From *prompt* to *purpose*

Unlocking business value with agentic AI

How to automate, optimize, and scale agentic AI

Capgemini × snowflake®

Introduction

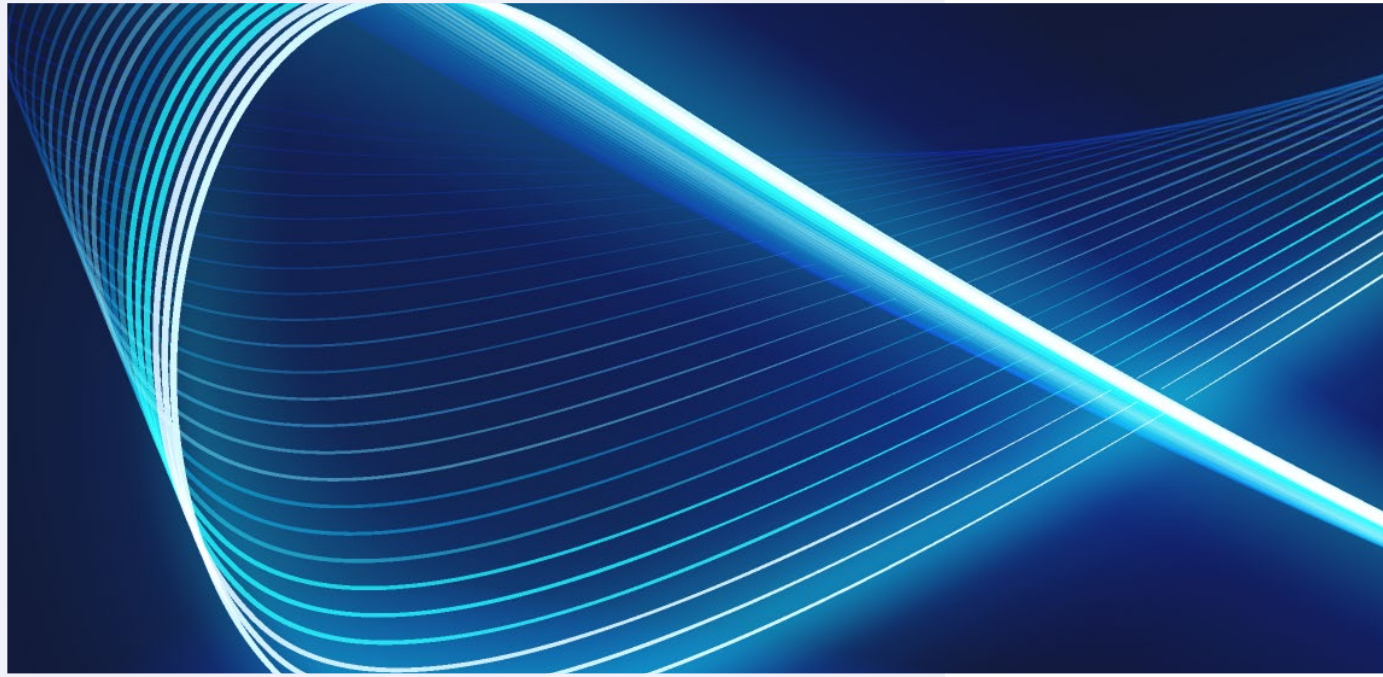
In the enterprise conversation about AI, most of the attention – and the hype – has focused on generative AI and large language models (LLMs): the type of AI exemplified by ChatGPT and its ability to write texts, create images, produce code, compose music, and more.

Agentic AI is changing the conversation fast. According to Capgemini's recent research,[1] 93% of leaders believe successfully deploying agentic AI at scale in the next 12 months will deliver competitive advantage. Indeed, the pace of adoption was so rapid that researchers felt the need to double-check with the majority of their respondents.

Driving this adoption in the near term are process-intensive domains such as customer service, IT, sales, operations, and research and development. As organizations seek to unlock new levels of productivity, efficiency, and growth, the value of agentic AI is projected to reach $450 billion by 2028 [2].

However, realizing this value can be challenging. Powerful models are the foundation, but an effective agentic AI solution must also be built for ease, connectivity, and trust. This requires system design that prioritizes seamless integration, clear governance frameworks, and reusable, composable architecture, as well as access to and governance of AI-ready data. Just as important is a business user interface that allows for efficient development and monitoring at scale by both technical and nontechnical users.

In this paper, we explore the technical prerequisites for success, the most common enterprise hurdles, and how the right platform approach can address data fragmentation, unpredictable costs, and time-to-value. We also offer a practical checklist for the ideal solution and share examples of what success looks like in the real world.



[1] https://www.capgemini.com/wp-content/uploads/2025/07/Final-Web-Version-Report-AI-Agents.pdf
[2] https://www.capgemini.com/wp-content/uploads/2025/07/Final-Web-Version-Report-AI-Agents.pdf

What is agentic AI?

Agentic AI is an autonomous system that sets its own goals, makes decisions, and takes action to achieve them without any specific directive instruction to do so. It consists of multiple different types of intelligent agents acting together to gather, understand, and act on information. It also learns from its actions to improve its response without human intervention.

The intelligent agents can include robotic process automation (RPA), machine learning models, and generative AI agents that can generate, validate, and summarize content as part of a broader task. For example, Snowflake Cortex Agents are generative AI agents that help retrieve data insights from complex structured and unstructured datasets by breaking down complex queries, retrieving relevant data, and generating precise answers.

37% of organizations piloting or implementing AI agents

25% of business processes operating with semi to full autonomy by 2028

$450 billion projected economic value generated by AI agents by 2028 across 14 countries

The critical features of successful agentic AI

By its very nature, agentic AI can be deployed in a wide range of use cases. Whether an organization is implementing it to personalize the retail experience, accelerate clinical trials, or detect and prevent financial fraud, most successful implementations are underpinned by the same key features.

As they prepare their organization and consider solutions and partners, businesses and tech leaders who are considering agentic AI should therefore look for critical success factors including:

01 **Access to unified, AI-ready data:** To get the full picture, AI agents need seamless access to complete, consistent, and connected data from all relevant sources. Agentic AI cannot act intelligently or make relevant decisions without it.

02 **Self-optimizing AI pipelines:** Agentic AI learns, adapts, and scales. Self-optimization makes that possible by turning feedback into improvement, which keeps independent agents safe, effective, and on-track.

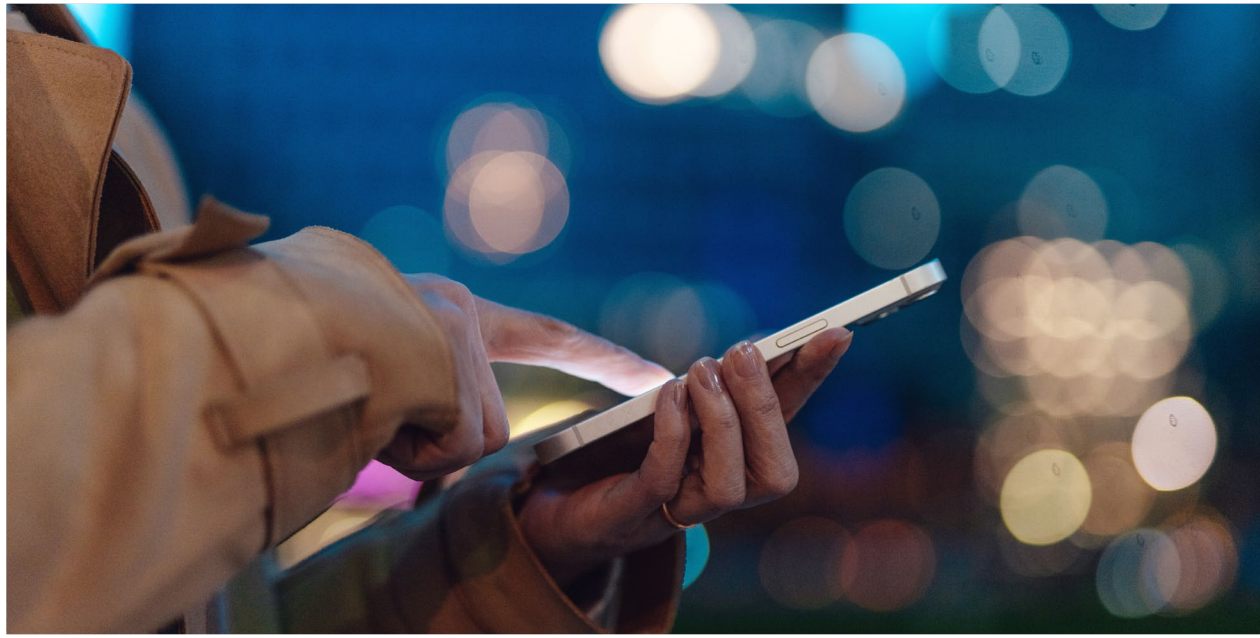
03 **Real-time data processing:** AI agents act in the moment. They need real-time data to understand what is happening now and to make timely decisions that make sure they achieve their stated goal.

04 **Automated data governance:** AI agents have to play by the rules. Strong governance and security frameworks ensure operational performance is ethical and legal, and give businesses oversight of their automated workforce.

05 **Composable AI workflows:** In an agentic AI system, no agent works alone. Composable workflows let businesses mix, match, and reuse AI components. It's the key to real scalability and cost-effectiveness.

06 **Optimized compute power:** AI agents process large volumes of data and make fast decisions. It's compute-intensive work. Efficient compute capability keeps performance levels high and costs under control.

Three industry hotspots for agentic AI value



1. Telecommunications

- Detecting and self-healing network faults: AI agents monitor, diagnose, and resolve network issues in real-time.
- Managing customer lifecycles: A hyper-personalized customer experience, based on real-time activity, behavior, and account status enhances the customer journey.
- Monitoring regulatory compliance: AI agents continually scan broadcast content and user interactions to flag or automatically adjust for emerging content moderation and data.

2. Manufacturing and supply chains

- Optimizing production lines: AI agents monitor demand fluctuations, equipment performance, and material constraints, then adjust workflows, machinery, and supply routes as needed – in real-time.
- Tracking environmental performance: AI agents collect, analyze, and report relevant data across supply chains for real-time compliance, alignment with sustainability goals, and efficient ESG reporting.
- Maintaining equipment predictively: AI agents go beyond flagging anomalies to plan and schedule repairs, order parts, and coordinate maintenance teams to prevent under- and over-maintenance.

3. Retail and e-commerce

- Enhancing personal shopping: AI agents assist individual customers across multiple sessions and channels, curate recommendations, manage wish lists, and negotiate offers.
- Managing campaigns: Agentic AI designs and launches marketing campaigns based on live performance data, then optimizes them by adjusting creative, audience segments, and timing as needed.
- Optimizing returns and refunds: AI agents handle post-purchase tasks, such as processing refunds, offering exchanges, flagging abuse, or updating inventory, in near real-time.

The five most common hurdles and bottlenecks

Just as there are common factors that are key to a successful deployment of agentic AI, so there are common barriers. Fragmented data, complex governance, cost inefficiencies, and scalability are the biggest hurdles to realizing the value of agentic AI.

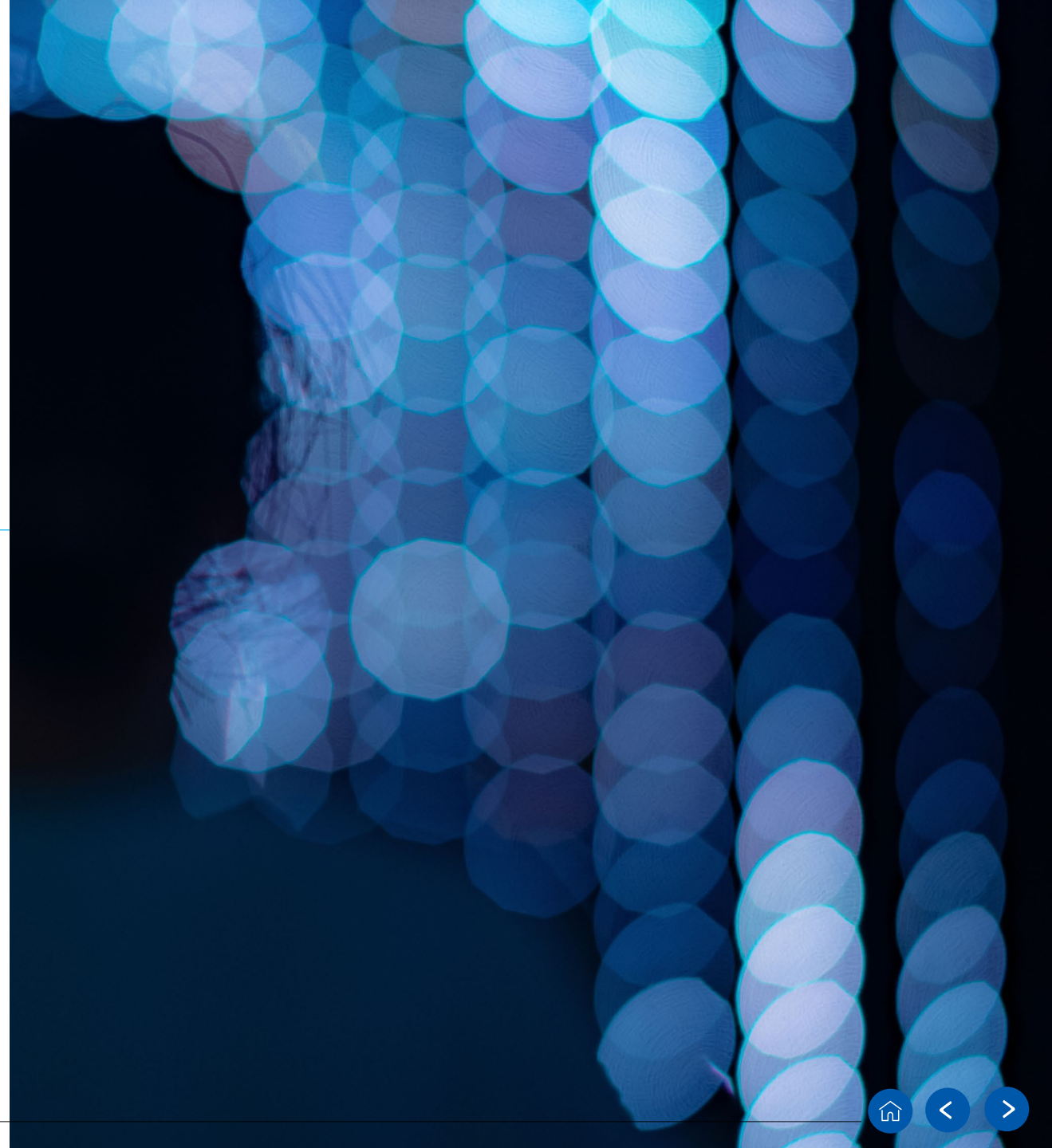
A project facing one or more of the following red lights has a much greater chance of failure than one that does not.

01

Complex, inefficient scaling: When implementing agentic AI, many businesses find that their time is spent on "reinventing the wheel" or adding components that rapidly become redundant. Because they don't have standard pipelines and reusable components, their resources get wasted, their data stays siloed, their costs go up, and eventually their AI falls short of expectations.

02

Lack of composability and governance: Agentic AI can act autonomously, but still needs strong oversight from business leaders. Without a robust ethics framework and clear guardrails, agents may pursue goals in ways that create real business harm. In addition to runaway agents, weak monitoring also opens the door to data security problems and exposes businesses to regulatory risk.



03

Operational siloes and integration challenges: AI agents are intended to collaborate with each other and with the human workforce. But disconnected AI tools are poor partners that struggle to cooperate across different functions. Businesses end up duplicating effort, which slows adoption. Transformation is squashed and businesses end up with just a more expensive version of "business as usual."

04

Unpredictable costs and inconsistent performance: AI models degrade over time and performance drops off, just like a valued but overworked employee. But any problems with an AI agent can be much harder to find and fix. Optimization is necessary, but it's a matter of guesswork when projects don't have clear visibility into performance and spend.

05

Data privacy and security: AI runs best in the cloud. But many businesses, especially those in highly regulated sectors, hold sensitive data that needs to stay on-premise. Balancing compute efficiency with data privacy and compliance controls is a constant challenge – and can be a significant hurdle to getting real business value from agentic AI.

In the best cases, these challenges slow down time-to-value. In the worst, they derail it completely. The planned business benefits fail to materialize, and it takes even longer for AI to gain necessary trust.

A new kind of HR challenge

The challenges of agentic AI are familiar to anyone who has led the implementation of advanced data-driven systems and solutions. But there is a unique AI flavor that the HR challenge illuminates.

Consider cloud and mobile. These technologies made business life easier by assisting human workers. But agentic AI is closer to a virtual human being. It isn't just helping out; it acts independently based on the authority delegated to it. It could be doing existing tasks much faster, or taking on brand new roles that humans cannot do. Monitoring and governance take on new significance. Just as the human workforce needs an HR framework that sets out expectations, roles, and responsibilities in the workplace, so AI agents need a governance and control structure to manage their activity to proactively avoid security, compliance, or ethical risks.

Integrated, optimized, and scalable: The ideal agentic AI solution

For all its technical complexity, an effective agentic AI solution is based on six simple qualities: ease, trust, reusability, efficiency, scalability, and predictability. This is precisely why data fragmentation, governance complexity, operational inefficiencies, and unpredictable costs need to be addressed in any solution design. They undermine the qualities that power success.

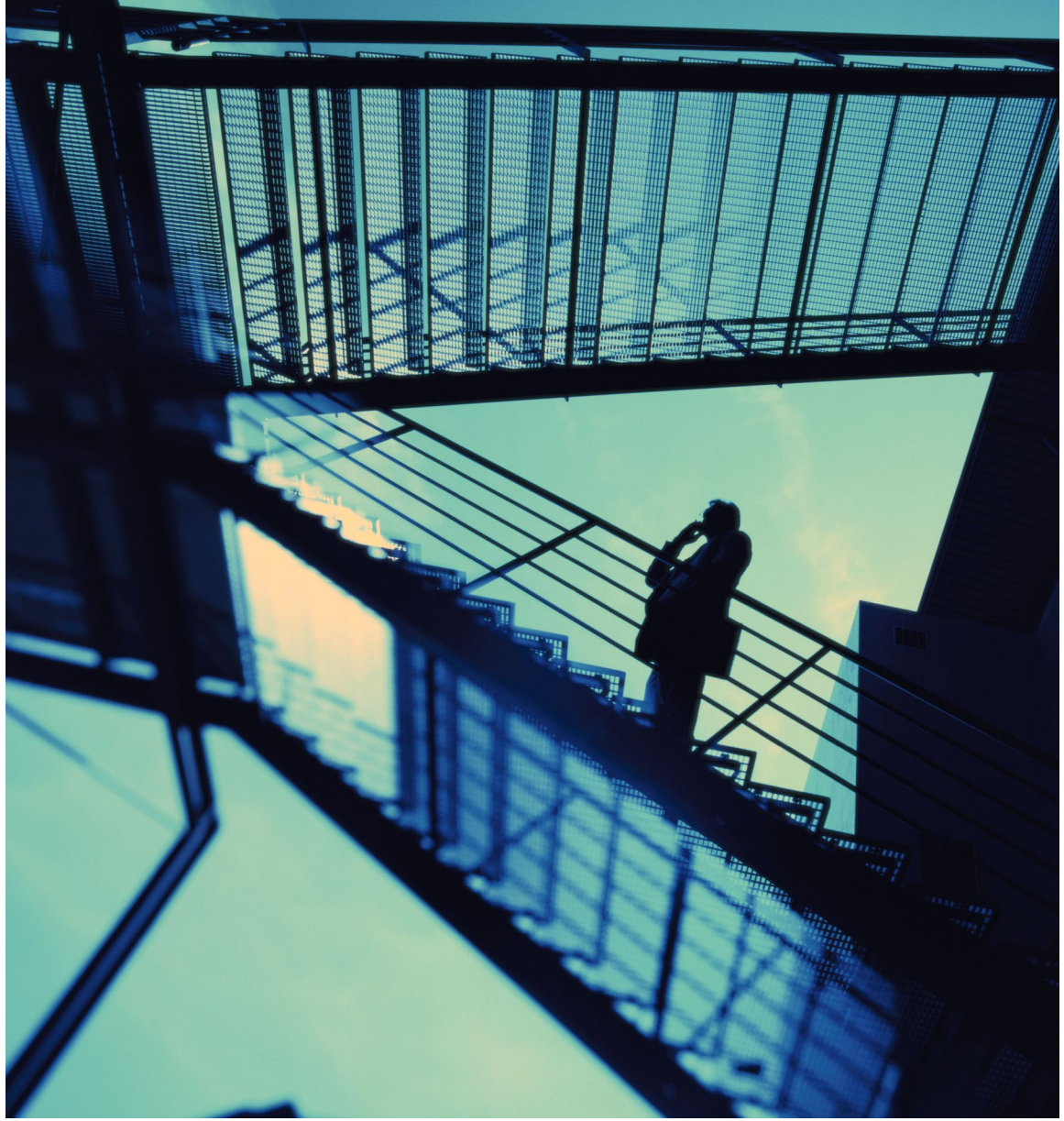
Agentic AI solutions that integrate industrial-grade AI agents with effective data platforms and an interface that is designed for business users can address these challenges. Rather than an isolated AI experiment, this kind of integrated solution offers a composable, fully governed enterprise asset. It unlocks cost-efficient AI workflows, ensures stronger security, and stops organizations from constantly duplicating activity and components as they apply agentic AI to more processes and domains.

Indeed, as more business functions and tasks are integrated, the lower the cost for each component becomes. **Capgemini AI scalability platform(Gen AI/Agentic AI) powered by Snowflake** is an integrated solution that has already demonstrated the value of this approach:

- Up to **70%** [4] lower development cost per application when compared to a single massive LLM, with cost monitoring, prompt optimization, and caching ensuring financial transparency [3] considering adequate production use cases enabled using platform accelerator.
- **60%** [4] faster deployment compared to disconnected, siloed builds, thanks to unified governance, operational dashboards, and solution accelerators for streamlining AI adoption.
- **40%** [4] faster issue detection compared to manual monitoring, by leveraging model evaluation, version control, and comparison tools to enhance AI reliability.

As agentic AI adoption accelerates, solutions like **Capgemini AI scalability platform powered by Snowflake**, that simplify both access to reusable components and managing agent operations, will be critical to scaling at speed and maximizing value.

[3] Based on sufficient production use cases enabled using the Capgemini AI scalability platform powered by Snowflake platform accelerator.
[4] Capgemini AI scalability platform: Pioneering Gen AI factory in the agentic age



Integrated agentic AI in the financial services sector

From limited scalability to faster time-to-value

Traditional AI implementations in banking can be slow, costly, and difficult to scale due to fragmented data and complex regulatory governance requirements. Innovation in areas such as fraud detection, credit risk modeling, and customer personalization is often hampered as a result.

Deploying **Capgemini AI scalability platform powered by Snowflake** helps banks overcome this challenge by standardizing AI workflows to create a modular, reusable, and – crucially – scalable AI solution. Functions including risk, operations, and customer-facing divisions have access to a consistent tool to drive innovation collaboratively, aided by predictable AI performance for faster time-to-value.

From unpredictable costs to optimized scaling

Many banks find that AI workloads drive up compute power needs, adding a significant level of cost unpredictability and inefficiency to their financial modeling and risk analysis.

Deploying **Capgemini AI scalability platform powered by Snowflake** can cut AI model development costs by up to 80% compared to traditional financial AI models. Snowflake's on-demand compute model ensures banks only pay for what they use, while AI scalability platform optimizes AI processing. Moreover, improving control, transparency, and predictability builds organizational trust in AI-driven banking operations.

Integrated agentic AI in the pharmaceutical sector

From disconnected data to faster drug discovery

For pharmaceutical companies looking to realize the benefits of AI-driven research, siloed data remains a substantial barrier. Clinical, genomic, and patient data is often stored in disconnected systems across the organization, limiting the data AI can analyze, and driving up the cost and time-to-value for AI-powered innovation.

Deploying an integrated solution such as **Capgemini AI scalability platform powered by Snowflake** unifies this data to significantly accelerate AI-powered drug discovery. Snowflake's cloud-native AI data platform seamlessly brings together structured, semi-structured, and unstructured data across legacy systems. AI scalability platform accelerates development and monitoring of critical discovery processes enabled by Snowflake Cortex AI agents accessing, analyzing, and acting on this unified data.

From delayed analytics to continuous insights

Precision medicine relies heavily on data, and innovation in this emerging field can be severely limited by delayed data processing. Real-time patient monitoring faces the same critical challenge.

An integrated solution such as **Capgemini AI scalability platform powered by Snowflake** overcomes this barrier to significantly improve the ability to personalize treatment efficiently at scale. Snowflake makes real-time data available through ingestion capabilities including Snowflake Openflow, Snowpipe Streaming, Kafka connector, and dynamic tables. AI scalability platform facilitates the build, orchestration, and monitoring of Snowflake Cortex AI-based solutions that support healthcare professionals with instant access to personalized predictive diagnostics at scale.

A step change in enterprise AI value at scale

Agentic AI is a major shift in the way enterprises operationalize AI at scale. Integrated agent-and-data models are an equally significant step. Developed to scale with ease, perform with accuracy, and keep costs under control, these are the solutions that are trusted to generate business value. Not once, but time and time again.

AI scalability platform

Capgemini's enterprise-grade Agentic AI Foundations enable organizations to move beyond experimentation and POCs to scale agentic AI across the business—while controlling costs, mitigating IT and business risks, and delivering measurable outcomes through Human–AI Chemistry. Leveraging Snowflake's unified AI data platform alongside advanced capabilities such as Cortex Agent and Document Intelligence, we accelerate secure, production-ready AI adoption at scale.

Checklist: What your agentic AI solution should offer:

- Easy, efficient, and trusted AI development with end-to-end integration.
- Governed data access for out-of-the-box accuracy, trust, and security.
- Customizable agents tailored to specific business contexts.
- User-friendly interface designed for both data and AI teams.
- Reusable, composable AI workflows for rapid innovation.
- Continuous and automatic deployment for agility and minimal downtime.
- Unified governance, observability, and security across data and AI assets.
- Predictable AI scaling across use cases to reduced cost variability.
- Native access to LLMs and AI services directly where the data lives.
- Real-time insights that fuel smarter, faster decisions.

Discover integrated, optimized, and scalable agentic AI with Capgemini AI scalability platform powered by Snowflake.

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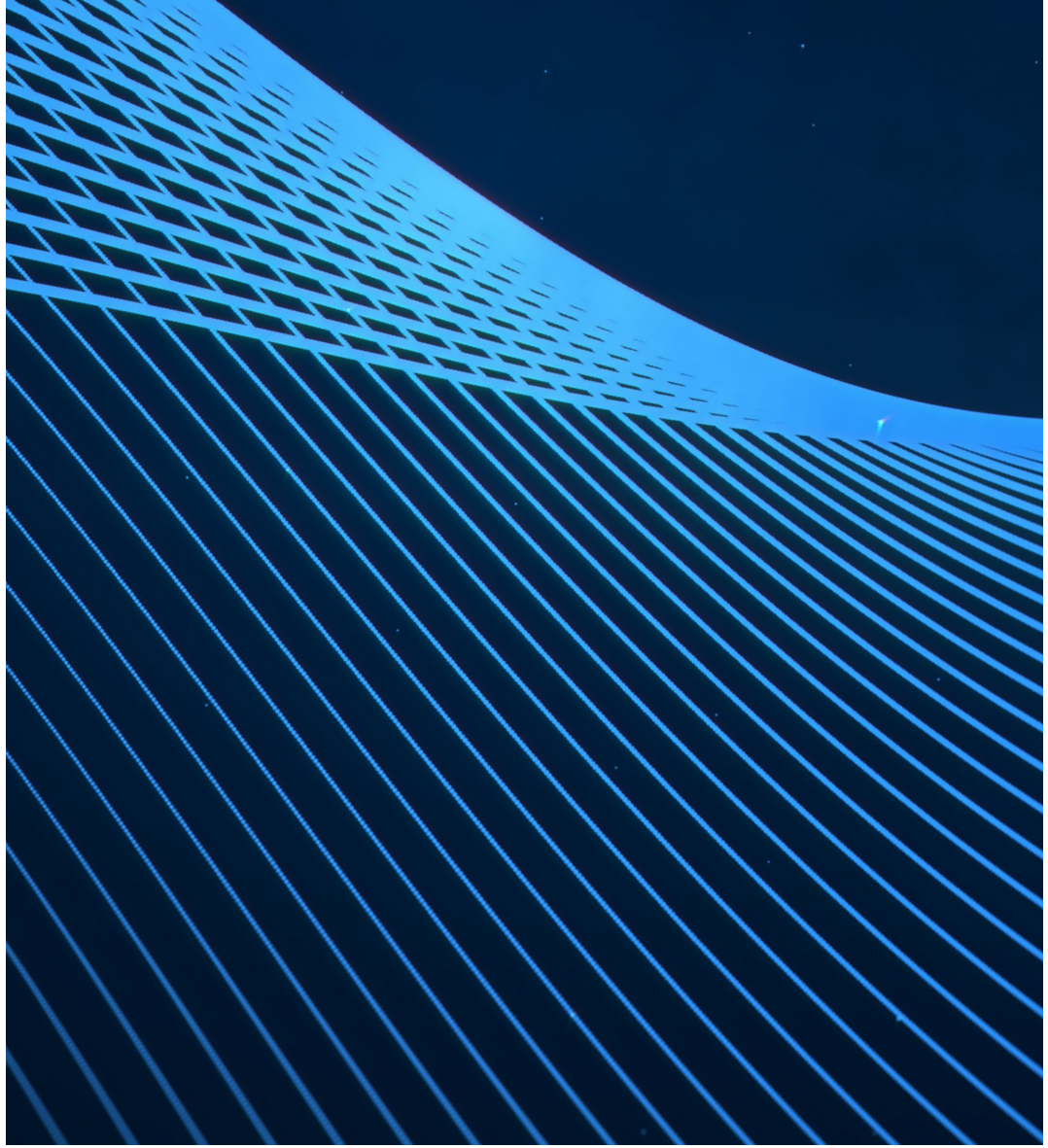

About Snowflake

Snowflake is the platform for the AI era, making it easy for enterprises to innovate faster and get more value from data. More than 11,000 companies around the globe, including hundreds of the world's largest, use Snowflake's AI Data Cloud to build, use and share data, applications and AI. With Snowflake, data and AI are transformative for everyone. Learn more at **snowflake.com** (NYSE: SNOW).

About Capgemini

Capgemini is an AI-powered global business and technology transformation partner, delivering tangible business value. We imagine the future of organisations and make it real with AI, technology and people. With our strong heritage of nearly 60 years, we are a responsible and diverse group of 420,000 team members in more than 50 countries. We deliver end-to-end services and solutions with our deep industry expertise and strong partner ecosystem, leveraging our capabilities across strategy, technology, design, engineering and business operations. The Group reported 2024 global revenues of €22.1 billion.

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