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THE LIMITS OF AUTOMATION...
AND WHAT COMES AFTER

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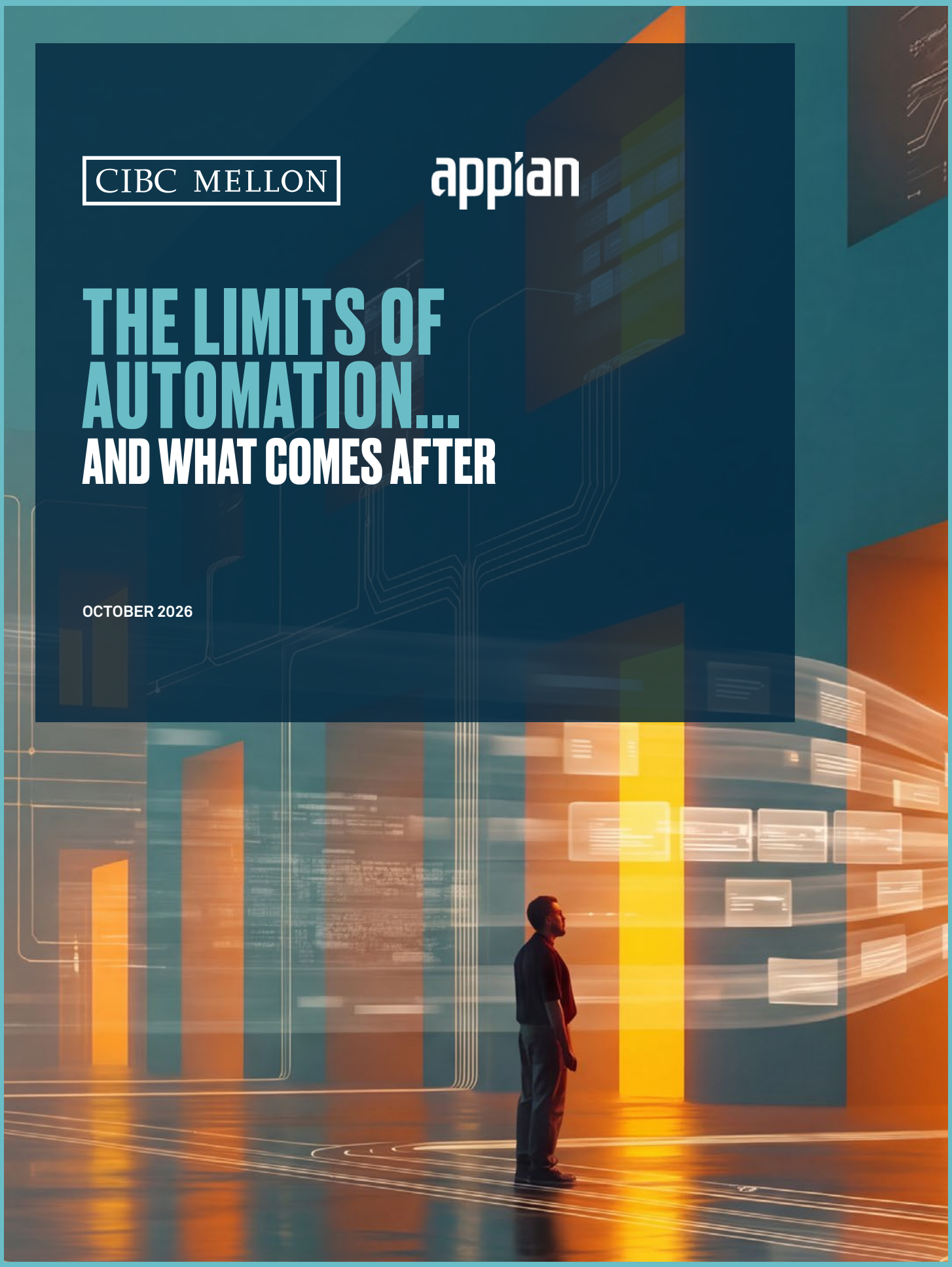

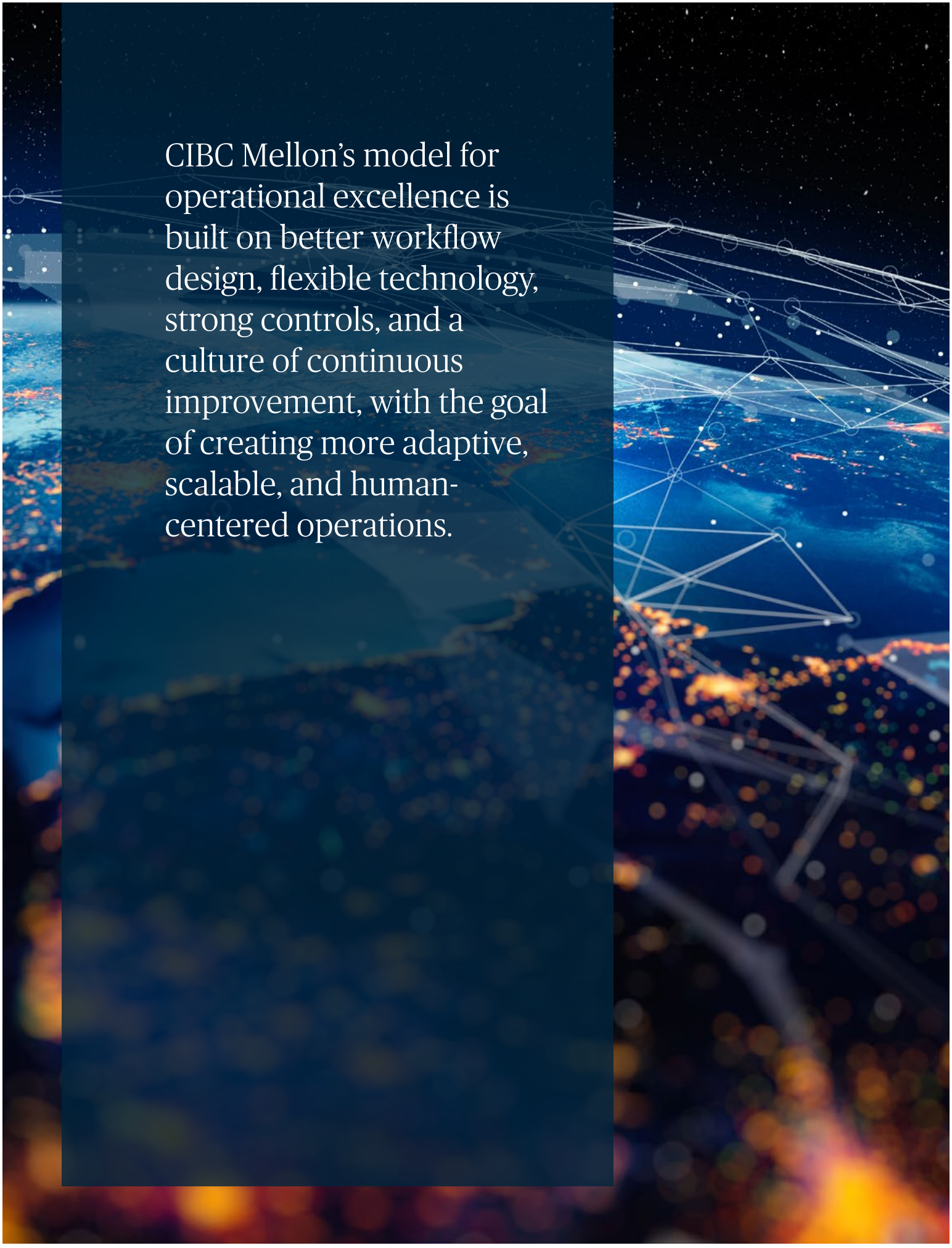
CIBC Mellon's model for operational excellence is built on better workflow design, flexible technology, strong controls, and a culture of continuous improvement, with the goal of creating more adaptive, scalable, and human-centered operations.

OUR EXPERTS

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CIBC Mellon is redesigning operations, process workflows and what it means to collaborate at scale by asking harder questions, bringing in the right technology allies, and reinforcing a culture of continuous improvement.

For much of the past decade, the prevailing logic of operational improvement in financial services rested on a deceptively simple premise: that the primary obstacle to efficiency is the presence of human beings in processes that ought to be performed by machines. Under this view, modernization is chiefly a substitution exercise, a matter of identifying manual tasks and replacing them with automated ones, function by function, until the residual human workload is small enough to manage without strain.

The institutions that have pursued this logic aggressively tells a more complicated story. Automation, it turns out, is not a solvent that dissolves operational complexity. Applied without a rigorous understanding of why work is structured as it is, it tends instead to redistribute that complexity: reducing effort at specific steps while leaving intact the structural inefficiencies that make those steps costly in the first place. Handoffs between systems remain manual. Thresholds are applied inconsistently by different practitioners. Evidence is captured offline, as a compliance afterthought rather than a product of execution. Controls accumulate in layers around a process rather than being embedded within it. The result is an operation that is more automated and only marginally simpler, one in which technology sits on top of a workflow architecture that was never redesigned to accommodate it.

The more productive question, and the one that institutions at the leading edge of this work are beginning to ask seriously, is not which tasks can be automated, but whether the workflows those tasks comprise have been designed well enough to be worth automating at all. The distinction, modest as it may appear, changes the nature of the exercise entirely. At CIBC Mellon, this shift in perspective is redefining operational transformation, how cutting-edge technology platforms enable it while driving industry innovation.

WHY AUTOMATION ALONE ISN'T ENOUGH

Traditional automation often improves individual steps without addressing the underlying workflow design. As a result, organizations may still face:

- **Manual handoffs between systems**
- **Inconsistent application of thresholds and decisions**
- **Offline audit and compliance evidence capture**
- **Controls layered around the process instead of built into it**
- **More automation, but only marginal simplification**

THE ARCHITECTURE OF INEFFICIENCY

Fund accounting sits at the operational heart of investment funds. Daily net asset value production, end-of-day validation, performance benchmarking, exception management, and client-specific servicing requirements create complex workflows of considerable complexity, most of which must be completed by the end of each trading day. The volume of individual decisions and the financial scale are both large enough, and the financial scale large enough that tiny performance inconsistencies compound over time into meaningful operational, financial and control risk.

Common structural challenges tend to be well understood by experienced fund accounting practitioners. Traditionally, they spend their time on run-based execution such as end-of-day benchmarking, exception commentary, approval sequencing and audit evidence capture.

The insight that follows from examining this honestly is as important as it is straightforward: not all work benefits from the same kind of attention. Some fund accounting decisions require the contextual reasoning, client-specific knowledge, and pattern recognition that experienced professionals develop over years. Others require only consistency and scale, the reliable application of defined logic to structured data, with exceptions surfaced for review rather than resolved by default. Conflating these two categories, assigning human judgment to tasks that require only human execution is an inefficient use of talent.

To fix this, leading financial institutions are beginning to adopt decision intelligence: the disciplined use of operational data to understand how work is actually performed across people, processes, and systems, before any decision about automation or redesign is made. The sequencing matters more than it is typically given credit for. Measure first. Design from evidence. Automate what the evidence shows can bear it.

Measure First. Design from Evidence. Automate Selectively.

MEASURE HOW WORK IS ACTUALLY PERFORMED

DESIGN WORKFLOWS BASED ON EVIDENCE

AUTOMATE TASKS SUITED TO CONSISTENCY AND SCALE

ESCALATE EXCEPTIONS TO EXPERIENCED PROFESSIONALS

ORCHESTRATION: THE NEW SYSTEM OF WORK

The conventional response to operational inefficiency, embedding new process logic within existing core systems produces results that are characteristically difficult to sustain. Accounting platforms are designed for accounting. When workflow management logic is built into them, it becomes brittle: resistant to modification, opaque to monitoring, and disconnected from the adjacent steps that determine whether a control actually functions as intended rather than merely as described.

The more durable architectural response is to introduce a dedicated orchestration layer: a platform through which work is sequenced, controlled, and evidenced. The accounting platforms remain systems of record. The orchestration layer becomes the system of work, connecting the platforms across which activity is distributed, managing handoffs and approval sequences between process steps, embedding controls directly into execution, and capturing audit evidence continuously as a natural output of how the workflow proceeds rather than as a separate documentation exercise completed after the fact. Perhaps even more importantly, the business and clients don't stand still: new funds, new offerings and new reporting requirements continue to force change. The orchestration layer and its connections also have to be flexible enough to advance along with the business and control environment. Controls and systems must keep pace with the accelerating needs of the business. Workflows, oversight processes and approval sequences also have to be adapted alongside clients.

The operational significance of this architecture lies in what it changes about the relationship between controls and execution. Evidence is captured as a condition of proceeding. Approval requirements are met because the workflow does not advance without them. The consistency of control execution becomes a property of the design rather than a product of individual diligence.

Since 2021, CIBC Mellon and Appian have implemented a dedicated orchestration layer with a platform that acts as the "system of work," while leaving core platforms as "systems of record." With more than 250 users across operations, client service delivery, technology, and relationship management, the platform currently supports approval workflows, escalation management and client experience.

CIBC Mellon's collaboration with Appian underscores our commitment to being digital-first and driving industry innovation.

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KEY IMPACTFUL USE CASES OF CIBC MELLON'S COLLABORATION WITH APPIAN INCLUDE:

- **Fund Accounting Operational Management Workflow Dashboards**: Provides real-time views of activities that previously required hours of manual data aggregation helping support better decision intelligence around capacity and work levels, enabling the company to best direct resources to meet evolving client needs.
- **A Pension Benefits Workflow Tracker:** Replaces email-based tracking with a transparent, accountable digital workflow tool that helps CIBC Mellon's pension member services teams track retiree and plan sponsor needs by improving responsiveness and supporting a great stakeholder experience.
- **Tax Reclaim Processing Enhancements**: Business and fiduciary duties require many clients to pursue proper tax treatment, including ensuring appropriate reclaims processed in regions around the world. Workflow enhancements to these workflows enabled CIBC Mellon to enhance processing speed and accuracy.

SCALING SUCCESS: FROM INTERNAL OPS TO CLIENT EXPERIENCE

By leveraging Appian's advanced automation platform, CIBC Mellon co-creates solutions directly with clients through:

TOTAL COST REPORTING PORTAL: Developed in collaboration with CIBC Mellon clients to meet tight regulatory deadlines using an iterative, rapid prototyping model.

CLIENT ONBOARDING FOR PENSION CONSOLIDATION: The Canadian pension space continues to see rapid innovation and rising competition, as multiple pension plans are establishing growth mandates: consolidating smaller pension plans to deliver better outcomes for plan members. Pension merger or transition transactions can be highly complex across a diverse array of stakeholders, including multiple unions, employers, members and administrators. CIBC Mellon is leveraging Appian to streamline, enhance and digitize client onboarding workflows for University Pension Plan of Ontario – one of Canada's newest and fastest-growing pension plans – to build a more efficient and transparent onboarding experience to support their future clients in joining UPP more seamlessly.

DIGITAL-FIRST ETF SERVICES: A unified platform that automates distribution calendars and press releases, automatically generates and reconciles required regulatory forms, and publishes information directly to exchanges with greater speed and accuracy. By eliminating manual workflows and reducing operational risk, our platform is designed to empower clients with greater efficiency, transparency, and control over their operations.

These applications address the connective tissue between tasks, handoffs, approval dependencies, and evidence requirements that determine whether a workflow functions as a coherent system or merely as a sequence of steps that happen to follow one another. CIBC Mellon teams built from internal insights and successes, and then moved to deploy these in collaboration with clients to meet their emerging and evolving needs.

Our alliances with technology leaders position CIBC Mellon at the forefront of digital transformation in asset servicing, delivering operational excellence and setting a new industry benchmark for efficiency and client service.

THE STRATEGIC ROLE OF AI

AI systems, including the agentic variants now being deployed in operational financial settings, are highly capable within defined parameters and considerably less reliable outside them. Situating them correctly within a workflow is therefore not a technical question so much as a design one.

The activities most suited to AI augmentation in investment operations environments share identifiable characteristics. They are high in volume and low in variance in individual execution. Their underlying logic is structured and threshold-based. The cost of a missed judgement call is higher than inconsistency. And they sit within workflows where human oversight remains available for the exceptions that fall outside defined parameters. End-of-day benchmarking and NAV validation fit this description closely, as do exception triage, certain categories of reconciliation commentary, and the initial stages of onboarding verification.

Agentic AI performs best when it operates within a governed workflow that is characterized by clear thresholds, defined escalation logic, and human review and judgment. The orchestration layer precisely provides the structure within which AI can be deployed with confidence: defined inputs, governed outputs, and a clear boundary between what the system handles and what it escalates.

THE RIGHT FOUNDATION

CIBC Mellon's Appian use cases include business process automation capabilities, a foundation toward AI-driven process enhancement recommendations, collaboration tools and more – but also include a more flexible and open structure. CIBC Mellon is able to extend work and incorporate new capabilities as Appian's AI capabilities continue to advance. The intention is to deploy AI within governed workflows where its capacity for consistency and scale creates the most value, and where human oversight remains structurally embedded.

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PRINCIPLES FOR TRANSFORMATION

FINANCIAL INSTITUTIONS SEEKING A SIMILAR PATH, THE ROADMAP IS CLEAR.

Before selecting technological intervention, understand the data, where process variability creates risk, and which activities require judgment. Institutions that move directly from operational dissatisfaction to technology selection routinely find that they have automated the wrong things with considerable efficiency. The analytical infrastructure required to produce data is itself an investment worth making deliberately.

Sustainable operational improvement is more reliably achieved by redesigning how work flows end-to-end than by improving individual steps within that flow. This matters because the costs that most burden fund accounting operations, including excess manual effort, control inconsistency, and limited capacity predictability, tend to reside in the handoffs and dependencies between steps rather than in the steps themselves. Orchestration as an architectural concept addresses those gaps. Point-solution automation, however effective within its scope, does not.

Integrated controls make processes both faster and safer. The elimination of manual evidence capture, the standardization of approval sequences, and the automatic routing of exceptions are not trade-offs against control quality. They are improvements to it.

Finally, there is the question of continuous improvement. The most durable operational modernizations are maintained by continuous feedback between measurement and refinement, where data continues to validate outcomes, surface new sources of variability, and identify where further development is warranted. Modernization is less a project with a completion date than a capability with a compounding return.

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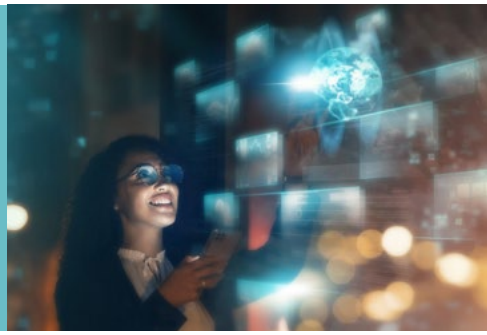
THE RIGHT MINDSET, THE RIGHT TOOLS, THE RIGHT ALLIES



DESIGN THE VISION FIRST. THEN FIND THE TOOLS THAT CAN SERVE IT.

One of the more common traps in operational transformation is allowing the capabilities of available tools to define the boundaries of process design. When an institution commissions a platform or builds around a specific system's logic, it risks calcifying its workflows around what the technology can do today rather than what the operation needs to do tomorrow. Client needs evolve. Regulatory requirements shift. The processes designed to serve them must be able to evolve with the same agility.

The underlying logic of CIBC Mellon's approach to platform selection was to ask which environment would allow the organization to move with speed, iterate with clients directly, and build solutions tailored to this market rather than adapted from somewhere else. The answer pointed toward platforms that enable rather than constrain, that treat process design as an ongoing discipline rather than a one-time specification exercise.

THE TOTAL COST REPORTING PORTAL

Working within Appian's agentic AI platforms, CIBC Mellon teams were able to prototype user experiences in direct collaboration with clients, gather feedback iteratively, adapt the design in response to what they heard, and connect the solution to core processing systems and industry utilities as the product took shape. The result was brought to market on schedule, on budget, ahead of regulatory deadlines, and with the kind of client-specific functionality that a more rigid development model would not have permitted. Without the platform flexibility Appian provided, that outcome would not have been achievable in the timeframe required.

The TCR Portal matters not just as a product but as a demonstration of method: that when the culture, the technology, and the client relationship are properly aligned, an institution can move from problem identification to commercially viable solution faster and more effectively than the conventional model of financial services technology delivery tends to allow.

TECHNOLOGY ELEVATES PEOPLE. IT DOES NOT REPLACE THEM.

A thread runs through each of these initiatives that deserves to be named directly. The purpose of operational transformation, properly understood, is to change what people spend their time on. Repetitive validation, manual data aggregation, and offline evidence capture are not what experienced fund accounting professionals find most meaningful or that create the most value for clients. The shift toward exception analysis, client problem-solving, and judgment-intensive decision-making is not a concession to automation. That is the point of it.

CIBC Mellon has a genuine commitment to continuous improvement, learning from operational data and acting on what it reveals. Our team members are engaged in the work and invested in making it better. Technology creates the conditions for that engagement. The people determine whether it takes hold.

The ability to reuse decision intelligence to validate outcomes is critical to sustaining improvement.

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CONCLUSION: ELEVATE THE HUMAN ELEMENT

Organizations that will define operational excellence in asset servicing over the next decade are likely to be ones that have developed the most rigorous understanding of their own processes and have their automation investments coherent, their control environments robust, and their people genuinely more effective.

That new standard requires a willingness to examine operational reality with candor before committing to a solution, to invest in workflow architecture before selecting tools, and to treat the deployment of AI as a design and tech question. It also, as the work being done at institutions like CIBC Mellon is beginning to demonstrate, produces better and more durable outcomes than the alternatives.

The trajectory of this work points toward operating models that are genuinely adaptive: where data informs design, platforms orchestrate execution, and people apply their expertise to the decisions that actually require it. That is not a distant aspiration. For institutions willing to begin with the harder questions, it is already within reach.

THE NEW STANDARD FOR OPERATIONAL EXCELLENCE

The next generation of asset servicing leaders will be defined by how well they understand, design, control, and execute their operations.

RIGOROUS UNDERSTANDING OF PROCESSES

- Deep visibility into how work actually gets done
- Honest assessment of inefficiencies and variability
- Evidence-based decision-making before change begins

COHERENT AUTOMATION INVESTMENTS

- Automation aligned to business needs
- Technology applied where it creates real value
- Investments guided by workflow design, not tool availability

ROBUST CONTROL ENVIRONMENTS

- Controls built into execution
- Consistent governance and oversight
- Greater durability and operational resilience

MORE EFFECTIVE PEOPLE

- People focused on decisions that require judgment
- Less time spent on low-value manual tasks
- Higher-impact contributions to clients and operations

Future-ready operations are not defined by more technology alone, but by better-designed systems of work.

AI
65%
75%
90%
79%
69%
57%
45%
96%

FOR MORE INFORMATION

CIBC Mellon is pleased to engage with clients on this front and continue the conversation. Please contact your Client Manager if you would like more information.

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