The agentic era: Reshaping the future of business

Retail and CPG

Introduction

The retail and consumer packaged goods (CPG) landscape is undergoing a seismic shift, driven by the rise of intelligent agents. We are entering what can be described as the agentic era, a time where multi-modal AI-powered assistants are not just automating tasks, but fundamentally reshaping how businesses operate, innovate, and connect with consumers. These increasingly sophisticated agents can help understand the world around us, anticipate needs, and take action on our behalf—all while under our supervision. This ebook explores how retail and CPG organizations can harness the power of agents to thrive in this new reality.

Innovate or fall behind: The relentless pressure on retail and CPG

Fragmented technology systems have been a problem for decades.

There is a long-standing problem of fragmented technology systems within businesses. Today, you have a lot of technology that works amazingly, but achieving seamless integration to unlock its full potential is often difficult.

Now, current trends are putting even more pressure on retailers and brands to adopt more technologies faster, and to adapt and innovate at remarkable speed. It's not just about keeping up; it's about staying competitive and relevant in a rapidly evolving landscape.

A surge of cutting-edge technologies adds new complexity.

We are seeing an explosion of incredible new technologies—things like large language models (LLMs), intelligent agents, generative AI, automated workflows, and enterprise-wide search tools. Each of these holds immense promise. However, this rapid innovation, while exciting, also introduces a new wave of complexity.

Organizations are asking:

→ How do we make sense of all these new tools?

→ How do they fit together within our existing infrastructure?

→ And most importantly, how can we actually use them effectively to solve real business problems and drive value?

The core challenge isn't merely understanding these technologies in isolation. It's about harnessing their collective power to achieve tangible outcomes.

Organizations need to be able to:

→ **Access information quickly:** Getting the right information to the right person (employee or customer), at the right time is crucial. How can these new AI-driven tools sift through vast amounts of data—structured and unstructured—to surface what's relevant, instantly?

→ **Connect data sources:** Most businesses have data scattered across various systems, silos, and formats. Real power comes from connecting these disparate sources. How can LLMs and agents help bridge these gaps and create a unified view of the data landscape?

→ **Take action:** Insights are only valuable if they lead to action. How can organizations embed these technologies into workflows to not just analyze or predict, but to actively assist in decision-making, automate tasks, and drive outcomes?

This is where Google Cloud comes in. We understand that navigating this new, complex technological landscape can be daunting. Our goal is to abstract away much of this underlying complexity. One successful way organizations are seeing success is to apply a clear approach—a way to systematically harness AI to find critical information, understand its implications, and empower decisive action.

Unlocking the agentic era: Find, understand, act

As organizations navigate the agentic era, they need a seamless way to find, understand, and act on their data.

🔍 Find

Finding relevant, useful, and personalized information can be a huge challenge, particularly as organizations amass more data, in many different formats, and across many disparate systems. Time wasted searching for insights and information can be a huge drag on productivity. Alongside this, search behaviors are changing, incorporating multiple modalities such as text, images, audio, and video. Query understanding is becoming increasingly complex. Being able to quickly find information and take action is a key enabler for the agentic era and provides the foundation for downstream agentic tasks. Imagine a workforce empowered to instantly find exactly what they need, when it is needed, enabling action to unlock value and drive innovation.

💡 Understand

Simply finding information is no longer enough. The real advantage comes from the ability to rapidly understand complex sources—encompassing both structured and unstructured data—and harvest key insights. Envision the ability to rapidly summarize information, transforming raw data into clear, concise insights, and enabling faster and better informed decisions.

↖ Act

The final step is to translate insights into tangible action. In the agentic era, businesses need AI to take action, helping employees turn information into workflow-driven tasks. The business can then move forward with speed.

In the following examples, we will explore how this **find, understand, and act** approach can play out.

Agents in action: Transforming key retail and CPG functions

Let's explore how AI agents can help transform specific functions within retail and CPG organizations, ranging from optimizing store operations and streamlining category management to enhancing marketing campaigns and refining inventory predictions. By seamlessly integrating into existing workflows and providing intelligent automation, agents can help empower teams across these areas to achieve new levels of efficiency, insight, and impact. These common applications are designed to inspire your thinking and illustrate how the agentic era may influence your business, while encouraging you to consider the unique opportunities within your own organization.

- Marketing
- Sales
- IT
- HR
- Finance
- Operations
- Procurement

Retail applications

01. Store management and operations
02. Merchant and buyer workflow
03. Marketing
04. Inventory management

Store management and operations

Revolutionizing store operations with AI-powered insights

Intelligent automation can assist retailers in their efforts to help achieve cost reductions, support improved efficiency and customer satisfaction, and encourage a thriving employee culture. By bringing together disparate data sources—from live inventory and shift schedules to social media sentiment and foot traffic—AI agents can provide various insights into store operations, while aiming to enable greater effectiveness and cost efficiencies.

Gather

→ Gather live inventory, shift scheduling, and visual data, providing immediate insights into store operations

→ Analyze social media, reviews, sales, and foot traffic to capture customer sentiment and market trends

Calculate

→ Calculate productivity, track KPIs, and identify areas for improvement through real-time data analysis

→ Examine employee skills and customer preferences for targeted training and personalized recommendations

Automate

→ Automate inventory, scheduling and other tasks, adjusting workflows based on real-time data and analysis

→ Provide instant access to information and facilitate multilingual support, improving employee and customer experiences

Proactive reasoning and optimization: Agents can help proactively suggest tasks, schedule assignments, identify store opportunities, and provide personalized customer information. Agents can also help to optimize store results and employee scheduling to drive efficiency and improve customer service.

Merchant and buyer workflow

Streamlining category management for increased sales and profitability

AI agents can help reduce the time taken to get the right product in front of consumers, which could contribute to an increase in sales and profitability. Intelligent tools that support the integration of structured data (sales, margin, inventory) and unstructured data (planogram images, social media), alongside the retrieval of external data like commodities pricing and competitor activity, can significantly help product and merchandising teams to analyze sales, market demand, and category trends and identify assortment gaps and product opportunities. AI agents can help refine product assortment by location, spot product gaps in current assortments, and maximize pricing investment and planogram placement changes, leading to a significant potential sales uplift.

🔍 Retrieve

→ Use connectors to ingest structured data (sales, margin, inventory) and unstructured data (planogram images, social media)

→ Retrieve external data like commodities pricing, competitor activity, social media signals, and emerging trends

💡 Reason

→ Analyze sales, market demand, and category trends to identify assortment gaps and product opportunities

→ Reason proactively to suggest assortment, pricing, and planogram placement changes with sales impact predictions

➤ Generate

→ Establish product mix, planogram layout, and inventory levels, with write-back to ERP and planogram systems

→ Generate product descriptions, optimize pricing and promotions, and support supplier negotiations

🧩 **Structured and unstructured data:** Agents can help incorporate both structured data such as sales data, margin, commodities pricing, and inventory data, as well as unstructured data sources like planogram images, social media feeds, and product images.

Marketing

Enhancing campaign creativity and effectiveness with AI-driven insights

Marketing automation powered by AI has the potential to enhance campaign creativity and effectiveness, while offering the possibility of increased return on ad spend (ROAS). It can also help enable actions such as: outlining campaign objectives and precisely identifying the intended audience for effective targeting; brainstorming campaign concepts, messaging, and diverse content formats; and analyzing customer data for tailored content and offers for enhanced engagement and relevance. Finally, it can allow continuous monitoring and adjusting of campaigns for optimal performance, resulting in increased ROAS. It also has the potential to enable much faster campaign activation, reacting seamlessly to shifts in consumer demand and resulting in a boost to overall campaign effectiveness.

Outline

→ Outline campaign objectives and precisely identify the intended audience for effective targeting

→ Brainstorm campaign concepts, messaging, and diverse content formats aligned with brand identity

Analyze

→ Analyze customer data for tailored content and offers, enhancing engagement and relevance

→ Facilitate A/B testing and performance data analysis for data-driven campaign improvements

Execute

→ Continuously monitor and adjust campaigns for optimal performance and maximum ROAS

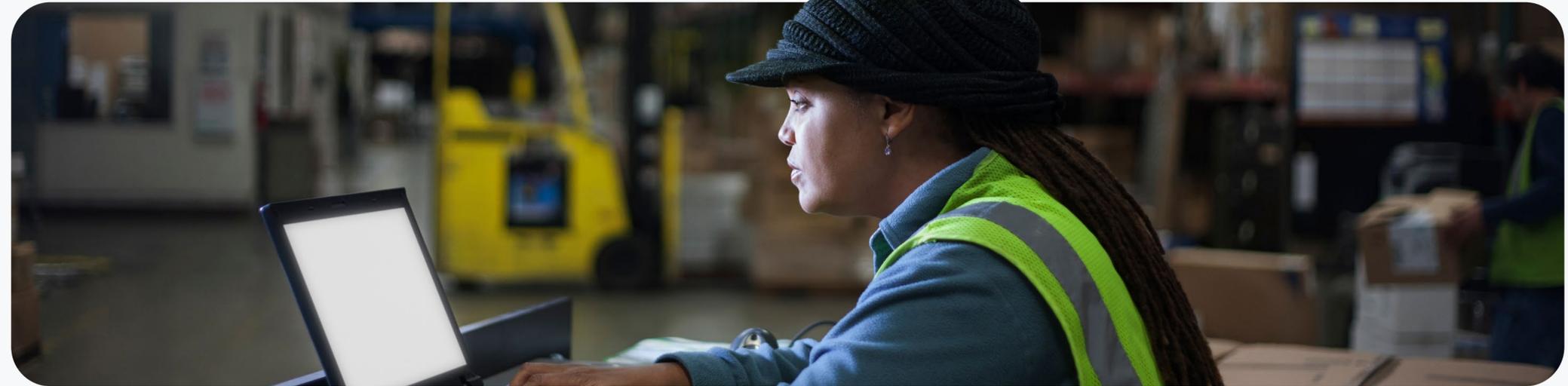→ Execute campaigns with greater speed and efficiency, boosting overall effectiveness

Photorealistic: Agents can help create new asset images iteratively in support of the campaign idea personalized by audience or individual.

Inventory management

Optimizing inventory predictions and system efficiency for reduced stockouts

AI agents can support efforts to improve inventory predictions and system efficiency. They may continuously monitor inventory, sales data, and trends to identify potential issues such as out-of-stock risk. They can help synthesize internal data with external factors such as consumer demand or shipping disruption to aid in understanding of product demand and servicing, giving a potentially more accurate picture of the situation. AI agents can help rapidly generate different solution scenarios, weighing cost, speed, risk, and impact to help recommend the optimal response. They also have features that help to automatically trigger actions, like placing an expedited shipment order or updating the system with revised stock levels, enabling supply chain teams to adjust forecasts with proactive monitoring— improving predictions and system efficiency over time.

🔍 Monitor

→ Continuously monitor inventory, sales data, and trends to identify potential issues such as out-of-stock risk

→ Assess broader market impact with external data like social media sentiment, competitor promos, and supply chain updates

💡 Synthesize

→ Synthesize internal data with external factors to understand demand increases, giving a more accurate picture of the situation

→ Generate different solution scenarios, weighing cost, speed, risk, and impact to recommend the optimal response

➤ Adjust

→ Automatically trigger actions, like placing an expedited shipment order or updating system with revised stock levels

→ Adjust forecasts with monitoring, improving predictions and system efficiency over time

🔍 **Unified search and content discovery:** Agents can help enable search and summarization of external information in support of category and inventory management.

CPG applications

01. Marketing
02. Sales workflow
03. New product innovation
04. Factory equipment optimization

Marketing

Enhancing campaign creativity and effectiveness with AI-driven insights

AI agents can assist marketing teams in their efforts to enhance campaign creativity and effectiveness, offering the potential for increased return on ad spend (ROAS). By helping to outline objectives and create briefs, identify target audiences, brainstorm concepts, analyze consumer data for personalization, and facilitate performance analysis, these intelligent tools can streamline campaign workflows. Integrating AI agents can help support continuous monitoring and optimization, potentially enabling faster campaign activation and boosting overall effectiveness in response to market dynamics.

Identify

→ Outline campaign objectives and precisely identify the intended audience for effective targeting

→ Brainstorm campaign concepts, messaging, and diverse content formats aligned with brand identity

Facilitate

→ Analyze consumer data for tailored content, enhancing engagement and relevance

→ Facilitate A/B testing and performance data analysis for data-driven campaign improvements

Boost

→ Continuously monitor and adjust campaigns for optimal performance and maximum ROAS

→ Execute campaigns with greater speed and efficiency, boosting overall effectiveness

Grounding: The system continuously learns from new internal and external data, actual results, and user feedback, helping improve its ROAS continuously over time.

Sales workflow

Streamlining category management and sales efforts for increased profitability

AI agents can help support CPG sales teams by helping to minimize category management time while aiming to increase sales and profitability. By integrating diverse data sources like sales figures, inventory levels, planogram images, and competitor pricing, these agents can help analyze market trends and competitive intelligence. This support can aid in optimizing negotiations, assessing risks and opportunities, generating category-specific recommendations, and developing compelling trade materials, ultimately streamlining the sales workflow.

Connect

→ Use connectors to ingest structured data (sales, margin, inventory) and unstructured data (planogram images, social media)

→ Retrieve external data like price elasticity, competitor pricing, and promotional effectiveness

Recommend

→ Analyze sales data, market trends, and competitive intel to optimize negotiations and assess risks/opportunities

→ Create listing recommendations that will resonate with retailers

Develop

→ Establish ideal product mix for the category and new planogram layout and inventory levels

→ Develop compelling product descriptions, attributes, and visual content

Continuous learning and improvement: The system continuously learns from new internal and external data, actual results, and customer feedback, helping to constantly improve its impact on issue resolution.

New product innovation

Streamlining the product development process from concept to launch

AI agents can assist CPG companies in streamlining the complex process of product design and development, potentially accelerating time-to-market for innovation. By helping teams gather market insights, check compliance, generate conceptual designs, simulate performance, and manage documentation, these tools can help foster creativity and efficiency. Integrating AI agents can support teams in navigating design challenges, exploring materials, and optimizing for manufacturability, aiming to transform ideas into market-ready products more effectively.

Search

→ Search consumer and market data trends and feedback for new product designs and insights

→ Check compliance with standards and regulations to ensure smooth transition between manufacturing and prototyping

Simulate

→ Create AI-generated conceptual designs and choose high-growth potential model

→ Simulate performance, explore materials, analyze for manufacturability, and identify challenges

Optimize

→ Develop BOM and list of CAD models, and optimize design by reducing weight

→ Develop release documents, send for prototyping, and initiate manufacturing process

Grounding: Agents can continuously learn from new data and user feedback, improving their design capabilities over time and helping to tailor specific assistance for a personalized and optimized design experience.

Factory equipment optimization

Rapidly diagnosing equipment performance issues

AI agents can assist CPG manufacturing teams by helping to rapidly diagnose equipment performance issues, potentially reducing downtime and maintenance costs. By enabling the collection and analysis of diverse sensor data, including time series and audio samples, these agents can help pinpoint potential malfunctions. Integrating AI agents can support maintenance workflows by suggesting solutions, providing relevant technical details, and automating the creation of work orders, aiming for quicker resolutions and improved operational efficiency.

Scan

→ Scan model and serial number, and perform diagnostics based on time series data collected

→ Start motor in test mode and submit audio sample for testing

Examine

→ Analyze time series data to identify potential motor problem

→ Examine sound along with other set variables to identify specific motor malfunctions

Suggest

→ Suggest multiple possible solutions to malfunction and display relevant repair manual details

→ Create a work order with special instructions, then email order to technician

Video ingestion/multimodality: Agents can help to ingest voice, noise, and vibration inputs to assess equipment health.

Why Google Cloud for agents
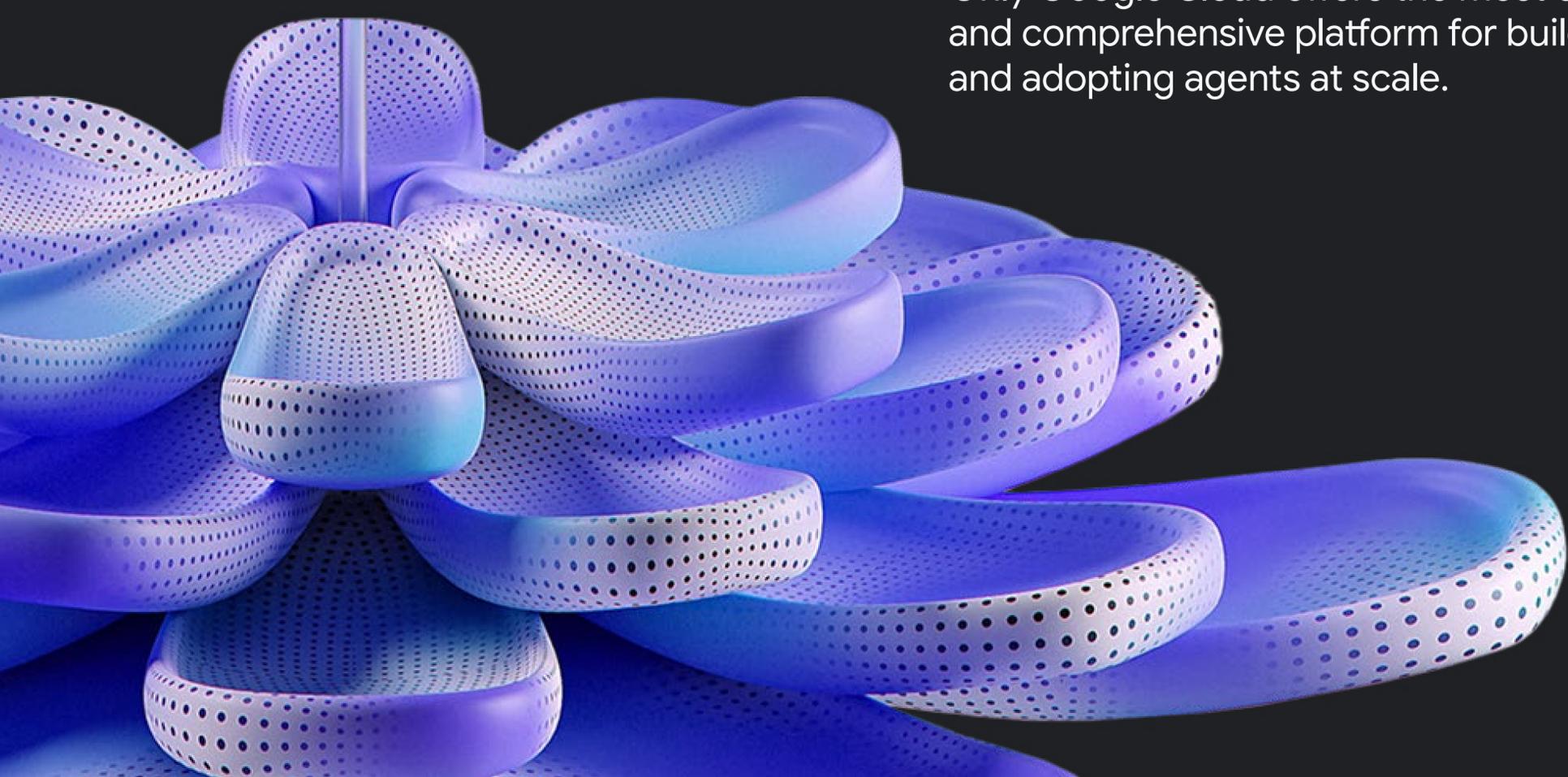
Deliver more impact with AI agents by easily tailoring AI for your specific needs. Only Google Cloud offers the most open and comprehensive platform for building and adopting agents at scale.

Accelerate deployment with AI assistants, applications, and agents that are ready for use today.

To help organizations do more with AI agents, Google Cloud offers a range of options tailored to different business needs and skill sets.

These options range from integrated Gemini assistants for Google Cloud and Google Workspace to AI applications such as Customer Engagement Suite, which leverages agents to deliver exceptional customer experiences at every touchpoint.

We also offer purpose-built vertical AI agents for common use cases and Vertex AI Search that has been optimized for specific industry needs, with additional agents planned for the coming year.

Build and manage multi-agent systems.

Every enterprise will soon rely on multi-agent systems—multiple AI agents working together—even when built on different frameworks or providers. Our robust developer platform, Vertex AI, features the broadest range of enterprise-ready tools to build AI agents and enable a multi-agent ecosystem.

Vertex AI includes Agent Development Kit (ADK), a new open-source framework that simplifies the process of building sophisticated multi-agent systems while maintaining precise control over agent behavior. With ADK, developers can build an AI agent in under 100 lines of intuitive code.

And to help every organization maximize the benefits of agentic AI, Google Cloud's open Agent2Agent (A2A) Protocol enables seamless collaboration between agents—regardless of the underlying model or framework—and is supported by over 50 leading technology partners.

Easily scale adoption of AI agents across the enterprise.

Put AI agents in the hands of every employee with Gemini Enterprise. This central platform uniquely combines Google's enterprise search, conversational AI (chat), and Gemini with third-party agents. It enables your workforce to efficiently find and synthesize internal information, interact with AI agents, and take action directly within their enterprise applications.

Gemini Enterprise is built on Google's secure-by-design infrastructure, and connected to over 100 enterprise applications such as Salesforce, SharePoint, and Slack, with native support for access control.

Ready to see the agentic era unfold?
Explore hundreds of real-world examples showcasing how Google Cloud customers are putting generative AI to work for tangible business impact.

Google Cloud   17
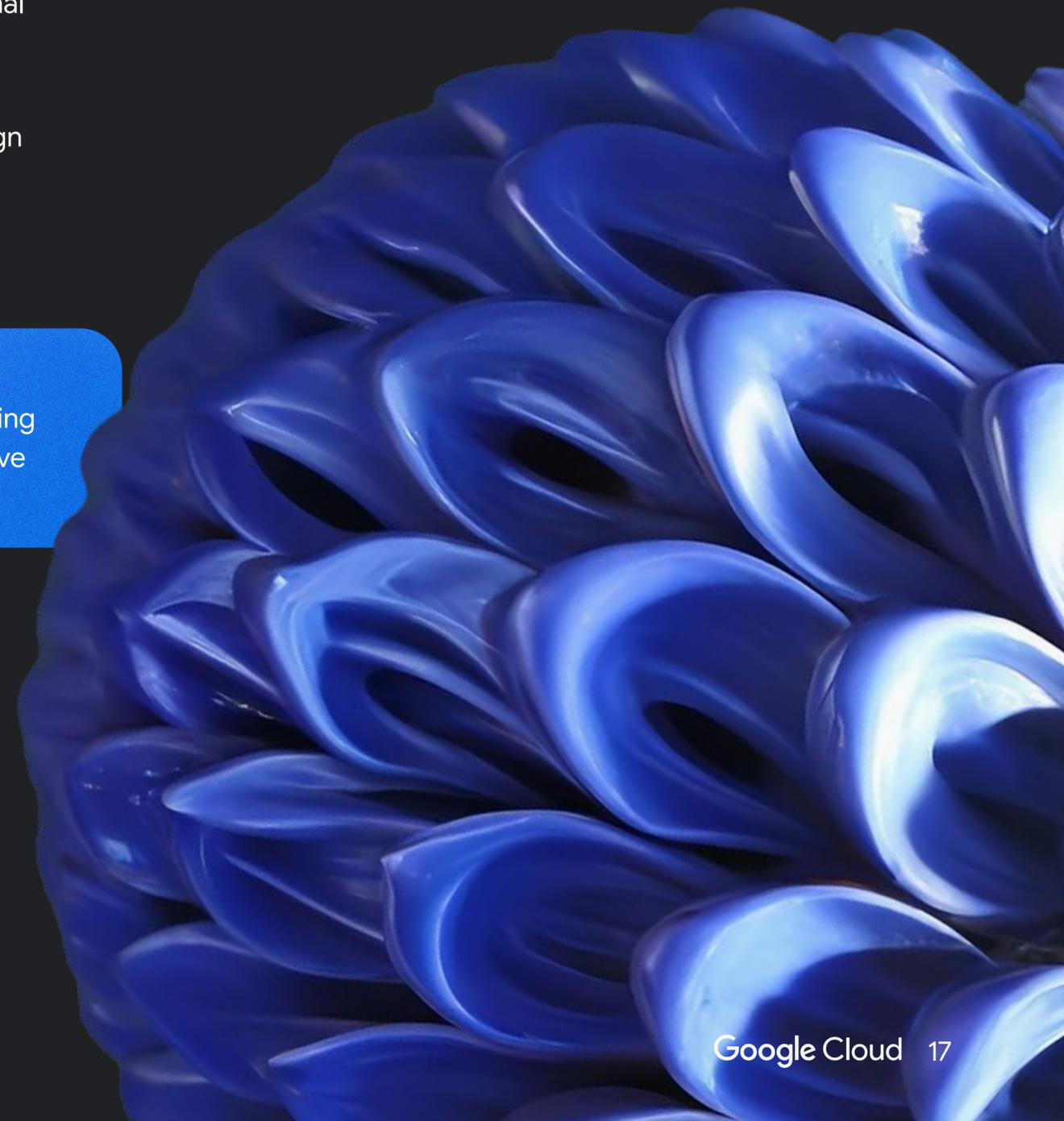
Unlock your agentic future

The agentic era promises a future of unprecedented efficiency, innovation, and customer engagement. By understanding the potential and implementing the find, understand, and act approach, your organization can position itself to thrive in this transformative landscape.

Now is the time to make transformative changes, and Google Cloud helps our customers do that every day by making siloed systems a thing of the past. With security built-in and a comprehensive portfolio of technologies and applications, we can help you unlock the unprecedented efficiency, innovation, and customer engagement that the agentic era promises.

Connect with our team to explore how we can help every employee in your organization get ahead with AI agents.