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Private Capital Practice

Unlocking value from technology and AI for institutional investors

Strategy, tools, and talent are key considerations for institutional investors as they adopt and scale technology to generate alpha.

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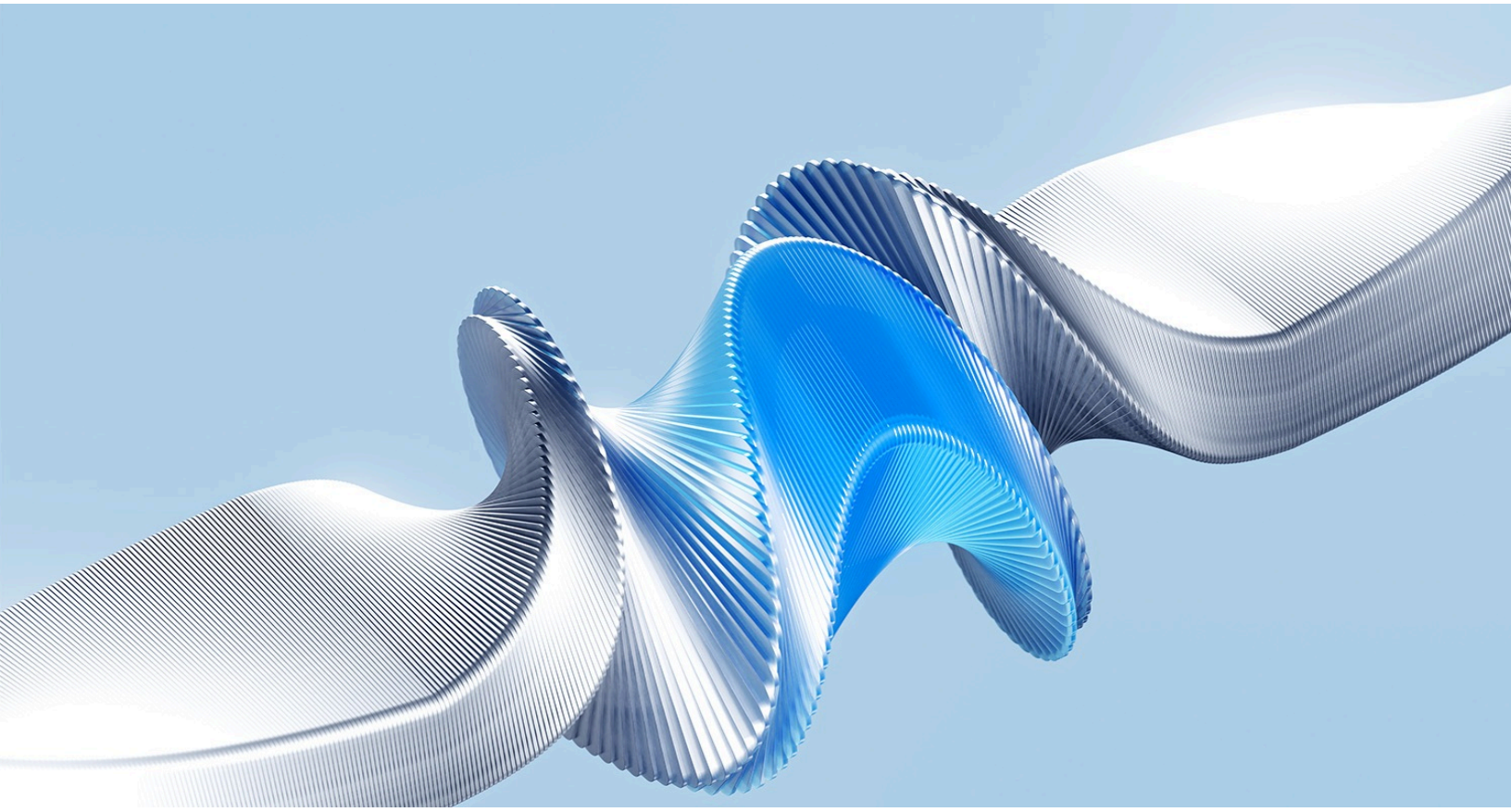


January 2025

It is difficult to talk about investment success without mentioning technology innovation, AI, and generative AI. The investment landscape has fundamentally shifted over the years—but where are the world's largest investors on this journey?

Many institutional investors, be it pensions, insurers, or sovereign wealth funds around the world, are struggling with how, when, and where to begin their technology transformations (particularly in a budget-conscious context). As a result, they are not only falling perilously behind more forward-leaning investors with whom capital ultimately competes but also failing to capture the full financial benefits of such transformations.

Our analysis suggests that institutional investors' effective deployment of technology and AI could generate an ROI of more than tenfold across three domains: investment returns, operational efficiency, and risk management.

A set of leading investors have figured out how to rewire their organizations with technological capabilities—and reap these rewards. We undertook detailed analysis to better understand what they are doing differently, and how the rest of the industry can adopt these best practices to accelerate their tech journey and gain a performance edge.

We found that leading investors start by setting long-term aspirations for their technology strategy in alignment with the investment philosophy. They develop a strong technology foundation using AI and cutting-edge investment platforms. Their operating model is built in a way that instills close collaboration between the technology team and other functions; it also ensures all major technology initiatives are done in an iterative manner to manage costs while delivering value. These institutions also allocate time and resources toward building and retaining technology talent as well as mitigating potential risks, such as regulatory compliance and cybersecurity. And, last but not least, they prioritize change management at every step to encourage widespread adoption of new technologies across the organization.

The role of technology in institutional investing

Institutional investors have a complex mandate of delivering superior risk-adjusted returns on their portfolios, even during uncertain times. Technology can help them deliver on this mandate in several critical areas:

— *New alpha-generation strategies.* As private markets enter a slower era of growth, managers may need to unlock new ways to capture investment alpha (for example, investing in higher-returning early-stage opportunities). They can use AI tools to parse through large data sets and identify hidden market signals.

— *Dynamic portfolio construction.* Technology can help investors dynamically adjust their portfolios in response to market shifts by establishing a total portfolio view, increasing visibility into the fund's exposure to risk factors and performance drivers such as environmental, social, and governance (ESG); reallocating investments rapidly; and managing liquidity.

— *Streamlined investment operations.* Investors can achieve cost efficiency by reimagining investment operations through technology. For example, an operations team can use exception-based processing to improve delivery speed and risk management, and automate manual, repeatable tasks so that it can focus on more complex tasks, such as the processing of investment vehicles.

— *Enabling disintermediated models.* For institutional investors moving toward disintermediated models such as co-invest, co-syndicate, or direct, having a robust technology foundation can improve the management of potentially resource-intensive activities such as fund accounting.

— *Risk management.* Technology and AI can help institutions move to an exception-based risk management model, automating repeatable checks so that risk teams can focus on the most complex and critical areas. Institutions that have not invested adequately to mature their technology capabilities can face increasing risks, such as growing cybersecurity vulnerabilities, operational risk associated with poor data quality, and limited ability to respond rapidly to market events.

Many institutional investors remain behind the digital curve. We see investors using spreadsheets and emails for tasks that could be automated, such as managing portfolio performance and investment compliance. They tend to struggle with outdated core systems, such as their investment book of record (IBOR), that slow decision-making. They may also face data quality and granularity challenges, both in their current portfolio and new investments in emerging asset classes such as private credit, which may not be supported by the current state of private-markets technology.

In our experience, these challenges are often either due to insufficient spending or investors' inability to make a clear prioritization case to their boards and stakeholders. Consider these data points: In 2022, the average large institutional investor spent between 1.3 and 2.7 basis points on technology and AI. In other words, an institutional investor with $150 billion in assets under management had an annual technology budget of approximately $20 million to $40 million.[1] This spend has increased by about 20 percent in absolute dollars since 2020, with an estimated incremental 10 percent increase in 2023.[2]

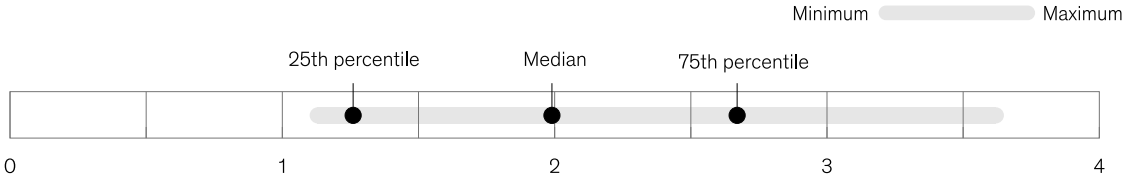
Some investors spend more on technology and AI: Those who spent the most—the top 25 percent—were spending upward of 3.5 basis points (Exhibit 1).

[1] *CEM Investment Benchmarking, 2022.*
[2] *CEM Data & Systems Benchmarking, 2023.*

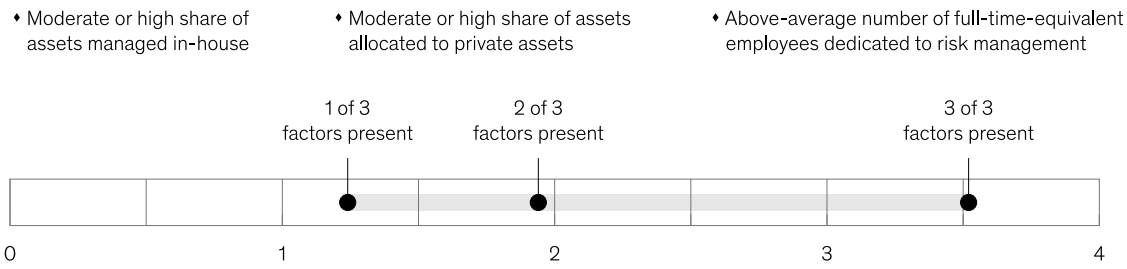
Exhibit 1

Institutional investors that maximize tech spending have high rates of in-house asset management, private-asset allocation, and dedicated risk management.

Institutional investors' tech spending,[1] basis points (bps) of assets under management (AUM) (n = 16)



Correlation of institutional investors' tech spending to 3 critical factors,[1] bps of AUM (n = 16)



[1]Includes direct costs associated with tech, including tech staff.
Source: *Investment benchmarking*, CEM Benchmarking, 2022

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Higher spending is correlated with three factors: a higher percentage of assets managed in-house, a higher percentage of assets allocated to private assets, and a greater number of staff focused on risk management.

A new approach to building, deploying, and managing technology and AI

To make technology a priority agenda item for boards and stakeholders, institutional investors may also need to reexamine their approach. Historically, there were two common approaches, and both were beset by a number of challenges. Some investors adopted a more conservative stance and incrementally improved (and invested in) their technology capabilities, as and when required. This approach was likely to create fragmentation, growing technology debt, and friction over time. In the absence of a holistic technology strategy, these investments were also more likely to get funneled to maintenance.

In the second approach, investors launched multiyear transformation programs with a "waterfall" delivery style, for example, building new IBOR platforms and a fully-fledged data warehouse. We found that these programs could lose steam over time due to increasing costs and the lack of measurable impact early in the transformation.

Leading institutions are taking a new and fundamentally different approach. Based on our work in this area, there are six steps that leading investors have taken to rewire their organizations and implement successful technology transformations.

Define technology aspirations in alignment with investment objectives

In our view, institutional investors fall into one of three archetypes regarding their technology aspirations: *leading-edge innovator*, *close follower*, and *minimum viable maintainer*. Many investors historically operated as minimum viable maintainers; since they believed technology had limited potential to enhance investment outcomes, they only developed the bare minimum capabilities. With time, these institutions have realized that they could not react to new opportunities and market shifts as quickly as they would have liked, and also faced compounding technology debt.

We believe institutions would do well to change their mindsets and become close followers, if not leading-edge innovators of technology and AI. To do this, they should first set long-term aspirations for their technology strategy so they can put all their resources and entire organization behind the vision.

Strengthen the technology foundation

Leading institutions have invested in modernizing and future-proofing their IT foundation, upgrading core investment platforms, and deploying AI tools to improve data processes. They have also made data a strategic asset instead of being merely a by-product of operations.

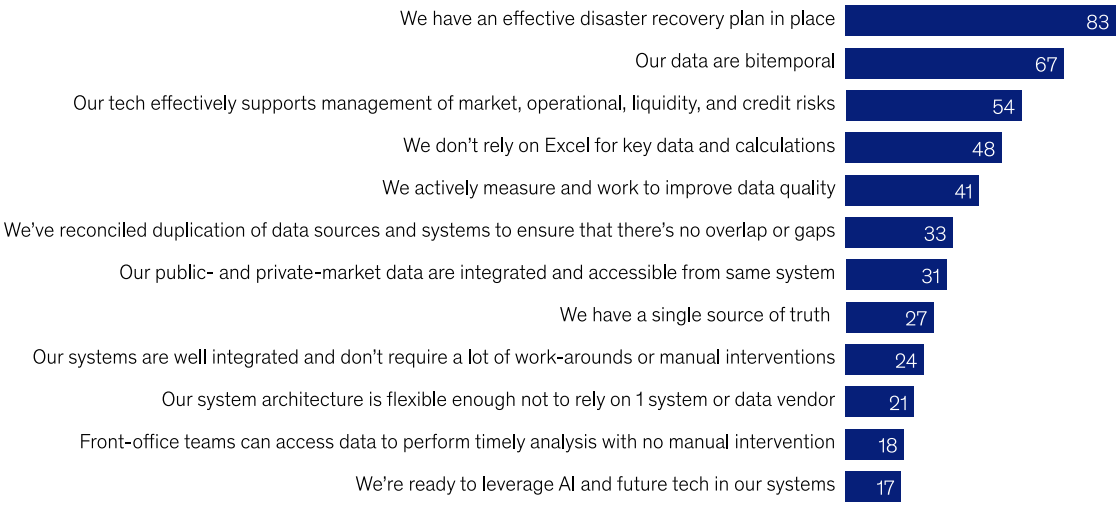
Reimagine and integrate core investment platforms. Investment teams have been using IBOR platforms for data management, risk, and compliance processing, among other tasks, but they often encounter challenges (Exhibit 2). For instance, legacy platforms tend to struggle with integrating disparate data across asset types and products. And many institutions lack a supporting platform for newer asset classes such as private debt. Custom work-arounds built around legacy IBOR solutions can also create friction and risk (for example, incorrectly keying in a transaction amount).

Leading institutions are modernizing their legacy IBOR platforms and unwinding custom work-arounds to simplify platform upgrades and reduce platform lock-in. They are also establishing a total fund view by investing in a total fund platform or a data platform that integrates data from different asset-class-focused IBORs.

Exhibit 2

Institutional investors face multiple challenges with critical aspects of their current tech.

Share of respondents positively assessing their companies' current tech,[1] % (n = 28–30/statement)



[1]Survey participants were asked to score agreement with each statement on a scale of 1 to 5 (1 = don't agree at all, 5 = fully agree). Positive assessments defined as those with scores of 4 or 5.
Source: *Data & systems benchmarking*, CEM Benchmarking, 2023

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Successfully modernizing or building IBORs is often a complex task. Some institutions have surpassed their budgets and timelines to modernize their technology platforms, only to get limited benefits. Investors are more likely to succeed if they can reimagine their investment and operations processes hand in hand with platform modernization. For example, they could design an optimized private assets process from sourcing to diligence to investment finalization and operations, and then appropriately tailor an IBOR platform (and potential custom applications).

Use AI to create value. A variety of use cases of AI in the investment sector are well documented. Leading pensions are using gen AI to rapidly synthesize internal and external knowledge or distill thousands of private asset documents for more efficient investment decision-making (see sidebar, "How a leading North American pension tapped into the power of AI and data"). Some investors are also exploring external partnerships to advance their AI capabilities.

How a leading North American pension tapped into the power of AI and data

A North American pension developed a proprietary gen AI model that draws on aggregated internal and external data to support research, thesis development, deal sourcing, and portfolio exposure analytics, among other tasks. To achieve this, it invested in the underlying data platform to develop a firmwide production-level environment. Then, it identified and structured the most critical sources of internal and external data (for example, investment memos, proprietary research, corporate filings, and analyst reports), which were aggregated into robust data assets in a cloud-based data lake. The pension also modernized its approach to data management with centrally defined standards and robust accountability and ownership across organizational units.

The investor also did a few other things right: having a clear vision of the end goal and communicating it to all relevant stakeholders, conducting training across roles and user groups for more efficient adoption, and iterating with investment teams to tailor the developed use cases to their needs.

Within the first 12 months of this exercise, the investor achieved rapid adoption across the company. The gen AI model also helped the investor achieve meaningful performance differentiation through quicker assessment of novel investment strategies and quantifying of investment risk in creative ways.

While 2024 saw spikes in worldwide gen AI adoption, the institutional investing industry continues to lag behind its financial-services-industry peers. Based on CEM Benchmarking's recent research, less than 20 percent of participants indicated they were ready to incorporate AI and other future technologies (Exhibit 2).

Treat data as a strategic asset versus a byproduct of operations. Although a majority of the institutions surveyed by CEM Benchmarking reported having dedicated data teams, many lacked robust data governance practices and reported low satisfaction with their data strategy. For example, only 18 percent said their front office teams could get timely data access without manual intervention, as shown in Exhibit 2.

Leading institutions are taking three actions to make data a strategic asset: 1) establishing data governance tools and processes (for example, for data quality, metadata) with clear responsibilities and new roles such as data stewards and data owners (and, in some cases, leveraging AI and gen AI to enable data governance); 2) building or maturing a data platform that integrates data across sources into high-value data products and serves as a single source of truth for all data consumers; and 3) optimizing procurement of third-party data to integrate new sources (such as for ESG), right-size consumption, and improve commercial arrangements.

Reimagine the approach to technology and AI delivery

Once the technology foundation has been built, leading institutions build a collaborative operating model and adopt an iterative test-and-learn approach for their technology initiatives to manage costs.

Implement a collaborative operating model. In the past, the technology team was considered a support function for investment and operations teams, working behind the scenes to address issues, which often led to fragmented solutions, subpar solutions, and technology debt.

Investors are now recognizing the importance of aligning with and prioritizing technology capabilities in service of the investment strategy and ensuring technology spend has measurable outcomes and benefits. Institutions are also starting small instead of trying to transform every part of the organization—by selecting one or two focus areas for conducting minimal viable product (MVP) testing and training investment teams.

Establish integrated delivery teams that cut across firm functions. Leading institutions are developing integrated deployment teams with members from the investment, operations, and technical-delivery teams. For example, some investors staff a specific team for three to six months to build an MVP of an AI-powered model to improve liquidity management. The team has a product owner, subject matter experts from the total fund team, a tech lead, scrum master, and data engineers and scientists from the technology domain. The team would co-locate and establish a series of forums (for instance, daily stand-ups, backlog planning, demos, and retros) to jointly develop and refine the use case. Some investors have extended this concept further by embedding technology staff, such as data scientists, within the investment teams (roughly 10 percent of technology staff, on average, according to CEM Benchmarking's research[3]). Institutions keen on this approach would do well to avoid overfragmentation in the technology team to ensure central oversight and adherence to standards, architectural alignment, and risk management.

Create early and ongoing value with iterative deployment. Building lasting technological transformation at scale often requires organizations to undertake larger and costlier initiatives over multiple years. In our experience, many executives can struggle with maintaining consistency in such initiatives, given cost and time considerations.

[3] *CEM Data & Systems Benchmarking, 2023.*

Some investors overcome these issues by breaking large initiatives into their component parts and iteratively deploying them. Instead of embarking on a two-year data warehouse program (when value gets generated only on the back end), for example, investors take two to three months to instantiate the environment, followed by three-month bursts to build and deploy MVP data products and AI use cases. They then scale in subsequent three-month bursts to mature the data products and use cases and extend to new ones. This approach can build momentum early in the process, allow for regular user feedback, and offset costs with value creation over time.

While adopting this approach, investors are expected to ensure that near-term speed doesn't come at the expense of future scalability. They can do this by making sure the iterative releases adhere to a target state architecture and vision, and by tracking their technology debt.

Revisit the talent model

Many institutions struggle to attract and retain technologists who have sufficient investing knowledge. To solve for this, some investors lean on outsourcing, while others temper their technology aspirations to match available talent.

Investors who want to build internal capabilities are elevating technology and AI roles in their organization by establishing a clear value proposition, creating development pathways, and, in some cases, ensuring more competitive compensation for such roles. To complement this approach, they also invest in skill building for all staff, covering technical disciplines as well as the essentials of investing. Several institutions are also revisiting and optimizing their sourcing model: insourcing strategically differentiating roles such as data scientists and technology architects; outsourcing more repeatable activities such as reporting; and forming strategic partnerships (to accelerate delivery in the near term as the internal bench grows, or integrate available third-party technology and AI offerings).

Identify and mitigate risks

Investors are also expected to be mindful of potential technology risks, including cybersecurity breaches, data risks (for example, poor data quality leading to suboptimal decisions), operational risks (such as a core platform going down and preventing trading), third-party risks (for instance, an IBOR provider making a mistake in its calculations), and legal and compliance issues (for example, not adhering to third-party data use agreements). Adoption of gen AI also comes with its own challenges, including potential hallucinations of patterns and other biases.

More forward-leaning investors are investing time and resources to identify such risks and implement and ideally automate monitoring of these systems as a mitigation measure. Some investors work closely with third-party platform providers, outsourced service providers, and strategic partners for more robust monitoring and controls.

Emphasize change management to propel adoption at every step

To capture lasting value from technology and AI, leading investors embed technology in their core investment and operational processes and shift the way staff work. Getting this right isn't easy. For example, while most participants in CEM Benchmarking's survey reported working on gen AI or machine learning proofs of concept, only a few have made meaningful progress in adopting these tools for daily use.

Institutions that succeed in the transition (such as the North American pension in our case study) think about change management before technical delivery starts (for example, by understanding users' needs and concerns and designing future-state processes explicitly to use the technology). They have strong communication and backing from the leadership team. They start with a clear change story and value proposition and adequately invest in training staff to help propel initial adoption. And to ensure that adoption sticks, they stay close to users to rapidly address any questions or issues, offer further training, and constantly seek feedback for improvement.

What now? Decisive actions for growth

Institutional investors can take three actions to understand where they are with technology and AI and chart an accelerated path forward. They can assess their current (technological) strategy and participate in peer benchmarking to understand the technology and AI maturity across the organization. Next, they can refresh their technology strategy; solidify future aspirations, funding, and team head count; and ensure resources are aligned to the highest-value investment and operational needs (for example, scaling private assets investments and improving total fund management). And, last but not least, they can actively explore opportunities to leapfrog progress using new capabilities. For example, instead of waiting for a fully fledged data warehouse or data lake to start developing insights, investors can begin extracting transaction data from core platforms (such as IBORs) and using gen AI to query it.

Technology has immense value potential for institutional investors. It can enhance investment returns and improve operational efficiency and risk management, among other long-term gains. But to achieve these gains, investors must be willing to do the hard work of overhauling how their institutions run.

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