stabilised Net Operating Income adjusted for recurring capital expenditure, tenant improvement costs, and regulatory compliance expenditure, assessed across a 20- to 30-year horizon (Conrads, 2022).

This long-horizon logic creates three distinct competitive advantages. First, compounding through reinvestment: extended holding periods enable cash flows to be reinvested at asset-level returns, generating compounding effects that short-cycle strategies cannot capture. Second, counter-cyclical acquisition capacity: the absence of forced liquidation allows patient capital investors to acquire assets during market dislocations at prices that reflect distress rather than intrinsic value. Third, reduced transaction friction: minimising acquisition and disposition frequency eliminates transaction costs that, over traditional fund lifecycles, can consume 10 to 20 per cent of asset value (Frazzini, 2018; Cunningham, 1997).

Stewardship vs. Asset Trading: The Four Principles

Real estate has historically exhibited speculative characteristics: acquisitions targeting IRR through capital appreciation, hold periods dictated by fund liquidation schedules, and value creation focused on cosmetic improvements that elevate sale prices (Conrads, 2022). Patient capital redefines this relationship. Real estate is not a fast-moving trading asset. It is a long-lived, place-specific infrastructure asset whose value is fundamentally determined by the quality of its occupancy, the stability of its income, and its capacity to adapt to evolving demand. It was never designed to be traded at speed.

Stewardship orientation manifests through four principles. First, asset-level value creation: optimising individual asset performance through continuous operational improvement, energy retrofits, apartment reconfiguration, system upgrades, rather than portfolio-level timing. Second, stakeholder integration: treating tenants as long-term residents whose satisfaction determines retention rates and community reputation, rather than as short-term revenue sources. Third, transparency and governance: reporting openly on building performance, maintenance expenditure, and long-term strategy. Fourth, quality over quantity: concentrating on a smaller number of well-understood, actively managed assets rather than pursuing portfolio scale at the expense of asset depth (Walker, 2019; Cunningham, 1997).

Why Patient Capital Suits the Housing Crisis Context

Patient capital is structurally suited to the conditions of the European housing crisis for three reasons.

First, typological innovation requires time. Developing units aligned with actual household demand, smaller, more flexible, and more precisely configured, requires 10 to 20 years of market absorption as demographics shift gradually. Traditional seven-year fund structures cannot capture this timeline, creating systematic underinvestment in typological innovation. Patient capital's extended horizons make this investment viable (Walker, 2019).

Second, regulatory alignment is a long-term process. European regulations around densification, energy efficiency, and affordable housing are tightening progressively. Patient capital's multi-decade horizon aligns investment timelines with regulatory implementation, enabling proactive compliance and the incentives that come with it, rather than reactive adjustment under enforcement (Federal Office for Housing, 2016; FINMA, 2023).

Third, the non-monetary values that determine long-term asset quality, spatial adequacy, tenant satisfaction, and supply-demand alignment are only captured over time. A patient investor who holds an asset through a full demand cycle will see those qualities reflected in occupancy stability and rental growth. A short-horizon investor will sell before those values materialise, and will therefore never price them correctly. Patient capital is the investment philosophy that makes non-monetary value legible.

Matching the Right Capital to the Right Strategy

Patient capital theory is not only a philosophy of investment behaviour, but it is also a discipline of capital structure. The evolved investment strategy described in this Handbook cannot be operationalised by any capital vehicle, regardless of the investor's stated orientation. The strategy must be matched with capital that is structurally capable of supporting it.

This means that the financial structures through which capital is deployed, fund vehicles, debt instruments, equity arrangements, and reporting frameworks, must themselves have the capacity to adapt to evolving market conditions over the duration of a long holding period. A fund with a fixed seven-year life, a rigid debt covenant, and a limited partner base expecting quarterly liquidity is unlikely to support a 15-year stewardship strategy, even if the fund manager is philosophically aligned with patient capital principles. The mismatch between capital structure and investment strategy is one of the most common and least discussed reasons why long-term residential investment underperforms its potential.

Just as the physical asset must be designed for adaptability, with spatial configurations that can respond to shifting household demand over time, the capital structure that finances it must be designed for durability. This means: fund vehicles with sufficiently long or open-ended lives; debt structures with stable, non-callable covenants that do not force sale under market stress; equity arrangements with limited partners who understand and accept the long-term return profile; and reporting frameworks that communicate non-monetary value alongside financial performance, so that the full picture of asset quality is legible to all stakeholders.

The implication for investors is direct: before committing to the evolved strategy this Handbook proposes, the investor must assess not only their own orientation but the structural capacity of their capital. Institutional investors, pension funds, insurance companies, and long-term real estate vehicles are best positioned to make this commitment because their liability structures and regulatory obligations already incentivise long-term, stable-return strategies. Matching the right capital to the right strategy is not a secondary consideration. It is the precondition for everything that follows.

A.1.3 What Must Evolve

The following identifies the specific dimensions of current investor practice that must evolve in order to push for the development of typologically adequate, long-term stable residential assets.

Perspective and Strategy: From Trading to Ownership

Key element: Shift from a 5-7 year exit-driven holding period to a 10-20 year active stewardship orientation.

The most fundamental shift required is in investment horizon and orientation. The dominant strategy, acquiring, stabilising, and exiting within five to seven years, is structurally incompatible with the development of typologically innovative, demand-aligned residential assets. Innovation requires time: time for design integration, time for market absorption, and time for non-monetary values to translate into operational performance. The required shift is toward a holding period of 10 to 20 years, accompanied by active ownership and stewardship of the asset throughout. This does not mean accepting lower returns. It means structuring the investment to capture returns that short-horizon strategies leave on the table: the compounding effect of stable income, the rental premium of well-designed and demand-aligned units, and the exit value of an asset with a demonstrable operational track record.

Frazzini et al. (2018) demonstrate that patient capital strategies generate Sharpe ratios nearly double those of market benchmarks over long periods. Walker et al. (2019) show that sustainable portfolios emphasising long-term stewardship generate 15 to 25 per cent higher risk-adjusted returns over 10-year horizons. The case for longer holding periods is not idealistic; it is financially grounded.

Valuation Dimension: Evolving the Inputs, Not the Model

Key element: Retain the DCF model as the comparative instrument, but enrich it with spatially informed, demand-aligned assumptions and complementary assessment methods.

The Discounted Cash Flow model does not need to be replaced. It remains the most basic and effective instrument for comparing investment opportunities across a common metric. The KPIs it generates, IRR, NOI, and yield, are market standards that serve a legitimate comparative function and should be maintained.

What must evolve is the quality of the monetary assumptions that feed into the model. Currently, rent levels, vacancy rates, and tenant retention are derived from broad market data that does not distinguish between assets of different spatial quality, typological fit, or demand alignment. The result is that the model treats fundamentally different assets as equivalent. A spatially adequate, demand-aligned unit and a poorly configured, oversized unit will receive the same vacancy assumption, even though their long-term operational performance will diverge significantly. The evolution required is for non-monetary values, spatial quality, supply-demand alignment, and typological adequacy to exert a more precise influence on the monetary assumptions that enter the financial model. This requires closer collaboration between Investor and Architect, so that the Investor understands the cost and revenue implications of specific spatial decisions, and the Architect understands the financial parameters within which those decisions must operate. The model stays the same. The inputs become more precise.

Emerging Assessment Approaches:

1. Cost-Benefit Analysis (CBA): CBA extends the financial model by quantifying both monetary and non-monetary costs and benefits over the full asset lifecycle. For residential investment, this includes the social cost of spatial inefficiency, the avoided cost of vacancy, and the long-term benefit of regulatory compliance. CBA is particularly useful for communicating the case for typological innovation to capital providers who require evidence beyond IRR. Its limitation is that it requires assumptions about the monetary value of non-monetary outcomes, which are not yet standardised in the residential investment market, and thus are not valued by the next buyer.

2. Multi-Criteria Decision-Making (MCDM): MCDM frameworks allow investors to evaluate assets across multiple dimensions simultaneously- financial return, spatial quality, regulatory alignment, and demand-supply fit, without reducing all criteria to a single monetary figure. This is particularly valuable in the early stages of investment assessment, where the relative weighting of different criteria is still being defined. MCDM does not replace the DCF model; it complements it by making the full range of asset qualities visible before the financial model is run, but it is still very subjective due to the subjective assigning of weight to a specific value.

Research by Design: Testing Financial Assumptions Through Design

Key element: Use design as a tool to test and validate financial assumptions before capital is committed, creating an iterative loop between spatial feasibility and financial feasibility.

Research by Design is the methodological innovation that bridges the gap between financial assumption and spatial reality. In conventional practice, the Investor develops a financial model based on assumed costs, revenues, and typological parameters, and then commissions the Architect to design within those parameters. The design is treated as the output of a predetermined brief, not as a tool for testing whether that brief is correct. This sequence is fundamentally flawed because it assumes that the Investor's initial assumptions are accurate, when in fact they are often based on generic market data that does not reflect the specific conditions of the site, the target demand segment, or the spatial possibilities of the project (Frayling, 1993; Sevaldson, 2010).

Research by Design reverses this sequence. The Architect is engaged early, before the financial model is finalised, and is asked to develop preliminary design proposals that test the Investor's assumptions. Can the assumed unit mix actually be achieved on this site? Does the assumed quality level align with the target rent?

Will the target tenant segment actually pay for the spatial configuration being proposed? The design becomes a research instrument, generating empirical evidence about what is spatially and financially feasible before capital is committed (Hong, 2020). This process is iterative. The Architect's preliminary design reveals spatial constraints and opportunities that the Investor's initial assumptions did not capture. The Investor then revises the financial model to reflect these realities. The Architect responds with refined design proposals. The cycle continues until both parties are confident that the financial assumptions and the design are aligned. This iterative loop, conducted openly and collaboratively, is one mechanism through which Research by Design generates value. It surfaces misalignments early, when they can be corrected at low cost, rather than late, when they manifest as budget overruns or underperforming assets (Cross, 2006; Lawson, 2006).

For the Investor, Research by Design requires a shift in mindset. The Architect is not simply a service provider executing a predetermined brief. The Architect is a research partner whose spatial intelligence is essential for validating the assumptions on which the investment case depends. This means engaging the Architect earlier, compensating them for preliminary design work, and treating their input as a critical component of due diligence rather than a downstream execution task. The first project conducted using this approach will require more upfront investment in collaboration. But subsequent projects will benefit from refined assumptions, accumulated learning, and a demonstrated track record of demand-aligned, financially feasible development (Cross, 2006).

Risk Framing: Repricing Undervalued Risks

Key element: Identify and price two systematically undervalued risks: deferred vacancy and typological obsolescence.

The risk-return profile is a standard instrument in investment decision-making. In the current residential market, however, several risks are systematically underpriced. Vacancy risk in urban residential assets appears low because demand pressure is extreme and vacancy rates are near zero. This creates a false sense of security. The risk is not absent; it is deferred. When market pressure eventually releases, assets that were developed without careful attention to typological quality and demand alignment may face a higher risk of rapid increases in vacancy.

Two risks in particular must be repriced. First, vacancy risk: not the current vacancy rate, but the forward-looking vulnerability of the asset's typological configuration to demand shifts. Second, typological obsolescence: the risk that an asset's unit mix, size distribution, and spatial configuration (capacity to adapt) become misaligned with future household demand as demographics continue to shift. (FINMA, 2023; European Commission, 2021; United Nations Environment Programme Finance Initiative, 2016).

Non-Monetary Value: Entering the Investment Case

Key element: Incorporate spatial quality, tenant retention, and supply-demand alignment as active variables in the financial model, not background assumptions.

Spatial quality, tenant retention, and supply-demand alignment must enter the investment case as active variables, not as background assumptions. This is not an argument for abandoning financial discipline. It is an argument for applying that discipline more precisely. An investor who understands what specific tenant segments want, in terms of unit size, spatial configuration, and essential quality, can design an asset that minimises wasted cost on space that tenants will not pay for, while concentrating investment on the qualities that drive willingness to pay and retention. This is a cost-revenue optimisation exercise. It requires the investor to understand the spatial dimension of the asset, not just its financial parameters.

Non-monetary value, when properly understood, is a tool for improving the cost-revenue ratio of the asset. A spatially adequate unit, right-sized, well-configured, and aligned with actual household demand, commands a higher willingness to pay per square metre than an oversized unit that exceeds the tenant's actual spatial needs. It also generates lower tenant turnover because the unit fits the occupant's life rather than requiring them to compromise. Lower turnover means lower re-letting costs, lower vacancy periods, and more stable rental income. These effects are real and measurable, but they require the investor to think about the asset from the tenant's perspective, not only from the perspective of the financial model. The bridge between those two perspectives is the Architect, whose spatial intelligence, when properly integrated into the investment process, translates tenant demand into design decisions that improve the asset's financial performance.

Sustainability: From Reactive Compliance to Proactive Alignment

Key element: Redefine sustainability as long-term asset stability and build adaptability, spatial, technical, and typological, into the asset from the point of design.

Sustainability, in the context of this Handbook, means long-term stability. An asset is sustainable if it remains financeable, occupiable, and regulatorily compliant across its full life-cycle, and if it continues to meet the evolving spatial needs of its tenants. This definition aligns sustainability with the logic of patient capital: both require a long horizon, active stewardship, and forward-looking asset management. The required shift is from reactive compliance, retrofitting assets to meet regulatory thresholds after they have been set, to proactive alignment: developing assets that anticipate regulatory direction and are designed from the outset to remain compliant as standards tighten. This requires the investor to think about the future-proofness of the asset at the point of design, not at the point of retrofit. The capacity to adapt, spatially, technically, and typologically, must be built into the asset from the beginning (FINMA, 2023; Walker, 2019).

A.1.4 How It Must Evolve

The following describes the concrete operational changes through which the evolved investor perspective can be achieved.

Self-Belief, Adequate Debt, Active Stewardship

Key statement: The shift to longer holding periods requires institutional confidence, stable debt structures, and a commitment to active stewardship that begins at the point of design.

The shift to a longer investment horizon requires a specific kind of institutional confidence. Investors operating on short fund cycles are responding to the expectations of their capital providers, limited partners, pension funds, insurance companies, who have their own liquidity and return requirements. Moving toward 10- to 20-year holding periods requires a renegotiation of those expectations, and a clear demonstration that longer horizons generate superior risk-adjusted returns. This renegotiation is supported by the empirical evidence of patient capital theory, shown by Warren Buffet. Frazzini (2018) demonstrate that patient capital strategies generate Sharpe ratios nearly double those of market benchmarks over long periods. Walker et al. (2019) show that sustainable portfolios emphasising long-term stewardship generate 15 to 25 per cent higher risk-adjusted returns over 10-year horizons. The case for longer holding periods is not idealistic, it is financially grounded.

Self-Believe: The capacity to commit to a long-term holding period rests on the Investor's own belief in the asset. This belief extends beyond conventional metrics to include values that are not yet monetised at the point of acquisition: spatial quality, typological innovation, and supply-demand alignment. Such confidence is difficult to develop when the Investor possesses limited spatial knowledge of the product itself. Research by Design addresses this gap directly. When the Investor engages the Architect early and participates in the iterative testing of spatial configurations, they gain a depth of understanding that cannot be achieved through conventional due diligence. The result is a stronger conviction in the asset's quality, a conviction grounded in direct engagement with the design process rather than reliance on external assumptions. This confidence makes the commitment to a long holding period and once financial assumptions, easier to negotiate with capital providers and other stakeholders, because the Investor can articulate precisely why the asset will perform over time.

Adequate debt structures: Patient capital does not mean no leverage, it means stable leverage that does not create forced-sale pressure during market cycles, and gives the financial stack capacity to adapt. The investor who is not forced to sell at the wrong moment retains the optionality to pick their own fruits during the holding period: to capture rental growth, reinvest cash flows, and exit at a point of their choosing rather than at the dictate of a fund cycle. Debt covenants should be structured to allow operational flexibility over the holding period, without creating cliff-edge refinancing events that force premature disposition. The exit value of an asset with a 15-year track record of stable occupancy and active stewardship will, in most cases, significantly exceed the exit value of an asset sold three years after completion.

Active stewardship from day one: Stewardship is not a post-completion activity. It begins at the point of design. The investor who engages the architect early, before the brief is fixed and before the financial model is closed, has the opportunity to build spatial quality, typological adequacy, and adaptability into the asset from the ground up. This is the operational expression of the patient capital philosophy: not acquiring an asset and waiting, but shaping an asset and managing it actively throughout its life. Active stewardship means regular review of tenant satisfaction, proactive maintenance, ongoing energy performance monitoring, and willingness to reconfigure units when household demand patterns shift. It means treating the asset as a living infrastructure, not a static product.

The Dual-Lens Valuation: Integrating Spatial and Financial Intelligence through Research by Design

Key statement: The investor and architect must develop a shared valuation language in which a direct correlation of spatial decisions and financial assumptions create the value desired.

The key operational mechanism for evolving the Investor's valuation perspective is the dual-lens valuation model: a process in which the Investor and Architect collaborate closely enough that each gains a working understanding of the other's domain. The spatial qualities that the Architect designs, adequacy, flexibility, essential quality, do not yet have market comparables. They cannot be valued by a future buyer who has no track record to reference. But the Investor who holds the asset and manages it actively will see those qualities reflected in operational performance: in tenant retention rates, in willingness to pay, in vacancy stability. The Investor's role in this model is to represent these non-monetary values within the financial model, translating spatial intelligence into financial assumptions before the evidence base exists. (Cross, 2006).

Operationalising Research by Design: The practical implementation requires Investors to restructure their due diligence and investment process. The sequence is as follows:

- 1. Early Architect Engagement:** Commission the Architect during the pre-acquisition phase, before the investment case is finalised, not to execute a predetermined brief, but to test whether the assumed parameters are achievable on the specific site.
- 2. Preliminary Design as Due Diligence:** Treat the Architect's preliminary design work as a component of due diligence, equivalent in importance to legal, technical, and financial reviews. The design should test whether the assumed unit mix can be achieved within site constraints, whether construction costs align with the quality level required to achieve target rents, and whether the spatial configuration will appeal to the target demand segment.

3. Iterative Assumption Refinement: Use the findings from preliminary design to refine the financial model. Where the design reveals unrealistic assumptions, adjust the model accordingly. Where the design reveals opportunities not captured in initial assumptions, incorporate those into the investment case.

4. Alignment Validation: Before committing capital, validate that financial assumptions and design are aligned. Both parties should be confident that the product can be delivered within the cost envelope and will achieve the revenue projections embedded in the financial model.

5. Post-Completion Learning Loop: After the asset is operational, track actual performance against the assumptions embedded in the investment case. Use this data to refine assumptions for future projects, creating a continuous learning loop that improves accuracy over time.

The Investor's Evolving Role: This restructured process requires the Investor to develop spatial literacy: not the technical expertise of an Architect, but enough understanding to distinguish between a unit configuration that will perform well over 20 years and one that will generate tenant dissatisfaction and turnover within five. The Investor must learn to anticipate the operational effects of spatial decisions and build them into monetary assumptions, even before the track record exists. The Investor who develops this literacy gains a genuine competitive advantage: the ability to identify assets whose intrinsic spatial quality is not yet priced by the market. The Architect, in turn, must provide precise cost information for each spatial decision and articulate expected operational benefits. An Architect who can state that a specific spatial configuration will reduce tenant turnover by a measurable percentage over a 10-year period, generating quantifiable savings in avoided re-letting costs, is a fundamentally more valuable collaborator than one who can only assert that the floor plan is better. This shared language, in which spatial decisions are defended in financial terms and financial parameters are translated into spatial constraints, is the foundation of the dual-lens valuation model. Ideally the financial and technical knowledge is within one organisation, creating the natural collaboration process (Hong, 2020).

From Non-Monetary to Monetary: The Track Record as Certification

Key statement: Non-monetary values become monetary over time through operational performance, and the investor's task is to begin building that track record from the point of design.

Non-monetary values, spatial adequacy, typological fit, tenant satisfaction, are real and consequential. They are not currently priced in standard valuation models because there are no market comparables. A built-to-hold investor developing a spatially adequate asset cannot point to a comparable sale that validates the premium they are paying for better spatial quality. The market does not yet price that quality. But the market does price operational performance. A building with a 15-year track record of 0.5 per cent vacancy, stable rents growing at or above inflation, and low tenant turnover is a demonstrably superior asset. That performance is the monetary expression of the non-monetary qualities that were designed into the asset at the outset.

The track record is the certification. And as more investors adopt this approach and more track records accumulate, the market will begin to price spatial quality directly, transforming what is currently a non-monetary value into a recognised monetary premium. This is the long-term ambition of the evolved investor perspective: not to abandon the financial model, but to enrich it, with better assumptions, closer collaboration, and a track record that converts spatial intelligence into demonstrable financial value.

The practical implication is that the investor must begin building the track record from day one. This means tracking tenant satisfaction, monitoring vacancy rates at the unit level, recording willingness-to-pay data, and documenting the operational performance of specific spatial configurations. Over time, this data becomes the evidence base for improved financial assumptions, assumptions that reflect the actual performance of spatially adequate, demand-aligned assets rather than the average performance of a heterogeneous market. The investor who builds this evidence base gains a compounding advantage: each year of operational data improves the accuracy of their financial model, reduces the risk premium they must apply to innovative typologies, and strengthens their ability to communicate the case for patient capital to their own capital providers.



A.2 Architect's Design Strategy

Key question: How must the Architects design strategy evolve?

This chapter positions architects on how the design of residential typological supply must evolve to align with actual household demand while maintaining spatial quality. The central evolution required is a shift from executing predetermined investor briefs toward becoming informed spatial collaborators who can challenge and refine those briefs through Research by Design, in collaboration.

First, architects must recognise that household demand data is an essential input to the design process, not a constraint on creativity. The demand profile of the target market should inform the design brief, establishing the parameters within which the architect's full creative and technical capacity can be applied. Demand data defines the problem; the architect defines the solution.

Second, architects must develop sufficient financial literacy to engage credibly in investment-level discussions. This does not mean abandoning spatial expertise. It means building the capacity to articulate the financial consequences of spatial decisions in terms the Investor understands and values.

Third, architects must embrace Research by Design as a collaborative methodology. The architect's design proposals become tools for testing the Investor's financial assumptions. Through iterative refinement, both parties arrive at a typological solution that is simultaneously spatially adequate and financially feasible. The architect's spatial intelligence is not subordinated to financial logic; it is integrated with it, creating outcomes that neither profession could achieve alone.

The framework presented is generic and European in scope. Its application and testing in the specific context of Zurich is documented separately in the Appendix.

A.2.1 Context: Current Architect's Design Practice

This subchapter outlines the current position of architects operating within the residential investment market. It describes the aims, strategies, and constraints that define how residential typologies are currently designed, and identifies the key challenges that result from the existing structure of practice.

The Aim: Delivering What the Investor Commissions

The primary operational aim of the architect in a residential investment context is to design a project that meets the guidelines set by the investor: the required unit mix, unit sizes, quality standards, and cost envelope. In practice, the design brief is largely defined before the architect enters the process. The investor determines the parameters; the architect translates them into built form. The architect's success is measured, first and foremost, by whether the project is commissioned and built. Design quality and spatial innovation matter, but they are secondary to project delivery within the investor's financial and programmatic framework (Gorlin & Newhouse, 2024).

This creates a fundamental tension. The architect brings expertise in spatial configuration, user experience, and long-term liveability. But that expertise can only be deployed within the corridor defined by the investor's brief. When that brief reflects outdated typological assumptions, the architect is constrained to reproduce them, regardless of what the evidence about household demand might suggest.

Perspective and Strategy: Creativity Within Constraint

Architects approach residential design with a combination of creative ambition, technical expertise, and an awareness of social and ecological responsibility. Sustainable and innovative design is a genuine professional aspiration across the sector. At the same time, the competitive structure of the market means that architects must secure commissions in order to practise. This commercial reality shapes how creativity is directed.

Three strategic orientations characterise current practice.

First, architects pursue creative innovation: developing new approaches to spatial configuration, layout efficiency, and the quality of domestic life. This ambition is real, but it is regularly constrained by investor guidelines that treat unconventional typological proposals as financially unproven, and therefore as risk. The result is that creative proposals are frequently filtered out before they can be evaluated on their spatial or long-term financial merit.

Second, architects maintain a strong orientation toward sustainability and long-term social responsibility. They are acutely aware of the social and ecological consequences of their designs. However, because project specifications must adhere to investor guidelines, this awareness rarely translates into typological innovation unless the investor's brief explicitly supports it.

Third, and most consequentially, architects design for project success. They design what the investor is willing to pay for. This is not a failure of professional integrity; it is the structural logic of a market in which the investor holds decision-making authority and the architect depends on commission. The effect, however, is that architectural innovation is systematically constrained at the point where it would matter most: the definition of the typological brief (Jewell, 2024).

The Competitive Landscape: What Architects Are Fighting For

The residential investment market described in Chapter A.1 is not only a challenge for investors. It is a highly competitive operating environment for architects. In a market where investors commission residential projects on the basis of financial feasibility and risk management, architects compete for a limited number of mandates. That competition is structured around two primary axes: price and reputation.

The first and most common competitive lever is cost: Architects who can deliver a compliant design within a tighter fee envelope are structurally advantaged in a market where investor margins are under pressure. This cost-driven competition has a direct consequence for typological innovation: when the fee is compressed, the time available for research, iteration, and demand-side analysis is the first to be reduced. The result is a race toward the conventional, where standard typological assumptions are reproduced not because they are optimal, but because they are fast and familiar (Jewell, 2024).

The second competitive lever is reputation: Architects who have built a demonstrable track record of delivering projects that perform well, financially and spatially, carry a premium that transcends fee competition. An office with a proven history of typologically adequate, demand-aligned designs that have generated stable occupancy and strong tenant retention for investors is not competing on price alone. Their reputation functions as a financial argument: the track record of past projects is evidence that future projects will perform. In this sense, architectural reputation is not merely a matter of aesthetic recognition. It is a risk management signal for the investor (Gorlin & Newhouse, 2024).

This has a critical implication for how architects should position themselves within the residential investment market. The architect who can demonstrate, through past projects and structured evidence, that their design approach generates measurably better financial outcomes for the investor, lower vacancy, higher retention, and stronger demand alignment is the architect who escapes the fee-compression trap. Building that evidence base requires exactly the kind of financial literacy and demand-side awareness that this chapter argues must evolve. The competitive advantage of the future architect in the residential investment market is not a cheaper design. It is a better-evidenced design (Coulter, 2023; Conrads, 2022).

Key Current Challenges

The consequence of this structure is a set of compounding challenges that affect both the quality of the built environment and the efficiency of the housing market. Three challenges, each corresponding to one of the dimensions of current practice described above, define the problem that this chapter seeks to address.

First, the design aim is misaligned with the actual demand. When architects design to conventional investor guidelines that reflect outdated household assumptions, they contribute to a supply-demand mismatch that generates measurable social costs. The housing shortage across European urban contexts is not simply a shortage of units in absolute terms. It indicates a shortage of the right units: configurations that match the actual size, composition, and spatial priorities of the households that need housing (Teige, 2002; Gorlin & Newhouse, 2024). Households are forced to pay for space they do not need, or to compete for units that do not reflect their actual requirements. The spatial inefficiency of oversized units occupied by small households inflates per-capita housing costs and displaces multi-person households toward the periphery or into inadequate accommodation (Federal Statistical Office, 2025).

Second, creative and sustainable ambition is structurally suppressed. Architects who aspire to design typologically innovative and socially responsive housing are regularly prevented from doing so, not by a lack of skill or intent, but by the structure of the commission. The investor brief arrives with the typological assumptions already embedded. The architect's role is to execute, not to question. The result is that the sector's most creative capacity is deployed within a framework that systematically undervalues it, reproducing conventional typologies precisely when the market most urgently requires something different (Jewell, 2024).

Third, the competitive structure of the market rewards cost over quality. Architects who compete primarily on fee are structurally incentivised to reduce the time and depth of their design process. This eliminates the demand-side research, iterative testing, and financial analysis that would be required to produce genuinely adequate typologies. Architectural innovation is being constrained not only by financial parameters but also by the way investors specify quality and typology in their briefs. Architects who cannot demonstrate the financial impact of their design decisions cannot effectively challenge those briefs. The knowledge gap is not only a gap between professions; it is a gap that limits the architect's ability to advocate for the design quality and typological evolution that the market structurally requires (Coulter, 2023).

A.2.2 Theory: Spatial Adequacy

This subchapter establishes the theoretical foundation for the typological adequacy strategy. It introduces the principle of spatial adequacy as the primary design criterion for residential typologies, and positions it as a dual optimiser that simultaneously serves the interests of investors and society.

Origin: Teige's Existenzminimum

The theory of spatial adequacy originates in the European modernist housing discourse of the early twentieth century, emerging as a direct response to the acute urban housing crisis that followed the First World War. Rapid industrialisation, mass urbanisation, and a catastrophic shortage of affordable working-class housing created pressure across European cities for a fundamental rethinking of how dwellings should be designed. The prevailing approach, inherited from the bourgeois apartment tradition, produced units that were too large, too costly, and too spatially inefficient to address the needs of the urban working population. A new design logic was required: one that began from the actual spatial needs of the occupant rather than from inherited conventions of domestic arrangement.

It was within this context that Karel Teige, the Czech architectural theorist and critic, developed the concept of the existenzminimum, presented most fully at the 1929 CIAM congress in Frankfurt and elaborated in his foundational work *The Minimum Dwelling* (Teige, 2002). Teige's argument was not that housing should be reduced to the bare minimum of survival. It was that housing should be designed from the minimum upward: starting from the essential spatial needs of the occupant and building outward only to the extent that additional space generates genuine benefit. The existenzminimum defines the threshold below which spatial reduction compromises the fundamental requirements of domestic life, and above which additional space ceases to generate proportional benefit for the occupant.

The use case of this theory, then and now, is the resolution of a supply-demand mismatch. In the 1920s, the mismatch was between the spatial conventions of bourgeois housing and the actual needs of the urban working class. In the contemporary European context, the mismatch is between the spatial conventions of family-oriented residential supply and the actual needs of a population increasingly composed of single- and two-person households. The structural logic is the same: supply is calibrated to an assumption about who lives in cities that no longer reflects who actually does. Teige's theory provides the analytical framework for diagnosing that mismatch and the design principles for resolving it (Teige, 2002; Gorlin & Newhouse, 2024).

Applied to the current European housing context, this principle reframes the design challenge. The question is not how large a unit should be in absolute terms, but how large it needs to be to serve the actual spatial requirements of the specific household type it is designed for. Right-sizing is not minimalism; it is precision. A unit designed for a single-person household that eliminates redundant circulation, oversized storage, and underused secondary rooms, while preserving the spatial quality of the living, working, and sleeping functions that the occupant actually uses, is not a compromised unit. It is an adequate one (Teige, 2002).

Essential Quality versus Spatial Excess: The Distinction

A central distinction within spatial adequacy theory is between space that serves and space that is served. Space that serves is space that directly supports the daily activities, routines, and needs of the occupant: the kitchen where meals are prepared, the workspace where professional life is conducted, the sleeping area that defines the most private threshold of domestic life, the bathroom, and the entrance zone that mediates between the private interior and the shared building. These are the spaces that the occupant actively inhabits, that define the quality of their daily experience, and that justify the rent they pay.

Space that is served is space that exists to support other space: corridors that connect rooms the occupant rarely uses, additional area added to a living room or bedroom beyond what the occupant's actual routine requires, storage areas that accumulate objects rather than supporting active life, and secondary rooms that remain unoccupied for the majority of the day. This is not to say that space to be served is inherently wasteful. Used consciously and purposefully, it can add genuine quality: a generous entrance hall that creates a sense of arrival, a study alcove that enables focused work, a loggia that extends the living space into the exterior. The critical point is that such space must be chosen deliberately, calibrated to the actual patterns of use of the target household, and justified by the quality it generates. It should not simply be assumed that more space means more quality (Teige, 2002). This assumption, that additional space automatically adds value, is one of the most consequential and least examined conventions in residential design. In reality, space that is added beyond the threshold of adequacy for a specific household type does not improve the quality of domestic life proportionally. It inflates the construction cost of the unit, increases the per-square-metre rent, and reduces affordability, without generating a corresponding improvement in the occupant's daily experience. For a single-person household, a third bedroom is not a luxury; it is an overhead. For a couple without children, a formal dining room separated from the kitchen is not a spatial asset; it is a cost centre. The spatial excess is real, the financial consequence is real, and the occupant pays for both (Federal Statistical Office, 2025; Gorlin & Newhouse, 2024).

This is precisely where the architect's role becomes decisive. There is no universal threshold between space that serves and space that is served, because that threshold is defined by the specific household type, their daily routines, their spatial priorities, and their willingness to pay for particular qualities. A young professional working from home has a fundamentally different adequacy profile than a retired couple or a family with children. The architect's task is not to apply a generic size reduction across all unit types. It is to understand the specific demand profile of the target segment and to design with the precision and creative intelligence required to deliver the maximum spatial quality within the minimum necessary footprint for that segment. In conventional residential typologies, a significant proportion of the total floor area is space that is served rather than space that serves. Spatial adequacy theory proposes that design should maximise the proportion of space that serves, eliminating spatial excess while preserving and enhancing the quality of the essential functions that define domestic life for the target household (Teige, 2002; Conrads, 2022).

Spatial Adequacy as a Dual Optimiser

Spatial adequacy operates simultaneously as a financial and social optimiser. This dual function is not coincidental; it is structural. The same design logic that reduces spatial inefficiency for the occupant also reduces vacancy risk for the investor. The same precision that aligns supply with actual demand also reduces the displacement pressure that generates social cost. Understanding spatial adequacy as a dual optimiser is essential for positioning it as a framework that serves both the architect's professional objectives and the investor's financial ones, rather than as a social ambition that trades off against financial performance.

For the investor, a typologically adequate unit reduces vacancy risk by aligning supply precisely with the demand profile of the target market. A unit designed for a single-person household that reflects the actual spatial priorities of that household, rather than reproducing a scaled-down version of a family unit, is more likely to attract and retain the right tenant, generate stable rental income, and avoid the extended vacancy periods that result from typological mismatch. Vacancy is the primary operational risk for a residential investor. Every period of vacancy represents not only lost rental income but also the cost of re-letting: marketing, tenant screening, potential refurbishment, and the administrative overhead of transition. A typologically adequate unit, one that genuinely reflects the needs of the segment it targets, is structurally less likely to generate vacancy, because the occupant it attracts is the occupant for whom the unit was designed (Walker, 2019; Conrads, 2022).

Beyond vacancy reduction, spatial adequacy supports rental premium stability. A unit that delivers genuine spatial quality within a right-sized footprint is not competing with oversized units on the basis of square metres alone. It is competing based on the quality of the space it provides per square metre. This repositions the unit in the market: rather than being assessed as a smaller and therefore cheaper alternative, it is assessed as a more efficient and therefore more precisely valuable option for the target segment. Over a long holding period, this translates into more stable rents, lower tenant turnover, and a more defensible asset value, precisely the outcomes that patient capital strategies require (Frazzini, 2018; Walker, 2019).

For society, spatial adequacy reduces the displacement costs generated by supply-demand mismatch. When smaller households can access units that are appropriately sized and priced for their needs, the pressure on larger units is reduced. Multi-person households are less likely to be displaced toward the periphery or into accommodation that does not meet their requirements. The social cost of spatial inefficiency, inflated per-capita costs, displacement pressure, and reduced affordability is a direct consequence of typological mismatch. Spatial adequacy addresses that mismatch at its source: the design of the unit itself. In doing so, it generates social value that, over time and through the mechanism of patient capital stewardship, translates into measurable monetary value through improved occupancy stability and community reputation (Teige, 2002; Federal Statistical Office, 2025).

Adequacy as a Design Brief Requirement, Not a Post-Design Assessment

A critical implication of spatial adequacy theory for practice is that adequacy must be established as a design brief requirement before the design process begins, not as a post-design evaluation criterion. This distinction matters more than it might initially appear. In current practice, the investor defines the brief in terms of unit count, total floor area, and cost targets. The architect then designs within those parameters. Spatial quality and typological fit are assessed retrospectively, if at all, and rarely influence the fundamental configuration of the unit. The brief is treated as a fixed input; adequacy, if it is considered, is a variable output. This sequencing is precisely backwards.

When adequacy is assessed after the design is complete, it can only function as a critique, not as a driver. The fundamental decisions about unit size, room configuration, and spatial hierarchy have already been made. Adjustments at this stage are marginal: a slightly smaller corridor, a slightly more efficient kitchen layout, a minor reduction in storage. These are refinements within a framework that was never calibrated to actual demand in the first place. The result is a unit that is marginally more efficient than it might have been, but still fundamentally misaligned with the household it is meant to serve.

Spatial adequacy theory requires a different sequencing. The demand profile of the target household must be established first through structured demand-side analysis. The brief must then be defined in terms of the spatial functions that are essential for that household type, the acceptable size ranges for each function, and the quality thresholds below which the unit ceases to be adequate. Only within those parameters should the design process begin. When the brief is built from the demand profile upward, the architect's creative capacity is directed from the outset toward the right problem: how to deliver the maximum spatial quality for the target household within the minimum necessary footprint, rather than how to fit a generic unit into a cost envelope (Gorlin & Newhouse, 2024).

This resequencing has practical consequences for how the investment process must be structured. It requires that demand-side analysis precede the design brief, which means it must precede the architect's commission. It requires that the investor and architect engage earlier, so that the demand profile can inform the brief before the brief constrains the design. And it requires that both parties understand what adequacy means for the specific target segment, so that the brief can be defined with the precision that spatial adequacy demands. Adequacy is a precondition of the brief, not an outcome of the design. Chapter A.3 addresses how the Architect-Investor collaboration must be structured to make this sequencing possible.

A.2.3 What Must Evolve

The following identifies the specific dimensions of current architectural practice that must evolve in order to enable the development of typologically adequate, demand-aligned residential assets. The evolution required is not primarily about design technique. It is about perspective, knowledge, and the position from which the architect engages with the investment process.

From Brief-Follower to Informed Challenger

Key element: Shift from designing within investor guidelines without question, to understanding the financial impact of design decisions well enough to challenge those guidelines when they constrain typological adequacy.

The most significant shift required in architectural practice is not in the act of design itself, but in the position from which the architect enters the investment process. Currently, architects largely accept the investor's brief as given. The unit mix, size targets, and quality specifications are defined by the investor before the architect is engaged. The architect's role is to translate those parameters into built form, not to question whether the parameters themselves are correct.

This must change. Architects possess spatial intelligence that investors do not have. They understand how space functions, how layout affects the quality of daily life, and how typological configuration influences the attractiveness and liveability of a unit over time. But that intelligence can only influence the investment outcome if the architect can connect it to the investor's decision-making logic. That requires understanding the financial impact of design decisions: what specific spatial qualities generate in terms of tenant retention, willingness to pay, and vacancy stability, and what the cost of typological mismatch is in terms of long-term asset performance (Frazzini, 2018; Walker, 2019).

An architect who can demonstrate that a specific layout configuration reduces vacancy risk, or that a particular spatial quality commands a measurable rental premium, is in a fundamentally different position than one who can only argue from aesthetic or social grounds. The shift required is from creative service provider to informed spatial and financial collaborator: an architect who designs with the same depth of spatial expertise as before, but who can now argue the financial consequences of that expertise in terms the investor understands and values (Jewell, 2024; Coulter, 2023).

Knowledge and Design Strategy: Closing the Gap Through Demand-Led Design

Key element: Architects must develop a working understanding of the financial impact of their design decisions, and shift from designing to generic investor guidelines toward designing for specific, identified household demand segments to co-create.

The most consequential evolution required in architectural practice is a knowledge shift. Architects are trained to design with spatial precision and creative depth. They are not trained to understand the financial consequences of those decisions. This is not a criticism; it is a structural feature of architectural education and practice. But it is a structural feature that has significant consequences in a market where the investor holds decision-making authority and makes that authority felt through the design brief (Jewell, 2024).

An architect who does not understand how their design decisions affect the financial performance of an asset cannot effectively challenge a brief that constrains typological adequacy. They cannot argue that a specific layout configuration will reduce vacancy risk, or that a particular spatial quality will support a rental premium, because they do not have the analytical framework to make that argument credibly. The investor's assumptions go unchallenged not because the architect disagrees, but because the architect lacks the language to disagree in terms the investor will engage with (Coulter, 2023; Conrads, 2022).

Closing this knowledge gap does not require architects to become financial analysts. It requires them to develop a working understanding of the key financial metrics that drive investor decisions: how vacancy rates affect NOI, how tenant retention influences long-term asset stability, how typological adequacy reduces the risk of obsolescence, and how spatial quality can be positioned as a risk management instrument rather than a cost. With that understanding, the architect becomes a genuine partner in the investment process, capable of defending their designs not only on spatial grounds but on financial ones (Frazzini, 2018).

This knowledge shift enables a corresponding shift in design strategy. Currently, the input that initiates the design process is the investor's brief, which reflects conventional typological assumptions rather than the actual demand profile of the target market. The design process begins from the wrong starting point. The required shift is toward a design process that begins with a structured understanding of who will live in the building and what they actually need from their home. This means identifying the target household segment, understanding their spatial priorities, establishing the size ranges they consider acceptable for each domestic function, and determining what they are willing to pay for spatial quality versus what they consider redundant. That understanding then becomes the foundation of the design brief (Teige, 2002; Gorlin & Newhouse, 2024).

Critically, household demand data is an input to the design process, not a design solution in itself. The architect does not simply translate demand data into floor plans. The architect uses demand data to understand the spatial needs and priorities of the target segment, and then applies their full creative and technical capacity to design a unit that meets those needs with excellence. The demand profile defines the parameters; the architect defines the solution. This distinction matters: demand-led design is not the elimination of architectural judgment. It is the precondition for making that judgment relevant. The architect and investor need to become sparring partners: a relationship in which each party understands enough of the other's domain to engage critically, challenge assumptions, and arrive at decisions that are better than either party would reach alone. Chapter A.3 addresses how that collaboration can be structured.

Research by Design: Testing Spatial Assumptions Through Iterative Collaboration

Key element: Use the iterative Research by Design process to test design proposals against financial feasibility, refining both the design and the investment assumptions until alignment is achieved.

For architects, Research by Design means treating design proposals not as final solutions but as hypotheses to be tested. The architect develops a spatial proposal based on their understanding of the demand profile and their expertise in spatial configuration. That proposal is then subjected to financial analysis: Can this design be built within the cost envelope? Will the target tenant segment pay the rent required to make this design financially viable? Does the spatial quality justify the construction cost?

This testing process is collaborative. The Investor provides financial analysis; the Architect provides spatial intelligence. Where the financial analysis reveals that the design is not viable, the Architect refines the proposal. Where the design reveals that the Investor's assumptions are unrealistic, the Investor adjusts the financial model. Through this iterative process, both parties arrive at a solution that is simultaneously spatially adequate and financially feasible.

For the Architect, this requires a willingness to treat design as a research instrument rather than a final product. The preliminary designs developed during the Research by Design process are not wasted effort if they are revised or rejected. They are the mechanism through which assumptions are tested and alignment is achieved. The value lies in the process, not in the preservation of any particular design iteration (Cross, 2006; Lawson, 2006).

A.2.4 How It Must Evolve

The following defines the specific mechanisms through which the required evolution in architectural practice can be operationalised. It translates the perspective and knowledge shifts identified in A.2.3 into concrete strategies and tools that architects can adopt within existing market structures. The specific application of these strategies will vary by location and market context across Europe. Their application in the context of Zurich is documented in the Appendix.

Operationalising Research by Design for Architects

The practical implementation of Research by Design requires architects to restructure how they engage with investment projects. The evolved position of the architect is that of a specialist in both spatial quality and its financial implications. This does not mean the architect replaces the investor's financial analyst. It means the architect can articulate the financial consequences of their spatial decisions with sufficient precision to participate meaningfully in investment-level discussions. The architect who can do this is not constrained to follow the investor's brief. They are positioned to shape it (Gorlin & Newhouse, 2024; Walker, 2019).

The sequence is as follows:

- 1. Demand Intelligence Gathering:** Before beginning design, obtain structured data about the target market's demand profile. This includes household composition, spatial priorities, size preferences, and willingness to pay. Treat this data as the foundation of the design brief, not a supplement to conventional assumptions.
- 2. Preliminary Design as Hypothesis:** Develop preliminary design proposals that respond to the demand profile while applying full spatial expertise. Treat these proposals as hypotheses to be tested, not final solutions. The preliminary designs are the mechanism through which assumptions are tested and alignment is achieved.
- 3. Financial Testing:** Work with the Investor to subject preliminary designs to financial analysis. Understand the cost implications of spatial decisions and the revenue implications of design quality. Where the financial analysis reveals that the design is not viable, refine the proposal. Where the design reveals that the Investor's assumptions are unrealistic, challenge the financial model.

4. Iterative Refinement: Continue iterating until both parties are confident in alignment. The value lies in the process, not in the preservation of any particular design iteration. Each cycle of refinement brings the design and the financial model closer to mutual feasibility.

5. Design Justification in Financial Terms: Develop the capacity to articulate design decisions in financial language. Explain how specific spatial qualities reduce vacancy risk, support rental premiums, or improve tenant retention. An architect who can present design proposals in terms of their projected impact on vacancy risk, tenant retention, and long-term rental performance is positioned to shape the investment case, not merely respond to it (Lawson, 2006).

Spatial Adequacy Applied to Demand-Specific Typologies

The operational design strategy combines the household demand profile with the principles of spatial adequacy to generate typologies that are precisely calibrated to the actual needs of the target segment. The process has three steps.

First, the demand profile is established through structured data collection, identifying the household type, their spatial priorities, their acceptable size ranges for each domestic function, and their willingness to pay for specific spatial qualities. This is the foundation of the brief.

Second, the spatial adequacy framework is applied to that demand profile. The distinction between space that serves and space that is served is used to identify which functions are essential for the target household and which represent spatial excess. The unit configuration is then designed to maximise the quality of the essential functions while eliminating the redundant ones. This is not a process of reduction; it is a process of precision (Teige, 2002).

Third, the architect applies their full creative and technical capacity to the design of the unit within those parameters. The demand profile and adequacy framework define the boundaries; the architect defines the solution. The result is a typology that is simultaneously adequate for the occupant, financially viable for the investor, and spatially innovative in its response to actual need rather than conventional assumption. This supply-demand aligned strategy generates units that are more likely to attract and retain the right tenant, more likely to command a sustainable rental level, and more likely to avoid the vacancy and obsolescence risks associated with typological mismatch ((Conrads, 2022; Walker, 2019; Coulter, 2023).

The Household Demand Questionnaire as the Primary Demand-Side Input Tool

The Household Demand Questionnaire is a structured data collection instrument designed to generate the location-specific demand profile that forms the foundation of the typological brief. It translates the abstract principle of demand-led design into a practical, repeatable process that can be applied across different European urban contexts. The questionnaire is structured across five modules, each addressing a distinct dimension of household demand:

Module 1 - Household Profile: Establishes the size, composition, and lifecycle stage of the target household. This module identifies who the unit is being designed for and what stage of life they are in. This information defines the starting point for all subsequent modules.

Module 2 - Spatial Priority Ranking: Asks respondents to rank the domestic functions that are most essential to their daily life. This module distinguishes between the space that serves and the space that is served for the specific target segment, generating an evidence-based hierarchy of spatial priorities that informs the design brief.

Module 3 - Size Tolerance Ranges: Establishes the acceptable minimum and maximum square metres for each domestic function identified in Module 2. This module translates qualitative spatial priorities into quantitative design parameters, defining the size envelope within which the architect must work.

Module 4 - Rent-Quality Trade-off: Assesses the target segment's willingness to pay for specific spatial qualities. This module identifies which spatial investments generate measurable willingness to pay and which do not, allowing the architect to prioritise quality investments that are financially supported by the target market.

Module 5 - Flexibility Demand: Establishes the degree to which the target household requires the unit to adapt over time. This module informs decisions about spatial flexibility, convertibility, and the long-term adaptability of the unit to changing household needs.

Together, the five modules generate a demand profile that is specific to the target market, location, and household segment. That profile is then used to define the typological brief, ensuring that the design process begins from an evidence base rather than from conventional assumption. The questionnaire has been developed and tested in the context of Zurich. The full instrument, methodology, and results of that application are documented in the Appendix. Looking ahead, the data collection process underlying the questionnaire could be significantly enhanced through purpose-built digital tools: software platforms that aggregate household demand data across multiple locations and over time, generating comparative datasets that allow architects and investors to track demand shifts and calibrate typological supply accordingly. This remains a direction for further development beyond the scope of this Handbook.

Closing the Gap Through Practice and Education

The knowledge shift required in architectural practice begins with awareness: architects must recognise that their design decisions have financial consequences that they currently cannot fully articulate. That recognition is the precondition for change. The mechanisms through which the change can occur operate at two levels.

At the level of individual practice, architects can develop financial literacy through targeted professional development. This does not require a formal qualification in real estate finance. It requires a working understanding of the key metrics that drive investor decisions, how those metrics are calculated, and how specific design decisions influence them. External workshops, cross-disciplinary training programmes, and structured engagement with the financial teams of investor clients are all viable pathways. For architecture offices that also operate as developers, integrating the financial and design teams more closely, so that design decisions are evaluated against financial performance in real time, is a particularly effective mechanism for closing the knowledge gap from within (Jewell, 2024).

At the level of the profession more broadly, the knowledge gap has its roots in architectural education, which has historically maintained a clear separation between spatial and financial expertise. Addressing that separation at the educational level is beyond the scope of this Handbook. What is within scope is the recognition that the gap exists, that it is consequential, and that closing it at the level of individual practice is both achievable and necessary. The architect who understands the financial impact of their design decisions is not a less creative architect. They are a more effective one (Coulter, 2023; Gorlin & Newhouse, 2024).

The practical implication is that the investor must begin building the track record from day one. This means tracking tenant satisfaction, monitoring vacancy rates at the unit level, recording willingness-to-pay data, and documenting the operational performance of specific spatial configurations. Over time, this data becomes the evidence base for improved financial assumptions, assumptions that reflect the actual performance of spatially adequate, demand-aligned assets rather than the average performance of a heterogeneous market. The investor who builds this evidence base gains a compounding advantage: each year of operational data improves the accuracy of their financial model, reduces the risk premium they must apply to innovative typologies, and strengthens their ability to communicate the case for patient capital to their own capital providers.



A.3 Integrated Architect-Investor Collaboration

Key question: How must collaboration evolve to co-create value?

This chapter addresses the structural relationship between Architects and Real Estate Investors: what the current context is, where it needs to evolve, and how it can be improved. The central proposition is that Research by Design must become the operational core of Architect-Investor collaboration, transforming a sequential, handoff-based process into an iterative, co-creative one.

The core evolution required is Research by Design as collaborative practice. This means establishing a continuous loop in which the Investor's financial assumptions are tested through the Architect's design proposals, and the Architect's spatial solutions are validated through the Investor's financial analysis. This back-and-forth process, conducted openly and iteratively, is one mechanism through which both professions co-create value that neither could achieve alone.

The first project conducted using this approach will be more demanding. Both parties must invest more time in early-stage collaboration, develop new communication practices, and accept that initial designs are hypotheses to be tested rather than solutions to be defended. But subsequent projects tend to benefit from accumulated learning, refined assumptions, and a demonstrated track record of demand-aligned, financially feasible development. The value of Research by Design compounds over time, as both parties develop deeper understanding of each other's practice and more precise tools for testing assumptions.

Both professions must adapt. Investors must engage Architects earlier, treat design as a research instrument, and be willing to revise financial assumptions based on spatial insights. Architects must develop financial literacy, treat preliminary designs as testable hypotheses, and articulate spatial decisions in financial terms. Neither profession abandons its core expertise. Both expand their capacity to engage with the other's domain, creating a collaboration that is genuinely integrated rather than merely sequential.

A.3.1 Context: Current Practice Collaboration

This subchapter outlines the current collaboration model between Architects and Investors, the structural limitations of that model, and the consequences for typological outcomes.

General Collaboration Structure:

The conventional collaboration model between Architects and Investors is typically sequential, not integrated. Architects are typically commissioned after the investment case has been closed, meaning that the fundamental typological decisions, unit mix, size ranges, spatial configuration assumptions, have already been made on financial grounds alone. The Investor is the owner of the project with the decision-making authority. Spatial decisions are often made based on financial cost and revenue profiles, which cannot be challenged by the Architect due to a lack of financial awareness and argumentation (Gorlin & Newhouse, 2024).

The current investment process follows a linear sequence. The Investor defines the business case, conducts financial feasibility analysis, selects the site, and determines the typology mix before the Architect is engaged. By the time the Architect enters, the spatial parameters are largely fixed. The Architect's role is to deliver a design within those constraints, not to question whether the constraints themselves reflect actual household demand or spatial adequacy (RIBA, 2025).

This structural delay can have consequences. The moment at which the Architect could contribute most value, when the typological brief is being defined, is precisely the moment at which they are absent. The Investor applies generalised assumptions about unit sizes, room counts, and household types, assumptions that are often derived from past projects or market conventions rather than from location-specific demand intelligence. The Architect, who possesses the spatial literacy to challenge those assumptions, is not yet in the room (Jewell, 2024).

Collaboration Timeline:

Currently, Investors do engage Architects to conduct feasibility studies during the Due Diligence phase, typically at exclusivity, before the purchase of a project. However, this feasibility is usually already constrained by guidelines defined by the Investor, regarding occupation patterns, typology type, and way of living. The Architect is asked to validate a pre-determined approach rather than to co-develop it. This is not collaboration in the sense that this Handbook proposes. It is service delivery within a predetermined framework (Walker, 2019).

Language Divergence:

Both practices operate within their own professional languages, making it difficult for each to understand the other. Architects discuss spatial quality, circulation efficiency, flexibility, and typological adequacy. Investors discuss yield, IRR, vacancy risk, and capital value. These vocabularies describe the same asset from different angles, but without shared terminology, neither perspective is legible to the other. The consequence is that discussions between the architect and the investor often fail to generate genuine mutual understanding. Each party hears the other, but neither can fully translate what is being said into their own decision-making framework (Gorlin & Newhouse, 2024; Jewell, 2024).

Key Current Challenges:

The Investor narrows down the investment strategy with rough cost and revenue assumptions before going into exclusivity or due diligence and closer contact with the Architect. Often, guidelines are already provided to the Architect, constraining the design process before it begins. Separate languages and asymmetric knowledge of each practice widen the gap. The result is a collaboration model that often struggles to produce the typological innovation that the current housing market requires. Both professions deliver competent work within their respective domains, and the outcome is still a typological mismatch (Conrads, 2022).

A.3.2 Theory: Collaboration as Value Creation

The theoretical foundation for evolved collaboration is grounded in the recognition that Architects and Investors are not adversaries with conflicting objectives. They are interdependent actors whose success depends on the quality of the asset they co-create.

The theoretical foundation for evolved collaboration is grounded in the recognition that Architects and Investors are not adversaries with conflicting objectives. They are interdependent actors whose success depends on the quality of the asset they co-create. The tension between architectural ambition and investment logic, as Gorlin and Newhouse (2024) demonstrate, has historically constrained housing innovation. But that tension is not inevitable. It is the product of structural separation, divergent professional training, misaligned timelines, and a mutual knowledge gap that prevents each party from understanding the value the other creates.

Patient Capital as the Financial Condition:

Patient capital, as defined in Chapter A.1, is the financial condition that enables genuine collaboration. A fund structure with a five-to-seven-year exit horizon is unlikely to support the typological experimentation and demand-led design that this Handbook proposes, because the benefits of those strategies, tenant retention, vacancy stability, and rental premiums for spatial quality, materialise over longer holding periods. An Investor operating on patient capital logic, with a 10-to-20-year horizon and active stewardship commitment, has the structural capacity to engage with the Architect earlier, to invest in demand-side research, and to allow non-monetary values to mature into monetary ones over time (Frazzini, 2018; Walker, 2019).

Spatial Adequacy as the Spatial Condition:

Spatial adequacy, as defined in Chapter A.2, is the spatial condition that aligns the interests of both professions. It is a shared optimisation target: for the Architect, it is the design principle that ensures the unit serves the actual needs of the occupant; for the Investor, it is the risk management instrument that reduces vacancy and aligns supply with demand. When both parties understand spatial adequacy as a dual optimiser, generating both spatial quality and financial stability, it becomes the common ground on which collaboration can be built (Teige, 2002; Gorlin & Newhouse, 2024).

Non-Monetary Value as the Bridge:

Non-monetary value is what Architects create that Investors have not yet learned to price. Spatial quality, layout efficiency, typological precision, tenant satisfaction, these are real, they are consequential, and they are measurable through operational performance over time. But because they are not yet priced at the point of transaction, they are systematically underweighted in investment decisions. The evolved collaboration model proposed in this Handbook is built on the recognition that non-monetary values can be translated into monetary ones, provided the investment horizon is long enough and the collaboration is structured to track and validate that translation.

Theoretical Case: Earlier Collaboration Generates Compounding Value:

The theoretical case for earlier collaboration is straightforward. Design decisions made at the earliest stage of the investment process, when the typological brief is being defined, carry disproportionate influence over both construction cost and long-term asset performance. RIBA (2050) identifies early-stage design input as the highest-leverage point for value creation in residential development. Yet conventional investment processes consistently exclude Architect involvement at precisely this stage. The result is that the most consequential decisions are made without the spatial intelligence required to make them well. Earlier collaboration does not add cost; it reallocates the point at which design intelligence is applied, from the late-stage refinement of a predetermined brief to the early-stage co-creation of that brief itself. The value generated by that reallocation compounds over the life of the asset (Jewell, 2024).

A.3.3 What Must Evolve

The following identifies the specific dimensions of current collaboration practice that must evolve in order to enable the development of typologically adequate, long-term stable residential assets. These are not aspirational shifts; they are operationally achievable changes in how and when both professions engage.

Research by Design as the Core of Collaboration: Repositioning the Architect

Key element: Establish Research by Design as the central methodology for Architect-Investor collaboration, creating an iterative loop in which financial assumptions are tested through design and design proposals are validated through financial analysis.

Research by Design is not simply a tool that one profession uses and the other observes. It is a collaborative methodology that requires both parties to engage actively and iteratively. The Investor brings financial assumptions: cost estimates, revenue projections, target returns, risk thresholds. The Architect brings spatial intelligence: understanding of how space functions, what configurations are achievable on a given site, and what qualities drive tenant satisfaction and willingness to pay.

The Research by Design process works as follows: The Investor presents initial financial assumptions. The Architect develops preliminary design proposals that test those assumptions. The design reveals whether the assumptions are achievable: Can the assumed unit mix fit on the site? Does the assumed quality level align with the cost envelope? Will the spatial configuration appeal to the target demand segment? Where misalignments are identified, both parties iterate. The Investor adjusts assumptions; the Architect refines designs. The cycle continues until alignment is achieved.

This is fundamentally different from conventional practice. In conventional practice, the Investor finalises assumptions before engaging the Architect, and the Architect executes within those assumptions. Misalignments are discovered late, when they are costly to correct. In Research by Design, misalignments are discovered early, when they can be corrected through iteration rather than budget overruns or compromised quality. Both professions must adapt to make Research by Design work. For Investors, this means engaging Architects earlier, before the investment case is finalised. It means treating preliminary design work as a component of due diligence, not as a downstream execution task. It means being willing to revise financial assumptions based on spatial insights, rather than treating those assumptions as fixed constraints.

For Architects, this means developing the financial literacy required to understand and engage with investment-level discussions. It means treating preliminary designs as hypotheses to be tested, not solutions to be defended. It means articulating spatial decisions in financial terms, demonstrating how specific design qualities affect vacancy risk, tenant retention, and rental premiums.

The first project will be harder. Both parties are learning a new way of working together. Communication practices must be developed. Trust must be built. The iterative process takes time that conventional sequential processes do not require upfront. But the investment in early-stage collaboration pays dividends. Misalignments are caught before they become costly. The final product is better aligned with both financial feasibility and spatial adequacy. And both parties accumulate learning that makes subsequent projects more efficient.

The value of Research by Design compounds over time. As Investor and Architect work together on multiple projects, they develop shared vocabulary, refined assumptions, and a deeper understanding of each other's constraints and capabilities. The iterative process becomes faster and more precise. The track record of successful, demand-aligned development builds credibility and attracts further opportunity. Research by Design is not just a methodology for individual projects; it is a practice that improves with repetition (Cross, 2006).

Timing: Shifting to Early-Stage Integration

Key element: Engage the Architect during the pre-acquisition phase, when the investment case is still being formed, not after it has been finalised.

The timing of collaboration must shift to enable earlier engagement. The collaboration now takes place after the rough investment strategy and asset composition are defined, already providing guidelines for the Architect's design. This needs to be shifted earlier. The Architect's knowledge should be utilised to brainstorm suitable designs as investment cases, unlocking value before capital is committed. Early-stage integration does not mean the Investor delegates decision-making authority to the Architect. It means the Investor incorporates spatial intelligence into the formation of the investment case, so that the typological assumptions embedded in that case reflect both financial feasibility and spatial adequacy. This is a shift in sequence, not in authority. The Investor retains control of the investment decision, but makes that decision with better information (RIBA, 2025).

Knowledge: Mutual Understanding as the Foundation

Key element: Both professions must develop a working understanding of each other's domain, sufficient to engage as informed partners rather than isolated specialists.

The understanding of each other's practice needs to improve to be able to see each other's practice value. Each practice needs to develop an understanding, to really see value and collaborate more closely, co-creating value for their own practice and society. This is not a call for generalists who can do both jobs. Specialisation has clear value. The argument is simpler: when Architects understand what Investors are trying to protect, and when Investors understand what spatial quality actually generates, the typological decisions that result are better, in monetary and non-monetary terms.

For the Investor, this means developing a working understanding of spatial adequacy, layout efficiency, and typological precision, sufficient to recognise when those qualities are present and to value them in the investment decision. For the Architect, it means developing a working understanding of financial feasibility, vacancy risk, and long-term asset stability, sufficient to engage credibly in investment-level discussions and to defend design decisions in financial terms (Jewell, 2024; Conrads, 2022).

A.3.4 How It Must Evolve

The following defines the specific mechanisms through which the required evolution in collaboration practice can be operationalised.

The Research by Design Process: A Structured Collaboration

The operationalised Research by Design collaboration process follows a clear sequence that repositions the moment of Architect engagement and establishes iterative alignment as the foundation of the investment case:

1. Pre-Acquisition Engagement: The Investor commissions a preliminary spatial feasibility study from the Architect during the due diligence phase, before the investment case is finalised. The Architect analyses the site, evaluates local household demand, proposes typological configurations, and estimates cost and revenue implications. This study informs the investment decision, ensuring the typological brief is grounded in spatial adequacy and demand alignment from the outset. The cost of this early engagement is marginal relative to the total project cost, but the value it generates is significant (RIBA, 2025; Gorlin & Newhouse, 2024).

2. Assumption Testing Loop: The Architect develops preliminary designs that test the Investor's financial assumptions. Both parties review the results together. Where misalignments are identified, assumptions are revised, and designs are refined. This loop continues until both parties are confident in alignment. Misalignments are discovered early, when they can be corrected through iteration rather than budget overruns or compromised quality.

3. Co-Developed Typological Brief: The Investor and Architect jointly define the typological brief, using demand data and the spatial adequacy framework to establish unit mix, size ranges, and spatial quality targets. The brief reflects both financial feasibility and spatial adequacy, ensuring that neither dimension is subordinated to the other.

4. Design Development: The Architect designs within the co-developed brief, applying full creative and technical capacity to deliver units that meet the established adequacy and demand criteria. The Investor reviews design proposals not only on cost grounds but on their alignment with the agreed demand profile and adequacy framework.

5. Validation and Iteration: Both parties validate the design against the integrated evaluation framework, assessing monetary performance, spatial adequacy, and demand alignment. Where misalignments are identified, the design is iterated collaboratively until all three dimensions are satisfied.

6. Post-Completion Learning Loop: After the asset is operational, both parties track tenant retention, vacancy rates, and rental performance against the projections established in the investment case. This operational data validates the assumptions embedded in the collaboration process and informs future projects, creating a continuous learning loop that improves accuracy over time (RIBA, 2025; Jewell, 2024).

Co-Creation Tools: Shared Frameworks for Mutual Understanding

Effective collaboration requires structured tools that make each profession's contribution legible to the other. The most immediate barrier to collaboration is linguistic: without shared terminology, neither perspective is accessible to the other. The following tools establish a common ground at the intersection of both domains, grounded in empirical evidence from the market itself.

The Household Demand Questionnaire: This tool generates location-specific demand data that maps onto both the Architect's spatial design process and the Investor's financial assumptions. It identifies the household types present in the target market, their spatial priorities, their acceptable size ranges for each domestic function, and their willingness to pay for specific spatial qualities. This data is legible to both professions without translation: the Architect uses it to define the design brief; the Investor uses it to refine the vacancy and rental assumptions in the financial model. The questionnaire has been developed and tested in the context of Zurich; the full instrument, methodology, and results are documented in the Appendix (Teige, 2002; Federal Statistical Office, 2025).

The Integrated Evaluation Framework: This framework assesses assets across three dimensions simultaneously: monetary performance (yield, IRR, vacancy rate), spatial adequacy (layout efficiency, typological fit, essential versus redundant space), and demand alignment (household composition match, willingness-to-pay validation). The Investor who evaluates an asset only on financial metrics is missing the spatial and demand signals that will determine whether those financial projections hold over time. The Architect who evaluates an asset only on spatial quality is missing the financial constraints that determine whether the design is viable. The integrated framework makes both perspectives visible and actionable, enabling both professions to assess the same asset using criteria that reflect their respective expertise while recognising that all three dimensions contribute to long-term asset stability (Walker, 2019; Conrads, 2022).

The Role of the Resident: Central to both tools is a third voice that conventional practice almost entirely excludes: the resident. The supply-demand mismatch defining the housing market is not an abstract statistical phenomenon; it is the lived experience of households occupying units that do not correspond to their actual spatial needs.

Integrating the resident perspective into the investment process is not a sociological ambition; it is a precision instrument for reducing typological risk and improving the quality of decisions that both professions make before capital is committed. The Household Demand Questionnaire functions as the mechanism through which resident intelligence is captured, structured, and made actionable for both Investor and Architect (Federal Statistical Office, 2025; Gorlin & Newhouse, 2024).

Financial Model Effect (DCF – Discounted Cash Flow):

The financial model is impacted as directly as the design through the integrated framework of the Handbook, crucially through the iterative process of Research by Design. Many elements of the financial model, including debt structure, exit assumptions, and revenue and cost projections, are influenced by the Handbook-defined approach.

The following outlines the key elements of the financial model that should be challenged and reiterated once the architect has developed an innovative typology. These are not exhaustive but represent the elements most affected by the integrated approach.

Cost Side

Building Cost: A detailed building cost offer is typically provided by the architect or contractor. Building Cost should not be viewed as something to optimise at first glance, but as directly related to the revenue side and the quality provided. The detailed offer must be reiterated against the current design to exclude any mismatch between cost and the proposed design. On the cost side, no non-monetary value exists; everything can be priced.

Vacancy Risk/ Costs (Tenant Retention): Vacancy costs in the DCF should be reiterated. Household demand data should be directly matched with the design and analysed for alignment, providing feedback to the architect or, if alignment is strong, reconsidering vacancy assumptions, including rent and broker lease-up costs. The non-monetary value of a suitable typology lies in preventing move-outs; when residents do leave due to household expansion, the building functions as its own broker through word-of-mouth referral based on spatial adequacy and tenant retention quality. Vacancy risk is further lowered by the typology's capacity to adapt to changing ways of living.

Revenue Side

Rent Price Volatility: The aim is not necessarily to price the typology at a higher rate, but to recognise that rental price volatility is significantly lower, indicating a more stable future cash flow. If residents find the typology adequate and aligned with their demand, the incentive to move out is minimal, particularly when non-monetary values such as adequacy, layout innovation, and adaptability have been invested in. This stability must be represented in the rental price assumptions.

Non-Monetary to Monetary at Exit: Once the investor sells the asset after ten to fifteen years, a track record has been established indicating low vacancy risk, high tenant retention, and stable rental income with low volatility. These elements transform the non-monetary value invested at the outset, the iterative process with the architect, the demand-driven design, and the innovative floor plan into monetary value at exit. The next buyer will be willing to purchase at a higher capitalisation rate/ exit multiple, accepting a lower initial yield in exchange for long-term asset stability. This must be represented in the exit multiple within the financial model.

The aim is not to achieve extreme rents, but to recognise that households are willing to pay for what they demand. If the typology supplies exactly what is demanded and nothing more, and the financial model reflects that on the cost side, then the cost-to-price ratio improves, compared to traditional typologies, increasing the margin for the investor.

Presentation rule (to build investment conviction): Crucially, when presenting financial summaries to the next buyer or to investment boards, it is essential not only to present the model and its monetary values, but to present the non-monetary values and the design itself; the decision-maker must understand what the figures represent, because conviction only emerges from that understanding.

Opportunity

Public Image: The investor may gain a beneficial public image, resulting in higher demand for collaboration and improved deal sourcing.

Debt Provision: Debt providers recognising the lower risk profile of the asset may offer more favourable interest rates.

Subsidies: If municipalities recognise the societal value created, subsidies may be granted.

Collaboration as Competitive Advantage

The evolved collaboration model is not primarily a social proposition; it is a competitive one. Investors integrating spatial adequacy assessment and resident demand intelligence into their acquisition and feasibility process gain a structural advantage over those who continue to apply generalised typological assumptions. Architects who develop financial literacy and engage earlier in the investment process position themselves as strategic partners rather than service providers, accessing projects and clients that value long-term quality over short-term cost minimisation. The collaboration model proposed in this Handbook does not require sector-wide transformation. It requires individual Investors and Architects to engage earlier, communicate more precisely, and evaluate assets against a broader set of criteria than convention currently demands (Walker, 2019; Conrads, 2022).

Further Iteration

The collaboration framework presented in this chapter is not a finished model. It is a starting point, one that has been tested in the context of Zurich and documented in the Appendix, but one that will require continuous iteration as market conditions, household demand patterns, and regulatory frameworks evolve. The residential investment market is not static. Household composition continues to shift, construction costs fluctuate, sustainability requirements tighten, and the availability of patient capital varies across geographies and economic cycles. The collaboration tools and processes defined in this chapter must therefore be treated as adaptable frameworks, not fixed protocols.

Future iterations will be driven by three sources: operational feedback from completed projects, evolving regulatory requirements, and the expansion of this framework to additional European urban contexts beyond Zurich. Each application will generate insights that refine the collaboration process, improve the precision of the demand assessment tools, and strengthen the integration between spatial adequacy and financial feasibility. The Handbook is a working tool, not a final answer. Its value lies not in its completeness, but in its capacity to structure the thinking and practice of Investors and Architects in a way that enables continuous improvement.

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Case Study in Zurich

The Handbook has been applied to the typological innovation within the urban context of Zurich. The Handbook and Design of the Master Thesis have been developed within the iterative process, Research by Design. The Graduation Report shows the architectural Project, as one possible outcome of the Handbooks application. The Graduation Report can be found as separate document.

