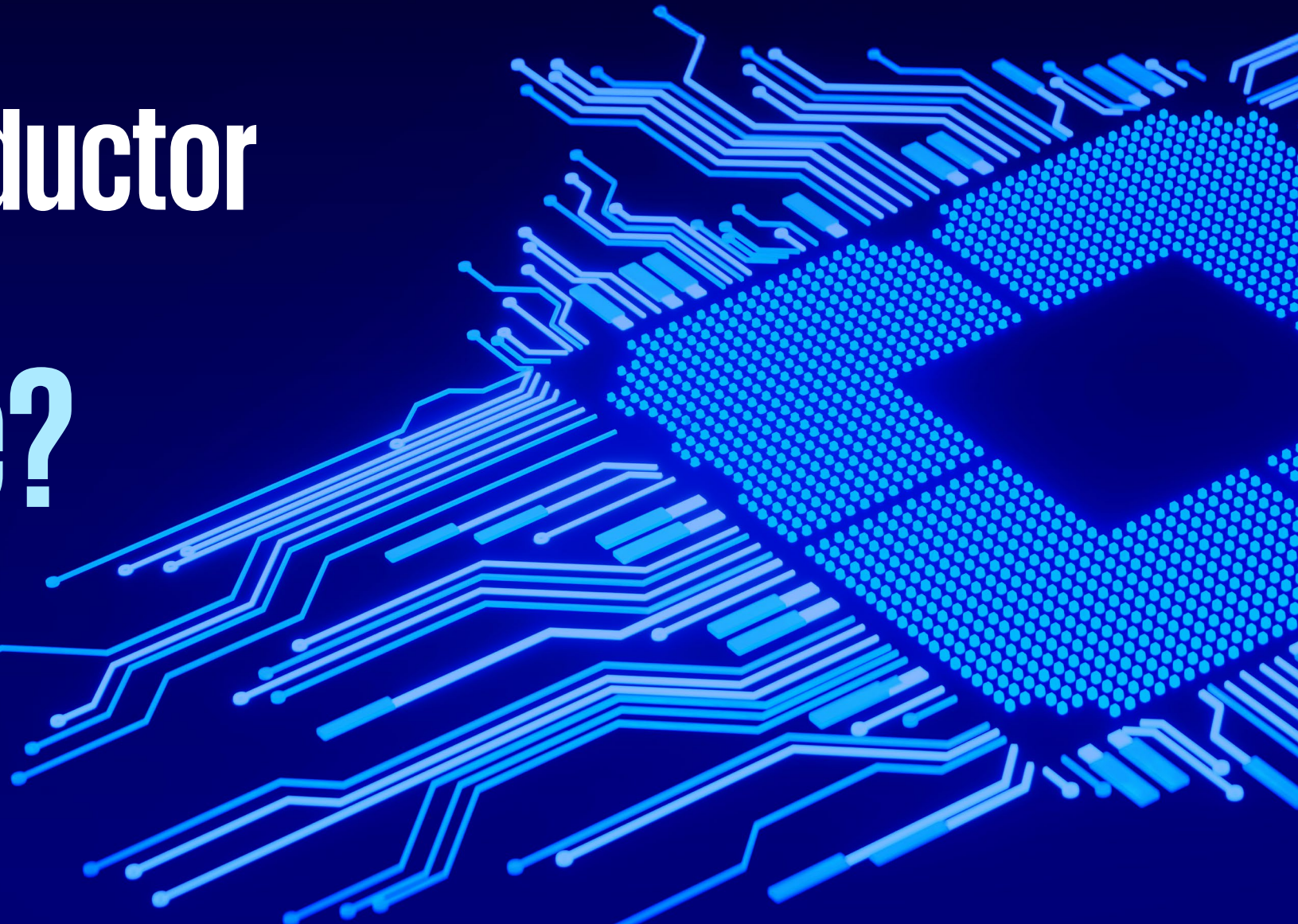
KPMG | GSA

Is the semiconductor industry in a supercycle?

The 2026 Global Semiconductor Industry Outlook explores the dynamics behind AI-driven demand, supply chain constraints, and macroeconomic uncertainty.



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This is the 21st annual KPMG Global Semiconductor Industry Outlook, with key findings from a survey of 151 senior executives from global semiconductor companies. More than half of the respondents were from companies with more than US$1 billion in annual revenue. The survey was conducted in the fourth quarter of 2025 by KPMG LLP and the Global Semiconductor Alliance (GSA).

The publication is designed for semiconductor company CEOs, COOs, CFOs, controllers, finance leaders, and strategic and corporate development personnel. This work is equally relevant for executives of companies whose products are heavily reliant on semiconductor components, including products for telecommunications, telecommunications infrastructure, cloud services, data centers, artificial intelligence, platform providers, devices supporting Internet of Things (IoT) applications, and automotive electronic applications.

Welcome

For more than two decades, the KPMG Annual Semiconductor Outlook has tracked the ebbs and flows of an industry shaped by innovation, investment cycles, and global competition. In 2026, semiconductor companies are in the midst of the most consequential moment in the industry's history: Not only has artificial intelligence (AI) become the dominant demand engine across the semiconductor supply chain, but it is also reshaping product roadmaps, accelerating capital investment, upending strategies, and transforming the nature of work inside semiconductor companies themselves.

These changes are cascading across markets faster than many expected. For the past few years, tech leaders have pondered whether the industry is entering a "supercycle" fueled by the explosive growth of AI. But now, these leaders are asking a new set of questions: How do we build capacity at the speed AI requires? How do we diversify risk without slowing innovation? What will be the effects of global politics, trade, and reshoring? And how do we equip our people to thrive in an AI-driven future?

This 21st Global Semiconductor Industry Outlook draws on the perspectives of senior industry executives from across the world and within KPMG. The results are clear: Today's growth is broad-based and rooted in real demand, not hype. At the same time, executives recognize that sustained advantage will depend on agility, resilience, and the strategic use of AI to amplify talent and accelerate operations.

Across these pages, you'll find our assessment of the opportunities and constraints shaping the next decade of semiconductor leadership. You'll also find practical recommendations, grounded in data and sharpened by our work with leading industry players, to help you navigate this moment with confidence.

We hope this year's report equips you with clarity, ambition, and actionable insight as you plan for the road ahead. We believe the supercycle is here. The choices leaders make now will not only define their own trajectory, but also the future of the global technology landscape.

Chris Gentle

Leader of KPMG Global Semiconductor practice

Chad Seiler

Line of Business Leader, Technology, Media and Telecom

Cecil Mak

US Sector Leader, Technology

Executive summary

A supercycle reshapes the semiconductor industry

In boardrooms across the semiconductor industry, the conversation has shifted. For years, leaders asked when the cycle would turn. Today, they're asking how fast they can build. The real demand for AI suggests that the semiconductor supercycle may be underway.

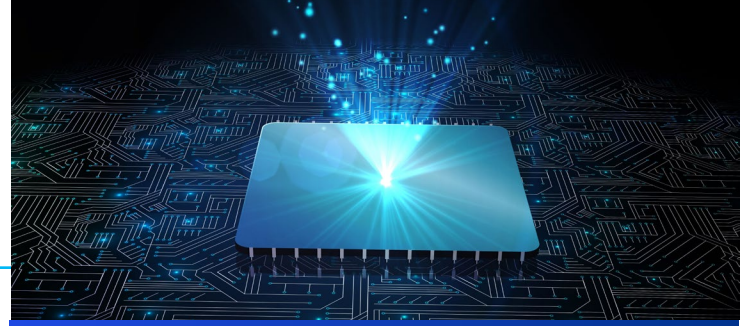
The *21st KPMG Global Semiconductor Industry Outlook*, based on our survey of 151 senior executives, makes the case that AI-driven demand is not a bubble; it's a fundamental market shift. AI sits at the center, driving broad-based growth across cloud computing, memory, and core processing. The challenge for leaders is to capture outsized opportunities while managing supply, talent, and capital.

For the first time, AI is the dominant revenue engine. In our survey, 73 percent of industry leaders cite AI as their primary source of growth, up from 67 percent last year and ahead of cloud computing and data centers. Memory has surged alongside AI's computing needs: 67 percent of respondents now view memory as a top growth opportunity, reaching parity with microprocessors at 66 percent—also for the first time in the survey's history. Taken together, these shifts point to a market where AI is pulling the whole stack forward, as chips that compute, store, and move data are rising in tandem.

In response to geopolitical pressures and trade uncertainty, supply chain agility has become the top strategic priority for semiconductor leaders. Cited by 45 percent of respondents, rewiring for speed and agility has surpassed talent development for the first time in three years. The focus is clear: Diversify where you source and build, digitize planning, and shorten the time from signal to response.

Leaders are turning AI inward to tackle the talent gap. Sixty-six percent of companies plan to use AI to boost workforce productivity—upskilling teams, automating routine tasks, and freeing scarce engineering and operations talent to focus on higher-value work. This is the same growth engine applied to the industry's own constraints.

Confidence is rising, even with risks in view. Our Semiconductor Industry Confidence Index is 63, up from 59 last year and the third highest in the survey's 21-year history. Companies are planning for growth, with a majority expecting to increase capital spending, headcount, and IT investments. This optimism is grounded in demand signals that stretch beyond any single quarter, even as leaders stay alert to geopolitics, trade friction, and resource constraints.



In response to geopolitical pressures and trade uncertainty, supply chain agility has become the top strategic priority for semiconductor leaders

45%

Cited by 45 percent of respondents, rewiring for speed and agility has surpassed talent development for the first time in three years. The focus is clear: Diversify where you source and build, digitize planning, and shorten the time from signal to response.

Although this report shows that AI-driven demand is nurturing a semiconductor supercycle, tech leaders expressed concerns about demand and durability as they relate to supply chain constraints, energy availability, and geopolitical instability. To remain resilient, semiconductor companies should build flexible business models that can shift with demand, diversify supply chains to lower geopolitical exposure, and invest in R&D to stay ahead of the next architecture and application wave. Finally, companies should equip their own workforces for an AI-centric future—and use AI to amplify their impact. The bottom line: The leaders who can successfully execute may position their companies for stronger performance in the decade ahead.

Introduction: A tale of two realities

The global economy is a tale of two realities. AI is fueling an unprecedented boom, with the entire ecosystem from chipmakers to hyperscalers attracting hundreds of billions in investment. However, beyond the AI boom, the economic picture darkens. Traditional sectors such as manufacturing and housing are shedding jobs,[1] global trade is hampered by tariffs and uncertainty,[2] and public budgets are tightening.[3] This divergence raises a critical question:

How long can AI-driven spending continue?

The semiconductor industry sits squarely at the center of this uncertainty. On one hand, AI has decisively moved above cloud computing and data centers as the top revenue driver for the semiconductor industry. Chips, high bandwidth memory (HBM), and other AI enablers are recognized as critical for these developments, offering faster and more efficient processing, along with greater data storage density, for complex computations and data analyses in AI applications.

On the other hand, leveraged investment,[4] macroeconomic volatility, and world events have sparked concern that today's AI-driven demand is a mirage, destined to collapse under its own weight. For executives, doubling down on growth could mean transformative gains—or catastrophic missteps.

This report cuts through the noise. The findings align with our experiences with clients and reveal a market grounded in real demand, not AI-driven hype. It also shows that leaders who build agility, diversify supply, and embed AI into their workforce and operations will gain disproportionate advantage in the decade ahead.

For semiconductor executives, the question is how to build resilience and capture opportunity in an era where speed and flexibility will separate winners from laggards. Here, we help semiconductor leaders understand the current trends and what to do next.

[1] "A miserable year for workers," KPMG, January 9, 2026.
[2] "Global Trade Update (January 2026): Top trends redefining global trade in 2026," United Nations Trade & Development.
[3] "States Finalize Fiscal 2026 Budgets Amid Tightening Conditions," National Association of State Budget Officers, July 1, 2025.
[4] "Capital Flows into Leveraged Semiconductor Bets: A Macro View of the 2026 Sector Rebalance," AInvest, January 14, 2026.

Separating AI myth from reality

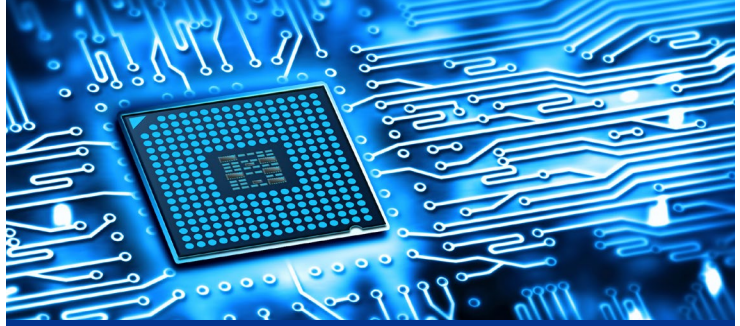
Some investors still worry that AI is riding a wave of hype fueled by capital availability, but the evidence tells a different story: What's happening now looks like durable, demand-driven growth backed by real usage and record capital commitments.

> Data centers are full. In the second quarter of 2025, data center occupancy reached 92.4 percent, its highest level on record. That indicates the compute inside those facilities, including GPUs for AI, is being actively used, not sitting idle.[5]

> The investment is broad and global. In 2025 alone, the industry recorded more than 100 data center transactions, including $61 billion invested to build the computing infrastructure needed to meet the increasing demands of AI usage. That's roughly the same as 2024, but a significant jump from $15.5 billion in 2023 and $28.8 billion in 2024. Since 2019, cumulative data center investments—mergers and acquisitions (M&A), asset sales, and equity investments—has reached $160 billion in the US and Canada, $40 billion in Asia-Pacific, and $24.2 billion in Europe.[6] This scale and spread point to a structural shift, not a speculative spike. It also reveals continued regional investment intensity in North America and Asia-Pacific over Europe, possibly due to higher energy costs, co-location of semiconductor supply chains, and stricter data sovereignty regulations.

> AI is also scaling on the edge. Manufacturers of devices that process data where it's created, such as phones, cars, and factory equipment, are adding dedicated AI cores. As this accelerates together with accelerated AI deployment in the cloud, AI-processing semiconductor revenue is expected to reach $438.5 billion by 2029, with a five-year compound annual growth rate (CAGR) of 25.9 percent.[7]

> Chipmakers are investing for the long haul. Spending on wafer fabrication equipment rose by 12 percent in 2025, reaching $116 billion compared with the previous year's record of $104 billion. The increase reflects stronger investment in leading edge logic and memory production. Industry forecasts indicate that WFE expenditures will climb another 9 percent in 2026 to $126 billion, signaling a sustained, multi year investment cycle rather than a temporary surge.[8]



Regional variations

AI's importance as a revenue driver in the semiconductor industry varies by region. In the survey, respondents in the US place the greatest emphasis on AI (81 percent), reflecting the country's strong technology ecosystem and concentration of semiconductor and AI-driven innovation. This is followed by Europe (70 percent) and Asia Pacific (67 percent), where respondents report a comparatively lower emphasis on AI as a revenue driver.

Assuming AI adoption and compute intensity continue at today's pace, the question for semiconductor leaders is how this momentum will force a rethink of investment priorities, supply chain resilience, and global capacity allocation. The choices they make will establish their competitive advantage for the coming decade.

[5] "Is There Enough Data Center Capacity for AI?," Goldman Sachs, December 11, 2025.
[6] Ibid.
[7] "Forecast: AI Processing Semiconductors, Worldwide, 2023-2029, 3Q25 Update," Gartner, October 8, 2025
[8] "Global Semiconductor Equipment Sales Projected to Reach a Record of $156 Billion in 2027," SEMI Reports, SEMI, December 16, 2025

Key survey findings

1

AI takes center stage as the dominant revenue driver

AI has become the main revenue source for semiconductor companies, mentioned by 73 percent of respondents, up from 67 percent last year. Cloud computing, data centers, and networking follow at 61 percent, down from 63 percent previously.

2

Memory matches microprocessors as the top growth opportunity

Memory solutions, cited by 67 percent of executives, now lead growth priorities, up from 49 percent last year and narrowing a long-standing gap with microprocessors.

3

Supply chains move to the top of the agenda

Supply chain has become the leading focus for the first time in three years. Also, 45 percent of our respondents identified making the supply chain more responsive as their main priority.

4

AI is a workforce enhancer, not a reduction mechanism

Talent was cited by 41 percent of respondents as the industry's second most significant challenge over the next three years, and two-thirds of semiconductor executives view AI as an enabler of talent rather than as a tool for workforce reduction.

5

Optimism is at full throttle—even as warning lights flash

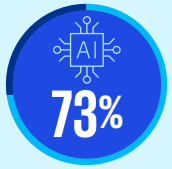
Our survey's Confidence Index rose to 63 from 59 last year, marking its third-highest level in 21 years and indicating continued optimism despite ongoing challenges.

Key finding 1

AI takes center stage as the dominant revenue driver

Every AI moment, whether flagging a defect on a factory line, drafting a sales proposal, or piloting a car through traffic, starts with a simple question: Can the system turn a flood of data into a useful decision fast enough? Semiconductors provide that speed. They are the muscle and memory behind every model, moving data quickly and crunching numbers at extraordinary rates. Without the right chips in the right places, AI doesn't scale. That's why product roadmaps, budgets, and go-to-market plans increasingly begin with silicon choices.

AI has seized the growth engine of semiconductors, faster and more broadly than any previous technology wave. It's eclipsing cloud computing and reshaping priorities across the industry, and the gap is widening. In our survey, 73 percent of respondents now cite AI as their top revenue driver, up from 67 percent last year. Cloud computing/data centers/networking, on the other hand, trail at 61 percent—down from 63 percent last year. The global market for AI semiconductors is expected to reach $438.5 billion by the end of 2029, representing a five-year CAGR of 25.9 percent.[9] This surge reflects AI's reach across devices, vehicles, data centers, and industrial systems—not a single niche, but a full-stack transformation.



of respondents now cite AI as their top revenue driver

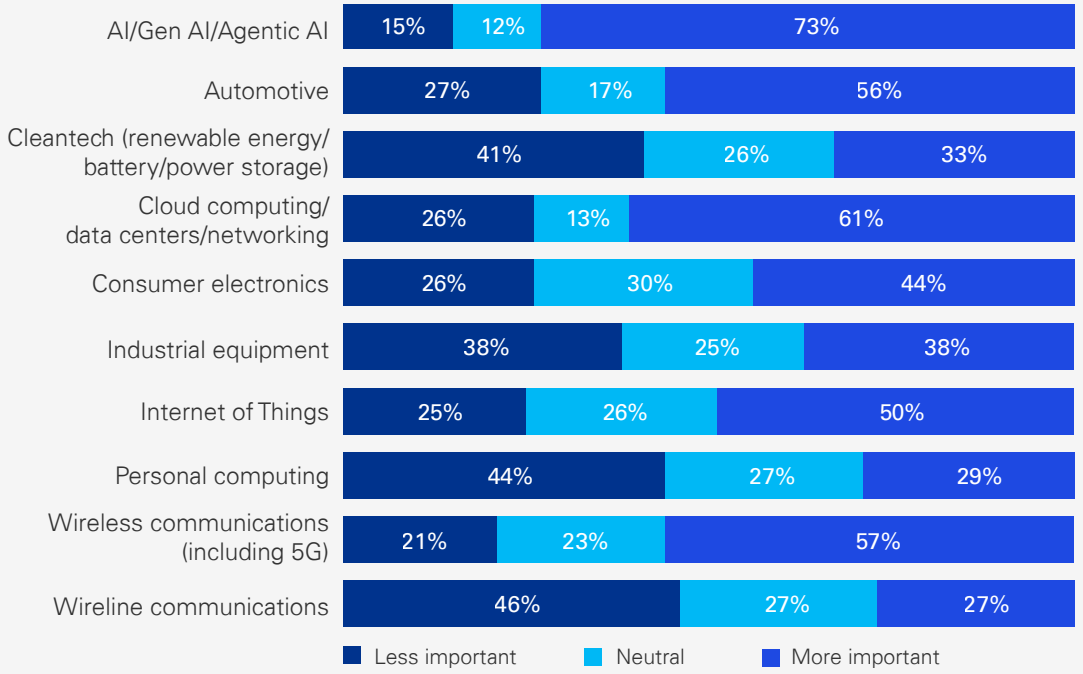
The takeaway

AI isn't another feature layered on top of existing products. Instead, it's the dominant force shaping where revenue growth comes from. With AI driving demand across the stack, the next strategic question is whether supply chains can keep up.

[9] Forecast: AI Processing Semiconductors, Worldwide, 2023–2029, 3Q25 Update," Gartner, October 8, 2025.

Exhibit 1. Revenue drivers

What is your outlook for semiconductor-related capital spending by your company (both equipment and software) for the next fiscal year compared with your company's current-year spending?



Note: Graph percentages may not sum to 100% due to rounding.
Source: KPMG and GSA global semiconductor survey, Q4 2025

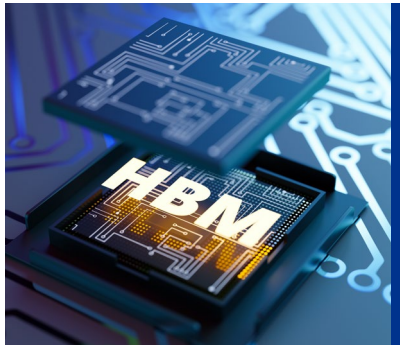
Key finding 2

Memory matches microprocessors as the top growth opportunity

For the first time in the history of our semiconductor survey, memory solutions, cited by 67 percent of executives, climbed to the top of the growth list—a sharp leap from just 49 percent last year, closing a gap with microprocessors that persisted for years.

The increasing demand for memory, particularly HBM, is directly linked to the growing computing demands of AI workloads. AI applications require faster and more efficient processing, which in turn drives the need for high-capacity storage and advanced memory solutions. Thus, as AI adoption increases, so does the demand for high-capacity and high-bandwidth memory solutions.

At the same time, hyperscalers, including Amazon, Google Cloud, and Microsoft Azure, are accelerating investment in HBM to support AI workloads, moving away from more commoditized dynamic random-access memory (DRAM). In fact, some DRAM makers are retooling to produce HBM chips to take advantage of the accelerated demand. Consequently, DRAMs are becoming scarcer. This pivot signals an industry-wide reshaping of the competitive dynamics across the semiconductor value chain.

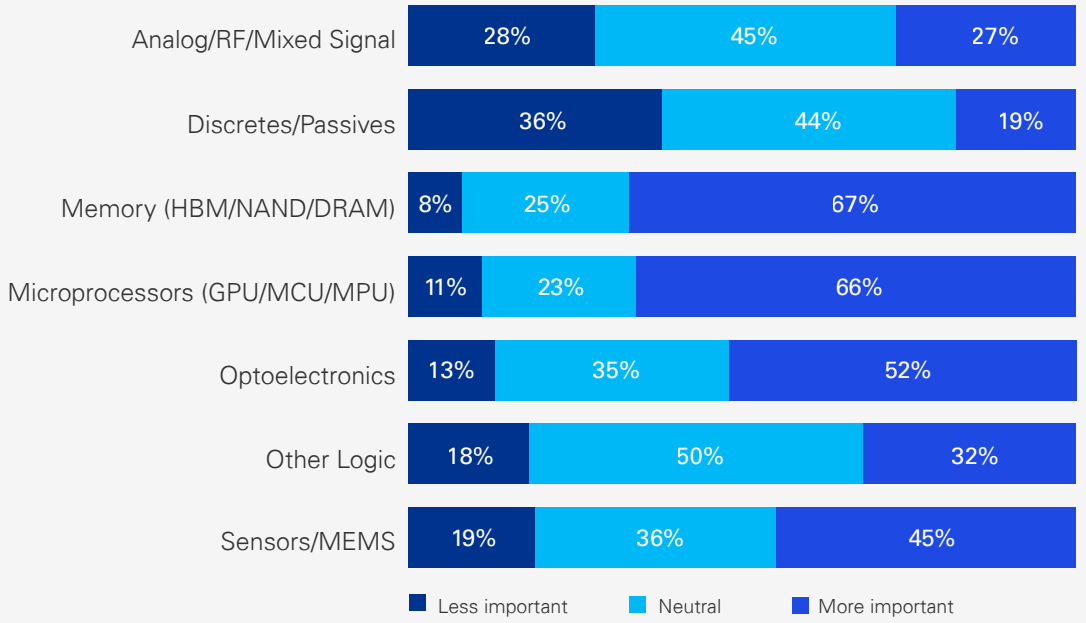


The takeaway

AI isn't another feature layered on top of existing products. Instead, it's the dominant force shaping where revenue growth comes from. With AI driving demand across the stack, the next strategic question is whether supply chains can keep up.

Exhibit 2. Growth opportunity

Rate each of the following in terms of growth opportunity for the semiconductor industry over the next 12 months. (Select one per row)



Note: Graph percentages may not sum to 100% due to rounding.
Source: KPMG and GSA global semiconductor survey, Q4 2025

Key finding 3

Supply chains move to the top of the agenda

For the first time in three years, supply chain is the number one priority in our survey. That shift reflects respondents' lived reality: the weak points revealed during COVID-19, new chokepoints linked to Chinese mainland and Taiwan, and tighter access to critical inputs such as rare earth minerals.

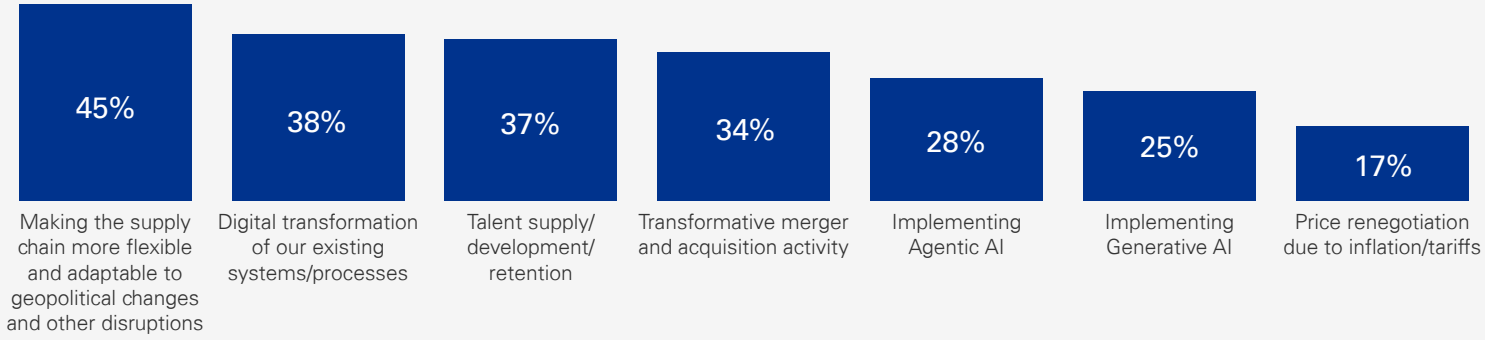
Suppy chain is the strategic priority #1

The new supply chain imperative is speed and flexibility

Among our respondents, 45 percent named improving the supply chain's ability to adapt quickly as their top priority, displacing last year's focus on talent. However, geopolitical uncertainty and other disruption risks remain a key concern. This ranks as the third biggest issue (out of 11) facing the semiconductor industry over the next three years, cited by 37 percent of respondents.

Exhibit 3. Top strategic priorities

In addition to growth, what are the top three strategic priorities for your company over the next three years?
(Up to three)



Source: KPMG and GSA global semiconductor survey, Q4 2025

Is energy a bottleneck?

The surge in AI-driven demand raises a critical supply-side question: Can the industry and its hyperscaler clients secure enough energy to sustain this growth?

Consider fabrication: 34 percent of respondents are worried about powering their own manufacturing facilities over the next three years. Data centers are an even bigger concern: 58 percent of respondents fear hyperscalers could struggle to secure adequate energy for expanding AI-ready infrastructure.

The convergence of memory and microprocessors at the growth frontier signals a new era where technology architecture choices will define market leadership—and where energy constraints may become as disruptive as supply chain shocks. Solutions may lie in the very technology fueling demand—AI can be deployed to optimize energy efficiency and extend capacity in data centers without equivalent increases in power consumption.

[9] Forecast: AI Processing Semiconductors, Worldwide, 2023–2029, 3Q25 Update," Gartner, October 8, 2025.

Public-private collaboration: A two-sided coin

The survey also found that interplay between agility and state partnership introduces a strategic paradox for leaders: To compete at the technological frontier, public funding and co investment appear unavoidable. Yet government involvement often comes with conditions on market behavior, potentially constraining flexibility in sourcing and market entry.

Forty-eight percent of respondents are concerned about the impact of government subsidies on the semiconductor industry and a majority (54 percent) agree that accepting government shareholders will limit their company's market agility and ability to innovate. However, respondents also appear to recognize the sometimes inevitable and transformative role that governments can play in private industry: The same percentage (54 percent) believe partial government funding/ownership is now necessary to build the world's most advanced chip fabs.

Behind the numbers lies a simple truth. The semiconductor industry relies on an intricate, global web of specialized suppliers and manufacturing hubs—especially in places such as Taiwan—while governments are taking a more active role in how and where chips are made. That mix raises both opportunity and risk.

Resilience planning

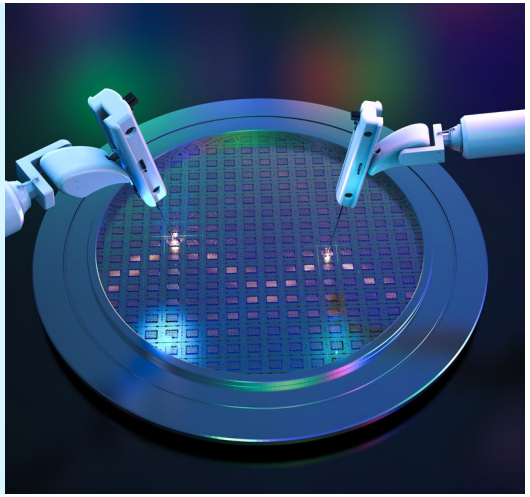
Respondents plan to build resilience by spreading production and sourcing across more places. The goal is straightforward: Avoid single points of failure and keep product flowing even when one region stumbles. To do this, more than half of respondents (54 percent) plan to increase the geographical diversity of their supply chains in the next 12 months.

Respondents are also turning to GenAI to enable foresight and faster decisions. Thirty-six percent say the top function where they'll implement GenAI in the next 12 months is procurement and supply chain management, using tools such as predictive analytics and automation to anticipate shortages, rebalance inventory, and secure capacity earlier.

Regionally, strategies diverge: US and European companies are placing emphasis on domestic manufacturing and reshoring (CHIPS Act, EU Chips Act), while Asian players look to embed redundancy within regional networks.

The takeaway

The industry is moving from single-threaded supply lines to safety nets, but balancing technological ambition with unrestricted supply network control will be one of the defining management challenges for this current semiconductor cycle, or supercycle. The companies that move first will convert volatility into an advantage, protecting delivery today and positioning for growth tomorrow. As supply chains are reengineered for greater resilience, the next challenge for semiconductor leaders is ensuring the workforce is equipped to keep pace with this AI-driven transformation.



Key finding 4

AI is a workforce enhancer, not a reduction mechanism

Despite ongoing talent shortages, semiconductor leaders are pressing ahead with hiring while leaning even more heavily on AI to boost productivity. As people and intelligent systems begin to work side by side in new ways, the industry's definition of competitive advantage is starting to shift. Semiconductors are moving beyond powering general purpose computing. The companies that win the next decade will be the ones that overhaul their products, operations, and go to market strategies to serve an AI-driven world before their rivals do.

Inside these companies, AI is already reshaping how work gets done. It's most deeply embedded in IT and R&D, where automation is speeding up decisions, improving processes, and removing friction from daily workflows. Next up are procurement and supply chain teams, where leaders see AI helping forecast demand, streamline logistics, and reduce risk. Marketing and sales teams are also turning to AI to personalize outreach and predict customer needs. Even more advanced, agent-based AI tools are quickly taking hold in these areas.

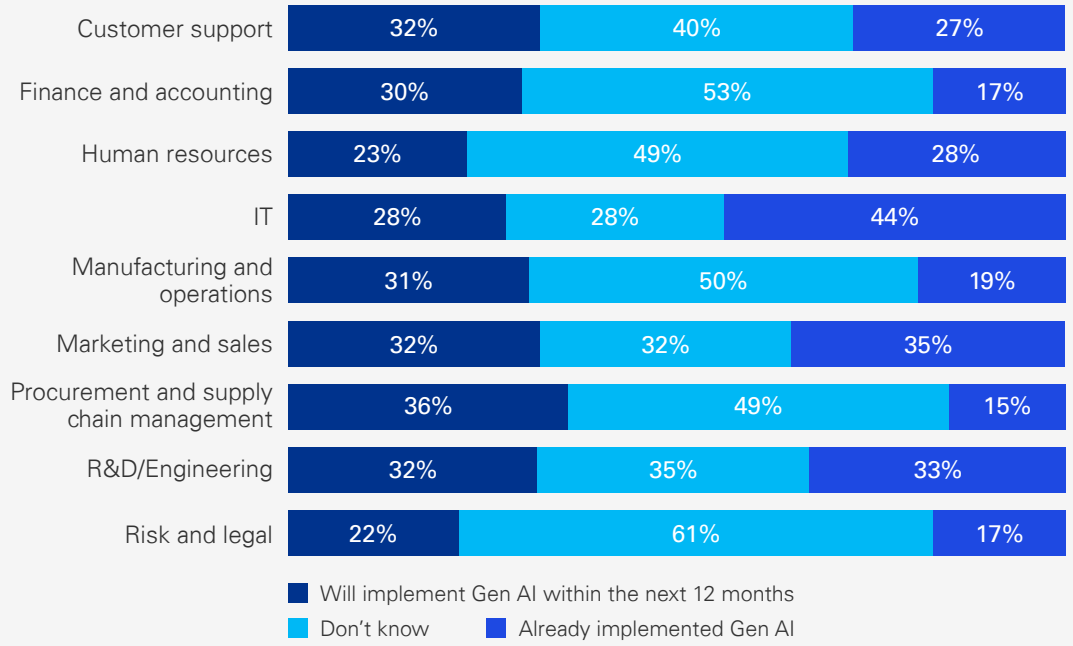
36%

Procurement and supply chain management are the primary targets for GenAI implementation in the near future

Within semiconductor companies themselves, AI's impact is substantial and evolving, influencing areas from IT (44 percent) and R&D to supply chain management and marketing. Semiconductor companies have already implemented GenAI within IT (44 percent) and R&D, where AI-driven automation leads to faster decision-making, improved process optimization, and more streamlined workflows. Procurement and supply chain management are the primary targets (36 percent) for GenAI implementation in the near future, where AI can enhance predictive analytics for demand forecasting, optimize logistics, and mitigate supply chain risks. AI is also being deployed to enhance customer engagement, personalize marketing strategies, and improve sales forecasting (30 percent each).

Exhibit 4. Artificial intelligence

In which of the following functions has your company already implemented or expects to implement Generative AI within the next 12 months? (Select one per row)



Note: Graph percentages may not sum to 100% due to rounding.
Source: KPMG and GSA global semiconductor survey, Q4 2025

Recruiting and retaining talent is a priority

AI isn't replacing the need for people. Survey respondents cite talent as second only to tariffs as one of their biggest challenges, and developing and keeping that talent is among their top strategic priorities.

Exhibit 5. Industry issues

What do you see as the biggest issues facing the global semiconductor industry over the next three years? (Select up to three)

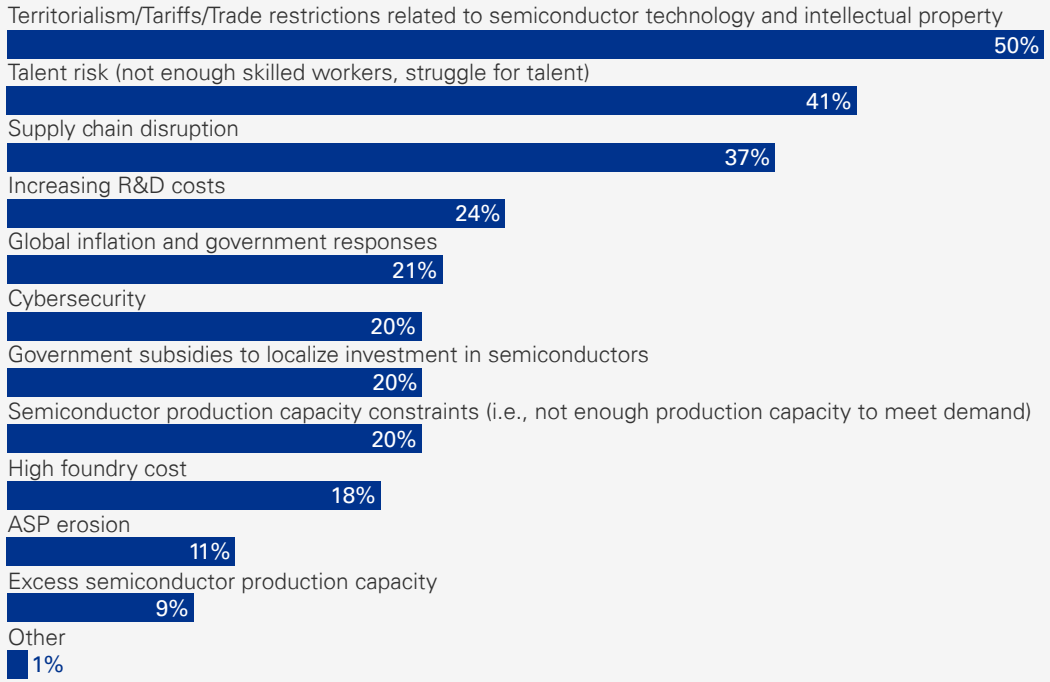
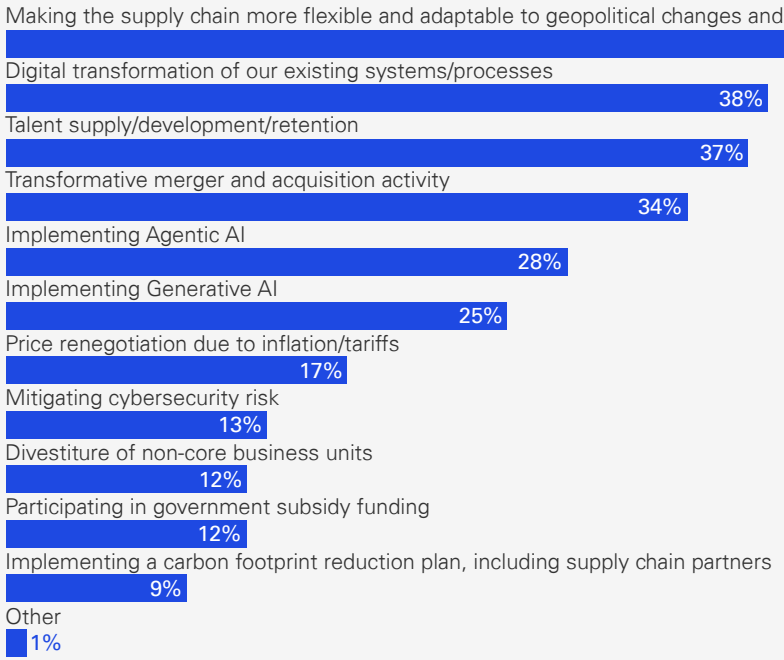


Exhibit 6. Strategic priorities

In addition to growth, what are the top three strategic priorities for your company over the next three years? (Select up to three)



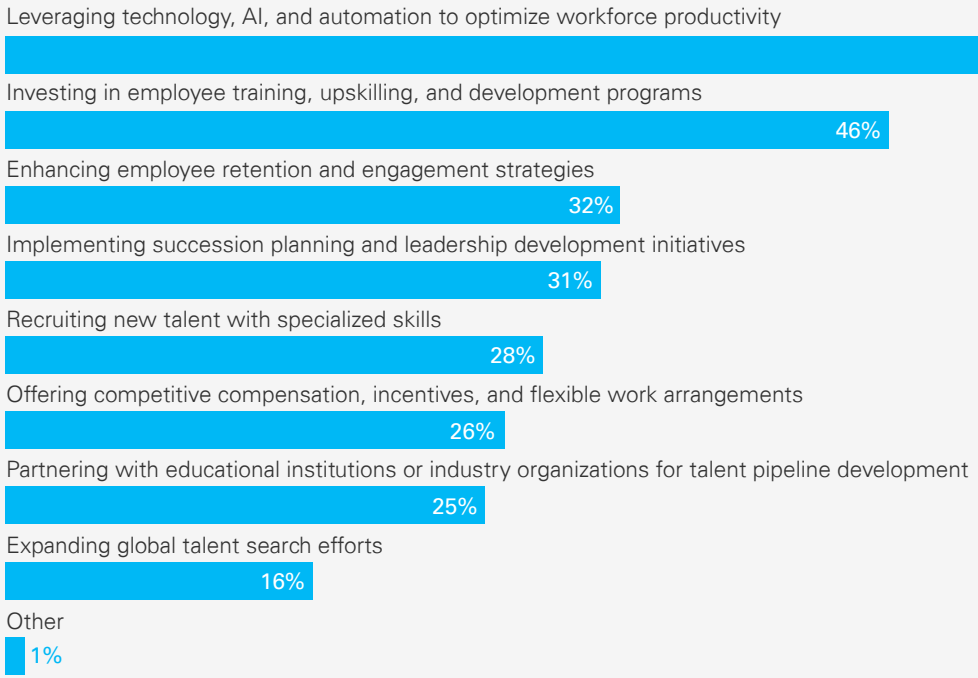
Source: KPMG and GSA global semiconductor survey, Q4 2025

To meet rising demand, 65 percent of respondents expect to grow their workforce in the coming year. But they're also clear-eyed about the role AI will play. Leveraging technology, AI, and automation to enhance workforce productivity is the top activity companies are pursuing to achieve their growth goals (54 percent), followed closely by employee training and upskilling programs (46 percent).

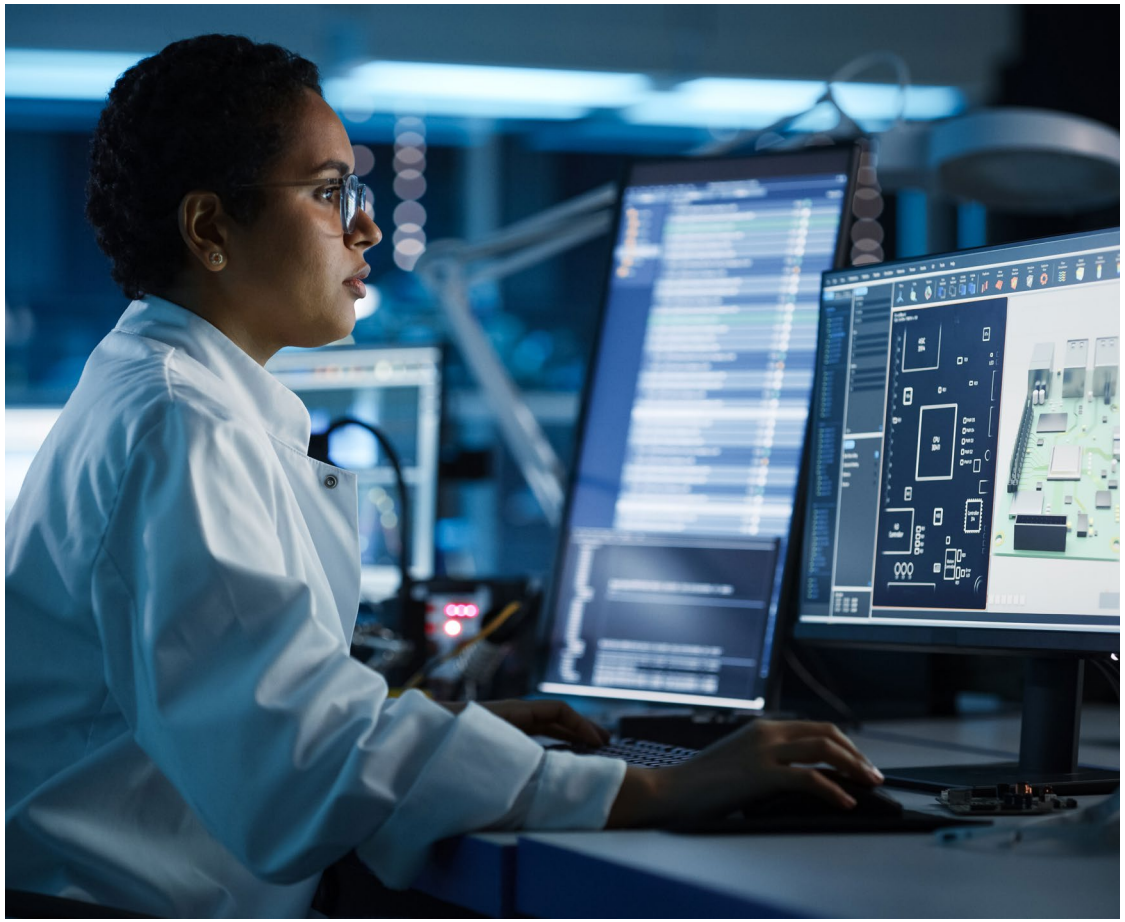
As workforce expansion and AI give rise to a new kind of talent model, human expertise will be amplified by adaptive AI systems. This shift will influence how companies hire, train, and design their organizations across the semiconductor value chain. And with market momentum building, the industry appears to be moving full speed ahead.

Exhibit 7. Industry issues and strategic priorities

What is your company doing to ensure it has the talent it needs to achieve its growth goals? (Select up to three)



Source: KPMG and GSA global semiconductor survey, Q4 2025



Key finding 5

Optimism is at full throttle—even as warning lights flash

Ask semiconductor leaders how they feel about the next year, and a clear theme emerges: Despite geopolitics and resource risks, confidence is rising. Our survey's Confidence Index stands at 63—up from 59 last year and the third highest in the survey's 21-year history—signaling strong optimism even as challenges persist.

At the market level, growth forecasts support this optimism. The global semiconductor market is forecast to climb to $1 trillion in 2026.[10] The strongest growth is in logic and memory, fueled by demand for AI and data centers. Global semiconductor sales have climbed roughly 50 percent since late 2022, reinforcing the view that this is a broad-based upswing, not a short-lived rebound.[11]

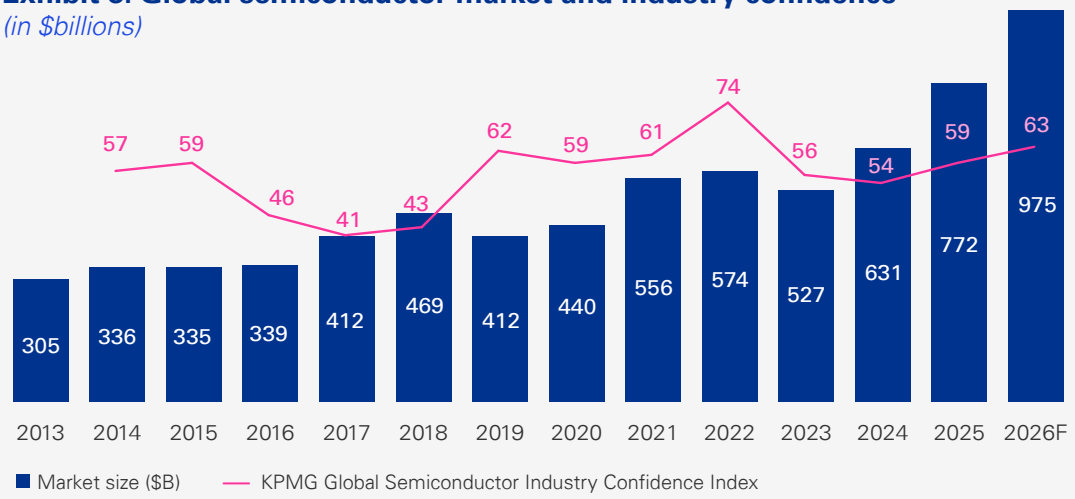
Leaders are acting on that outlook. More than half of respondents (54 percent) expect their company's revenue to grow by 11 percent or more. Their top moves over the next 12 months—hiring more people, upgrading IT, and pursuing M&A—show a bias toward growth. Investment plans tell the same story: 66 percent expect capital spending to increase over the next year, up from 63 percent last year.

Confidence, however, does not mean complacency. Even as companies gear up, 58 percent of respondents expect uncertain customer demand to have a large impact over the next 12 months. On the supply side, leaders are watching geopolitical and other pressure points in rare earths, chemicals, and energy, and potential disruption from global events.

So how do we reconcile caution on demand with aggressive growth plans? Timing is a big part of the answer. Many chipmakers report robust order backlogs; they simply cannot build fast enough to meet medium-term demand, which supports higher margins. Yet quarter-to-quarter demand can still be choppy, and product mix can shift quickly. Executives may be reflecting on the outlook of their own portfolios while the broader market is widely expected to be on a path to double over the next cycle.

The bottom line: This is a confident market amid a consequential investment window. The winners will build to the upside by expanding capacity, talent, and capability while hedging the downside with sharper demand sensing, diversified supply, and disciplined capital deployment. That balance is how leaders turn today's optimism into durable, profitable growth.

Exhibit 8. Global semiconductor market and industry confidence
(in $billions)

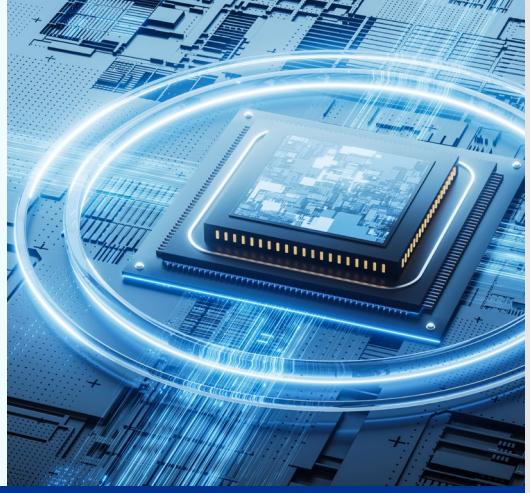


Sources: WSTS, KPMG and GSA global semiconductor survey, Q4 2025

[10] "Global Semiconductor Market Approaches $1T in 2026," World Semiconductor Trade Statistics, Fall 2025.
[11] "Is This the New Dot-Com Bubble? Semiconductors, Nasdaq, and the AI Productivity Cycle," MacroMicro, November 11, 2025.

Key recommendations

AI is no longer an emerging opportunity for semiconductor players; it has become the sector's single most important revenue driver. This shift demands that leaders rapidly align products, operations, and capital strategy around AI workloads, while tailoring approaches to unique regional dynamics.



1 Capture the growth upside as memory matches microprocessors

The rise of memory products as a leading growth opportunity has become a strategic challenge in view of the energy capacity needed to power new and expanded fabrication facilities and hyperscaler data centers. Leaders who move now to align product, customer targeting, and energy strategy will be best positioned for sustained growth.

Double down on HBM innovation

Prioritize investment in HBM R&D and manufacturing capacity, ensuring products meet the speed, efficiency, and thermal performance needs of AI-driven workloads.

Build strategic partnerships with hyperscalers

Align product development cycles with hyperscaler roadmap needs (Amazon, Google Cloud, Microsoft Azure) and co-invest in supply and integration strategies to secure long-term contracts.

Differentiate beyond commodity memory

Focus marketing and sales efforts on the performance, optimization, and sustainability profile of advanced memory versus DRAM, positioning offerings as mission-critical AI enablers.

Address the energy supply risk head-on

Implement joint planning with utilities and renewable energy providers to secure multi-year energy supply agreements; consider building or co-owning energy infrastructure in high-demand regions.

Leverage AI for energy efficiency

Deploy AI-based optimization in both internal fabs and external customer solutions to reduce energy intensity per compute unit, turning sustainability into a competitive advantage and mitigating supply risk.

2 Build supply chain agility in a geopolitically volatile era

With geopolitical pressures, tariffs, trade restrictions, and energy/resource availability threatening supply chain agility, leaders must adopt strategies that reduce vulnerability, increase responsiveness, and preserve innovation capacity. The shift is clear: Agility is no longer optional—it is a prerequisite for competitiveness.

Diversify supply sources and geographies

Commit to increasing the geographical diversity of your supply chain—targeting at least a 50 percent uplift within three years—to reduce dependency on single regions such as Taiwan and mitigate disruption risk.

Digitize and automate supply chain operations

Accelerate deployment of AI-powered predictive analytics and automation in procurement and logistics to identify risks earlier, optimize inventory, and respond faster to market and geopolitical shocks.

Balance domestic manufacturing with global resilience

While reshoring or nearshoring to the US and Europe can relieve strategic chokepoints, ensure complementary global sourcing to avoid overconcentration and maintain competitive cost structures.

Anticipate and plan for tariff impact

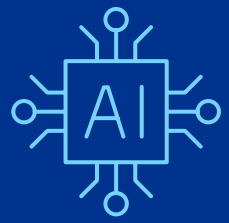
Given that tariffs now rank as the top geopolitical concern (73 percent of leaders), model multiple trade scenarios and build flexible pricing and operational plans that can withstand sudden policy changes.

Engage governments strategically

Where subsidies or partial ownership are pursued, negotiate terms that preserve market agility and innovation freedom, while using public-sector investments to co-build cutting-edge manufacturing capacity.

3 Use AI to strengthen talent resilience and workforce productivity

GenAI and agentic AI are rapidly transforming semiconductor industry functions from IT and R&D to supply chain, marketing, and sales—streamlining workflows, optimizing decision-making, and enabling faster innovation cycles. Executives must balance the human and technological dimensions of workforce strategy to win in the AI-first era.



Embed AI into productivity enhancement strategies

Deploy AI across high-impact domains such as IT, R&D, procurement, and supply chain to accelerate decision-making, improve design yield, and strengthen operational resilience.

Treat AI as a talent retention tool

Integrate AI into everyday workflows to eliminate repetitive tasks, freeing talent to focus on creative and high-value work—improving job satisfaction and retention.

Prioritize workforce upskilling in AI fluency

Invest in continuous training programs to ensure teams can fully leverage GenAI and agentic AI capabilities, with a focus on cross-functional applications and ethical use.

Align AI adoption with growth goals

Ensure AI deployment supports expansion plans, creating scalable processes that can absorb increased headcount without adding operational complexity.

Capture AI's impact in customer-facing functions

Leverage agentic AI in marketing and sales to deliver personalized engagement, improve forecasting accuracy, and capture faster go-to-market advantages.

4 Sustain strategic growth amid economic and geopolitical uncertainty

Optimism within the semiconductor industry is high, reflected in rising confidence scores and record capital spending plans, yet tempered by concerns over volatile customer demand and geopolitical risks. Leaders must balance aggressive expansion with disciplined risk management to avoid overextension while building competitive advantage in this high-growth cycle.

Align expansion plans to AI and data center demand

Prioritize investments in high-growth product segments such as logic and HBM, ensuring capacity additions directly serve the most resilient demand drivers.

Calibrate growth strategies to demand uncertainty

Model multiple demand scenarios and link headcount, IT upgrades, and M&A activity to trigger-based thresholds rather than committing to fixed growth regardless of market conditions.

Invest early in strategic infrastructure

With 66 percent of companies increasing capex, secure leading-edge fab capacity, advanced packaging capability, and supply agreements for rare earths and chemicals before competition locks up resources.

Use M&A to accelerate technology and market access

Focus acquisitions on strengthening positions in AI-enabling technologies, regional manufacturing footprints, and differentiated capabilities that hedge against supply chain fragility.

Maintain financial flexibility to navigate market shifts

Preserve liquidity and margin discipline, leveraging backlog strength to fund innovation while retaining the ability to slow or redirect investments if geopolitical or demand conditions deteriorate.

How KPMG & GSA can help

About KPMG and the GSA

KPMG Global Semiconductor practice

Technology affects and influences virtually every aspect of our personal and professional lives. The semiconductor industry is leading the way in this digitized and connected world. The KPMG Global Semiconductor practice can make the difference in helping semiconductor companies navigate this evolving environment. KPMG firms work across the globe with semiconductor clients of all sizes to look beyond today's pressing industry challenges and anticipate the strategic choices that can position them for short- and long-term success. For more information, please visit www.kpmg.com/semiconductors.

Global Semiconductor Alliance (GSA)

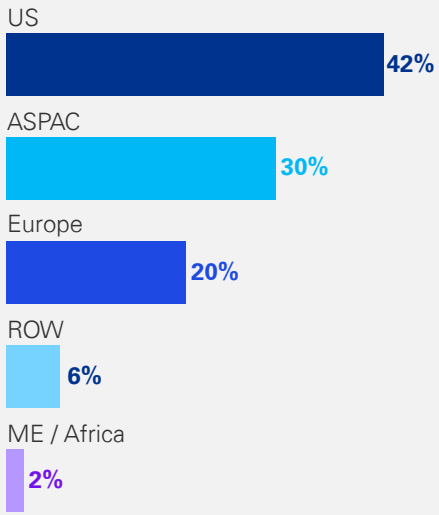
The Global Semiconductor Alliance (GSA) is where leaders meet to establish an efficient, profitable, and sustainable high-technology global ecosystem encompassing semiconductors, solutions, systems, and services. A leading industry organization that represents more than 300 corporate members, including more than 120 public companies, GSA provides a unique, neutral platform for collaboration where global executives interface and innovate with peers, partners, and customers to accelerate industry growth and maximize return on invested and intellectual capital. GSA members represent over 80 percent of the $620 billion semiconductor industry. Learn more at www.gsaglobal.org.

Research methodology

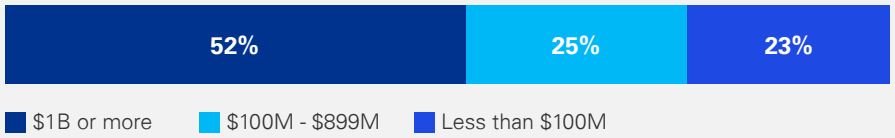
The survey was conducted in conjunction with the GSA. Data was collected from 151 respondents in the fourth quarter of 2025 using an online survey. The charts below provide the respondent profile.

2025 respondents = **151**

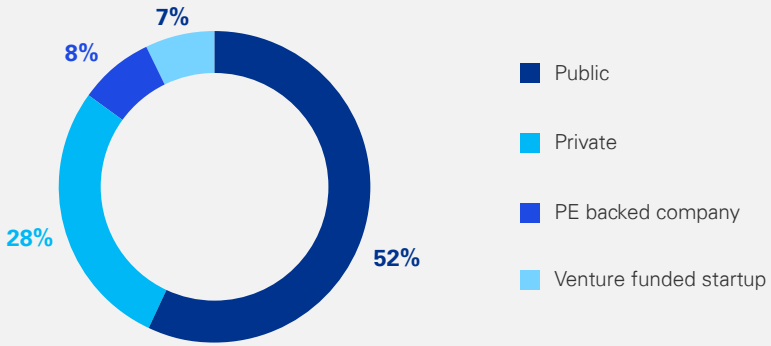
HQ region



Annual revenue



Organization type

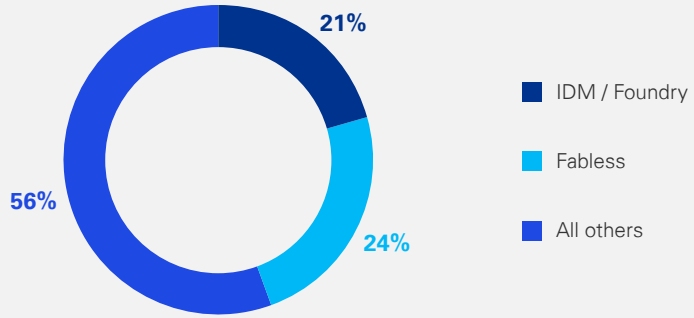


Title

30% C-level

70% VP / Director / Other

Industry segment



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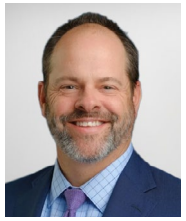
Having served as lead partner for a number of Fortune 500 semiconductor and other technology companies, Chris has extensive experience with mergers and acquisitions, business divestitures, digital and AI transformations, and regulatory compliance.



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As the TMT line of business leader, Chad leads the go-to-market efforts across key areas such as digital transformation, analytics and AI, performance optimization, cyber and privacy, risk and compliance, ESG, regulatory change and the future of work across KPMG in the US. His responsibilities include helping set TMT industry strategy, developing highly skilled cross-functional teams, enhancing solution strategies, and driving innovation. Chad does this in collaboration with senior TMT industry professionals, marketing and sales teams, and alliance partners.

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