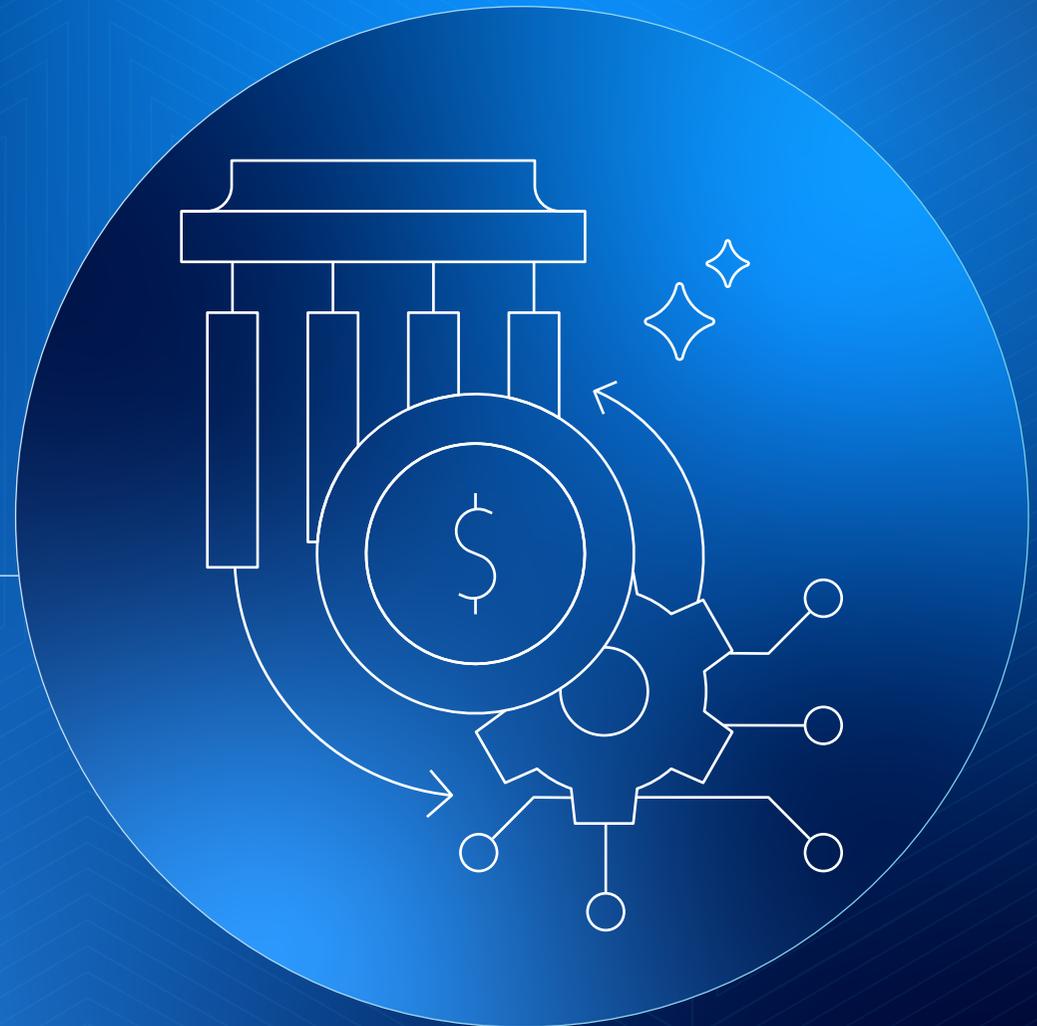


From Fragmentation to Flow: Five Dimensions to Enable AI-Ready Investment Operations

Toolkit



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Introduction: From AI Ambition to Enablement

For institutional asset managers, AI is rapidly progressing from exploratory pilots to a strategic and operational imperative. The potential impact is substantial, with analysis from McKinsey indicating that AI, gen AI, and agentic AI could deliver value equivalent to 25 to 40 percent of an average asset manager's cost base.¹

Yet for many firms, progress often stalls between experimentation and production. The constraint is not a lack of tools, funding, or intent. It is structural: fragmented technology and operating models that cannot support AI at scale.

Building on findings from [our recent white paper](#) that explains why AI stalls in fragmented operating models, this toolkit helps firms assess where those constraints exist in their own operating environment, and what to fix first.



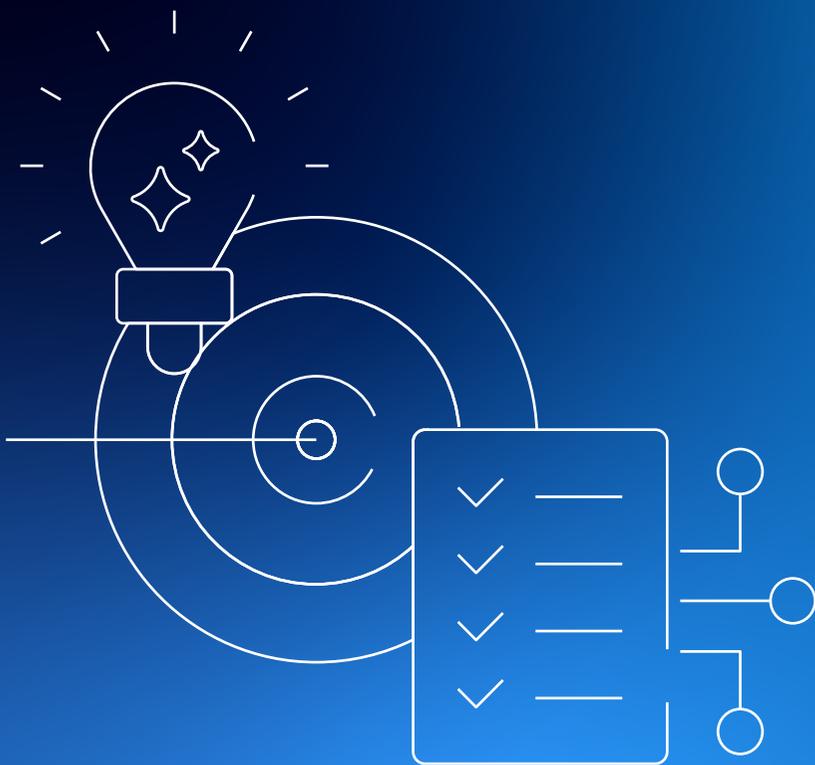
How to Use This Toolkit

The following sections outline key considerations across targeted technology and operating dimensions. Start with the sections most aligned to your current challenges, identify gaps between strategic intent and day-to-day reality, and use the framework to guide focused, incremental progress.

¹ Source: [How AI Could Reshape the Economics of the Asset Management Industry](#), McKinsey & Company, July 16, 2025

Intent vs. Reality:

Understanding Challenges to AI Readiness



Chapter 02

Intent vs. Reality: Understanding Challenges to AI Readiness

Technology budgets have increased and AI is a growing strategic priority across institutional asset managers. Yet investment isn't always translating to action, adoption, or scale. Our recent white paper found that **44.8% of firms report no AI use cases in production.**²

What drives this disconnect?

The core challenge is fragmentation. Core components to digital modernization such as cloud foundations, data centralization, data governance, and tech-enabled operations, are often treated as independent initiatives rather than cohesive, interconnected elements that build upon each other. Or, more simply put: firms are modernizing in pieces, not in flow.

This fragmentation creates predictable constraints:



Structural gaps: AI initiatives will struggle to gain momentum without modern foundations prioritizing high-quality data.



Operational caution: Without building confidence that AI can extend and function reliably in real operational workflows, firms may limit deployment or further investment, especially as they operate within regulatory scrutiny.

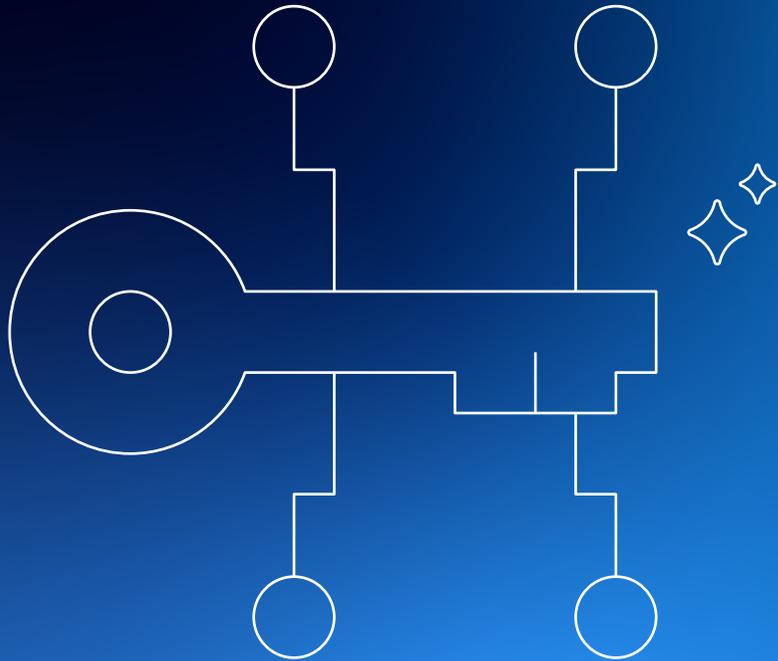


Compounding complexity: AI layered onto disconnected and fragmented systems has the potential to introduce risk faster than value.

While these challenges can vary in scale or expression, the pattern is consistent. AI efforts are often layered onto technology and operating models not designed for integrated execution. Without addressing structural constraints, increased AI activity can introduce operational complexity faster than it delivers value.

² Source: [The Evolution of Investment Operations: From Component Modernization to Integrated, AI-Ready Operating Models](#), Arcesium, February, 2026

Five Key Dimensions for Enabling AI



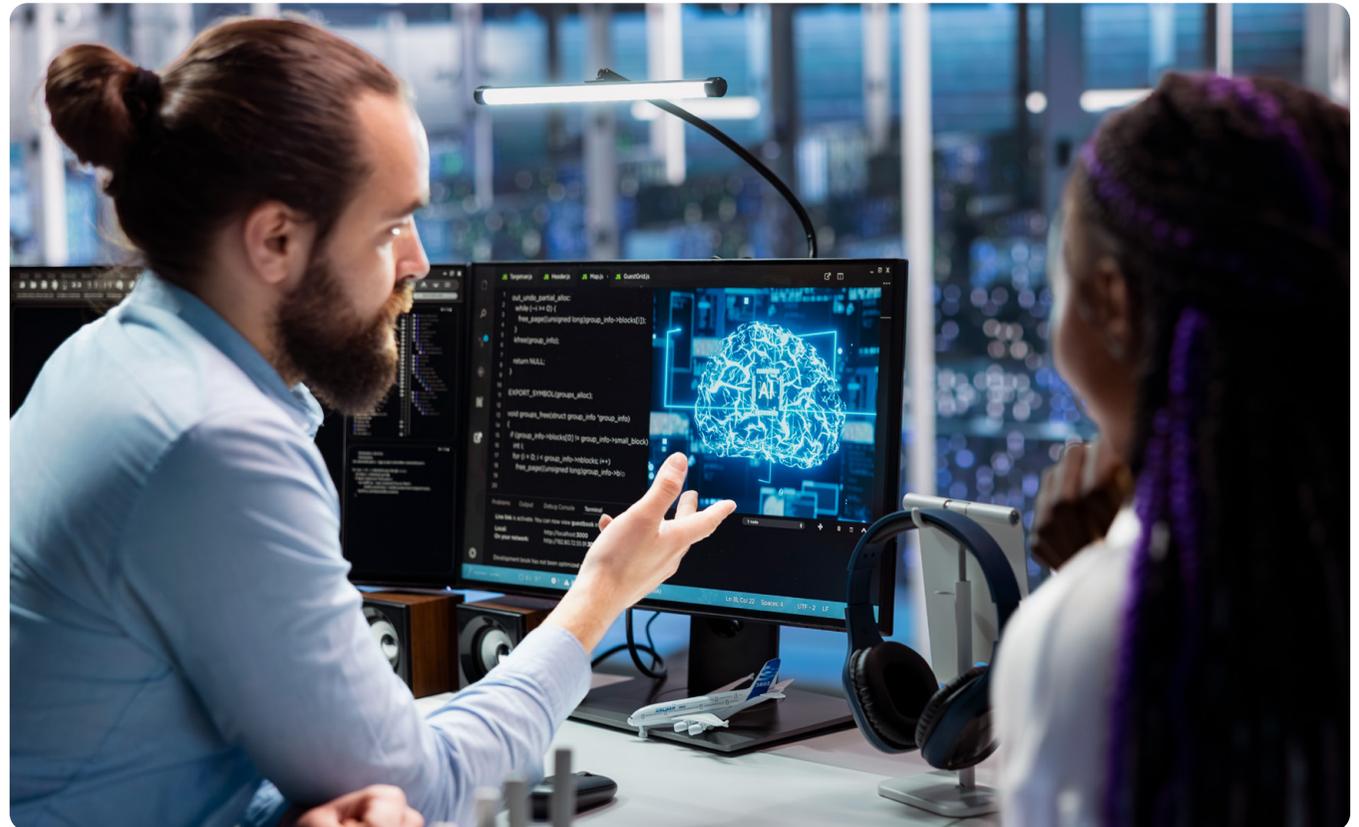
Chapter 03

Five Key Dimensions for Enabling AI

Enabling AI at scale requires more than successful pilots or isolated technology investments. Without an integrated foundation, AI initiatives can add operational complexity and risk rather than delivering measurable impact.

For institutional asset managers, cloud infrastructure, data platforms, governance frameworks, and operational workflows are often viewed as their own initiatives rather than an integrated, cohesive system. Moving from fragmentation to integrated execution requires assessing whether the foundational components of your operating model function as a cohesive system.

The framework on the following page maps five interconnected dimensions that help support AI-readiness. Use the matrix to assess your current state across each key dimension supported by more detailed guidance in the sections that follow.



Five Key Dimensions for Enabling AI

 ← Fragmentation Flow →			
Key Dimension	Foundational	Advanced	Leading
Cloud Foundation	On-prem, bespoke environments	Hybrid cloud, infrastructure-as-code	Cloud-native, policy-driven
Data Centralization & Management	Fragmented data, inconsistent definitions, manual reconciliation	Partially harmonized datasets, defined standards	Golden sources of truth, treat data as a product
Data Governance	Manual approvals, reactive data quality remediation	Partially embedded controls, supported by monitoring	Governance embedded across data, workflows, and models, timely traceability and scale
Tech-Enabled Operations	Manual handoffs, limited automation, critical reliance on spreadsheets	Priority workflows automated, pocketed efficiency gains	System-mediated, with embedded logic and proactive monitoring
AI Deployment	AI exists in pilots outside core workflows; production viewed as risk	AI embedded in targeted workflows, human-in-loop oversight	AI orchestrated processes, agentic execution with guardrails

Five Key Dimensions for Enabling AI

3.1 Cloud Foundations

AI initiatives need modern infrastructure that can scale at the pace of innovation. Cloud foundations can play a critical role in whether firms can move from experimentation to production without introducing potential bottlenecks, cost overruns, or operational risk.

Key Questions to Evaluate

- What percentage of AI or other new technology initiatives get delayed or constrained due to infrastructure limitations?
- Can your infrastructure efficiently scale to support variable workloads across data analytics, operations workflows, and AI use cases?
- How long does it take to provision infrastructure for experimentation or production deployment?

Warning Signs to Watch

- AI or other technology initiatives are routinely delayed or bottlenecked by infrastructure constraints, limiting innovation or experimentation.
- Provisioning is largely manual, environments are bespoke, and security or cost controls are applied after deployment rather than embedded by design.
- Infrastructure is treated primarily as hosting capacity rather than enabling scalable innovation, even as firms adopt hybrid or cloud-first architectures.

Potential Impact & Success Indicators

Modern innovation is increasingly enabled by modern infrastructure. At more advanced maturity levels, infrastructure becomes cloud-native and policy-driven, engineered so that provisioning, scaling, security, and cost governance are embedded and automated. This enables teams to move faster and creates a foundation where AI and automation can scale reliably across the firm.



Industry Shift: Investment management firms have reduced reliance from on-premise data infrastructure by 14% since 2023, reflecting a continued shift toward cloud platforms according to research from Cutter Associates.



Force Multiplier: 80% of firms report selecting vended cloud solutions when modernizing data platforms, further signaling increased demand for scalable, high-performance infrastructure to deploy AI effectively.

³ Source: [Redefining Data Management for the Rise of AI: Key Insights from Cutter's 2025 Data Management Benchmarking Survey](#), Cutter Associates, December 22, 2025

Five Key Dimensions for Enabling AI

3.2 Data Centralization & Management

The success of any AI system is only as strong as the data foundation upon which it relies. For many institutional asset managers, data often remains disconnected across systems, asset classes, and vendors, requiring significant manual effort to reconcile and validate it before it can be trusted or used. How data is centralized and managed determines whether AI can operate on shared, reliable information or remains limited to assistive use cases layered on top of fragmentation.

Key Questions to Evaluate

- How much manual reconciliation is required before data is considered usable or trusted for core operational activities or reporting?
- Can teams access timely, consistent data across investment teams, operations, and finance without relying on spreadsheet-based validation or manual checks?
- Can data support multiple use cases without repeated transformation or revalidation?

Warning Signs to Watch

- Trust in data depends on spreadsheet comparisons, repeated reconciliation cycles, or manual sign-offs.
- AI tools can assist with analysis or summaries but cannot act directly because inputs require revalidation.
- Reporting timelines stretch due to inconsistent definitions or downstream fixes.

Potential Impact & Success Indicators

A centralized and disciplined data foundation reduces the need for human trust-building and enables AI to operate with greater confidence inside workflows. As firms mature, core data domains become harmonized, reconciliation effort declines, and data can support both operational and analytical use cases. Data is treated as a product with defined golden sources and ownership, instead of primarily viewed as a system by product. This progression shortens the distance from question to insight, reduces exception handling, and creates the conditions for AI to scale beyond isolated use cases.

Five Key Dimensions for Enabling AI

Where Fragmentation Hurts

- ✗ Teams spend precious time manually reconciling data rather than executing work
- ✗ Some datasets are recreated across multiple systems or teams
- ✗ Trust in data requires manual validation

How Flow Can Help

- ✓ Data is validated once at source and trusted throughout workflows
- ✓ Reconciliation becomes the exception, not the default
- ✓ AI and automation can act on data without repeated manual validation

Five Key Dimensions for Enabling AI

3.3 Data Governance

For AI to operate reliably inside institutional workflows, data must be reliable, discoverable, clearly defined, and governed with accountability. Governance plays a critical enabling role because controls introduced after execution often slow progress and increase friction. When governance is embedded into how data is produced, accessed, and used, it can support scale rather than constrain it.

Key Questions to Evaluate

- Are governance controls and quality standards embedded within data workflows, or applied later through manual reviews and approvals?
- How quickly can teams produce audit trails, with visible data lineage across systems?
- Are data definitions consistent across platforms and functions?
- Is there clear ownership and accountability for each data domain, with quality metrics tracked and visible to stakeholders?

Warning Signs to Watch

- Governance processes rely heavily on manual approvals, reactive audits, or ad hoc documentation.
- AI initiatives and adoption remain cautious or limited due to unresolved data quality issues or compliance uncertainty.
- Teams view governance as a gatekeeping function rather than a source of operational confidence.

Potential Impact & Success Indicators

Data governance matters, and the cost of neglecting it can be high. For example, Gartner estimates that at the end of 2025, at least 50% of generative AI projects were abandoned after proof of concept due to poor data quality, inadequate risk controls, escalating costs or unclear business value.⁴

For firms seeking to avoid this outcome and lead in maturity, data governance and quality shouldn't be treated as separate checkpoints but rather as part of an integrated framework considering data, workflows, and models. This can help enable AI to operate at scale within defined guardrails accelerating adoption.

⁴ Source: [Why 50% of GenAI Projects Fail — And How to Beat the Odds](#), Gartner, January 26, 2026

Five Key Dimensions for Enabling AI



Quick Tip: Start with a Data Quality Assessment



First Step: Conduct a data discovery exercise to identify critical data sources and quality gaps. Run initial quality assessments across six key dimensions covering accuracy, completeness, consistency, timeliness, validity and uniqueness.



Quick Win: Build a data quality dashboard with measurable baselines. Visibility can help to drive accountability and create the foundation for better governance groundwork.



Video Resource: [Learn more about data quality dimensions to help drive AI initiatives forward.](#) →

Five Key Dimensions for Enabling AI

3.4 Tech-Enabled Operations

AI can be most effective in investment operations when underlying workflows are supported by streamlined technology, rather than layered on top of fragmented or manual processes. Operations are often where fragmentation becomes most visible and most costly, as disconnected and manual processes limit the ability for automation to scale. Without designing workflows around integrated execution, AI risks inheriting the same operational bottlenecks it aims to alleviate.

Key Questions to Evaluate

- Can core operational workflows execute end to end within systems, or do they depend on spreadsheets, email, or manual coordination between teams?
- How frequently do teams intervene to aggregate and harmonize multi-source data, or to resolve data discrepancies across investment teams, accounting, and operations?
- Where do operational workflows break from system-mediated to manual execution?

Warning Signs to Watch

- Operational processes rely on spreadsheets, inboxes, and manual handoffs; limited rules-based routing.
- Automation targets isolated tasks without designing around the surrounding workflow.
- Multiple teams maintain parallel sets of data for key information such as positions, cash, or reference data.
- Operational expertise resides in individuals rather than embedded in rules, systems, or clearly documented processes.

Potential Impact & Success Indicators

When investment operations are tech-enabled and designed for integration, firms can move from reactive coordination to scalable execution. This enables the foundation for AI to operate within workflows under human oversight, compounding efficiency gains rather than functioning as isolated tools. Critical outputs such as consolidated exposures, liquidity views, or exception reports can be produced faster and with greater confidence that doesn't require manual intervention at each step.

Five Key Dimensions for Enabling AI



Build Momentum: Map One High-Friction Process



Where to Begin: Many firms may still rely on manual processes and spreadsheets for daily operations. To optimize, map one high-friction operational workflow end-to-end and document where manual handoffs break execution.



Strategic Focus: Target processes that are high-friction yet low-complexity to prioritize near-term impact. This can build momentum for early wins and a foundation for broader improvement.



Related Reading: [Explore more practical strategies for reimagining operations.](#) →

Five Key Dimensions for Enabling AI

3.5 AI Deployment

AI deployment is where enablement translates into execution. Its success reflects how well data, operations, and governance can come together as a connected system rather than isolated components. When these elements are aligned in flow, AI is better positioned to move beyond experimentation into production within clear guardrails.

Key Questions to Evaluate

- Are AI initiatives tied to clearly defined objectives and use cases that address specific operational pain points?
- Where do AI capabilities operate today? Are they functioning as part of operational workflows, or positioned as standalone tools alongside them?
- Is human-in-the-loop oversight built into AI-enabled processes, with clear responsibility for monitoring outcomes and managing exceptions?

Warning Signs to Watch

- AI remains limited to pilots or proofs of concept outside core workflows.
- Production is consistently viewed as high risk due to unresolved data, governance, or operational gaps.
- AI initiatives run independently from day-to-day operations and result in limited adoption.
- Models perform well in isolation but stall when scaled due to integration constraints.

Potential Impact & Success Indicators

AI can play a valuable role in improving how investment operations execute and scale. When deployed as part of connected workflows, rather than standalone efforts, it can help reduce manual coordination and enable more systematic, repeatable processes. In practice, this may support faster reconciliation cycles, earlier identification of exceptions, and more timely delivery of operational insights. With human oversight embedded, AI can contribute to efficiency gains while preserving accountability.

Five Key Dimensions for Enabling AI

Putting AI into Action: Example Use Cases for Investment Operations

Process	Operational Pain Point	AI-Enabled Support
 <p>Reconciliation</p>	<p>High volumes of trade breaks, manual matching, and delayed close cycles.</p>	<p>AI is designed to accelerate matching, prioritize breaks, and summarize root causes.</p>
 <p>Data Quality</p>	<p>Data issues are detected late, often requiring downstream remediation and rework across teams.</p>	<p>Machine learning models help identify anomalies and suggest data-quality rules.</p>
 <p>Unstructured Data Processing</p>	<p>Manual extraction of data from fund statements, capital calls, notices, and reports introduces delays and potential errors.</p>	<p>AI is engineered to extract and structure data from documents, reducing manual effort and timelines.</p>

Conclusion: Driving a Path Forward

For institutional asset managers, operational complexity continues to rise, and AI is no longer just a future consideration. The challenge is not whether to invest, but how to move beyond fragmented modernization toward integrated execution. Firms that can create an interconnected flow across their technology and operating models will be better positioned to turn AI from experimentation to meaningful impact.

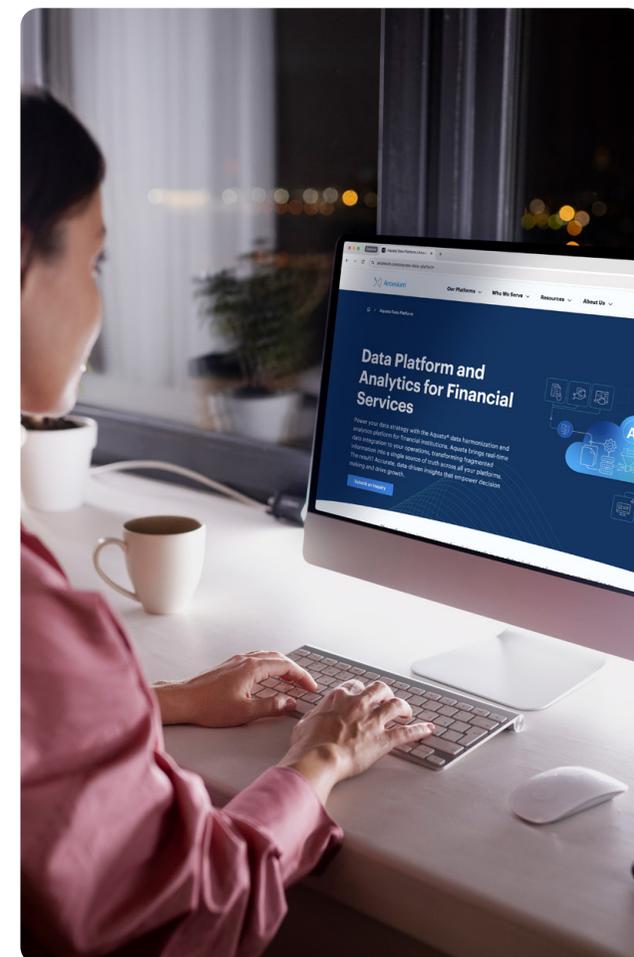
As outlined across the five key dimensions in this toolkit, moving from fragmented models to integrated execution requires alignment across cloud foundations, centralized data, governance, tech-enabled operations, and AI deployment. When these elements reinforce one another, AI can be better positioned to move from experimentation to production.

Get In Touch

Arcesium is purpose-built to help institutional asset managers move from fragmented technology modernization to integrated technology and operating models. Rather than layering new tools onto fragmented environments, Arcesium provides a unified platform that connects data, workflows, and controls across the investment lifecycle to support transformational outcomes.



Interested in seeing platform in action? Go to arcesium.com/submit-an-inquiry or scan the QR code.



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