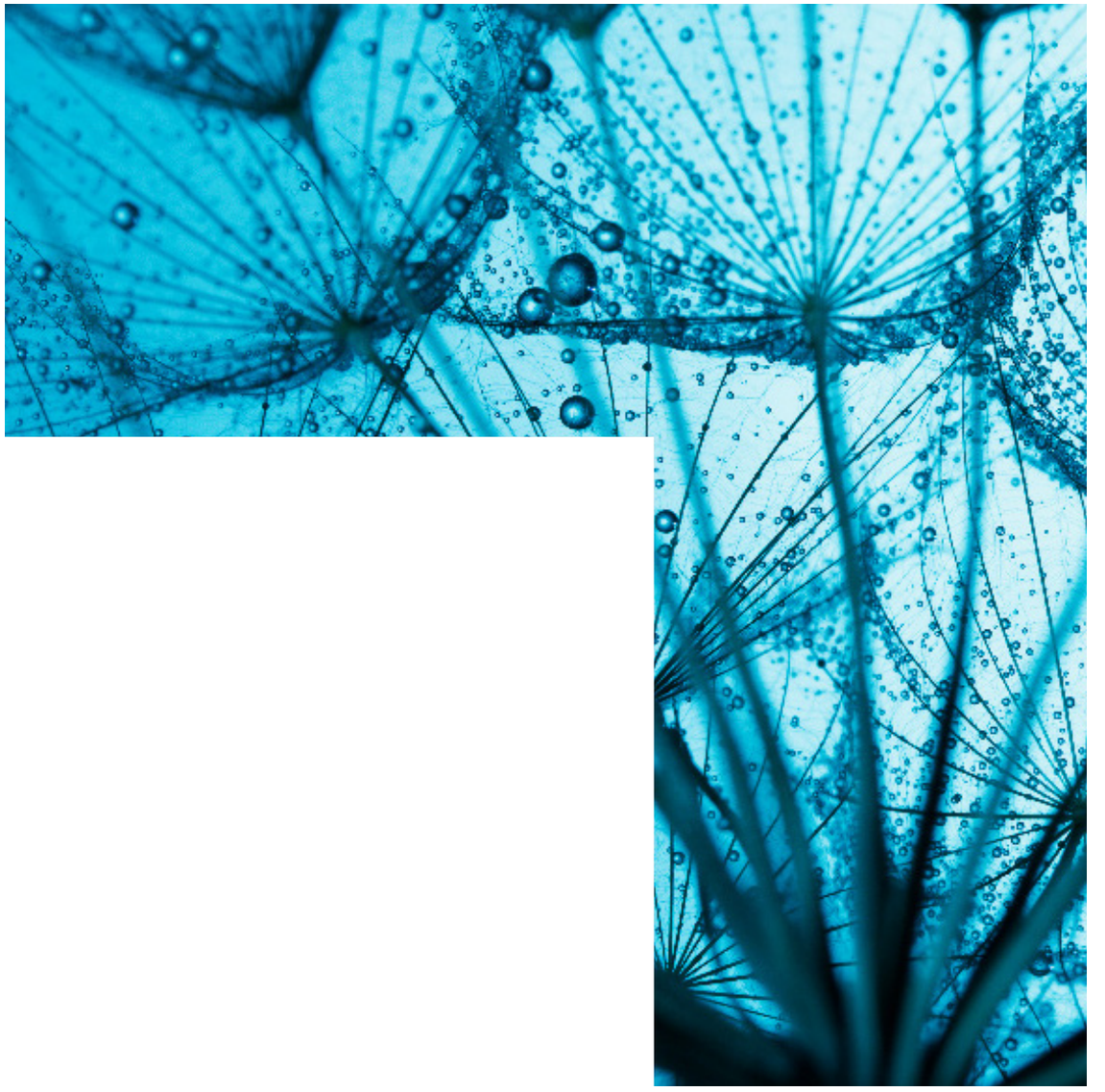
Navigating an AI ecosystem

Scaling for impact in health and life sciences



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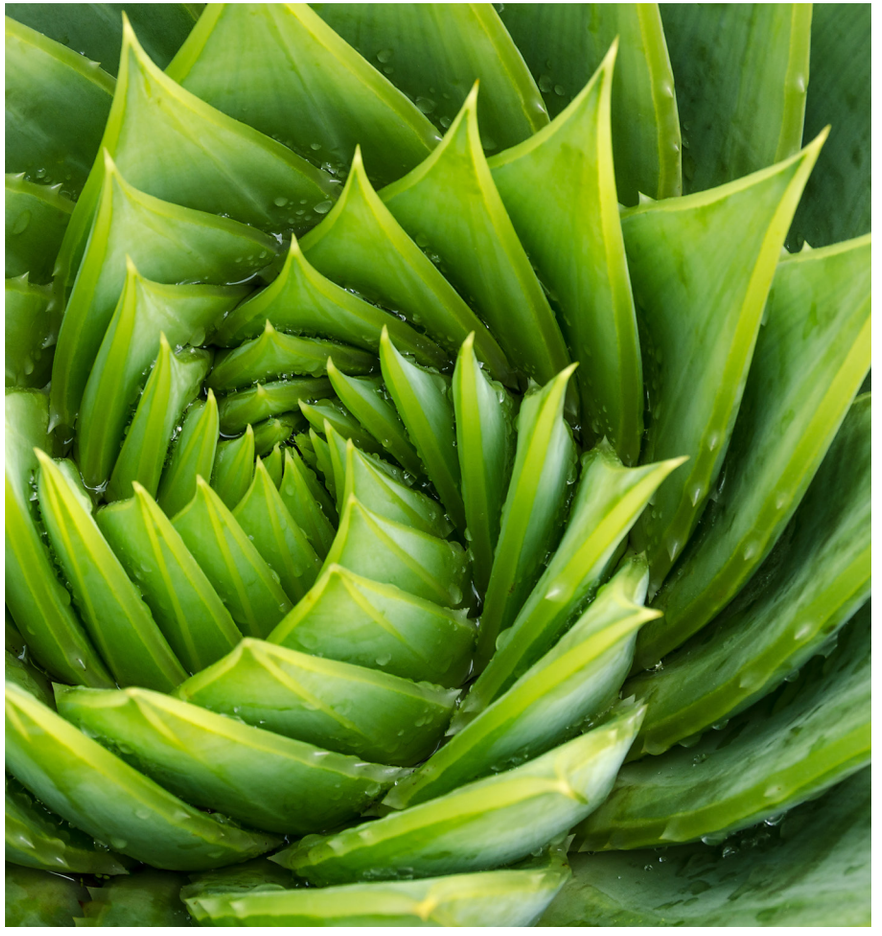


As artificial intelligence (AI) continues to transform business and government, the pace of innovation is accelerating, demanding faster, more informed decisions around strategy, funding, procurement, supply chains and risk.

- Where should leaders begin?
- What core elements are critical for success?
- How can AI help dismantle silos, streamline operations and drive mission impact?

To answer these questions, organizations should adopt an ecosystem mindset that views AI not as a single technology but as an integrated network of capabilities, enablers and policies. Leaders who treat AI as a discrete technology risk short-term wins that fail to scale or deliver strategic value. A more integrated approach is essential.

We define the AI ecosystem as spanning six core elements: data, workforce readiness, infrastructure, governance, strategic alignment and security. Each component is interconnected; strengthening one strengthens the whole. By taking a holistic approach to this ecosystem, leaders can move beyond experimentation toward sustainable, strategic transformation. This viewpoint lays the foundation for that evolution and establishes context for our thought leadership series to follow.

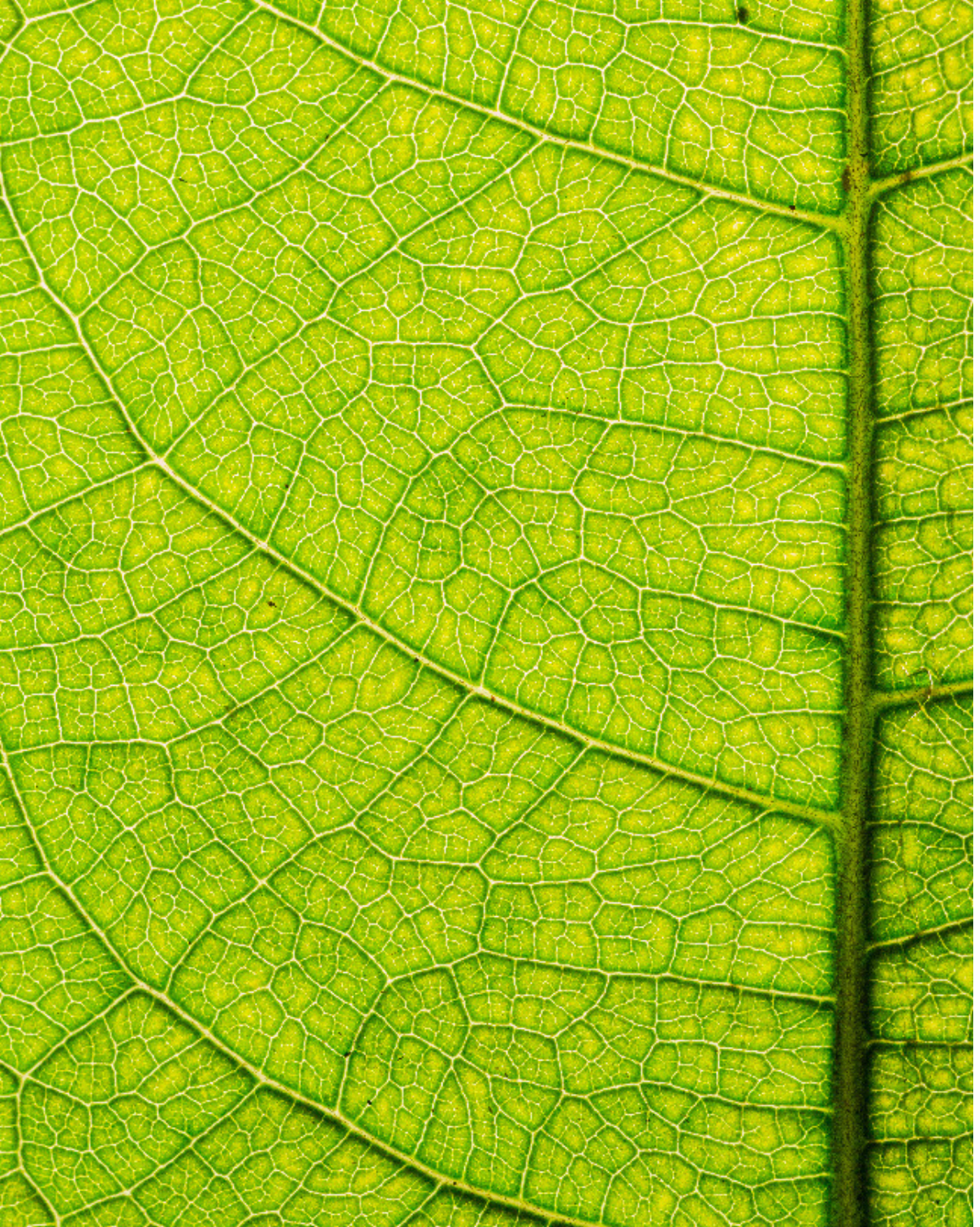
Insights from CGI's **2025 Voice of Our Clients** interviews indicate that many leaders are rethinking how their organizations will deliver transformation, moving more toward managed services and ecosystem partnerships.

AI is maturing and remains a key lever for innovation and efficiency.

Compared to prior years, more organizations are implementing traditional and generative AI.

35%
Implementing traditional AI
+9 pp YoY

20%
Implementing generative AI
+13 pp YoY



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From siloed to scalable impact

How connected ecosystems drive greater AI value

Many organizations begin their AI journey without the end in mind, resulting in isolated tools and disconnected initiatives. While these efforts can yield incremental benefits, they often fall short of true transformation. A connected ecosystem amplifies the impact of AI across the enterprise as illustrated by industry.

Health providers

In isolation

AI flags high-risk patients in one busy clinic, but care teams lack shared records or coordinated outreach efforts.

With an ecosystem mindset

Integrated clinical, operational and community data orchestrates care plans and proactive patient engagement.

Life sciences

In isolation

A predictive maintenance model improves uptime at one facility but is unable to anticipate upstream supply chain issues.

With an ecosystem mindset

Connected systems across design, production and suppliers enable faster response to disruptions and product defects.

Health payers

In isolation

Self-service portals answer member questions but cannot reconcile claims issues or detect complex payment leakage.

With an ecosystem mindset

A shared member record with integrated claims, clinical and partner data powers real-time adjudication, abuse detection and tailored benefits coverage.

Government

In isolation

AI forecasts natural disasters based on satellite data, but emergency response is delayed due to siloed systems.

With an ecosystem mindset

A connected network of internal and external data sources drives faster, more coordinated disaster response and public safety alerts.

Utilities

In isolation

An AI tool predicts equipment failure in a substation, but the alert doesn't reach grid operations in time to prevent an outage.

With an ecosystem mindset

A connected ecosystem links grid sensors, maintenance systems and customer platforms, enabling proactive repairs, minimized downtime and real-time customer updates.

Cross-industry

In isolation

AI systems identify and prevent fraudulent claims and improper payments, but inaccurate data and a lack of governance result in false positives.

With an ecosystem mindset

A comprehensive approach ensures high-quality data with clear governance frameworks to ensure transparency and accountability to enhance fraud detection accuracy.

The evolving AI ecosystem: six core elements

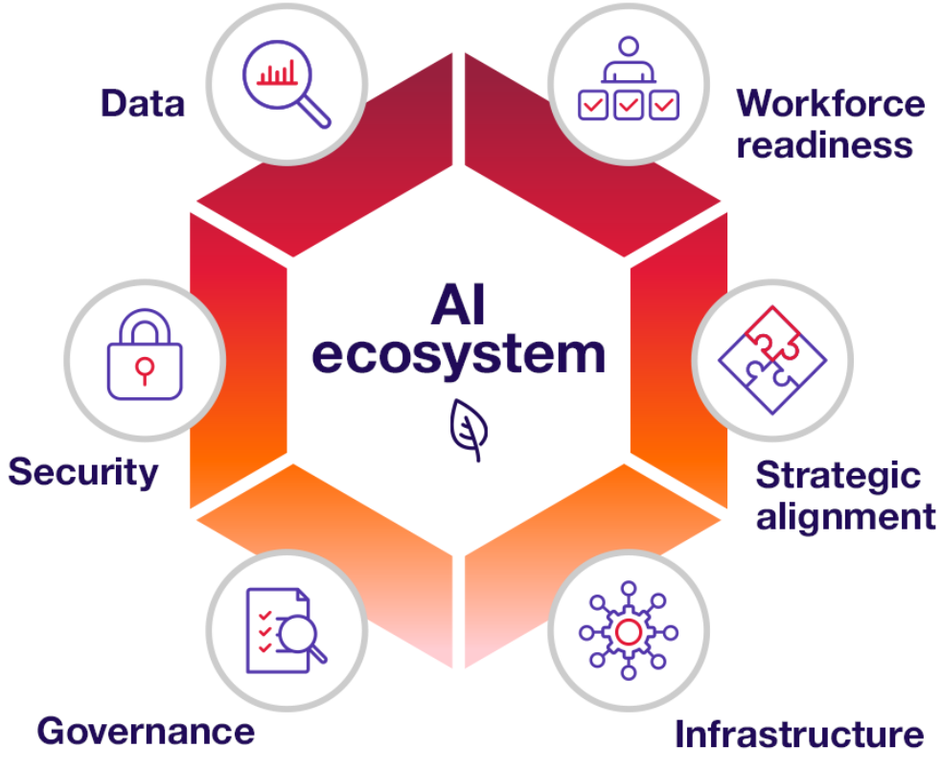
A framework for responsible, scalable AI adoption

Effective AI adoption across government and commercial organizations requires more than technology. It demands visionary leadership and a holistic ecosystem approach.

While missions and strategies may differ, both sectors must navigate the same foundational challenges as they seek to improve economic and societal impact. Both face common challenges around how to manage and harness AI's full potential. True impact comes not from isolated success in a single area, but from the connective tissue that binds the AI ecosystem together. When these elements are in place, they enable accountability and scale. Without them, even well-executed initiatives may stall or fail to deliver lasting value.

The rise of agentic AI has introduced new opportunities but an additional layer of complexity, elevating the stakes for governance, transparency and oversight.

The six elements form the core of the ecosystem, with high-quality **data** and **workforce readiness** forming the foundation. Scalable, mission-aligned **infrastructure** supports both traditional and agentic AI. **Governance** ensures ethical, transparent use. **Strategic alignment** keeps the focus on impact. **Security** protects systems and data.



1 Data

Data is more than just the foundation of an AI initiative—it is the strategic asset that influences every outcome and determines whether AI can successfully achieve an organization's goals. It underpins every decision, prediction and action generated by AI systems.

As AI capabilities advance, so does the role of data. Traditional AI implementations use data to train models to recognize patterns, make predictions and optimize processes. These systems typically rely on historical data and structured data sets to perform specific tasks within predefined parameters. But with the rise of agentic AI systems that can reason, adapt and act autonomously, they demand broader and more dynamic data inputs. They depend on real-time data flows and diverse data sets to assess environments, adapt to new variables and make informed decisions without human intervention.

For instance, a traditional AI model might flag anomalies in past procurement cycles, while an agentic system could monitor active procurement behavior in real-time, automatically flagging and responding to signs of fraud or policy non-compliance.

For consideration

Leaders should develop strategies to acquire and curate high-quality, diverse data sets that reflect the complexity of real-world operations. This includes integrating both structured and unstructured data from across systems and workflows to provide the rich context AI systems need to operate effectively. For AI to deliver consistent, trusted results, particularly for agentic systems that act autonomously, organizations should also establish strong data foundations. This means defining clear data lineage, enforcing quality standards and ensuring interoperability to align AI outputs with business and mission goals.

As data ecosystems expand, organizations must also consider the roles, tools and infrastructure necessary to manage and safeguard these valuable inputs, setting the stage for AI's full operational integration.

2 Workforce readiness

As AI reshapes how work gets done, workforce readiness has emerged as a critical lever for value creation—and a common barrier to progress. Organizations are seeking measurable outcomes like increased productivity, smarter decisions and faster service delivery. But these goals can't be achieved by technology alone. Sustainable transformation requires a people-first approach that empowers employees to adapt, lead and collaborate alongside AI.

This means shifting from automation to augmentation. Rather than simply replacing tasks, AI should amplify human potential—enabling people to make faster decisions, deliver deeper insights and focus on more strategic work. Getting there requires reskilling teams, redesigning roles and rethinking performance metrics to reflect human-AI collaboration. It also calls for intentional change leadership to foster trust, align on outcomes and scale transformation effectively.

For consideration

The emergence of AI introduces new roles and responsibilities—from AI product owners and ethics leads to human-in-the-loop supervisors. Successful organizations invest in targeted training and scalable learning programs to prepare people to govern, validate and collaborate with tools in real time. With the right talent strategy, culture and executive vision, organizations can ensure their workforce remains at the center of innovation.

3 Infrastructure

Moving from AI theory to operational reality requires an infrastructure that is scalable, secure and aligned to the organization's mission and goals. Traditional AI systems depend on foundational technologies, including reliable computing resources and stable networks. They typically operate within predefined parameters, relying on structured data and historical information to perform specific tasks. The infrastructure for these systems includes adequate processing power to handle data analysis and model training, as well as network capabilities to support data transfer and integration across various platforms.

Agentic AI raises the bar. These more advanced systems operate with greater autonomy, requiring infrastructure that can support real-time decision-making, ongoing learning and adaptive actions. This means investing in more flexible, high-performing environments—whether on-premises, in the cloud or at the edge of operations. The infrastructure must not only scale but also respond quickly to changing conditions. Just as important, strong cybersecurity must be built in from the ground up to protect the integrity and trustworthiness of AI systems as they take on more complex roles.

For consideration

To support this evolution, organizations should assess their current infrastructure readiness and identify gaps across computing, storage, connectivity and cybersecurity. Investments in high-throughput architectures and federated data environments are essential to enabling real-time decision-making at scale. By proactively evolving their infrastructure, organizations can ensure their traditional and agentic AI systems are secure, mission-focused and achieve performance.

4 Governance

Governance is foundational to any successful AI strategy. It provides the structure for accountability, transparency and responsible deployment, ensuring AI systems align with organizational values, regulatory expectations and ethical standards. By establishing clear policies and oversight, organizations can build trust, reduce risk and unlock the full potential of AI. In the absence of strong governance, even well-resourced AI programs can stall. Initiatives that lack alignment with broader policies or ethical frameworks often struggle to scale or deliver sustainable impact. Strong governance helps ensure innovation moves forward with integrity, security and purpose.

Reinforcing the importance of governance, the U.S. federal government recently issued guidance that calls for strong governance frameworks and risk management practices to fully leverage the potential of agentic AI. This guidance is equally applicable to the commercial sector.

For consideration

Leaders should carefully review their existing policies and frameworks to determine whether they can handle the complexities of AI deployment. Organizations should assess their governance structures to enhance transparency, accountability and effective decision-making in AI use. This process includes establishing clear roles and developing comprehensive compliance plans to manage risks and uphold public trust in AI-driven operations.

5 Strategic alignment

There is no one-size-fits-all strategy for AI deployment. Implementing AI strategically requires tailored approaches for traditional and agentic AI systems, aligned to each organization's unique mission, capabilities and operational priorities. Aligning investments across the six core elements of the ecosystem ensures AI projects can scale beyond pilots and deliver enterprise-wide ROI.

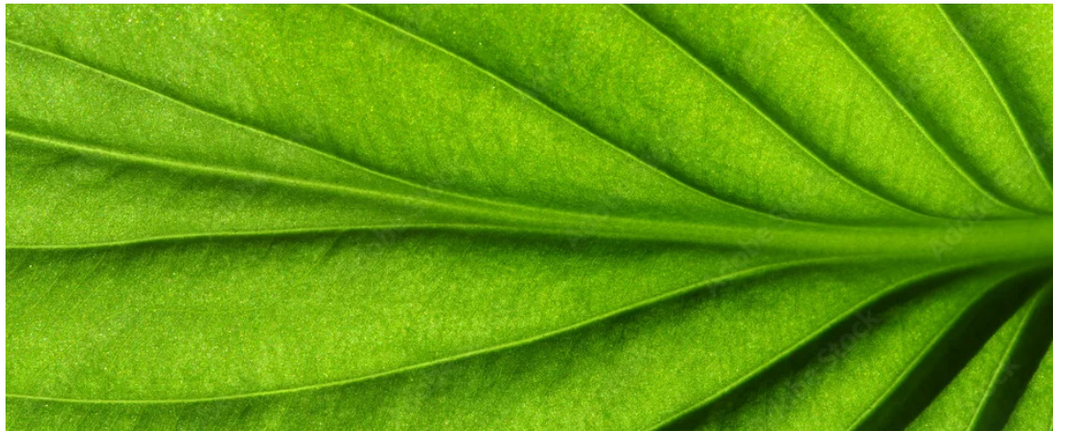
Traditional AI is often best suited for enhancing defined workflows, automating routine tasks or surfacing insights from historical data. These projects benefit from structured integration with existing IT systems and are measured against well-defined performance metrics.

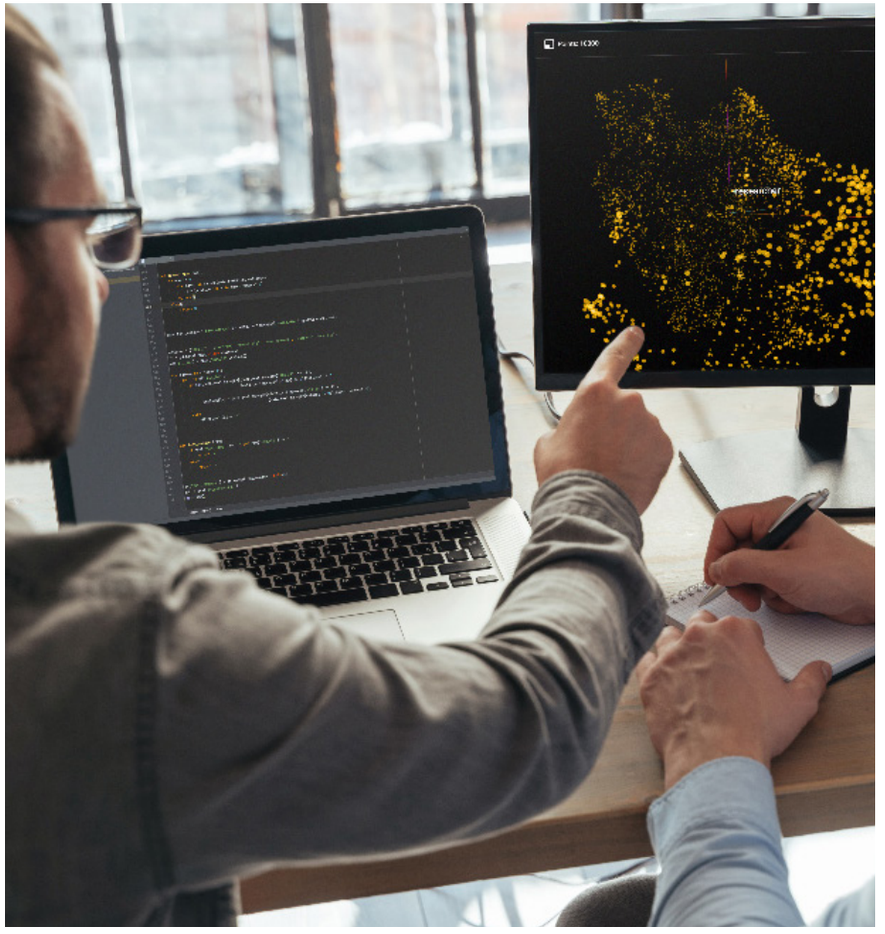
Agentic AI introduces both higher complexity and greater potential. These systems offer new ways to advance organizational goals, whether improving mission outcomes in the public sector or driving growth and innovation in the private sector. To realize this potential, organizations should identify strategic use cases where autonomous, adaptive AI capabilities can deliver meaningful value.

However, given the autonomous nature of agentic AI, pilot programs are essential. They allow organizations to test and validate performance, identify risks and refine human-AI interaction models all within a controlled environment that minimizes operational disruption. Pilots also serve as a platform to gather cross-functional input and build confidence before full-scale deployment.

For consideration

Organizations should develop implementation roadmaps aligned with their current level of AI maturity and focus on achieving specific outcomes based on their goals. This includes phased adoption models, governance checkpoints and feedback loops that incorporate lessons learned from early-stage deployments.





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Security

The intersection of AI and security presents a duality in which AI can be both friend and foe. While AI can dramatically bring new capabilities to predict and prevent data breaches, it can also open doors for greater risk, such as managing sensitive national security data or personal customer information. As leaders consider how to implement AI solutions to improve operations, they must also consider and weigh the measures to safeguard their digital assets and use AI to achieve that objective.

For consideration

Security must be an integral aspect of AI governance from the start, not treated as an afterthought once systems are operational. A dual approach is recommended, using AI to secure systems and securing AI itself. This includes red-teaming AI models, simulating threat scenarios and embedding cybersecurity experts in AI development teams. Continuous monitoring frameworks to detect unusual AI behaviors post-deployment should also be adopted. A strong security foundation not only protects assets but also enables responsible scaling and operational trust in AI systems. Security efforts that are siloed from infrastructure, data governance or workforce readiness can introduce blind spots. An ecosystem approach ensures security is built into every layer, proactively and cohesively.

The ongoing conversation

Key trends, challenges and what's next in AI

As AI enters a pivotal phase of evolution, both government and commercial organizations find themselves navigating complex transformation. Agentic AI, in particular, presents new opportunities and new demands for leadership, infrastructure and strategy.

By embracing a comprehensive ecosystem grounded across the six core elements of data, workforce readiness, infrastructure maturity, governance, strategic alignment and security, organizations can proceed with purpose and confidence.Yet, as technology advances, many questions continue to surface. Leaders across sectors must continually reassess how to integrate AI responsibly, effectively and at scale:

- How do we balance innovation with data privacy and ethical guardrails?
- What are the best practices for scaling AI across diverse, mission-critical environments?
- How can organizations stay ahead of both technological and regulatory change?

In what ways can AI proactively address longstanding challenges such as improper payments, supply chain optimization or regulatory compliance?

There are no static answers to any of these questions. Instead, there is a growing need for collaboration, iteration and informed exploration. Organizations must be agile learners—building organizational muscle to monitor trends, evaluate evolving tools and adapt governance structures in real time.

The AI ecosystem will continue to expand in capability and complexity. Ongoing engagement across organizations, industry sectors and trusted partnerships is essential to maintaining relevant and resilient AI strategies.

As the technology evolves, we will continue to share insights, lessons learned and forward-looking strategies to support our government and commercial clients in navigating the AI journey with purpose and precision.

The right partner by your side

Why expertise and alignment matter for AI success

AI should be more than a technology investment — it should be a catalyst for unlocking human potential and accelerating business value. Choose a partner with both deep industry expertise and proven change leadership frameworks that can support you across the ecosystem — from data management and workforce training, to infrastructure development, governance, strategic planning and security.

As organizations explore, scale or operationalize AI, they should seek a partner with an ecosystem mindset who understands AI as an integrated system of capabilities, not a standalone tool. The right partner helps avoid fragmented efforts and drives sustainable, enterprise-wide impact.

Looking to turn the promise of AI into a measurable and lasting impact?

For commercial organizations and state and local governments: Discover how an integrated AI ecosystem can streamline operations, enhance customer and citizen experiences, and drive sustainable value. Learn more here

For federal agencies: See how CGI helps agencies modernize securely and responsibly, leveraging AI to improve mission outcomes and public trust. Learn more here

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*Source for all statistics: CGI Voice of Our Clients

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