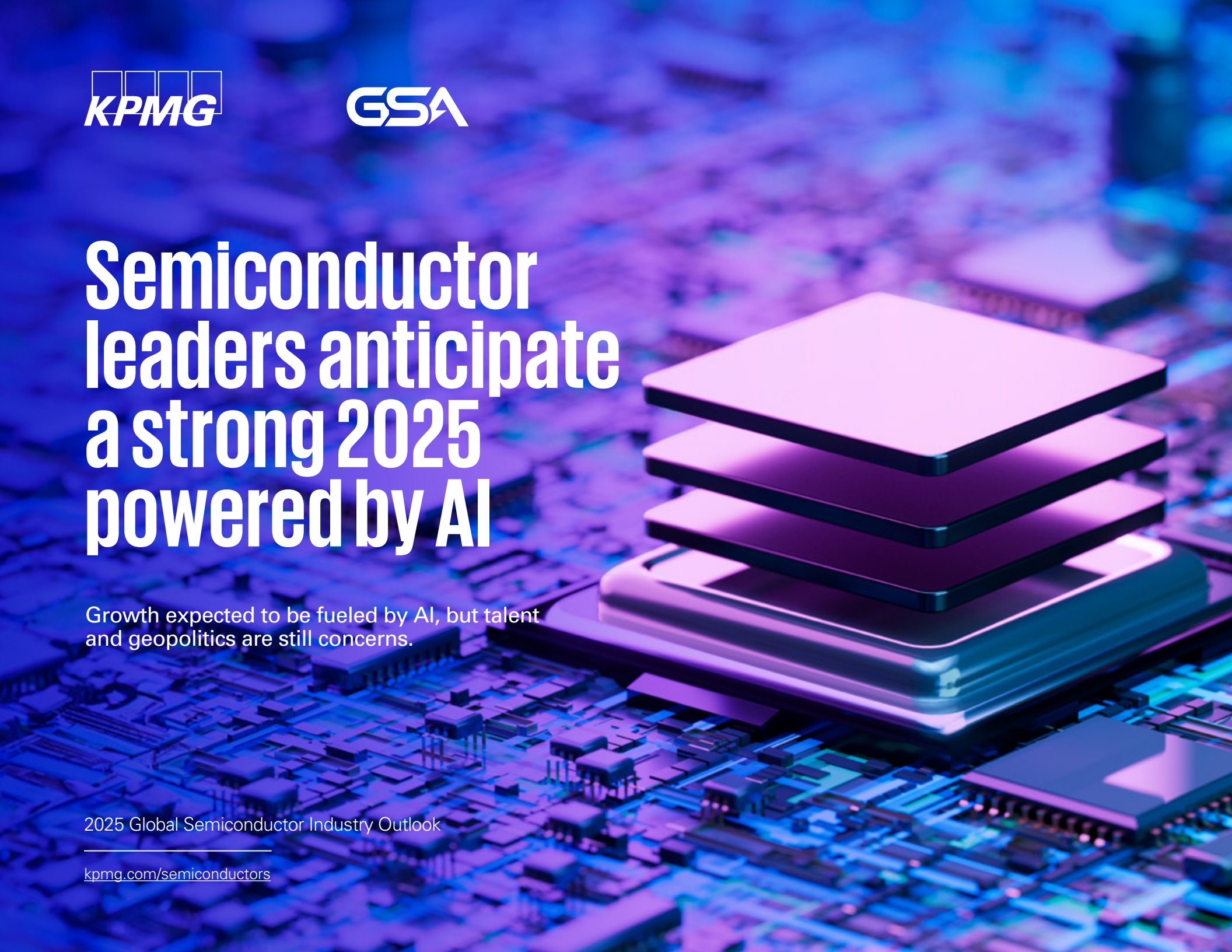

Semiconductor leaders anticipate a strong 2025 powered by AI

Growth expected to be fueled by AI, but talent and geopolitics are still concerns.

2025 Global Semiconductor Industry Outlook

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Contents

This is the **20th annual KPMG Global Semiconductor Industry Outlook**, with key findings from a survey of 156 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 2024 by KPMG LLP and the Global Semiconductor Alliance (GSA).

The publication is designed for semiconductor 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.

Foreword

The semiconductor industry continues its recovery from the challenges of a few years ago and is poised for significant growth again in 2025. While concerns about supply chains, the talent supply, and customer demand remain, executives are expressing a strong positive outlook for the year ahead.

Our annual KPMG Global Semiconductor Industry Outlook, developed in collaboration with the GSA, draws on the perspectives of 156 senior executives from leading global companies, offering a wide view of the industry's challenges and opportunities.

The report sheds light on continuing challenges such as talent acquisition, geopolitical tensions, and supply chain vulnerabilities. Talent and tariffs were cited as the biggest issues facing the semiconductor industry over the next three years. In response, leaders are focusing on talent development strategies and enhancing supply chain flexibility. In fact, the number one action executives are taking to improve their company's supply chain agility is increasing geographical diversity and resiliency.

Regarding financial expectations, the semiconductor industry will continue to benefit from technological progress, as the world moves toward a future where artificial intelligence (AI) not only enhances existing applications but also creates new markets and opportunities. In our survey, 86 percent project their company's revenue will grow over the coming year, which is on par with last year's 83 percent.

Moreover, the demand for AI enablers such as graphics processing units (GPUs), advanced storage solutions in data centers and smartphones, along with the increasing use of sensors and microelectromechanical systems (MEMS) across various sectors such as IoT, automotive, industrial, and healthcare, were identified as key growth drivers.

The research also showed 72 percent of respondents predict an increase in research and development (R&D) spending, and 63 percent expect to increase semiconductor capital spending, reflecting the commitment to innovation and technological leadership.

This year's report emphasizes the semiconductor industry's resiliency and proactive stance in fostering innovation and growth despite these challenges. Looking to 2025, the industry can expect continued financial improvement and new opportunities.

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Key findings

INDUSTRY ISSUES AND STRATEGIC PRIORITIES

Territorialism/Tariffs and talent risk tied as the biggest issues facing the semiconductor industry over the next three years.

Supply chain flexibility and talent development/retention tied as the top strategic priorities over the next three years, followed by digital transformation and implementing generative artificial intelligence (GenAI).

As nontraditional semiconductor companies (tech giants, platform companies, and automotive companies) expand their chip capabilities, executives are most concerned that there will be increased competition for talent as new competitors emerge.

GROWTH APPLICATIONS AND PRODUCTS

Microprocessors, including GPUs, again ranked as the top product opportunity for industry growth over the next year.

#1 AI has become the most important application driving semiconductor revenue for the first time, and cloud/data centers has risen to second.

Automotive, which topped the survey for the last two years as the most important revenue driver, fell to fourth place this year.

FINANCIAL EXPECTATIONS

86% **project their company's revenue** will grow in 2025.

63% **expect to increase** semiconductor capital spending.

72% **predict an increase** in R&D spending.

OPERATIONAL EXPECTATIONS

Increasing geographical diversity is the top change leaders expect to make to improve their company's supply chain agility and resiliency.

Reducing on-hand inventory levels is the number one response to the current economic environment.

29% say an **excess supply** of semiconductor inventory already exists, while another **25%** **believe demand will match supply** for the next four years due to emerging technologies.

Source: KPMG Global Semiconductor Industry Outlook Survey 2025, n=156.

INDUSTRY **issues and strategic priorities**

KEY TAKEAWAYS

Territorialism/Tariffs and talent risk

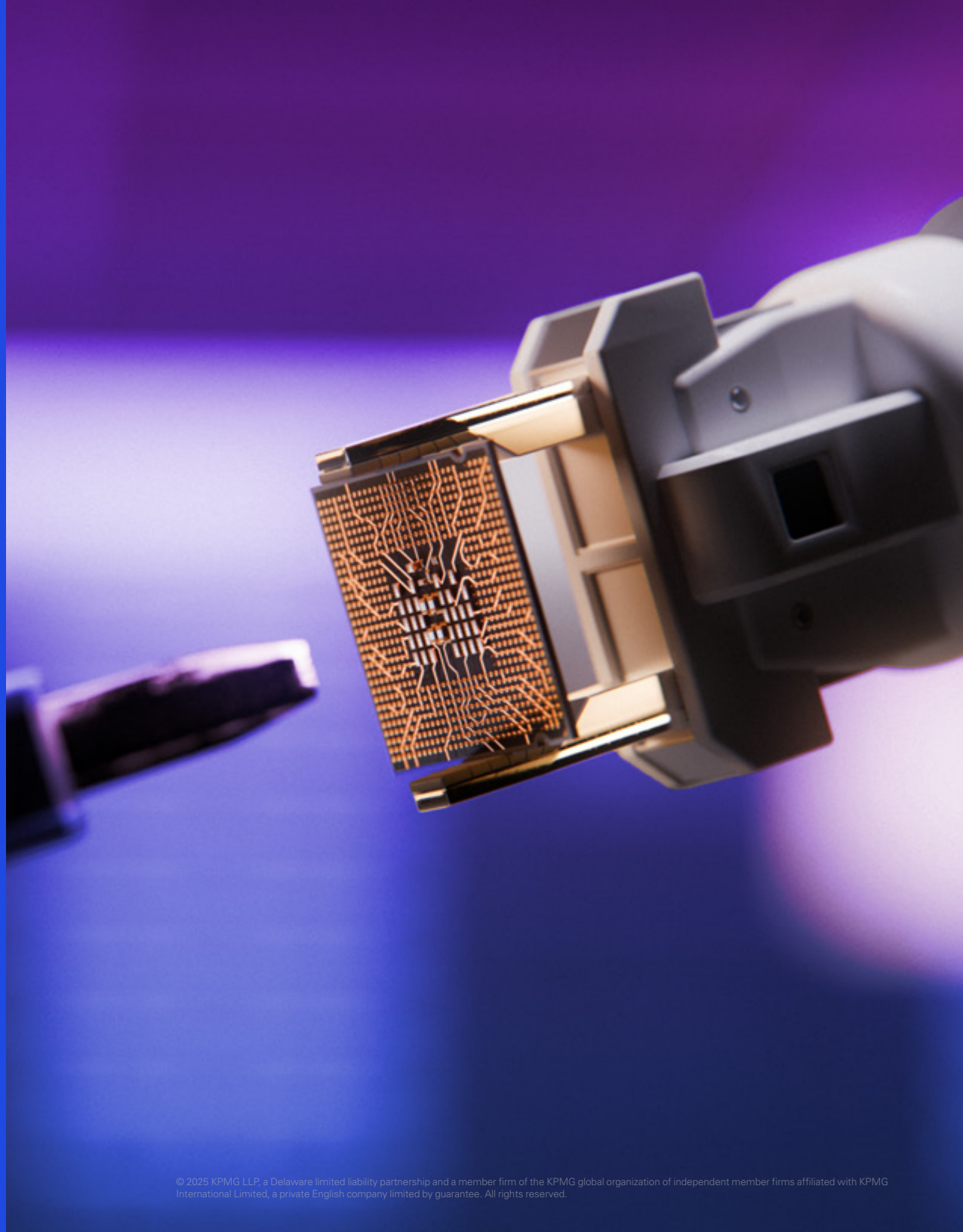
tied as the biggest issues facing the semiconductor industry over the next three years.

Supply chain flexibility and talent development/retention

tied as the top strategic priorities over the next three years, followed by digital transformation and implementing GenAI.

New competitors emerge

As nontraditional semiconductor companies (tech giants, platform companies, and automotive companies) expand their chip capabilities, executives are most concerned that there will be increased competition for talent as new competitors emerge.



Industry issues and strategic priorities

Rising concerns over tariffs and geopolitics

Semiconductor manufacturing, assembly, test, and distribution spans multiple countries, making it sensitive to geopolitical shifts and conflicts. A great amount of geopolitical instability affects much of the world, from international trade tensions to conflicts in Europe and the Middle East. The trajectory of these and their ripple effects remain uncertain, yet they stand to significantly influence global semiconductor operations and market dynamics.

Among our respondents, armed conflicts and tariffs were named the two most concerning geopolitical matters that could affect the semiconductor ecosystem over the next two years. Other matters such as government subsidies and the nationalization of semiconductor technology also ranked near the top. Government subsidies can distort market competition, and nationalization poses concerns around intellectual property, market access, and the potential for industry fragmentation.

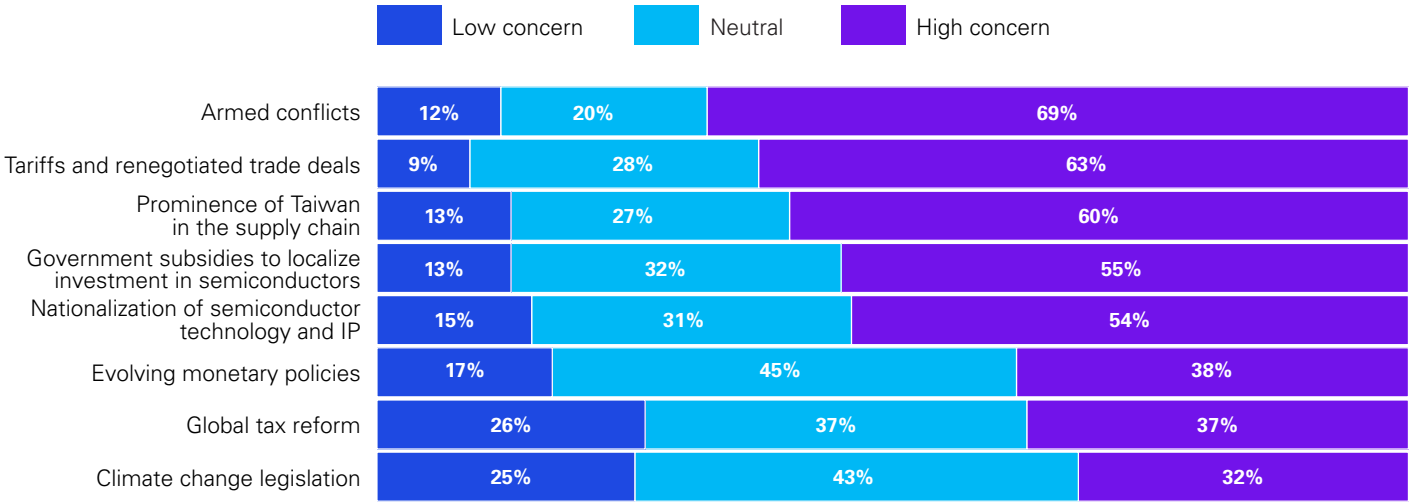
The prominence of Taiwan in the supply chain was also identified as a high concern by respondents. Europe and Asia-Pacific (ASPAC) were highly concerned about climate change legislation compared to relatively low concern in the US. At the same time, the US and ASPAC listed global tax reform as a high concern, compared to Europe.

After placing second in last year's survey, territorialism (including tariffs and trade restrictions) tied with talent risk as the biggest issue facing the industry over the next three years. However, territorialism was clearly the most significant issue among large companies with $1 billion or more in annual revenue, likely due to more extensive global operations and greater exposure to international trade disruptions.

Supply chain disruption, cited by 35 percent, was the third of the top three issues, indicating a growing concern over protectionist policies being imposed by governments.

Respondents were less concerned about global inflation and government responses, which fell to ninth place from third place last year as inflation rates generally declined in 2024.

How concerned are you about the impact of the following geopolitical matters on the global semiconductor industry and ecosystem over the next two years? (select one per row)

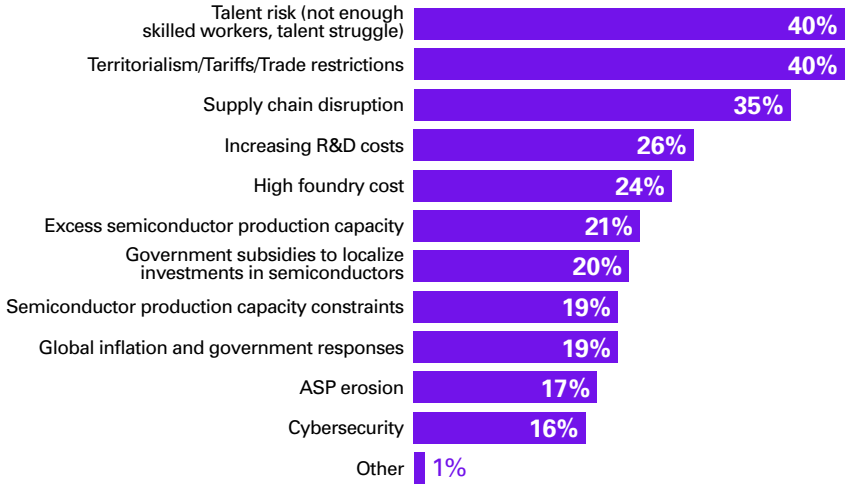


Source: KPMG Global Semiconductor Industry Outlook Survey 2025, n=156.

Percentages may not sum to 100% due to rounding.

Industry issues and strategic priorities

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



Source: KPMG Global Semiconductor Industry Outlook Survey 2025, n=156.
Multiple responses allowed. Percentages do not sum to 100%.

Focus on US tariffs and export controls

Tariffs

In the US, increasing tariffs and nontariff barriers have significantly impacted many industries, including the semiconductor sector. This is particularly true for companies that source from China, as many products are subject to an additional 25 percent tariff in addition to the normal tariff rate. As a result, production costs have significantly increased.

2025 will likely see increased tariffs on semiconductors and semiconductor manufacturing equipment imported in the US. The Biden administration was pursuing an investigation on unfair trade practices of Chinese general-purpose semiconductors. Shortly after taking office, President Trump announced that he would impose tariffs on Canada, Mexico, and China under the International Emergency Economic Powers Act (IEEPA) based on border security concerns. Further, President Trump campaigned on universal baseline tariffs for all goods entering the United States. These tariffs will force US companies to either absorb higher costs or pass them on to consumers. While the specifics related to new tariffs are evolving, it is likely that new tariffs will be implemented early in the Trump administration.

Export controls

Export controls have progressed from controlling specific technology or hardware to preventing the acquisition or development of emerging technologies, and advanced semiconductors and computing have been especially impacted.

The implications for the industry include:

- **Revenue impact:** Restrictions on exporting advanced semiconductor technologies have reduced the potential market size and revenue for US companies.
- **Supply chain issues:** Companies must navigate complex regulations, leading to disruptions and increased costs as they seek alternative suppliers or customers.

2025 will likely see new export controls aimed at further restricting both semiconductors and semiconductor manufacturing equipment. The Biden administration released an interim final rule that focuses on new export controls for semiconductor manufacturing equipment, adds new foreign direct product rules, and designated 140 new companies to the Entity List. The Trump administration is expected to broaden export controls.

Impact on manufacturing, production, and assembly decisions

The combination of tariffs and export controls has prompted US semiconductor companies to reconsider their manufacturing and production strategies. Many are exploring reshoring, nearshoring, and friendshoring options to reduce dependency on foreign suppliers and mitigate risks associated with international trade policies. This shift, while potentially increasing operational costs, offers greater control over the supply chain.

Industry issues and strategic priorities

Government funding

In recent years, governments have increased their focus on semiconductor investments as part of broader initiatives to advance technological leadership and national security.

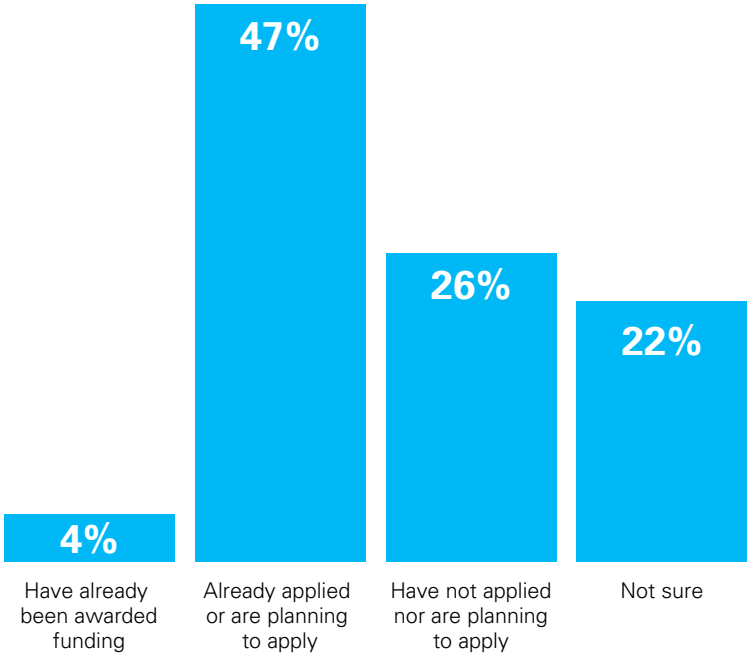
Our survey shows a substantial inclination among semiconductor companies toward government funding, with nearly half (47 percent) of respondents having said they have applied or are planning to apply for some kind of government funding.

Among those who have applied or received funding, almost half (45 percent) sought less than $100 million in funding, suggesting that a majority of semiconductor companies might be eyeing government grants to supplement their capital plans rather than entirely fund large-scale projects.

Another 20 percent of these respondents sought $1 billion or more in funding, indicating ambitions for substantial strategic initiatives, such as building new fabrication plants.

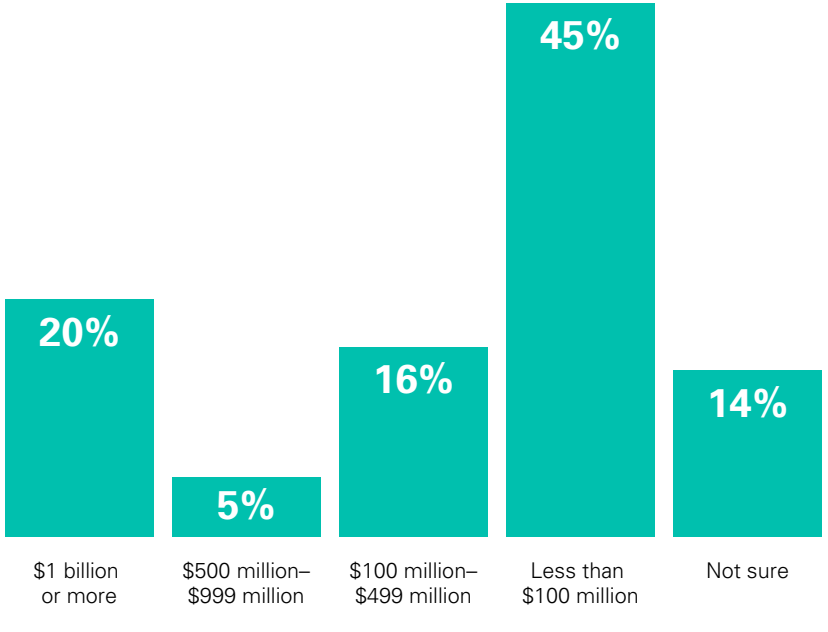
These results were consistent across regions, except Europe, where respondents were more likely to seek $100 million to $499 million in government funding.

Has your company already applied for, or is planning to apply for in the next 12 months, government subsidy funding (e.g., US CHIPS Act, European Chips Act)? (select one)



Source: KPMG Global Semiconductor Industry Outlook Survey 2025, n=156.
Percentages may not sum to 100% due to rounding.

How much government subsidy funding is your company seeking to obtain/has already obtained? (select one)



Source: KPMG Global Semiconductor Industry Outlook Survey 2025, n=80.
Percentages may not sum to 100% due to rounding.

Industry issues and strategic priorities

Talent is also a top issue

As the semiconductor industry grows and the global demand for technical talent becomes greater, the industry is grappling with talent gaps, and talent risk was again identified as the biggest issue facing the semiconductor industry over the next three years (although tied this year with tariffs/trade restrictions). It also ranked as the top issue in the previous three surveys.

The top response for ensuring that semiconductor companies have enough talent was investing in employee training, upskilling, and development programs (37 percent), reflecting the industry's understanding that up-to-date competencies in new technologies and tools are essential. That was followed by implementing succession planning and leadership development initiatives. These proactive strategies demonstrate an emphasis on continuity of leadership and the identification and nurturing of future leaders to guide the company through an increasingly volatile, uncertain, complex, and ambiguous global business environment. Also cited was leveraging technology and automation to optimize workforce productivity, enabling employees to focus on higher-order, strategic tasks while routine operations are automated.

US respondents put a greater emphasis on offering competitive compensation, incentives, and flexible work arrangements than their European and ASPAC counterparts, reflecting the evolving employee preferences. For their part, Europe most favored enhancing employee retention and engagement strategies—these initiatives help foster a loyal workforce that feels recognized and valued, which can significantly improve productivity. ASPAC emphasized partnering with educational institutions or industry organizations for talent pipeline development. Such symbiotic relationships with educational and industry bodies can ensure a steady influx of qualified professionals for the company and the industry at large.

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

Source: KPMG Global Semiconductor Industry Outlook Survey 2025, n=156.
Multiple responses allowed. Percentages do not sum to 100%.

Industry issues and strategic priorities

Nontraditional companies disrupting the talent picture

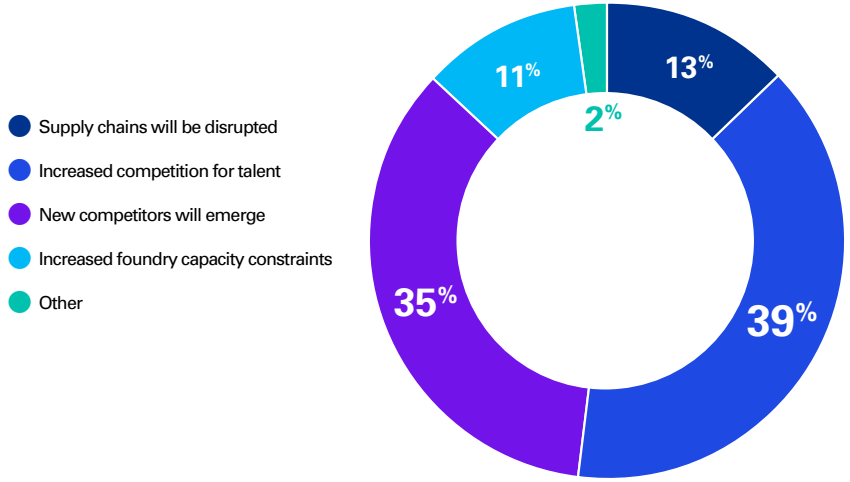
As nontraditional semiconductor companies (e.g., tech giants, platform companies, automotive companies) continue to expand their own silicon capabilities, industry executives view competition for talent as the main impact. They are also increasingly wary of new competitors emerging from this trend.

The responses are related, given that a rise in semiconductor business units at these industry-adjacent companies will consequently create a need for even more skilled workers. The entry of nontraditional players, often with deep pockets and compelling employee value propositions, intensifies this talent race. The demand for skilled professionals who can design, develop, and manufacture complex semiconductor solutions is expected to rise further.

In addition, tech giants and platform companies venturing into the design and manufacture of semiconductors could potentially disrupt the market dynamics, given their financial prowess, established distribution networks, and customer bases.

Tech giants and established semiconductor players are now in a fierce battle for market share, with tactics such as optimizing chips for AI, enhancing data center modeling capabilities, and forging strategic alliances. As the industry becomes more competitive, significant investments and cutting-edge strategies will be essential for companies to not only survive but also thrive in this rapidly evolving landscape.

As nontraditional semiconductor companies (e.g., tech giants, platform companies, automotive companies) continue to develop their own chips and silicon capabilities, what do you expect the primary impact will be to the industry over the next three years? (select one)



Source: KPMG Global Semiconductor Industry Outlook Survey 2025, n=156.
Percentages may not sum to 100% due to rounding.

Industry issues and strategic priorities

Other strategic priorities include supply chain and GenAI

Given that talent remains a top issue for semiconductor executives, it should be no surprise that talent development and retention also remains a top strategic priority for the next three years. This reflects the industry's need for highly skilled labor given the specialized and technical nature of chip design and manufacturing. As semiconductor technologies increase in complexity, attracting, developing, and retaining skilled workers becomes a critical challenge that companies must address.

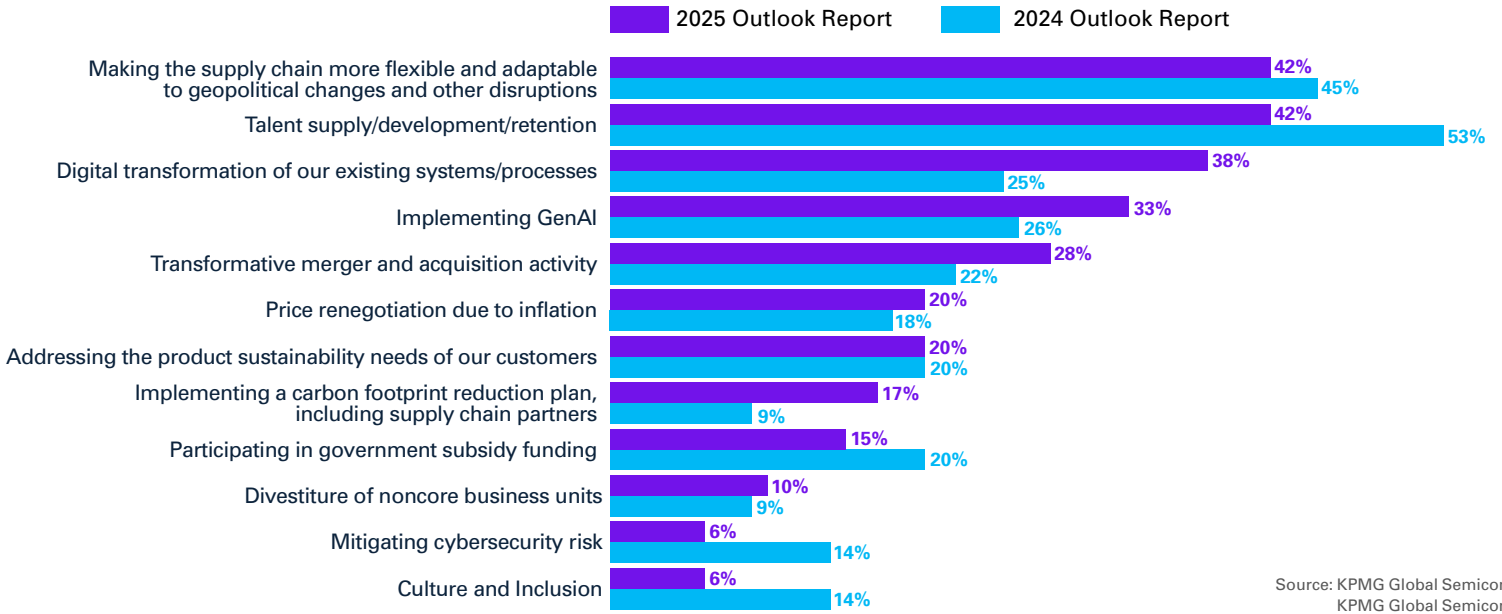
However, other issues have moved up on executives' agendas compared to last year's survey.

Making the supply chain more flexible and adaptable to geopolitical changes was also listed as the top strategic priority (tying with talent development/retention), after being named second in last year's survey. The ascent of this issue represents growing apprehensions about potential tariffs and trade restrictions, which can have significant disruption on global supply chains, affecting everything from raw material procurement to final product delivery.

Digital transformation of existing systems/processes and implementing GenAI again ranked among the top strategic priorities, ahead of other priorities such as mergers and acquisitions, sustainability initiatives, and cybersecurity. These priorities underscore the essential role digitalization, cloud, and AI have in maximizing operational efficiency, product design, and manufacturing processes.

Surprisingly, cybersecurity tied for last among the strategic priorities, suggesting that industry executives believe the fundamental issues around security have been addressed or are being sufficiently monitored to manage the risk.

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 Global Semiconductor Industry Outlook Survey 2025, n=156.
KPMG Global Semiconductor Industry Outlook Survey 2024, n=172.
Multiple responses allowed; percentages do not sum to 100%.

Industry issues and strategic priorities

GenAI deployment

Businesses of all kinds have begun using GenAI to enhance their operational efficiencies, stimulate innovation, and gain a competitive edge. Semiconductor companies are no exception.

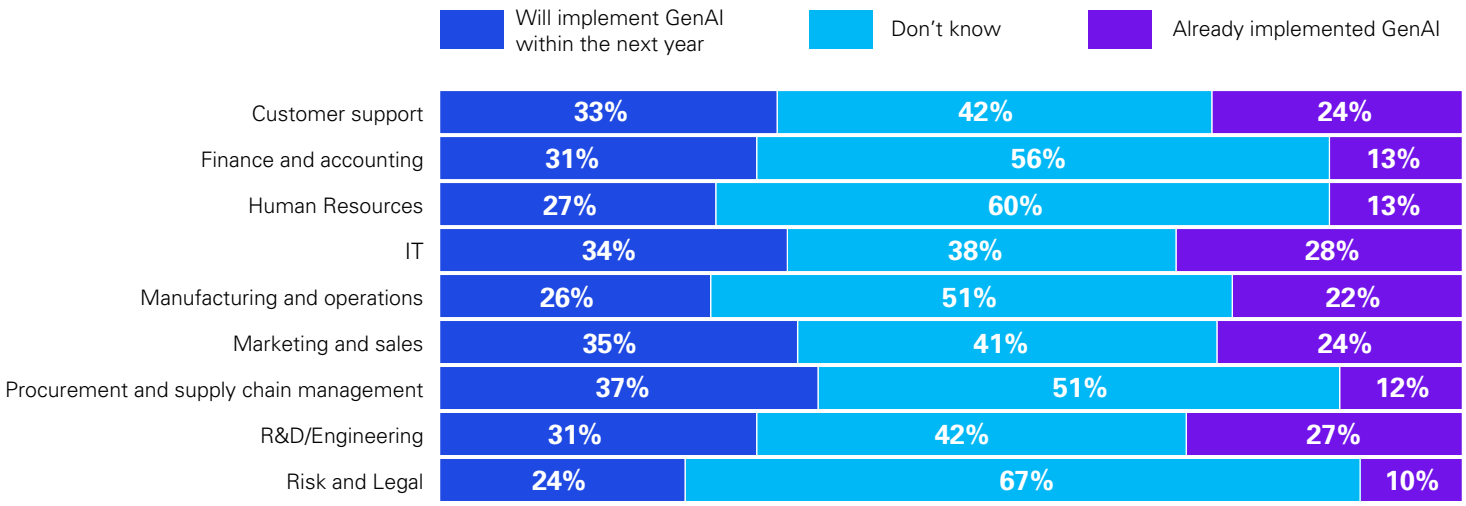
In our survey, IT and R&D/Engineering are the primary areas where semiconductor companies have already implemented GenAI. Given that the efficiency of these functions directly affects the speed of semiconductor design, development, and manufacturing processes, it is not surprising they are the first to leverage GenAI. AI-driven automation can lead to faster decision-making, improved process optimization, and more streamlined workflows.

Looking ahead, supply chain management and marketing/sales are the top functions where GenAI is expected to be implemented within the next year. The use of AI in supply chain management can lead to better predictive analytics for demand forecasting, optimization of logistics, and mitigating supply chain risks. In sales and marketing, GenAI can help to enhance customer engagement, personalize marketing strategies, and improve sales forecasting.

Regionally, the US appears to be at the forefront of GenAI implementation, due to its robust technological infrastructure and a high concentration of tech and semiconductor companies.

Despite the potential of GenAI, the planning and execution of GenAI adoption requires careful consideration due to the technical complexities, costliness, and potential for disruption involved.

In which of the following functions has your company already implemented GenAI, or expect to implement GenAI within the next year? (select one per row)



Source: KPMG Global Semiconductor Industry Outlook Survey 2025, n=156.
Percentages may not sum to 100% due to rounding.

GROWTH **applications and products**

KEY TAKEAWAYS

Microprocessors,

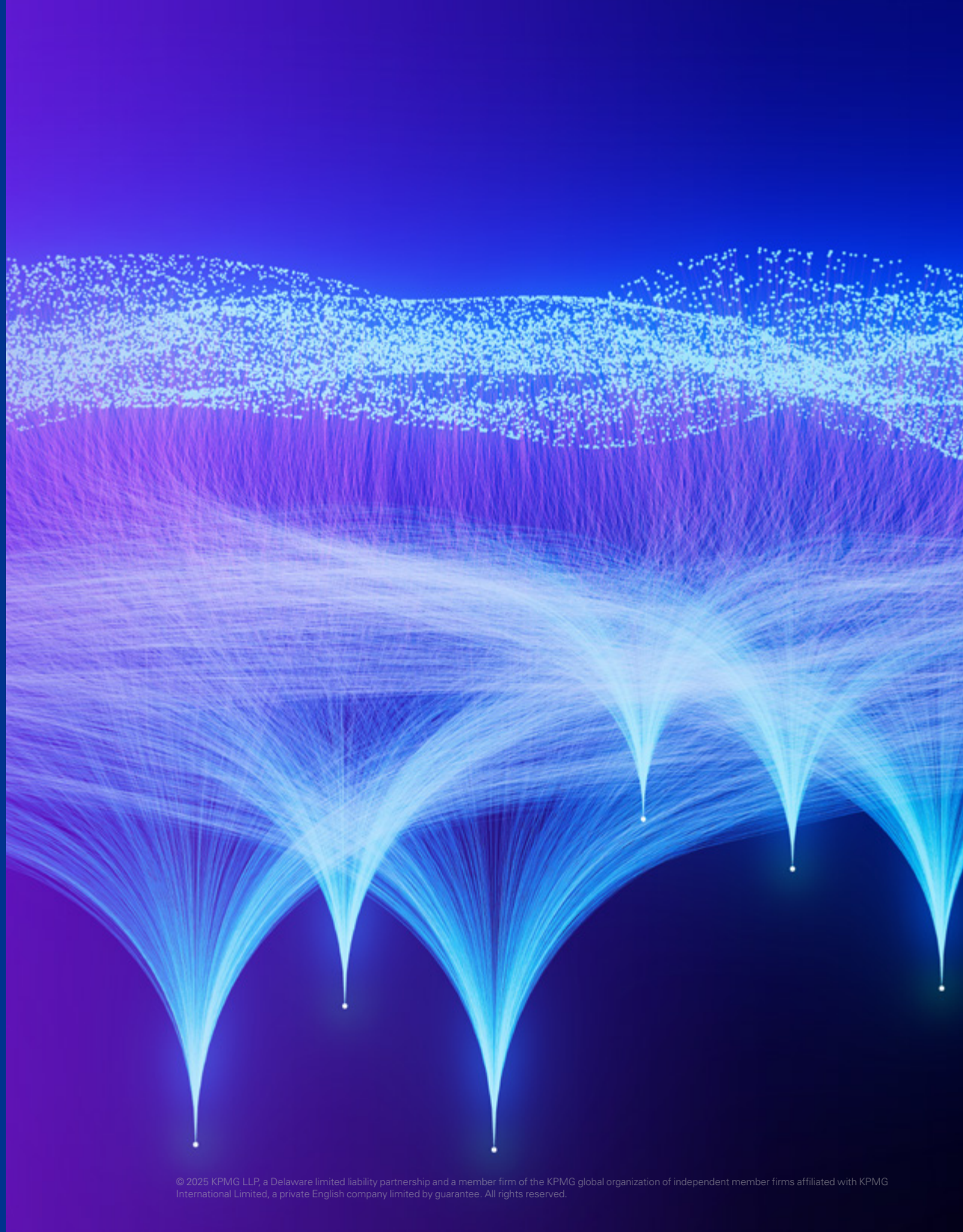
including GPUs, again ranked as the top product opportunity for industry growth over the next year.

AI

has become the most important application driving semiconductor revenue for the first time, and cloud/data centers has risen to second.

Automotive,

which topped the survey for the last two years as the most important revenue driver, fell to fourth place this year.



Growth products

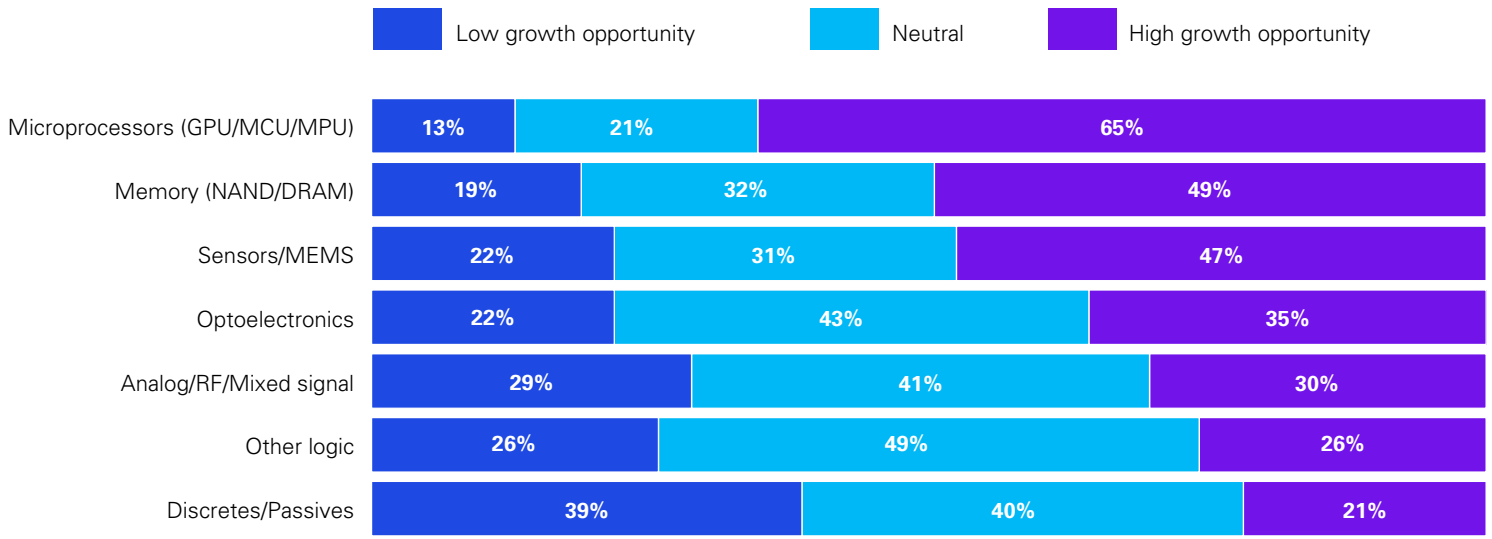
Microprocessors/GPUs are highest product growth opportunity

The microprocessor category includes graphics processing units (GPUs), which are used extensively for AI computations and microcontroller units (MCUs) used in embedded systems. This category again ranked as the top product opportunity for industry growth over the next year, reflecting the increasing interest and application of AI and GenAI. As AI's adoption expands, its dependency on access to high-speed, efficient microprocessors similarly grows.

Respondents also saw memory (NAND/DRAM) and sensors/MEMS as other areas of high growth. The global demand for high-capacity storage and high-bandwidth memory reflects the growth tied to AI GPUs and increased build-out of related data centers. Meanwhile, sensors/MEMS are integral to IoT devices and other applications demanding precise measurements and controls, such as automotive, industrial, and healthcare sectors.

A decline in growth opportunity from last year was noted in analog/RF/mixed signal as well as optoelectronics, reflecting slower demand from automotive and industrial segments. Analog, RF, and mixed-signal chips are foundational to a variety of applications such as telecommunications, automotive electronics, and industrial control systems.

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



Source: KPMG Global Semiconductor Industry Outlook Survey 2025, n=156.
Percentages may not sum to 100% due to rounding.

Growth applications

AI tops applications driving company revenue

Companies in various industries, from retail to healthcare to finance and manufacturing, are increasingly leveraging AI to optimize operations, make data-driven decisions, and improve customer service.

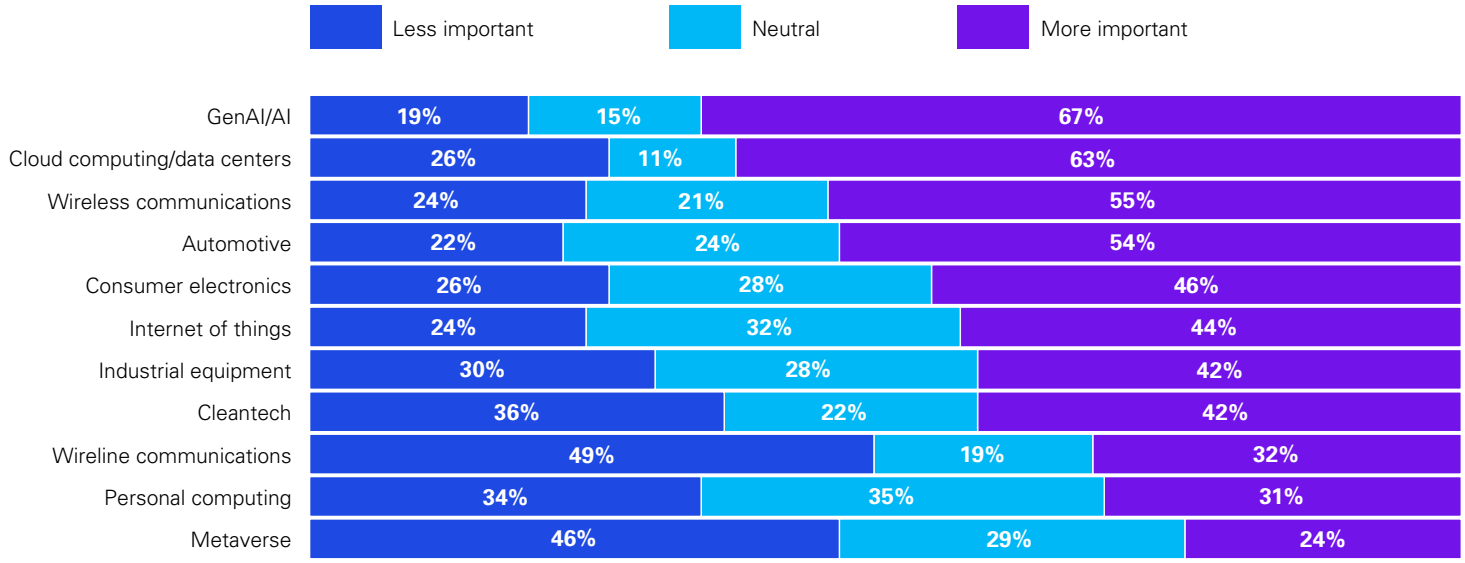
Organizations were expected to spend $235 billion globally on AI in 2024. AI spending is expected to reach more than $630 billion by 2028, with a nearly 30 percent compound annual growth rate (CAGR). GenAI currently represents 17.2 percent of global AI spending and is expected to grow to 32 percent by 2028, driven by a 60 percent five-year growth rate.[1]

This year's survey revealed that AI has become the most important application driving semiconductor company revenue for the first time, as businesses increasingly incorporate the technology into their digital transformations. Spending on AI semiconductors is expected to be $174 billion in 2025 and increase to $280 billion in 2028.[2]

Semiconductor leaders also believe that AI enablers (including high-bandwidth memory) are the production technology that will have the greatest impact on the industry over the next three years, moving up from the third spot in last year's survey.

In an era where AI applications are rapidly permeating all industries—from autonomous vehicles to healthcare diagnostics, household devices to personalized recommendations—there's an increasing demand for semiconductors that can support AI capabilities. High-bandwidth memory plays a critical role in these developments, supporting more efficient processing that enables more complex computations and data analyses required in AI applications.

How important are each of the following applications in driving your company's revenue stream over the next fiscal year? (select one per row)



Source: KPMG Global Semiconductor Industry Outlook Survey 2025, n=156.
Percentages may not sum to 100% due to rounding.

[1] Source: "A Deep Dive Into IDC's Global AI and Generative AI Spending," IDC Blog, August 16, 2024.

[2] Source: "GenAI Monetization - Assessing the ROI Equation," Morgan Stanley, February 25, 2025.

Growth applications

AI tops applications driving company revenue (continued)

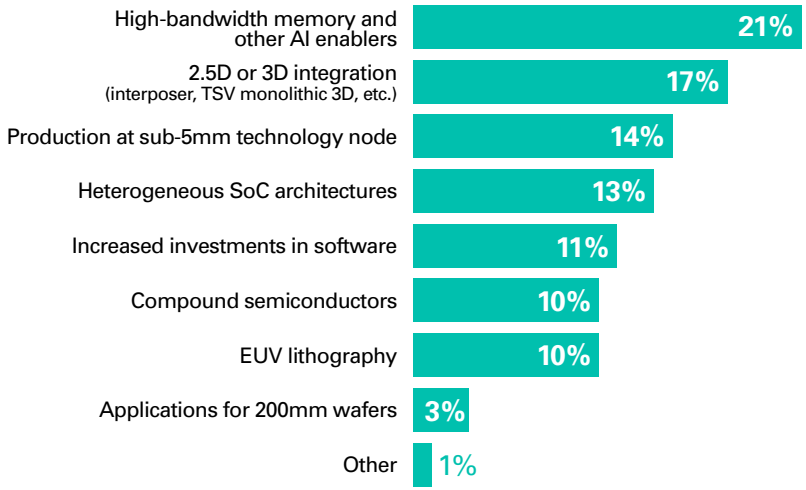
This year's survey is also the first time that cloud computing/data centers placed second among revenue drivers. The continued expansion of data centers and cloud computing has created substantial demand for semiconductors, fueling revenue growth and fostering innovation within the industry. The global data center market is projected to grow at a CAGR of about 10 percent over the next five years, reaching a market size of nearly $485 billion by 2029.[3]

Similarly, the global cloud computing services market was estimated to be more than $600 billion in 2023 and is expected to grow at a CAGR of 21.2 percent from 2024 to 2030.[4]

Semiconductor companies benefit because they produce the processors, memory chips, and networking components that enable cloud service providers to deliver scalable and reliable solutions to their customers. They also supply the advanced memory chips and storage solutions needed to handle large volumes of data.

Automotive, which topped the survey for the last two years as the most important revenue driver, fell to fourth place this year. The decline in automotive reflects the slowing growth in that sector generally and particularly with electric vehicles of all types.

Thinking about the future of production technology, which will have the greatest impact on the semiconductor industry over the next three years? (select one)



Source: KPMG Global Semiconductor Industry Outlook Survey 2025, n=156.
Percentages may not sum to 100% due to rounding.

[3] Source: "Global Data Center Market Projected to Near $500 Billion by 2029," DataCenter Knowledge website, November 27, 2024.

[4] Source: "Cloud Computing Market Size & Share Industry Report, 2030," Grand View Research website, undated.

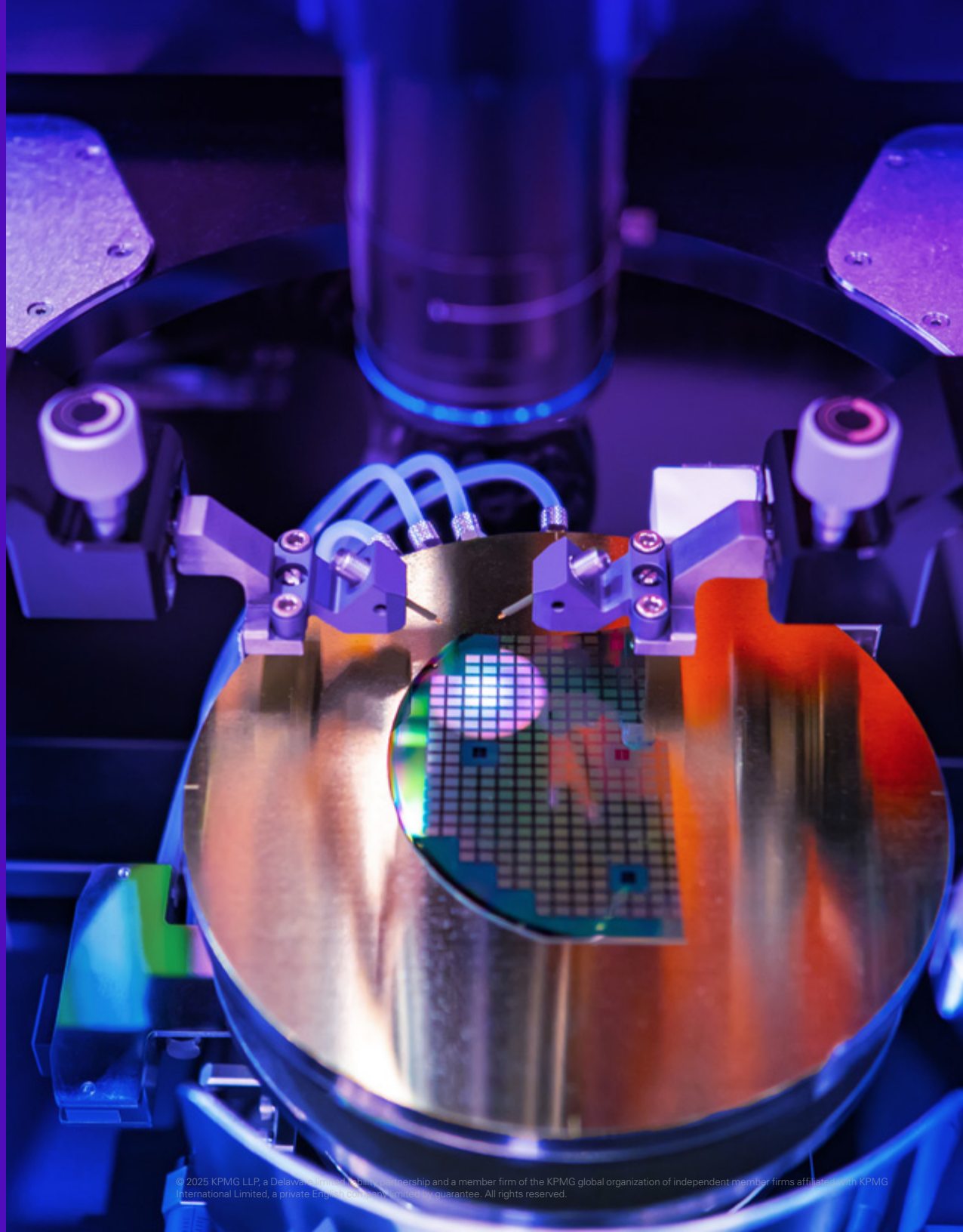
FINANCIAL **expectations**

KEY TAKEAWAYS

86% project their company's revenue will grow in 2025.

63% expect to increase semiconductor capital spending.

72% predict an increase in R&D spending.



Financial expectations

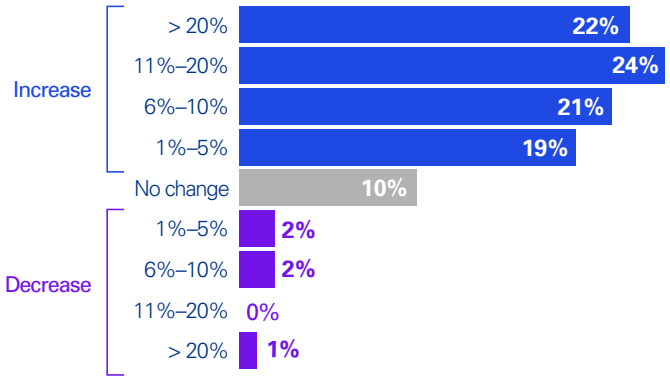
Revenue and profitability

Despite economic uncertainty, increased costs, supply chain headwinds, and potential tariffs, semiconductor executives remain bullish in their outlook for the industry. A majority (86 percent) project their company's revenue will grow over the coming year, which is on par with last year's 83 percent. Even more encouraging is that almost half (46 percent) expect their company's revenue to grow more than 10 percent. All regions—US, Europe, and ASPAC—are positive in their outlook, with only ASPAC being slightly less so. Smaller companies were generally more optimistic than larger organizations, seeing the opportunity for larger revenue increases because they are at an earlier stage of growth.

This continued optimism by US companies is being driven by the increased momentum powered by government funding related to the CHIPS Act of 2022 and the rapid rise of GenAI.

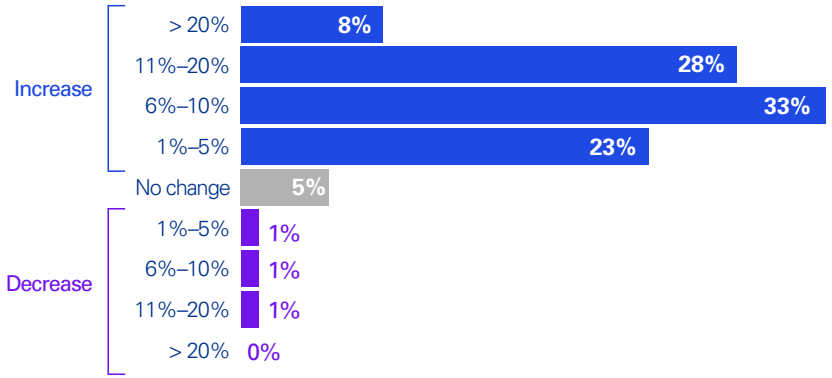
Looking more broadly, executives are also very enthusiastic about industry revenue growth in 2025—92 percent forecast the industry's revenue will grow in the coming year. One-third (36 percent) predict industry revenue growth of more than 10 percent. These responses for strong revenue growth are in line with analyst predictions for 2025.

What is your outlook for your company's revenue growth over the next year compared to the current year? (select one)



Source: KPMG Global Semiconductor Industry Outlook Survey 2025, n=156.
Percentages may not sum to 100% due to rounding.

What is your outlook for the annual revenue growth of the global semiconductor industry over the next year? (select one)



Source: KPMG Global Semiconductor Industry Outlook Survey 2025, n=156.
Percentages may not sum to 100% due to rounding.

Financial expectations

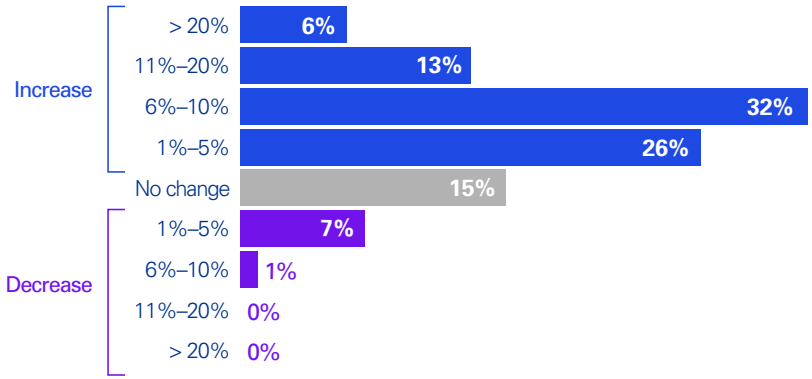
Revenue and profitability (continued)

As for the profitability of the semiconductor industry, forecasts were slightly subdued compared to revenue growth, with 77 percent predicting an overall increase in profitability. Yet this is higher than last year's result when 70 percent of respondents foresaw an increase.

One reason for the views around profitability is that certain end markets, such as industrial and automotive (including electric vehicles), are seeing decreasing demand, causing a decline in revenues and margins among suppliers.

Nevertheless, taken as a whole, the results reflect a positive 2025 outlook on a healthy industry.

What is your estimate for the change in the annual operating profitability of the global semiconductor industry over the next year? (select one)



Source: KPMG Global Semiconductor Industry Outlook Survey 2025, n=156.
Percentages may not sum to 100% due to rounding.

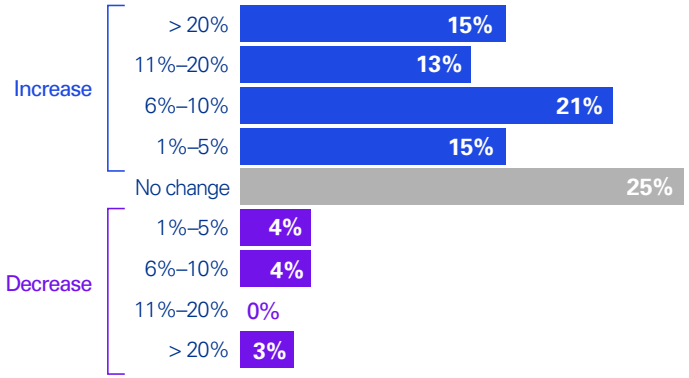
Financial expectations

Capital spending

The survey reveals upward sentiment toward capital spending. A significant majority of respondents (63 percent) plan to increase their semiconductor-related capital spending over the next year. That compares to 55 percent last year. Europe was slightly less positive, with 59 percent predicting an increase in spending, while ASPAC was more optimistic, with 68 percent planning an increase. The variation in optimism reflects regional differences in economic conditions, government support, and exposure to global supply chain challenges.

The improving economy plays a crucial role in driving demand for semiconductors. The OECD projects global GDP growth to be 3.3 percent in 2025, up from 3.2 percent in 2024, and 3.3 percent in 2026.[5] As consumer confidence grows, the demand for electronics and smart technologies is expected to rise, further stimulating the semiconductor industry. In addition, government subsidies aimed at bolstering domestic semiconductor production are also a reason for the positive outlook for capital spending.

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



Source: KPMG Global Semiconductor Industry Outlook Survey 2025, n=156.
Percentages may not sum to 100% due to rounding.

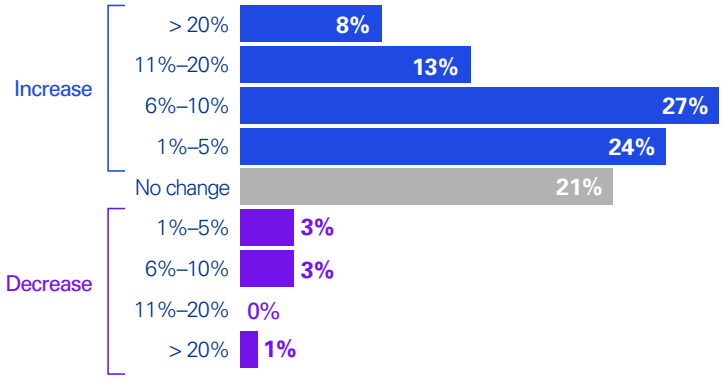
R&D spending

Spending to innovate is a constant for the semiconductor industry. However, the growth of GenAI appears to be a further catalyst, encouraging more companies within the semiconductor industry to increase their spending on R&D.

Reflecting that focus on innovation and development of new technologies, 72 percent of respondents said they plan to increase their R&D spending in the next year. Europe was somewhat softer, with 59 percent seeing an R&D increase, while ASPAC was more aggressive with 83 percent predicting an increase.

The results show a slight increase from last year, where 69 percent overall were planning to increase R&D spending.

What is your expectation for the change in R&D spending by your company for the next year over the current year? (select one)



Source: KPMG Global Semiconductor Industry Outlook Survey 2025, n=156
Percentages may not sum to 100% due to rounding.

[5] Source: "Economic Outlook: Global growth to remain resilient in 2025 and 2026 despite significant risks," OECD website, December 4, 2024.

Financial expectations

Workforce growth

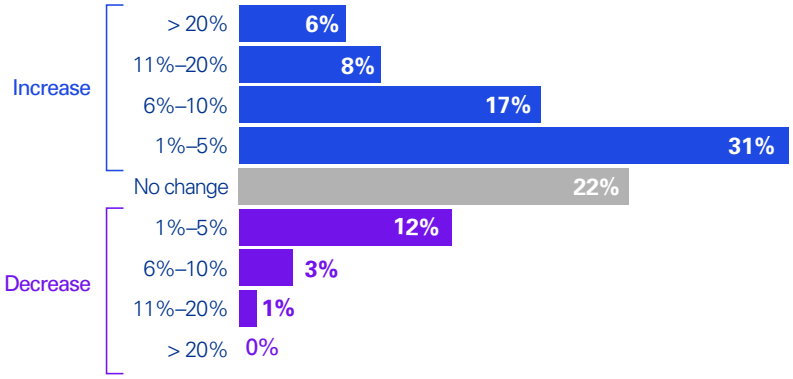
As the complexity of semiconductor production and the pace of innovation increase, companies within this sector require a workforce with potent technical knowledge and abilities. Moreover, the industry has a growing need for specialists capable of navigating cutting-edge areas, such as quantum computing and AI.

Despite nearly half a million tech layoffs globally since 2022, positions in technology-driven companies are still highly sought after globally. This has created a talent gap in the tech sector.[6] For example, in the US, of the more than 100,000 new industry jobs in manufacturing and design expected to be created by 2030, 67,000 are at risk of going unfilled.[7] Europe will need an estimated 400,000 more workers to achieve its goal of doubling its market share by 2030, a goal included in the European Chips Act.[8] And in India, the semiconductor industry is facing a potential deficit of 250,000 to 300,000 professionals by 2027.[9]

Finding the right talent, therefore, remains a chief priority for semiconductor companies, which face a scarcity of skilled workers to create a workforce to meet the needs of business. And that priority appears to have become even more pressing. Overall, 62 percent of respondents said that they plan to increase their global workforce in the next year, compared with 55 percent overall last year.

Geographically, Europe was less inclined to add workers, with only 48 percent saying they plan to increase their workforce, with 30 percent saying they actually plan to reduce their workforce. On the other hand, the US was the most positive, with 69 percent citing an increase.

During the next year, do you expect your company's global workforce to increase or decrease? (select one)



Source: KPMG Global Semiconductor Industry Outlook Survey 2025, n=156.
Percentages may not sum to 100% due to rounding.

The size of companies also plays a role in their hiring intentions. While large corporations ($1 billion or more in annual revenue) show an eagerness to recruit more personnel (57 percent expect to increase), smaller firms (less than $100 million in annual revenue) indicate an even stronger inclination toward workforce expansion (77 percent expect to increase). This could reflect smaller companies' efforts to remain competitive in an industry dominated by global giants, driving them to invest more in human capital aimed at product development for faster growth.

[6] Source: "What's Happening In The Tech And IT Sectors, According To Staffing Experts," Forbes, March 28, 2024.

[7] Source: "Chipping away: Assessing and addressing the labor market gap facing the U.S. semiconductor industry," Semiconductor Industry Association, July 25, 2023.

[8] Source: "Semiconductor capacity is up, but mind the talent gap," EE Times Europe, April 15, 2024.

[9] Source: "This industry may be short 300,000 skilled professionals in India," CNBC TV18, June 11, 2024.

2025 Semiconductor Industry Confidence Index

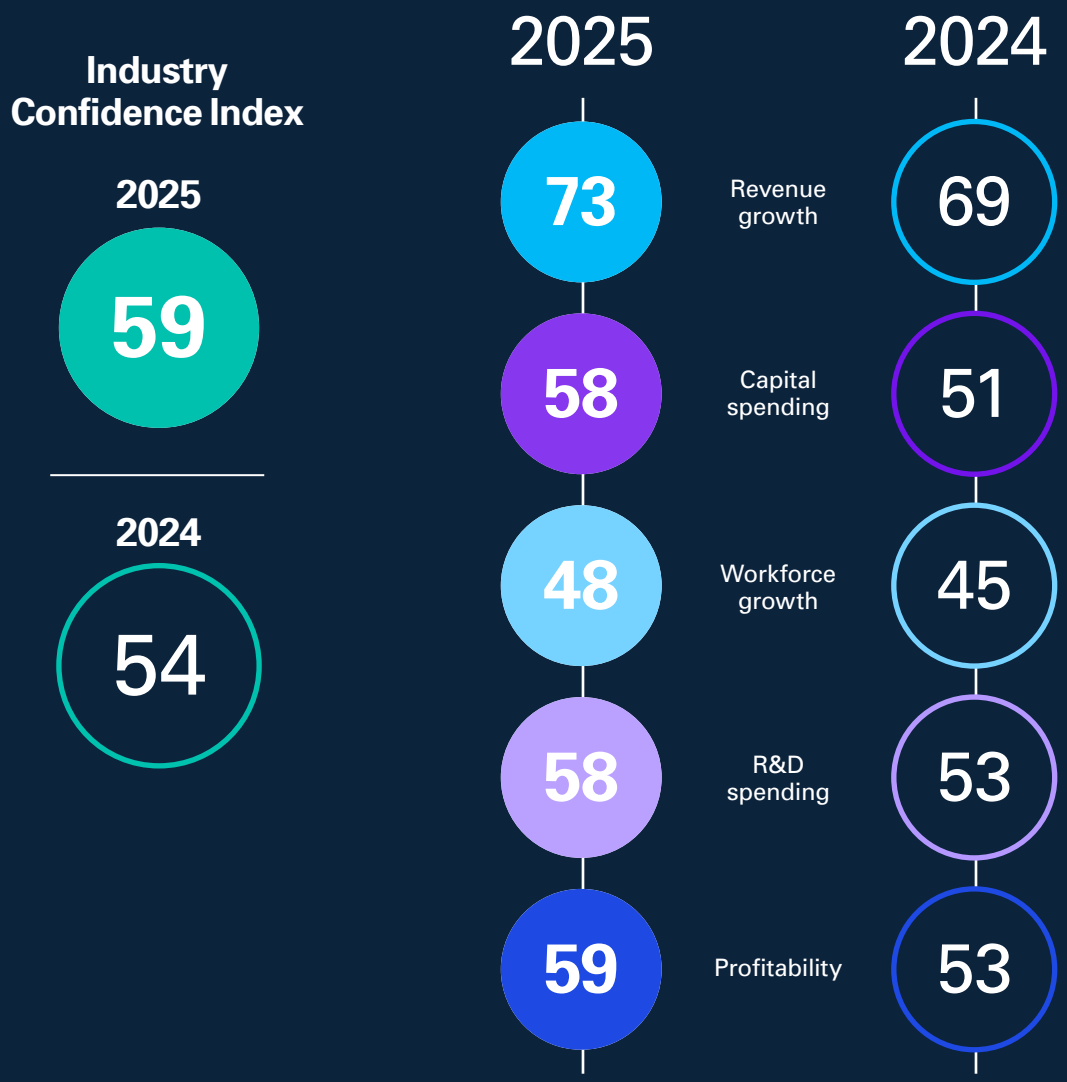
The Semiconductor Industry Confidence Index score rose to 59 for 2025, exceeding last year's score of 54, due to increased confidence across all factors: company revenue growth, profitability growth, workforce growth, R&D spending, and capital expenditures. A value above 50 indicates a more positive outlook than negative.

Among the index's components, company revenue growth posted the strongest showing with a score of 73. Workforce growth has the weakest showing with a score of 48, but that was still 3 points higher than last year.

The biggest positive shift was in capital expenditure, which gained 7 points for a score of 58. That was followed by profitability change of the global semiconductor industry next year, which gained 6 points from last year to a score of 59.

Confidence Index scores varied by company size, but all scores are still positive, especially at smaller companies.

The positive results across all categories point to an industry on the upswing and poised for further growth in 2025.



Source: KPMG Global Semiconductor Industry Outlook Survey 2025, n=156.
KPMG Global Semiconductor Industry Outlook Survey 2024, n=172.

OPERATIONAL **expectations**

KEY TAKEAWAYS

Increasing geographical diversity

is the top change leaders expect to make to improve their company's supply chain agility and resiliency.

Reducing on-hand inventory

levels is the number one response to the current economic environment.

29% say an excess supply of semiconductor inventory already exists, while another

25% believe demand will match supply for the next four years due to emerging technologies.

Operational expectations

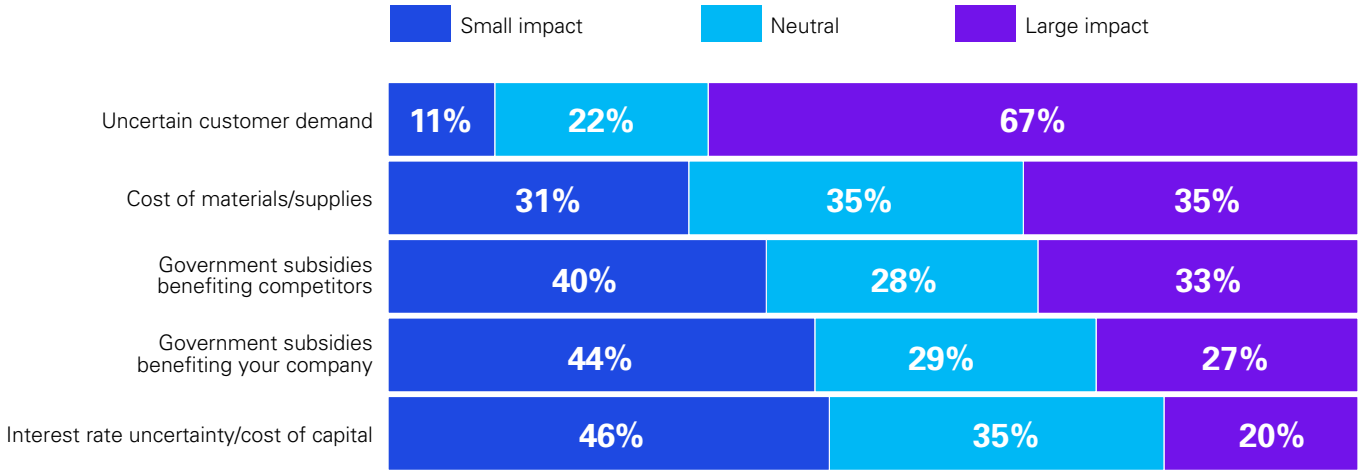
Economic and market factors

By a large margin, semiconductor executives see uncertain customer demand as the economic/market factor to have the largest impact on their company, cited by 67 percent of respondents. This uncertainty can have large effects on an industry that relies heavily on future-oriented investments and long-term planning. The second-most cited factor was cost of materials, assembly, and supplies at 35 percent. The cost of these resources is a pivotal concern for semiconductor companies, given that the constant race for innovation necessitates frequent updates in manufacturing equipment and obtaining materials through to final assembly and test.

Regionally, ASPAC saw cost of material and supplies as having more of an impact than the US and Europe. And Europe more frequently cited uncertain customer demand as having a high impact, compared with the US and ASPAC.

The results reflect concerns over a still recovering economy, where certain markets remain sluggish. For example, the deepening relationship between the automotive sector and the semiconductor industry is palpable, as advanced automobiles continue to require increasingly sophisticated chip systems. Consequently, shifts in car demand significantly influence the semiconductor companies serving that end market.

Rate the impact you expect the following economic/market factors to have on your company in the next year.
(1=very small impact and 5=very large impact)



Source: KPMG Global Semiconductor Industry Outlook Survey 2025, n=156.
Percentages may not sum to 100% due to rounding.

Operational expectations

Responding to the economic environment

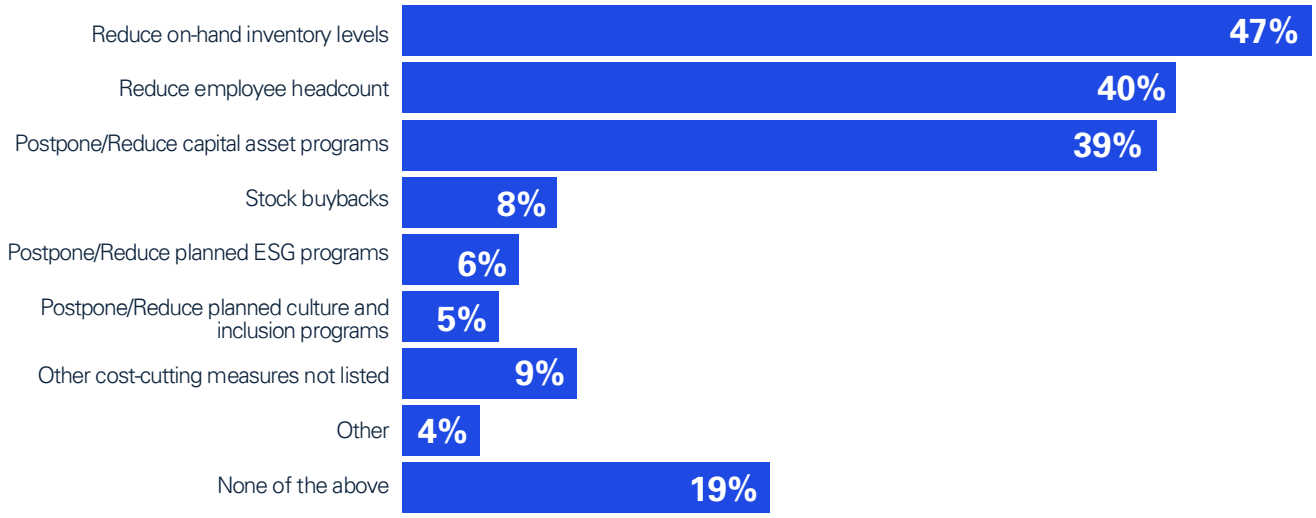
The semiconductor industry, characterized by its cyclical nature, is profoundly influenced by global economic trends. The industry is grappling with issues arising from the global economic environment marked by a recent period of higher interest rates and inflation and ongoing trade and tariff tensions between countries, which have led to uncertain customer demand in many end markets.

Looking at how to respond, semiconductor executives are reassessing their management strategies around inventory. Overall, 47 percent of respondents said reducing on-hand inventory is the primary action they have taken, or expect to take, in response to the economic conditions, making it the top choice overall. Last year's top pick, postponing capital expenditures, ranked third this year.

Geographically, the concern was more intense in Europe, where 56 percent of respondents said they would be reducing inventory, which was tied with reducing employee headcount. The European results may reflect that European companies are more exposed to the automotive and industrial industries, which had been experiencing downward revisions in demand for much of 2024.

Overall, the result suggests that worries over supply chain disruptions—though still top of mind—might be starting to wane. For example, amid the initial disruptions caused by the pandemic, companies adopted a cautious "just-in-case" approach to inventory management. Now, with the easing of these disruptions, it appears that companies are reverting to the more efficient "just-in-time" model.

What are the primary actions your company has taken, or expects to take in the next year, in response to the current economic environment (e.g., interest rates, inflation, uncertain customer demand)? (select up to three)



Source: KPMG Global Semiconductor Industry Outlook Survey 2025, n=156.
Multiple responses allowed. Percentages do not sum to 100%.

Operational expectations

A mixed outlook on inventory levels

Semiconductor executives expressed general optimism about revenue growth for semiconductors, driven by technological advancements and new applications.

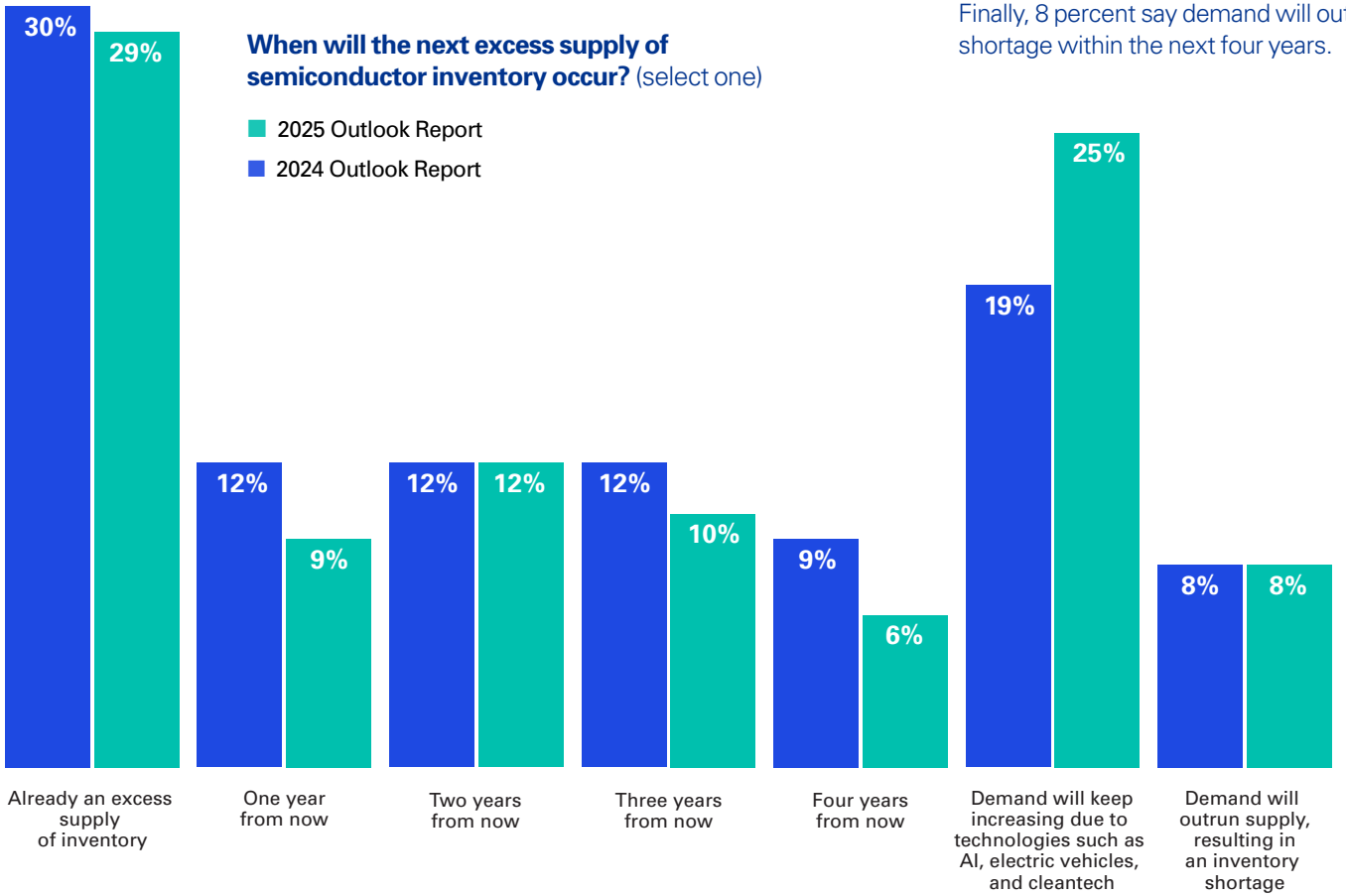
During the pandemic, the sudden surge in demand for electronics for remote work and entertainment, coupled with supply chain disruptions, led to a global chip shortage. After the pandemic, the shortage has been alleviated, and the concern is now creating the delicate balance between supply and demand and reversion back to the cyclical norm.

In our survey, views on inventory levels present a mixed picture. Slightly less than a third of respondents (29 percent) believe an excess of semiconductor inventory already exists. And another third (37 percent) feel an inventory excess will become a reality in the next four years, although that was a significant decline from last year's 45 percent.

Conversely, one-quarter of executives believe emerging technologies like AI represent a continual growth engine, and semiconductor demand will be balanced with supply for the next four years. This is an increase from last year's survey (19 percent).

Finally, 8 percent say demand will outrun supply, resulting in another inventory shortage within the next four years.

When will the next excess supply of semiconductor inventory occur? (select one)



Source: KPMG Global Semiconductor Industry Outlook Survey 2025, n=156.
KPMG Global Semiconductor Industry Outlook Survey 2024, n=172.
Percentages may not sum to 100% due to rounding.

Operational expectations

Supply chain agility and resiliency

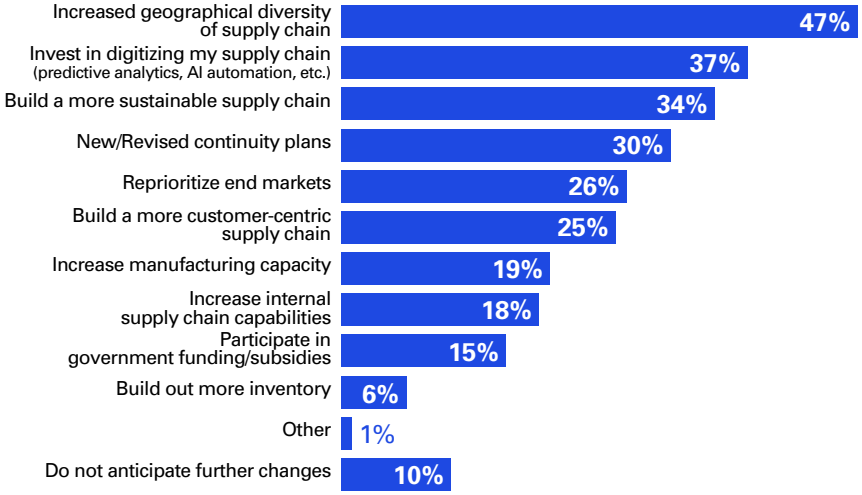
The industry's global supply chain is inherently complex, involving many players from various corners of the world. This complexity is accentuated by factors such as trade tensions, geopolitical uncertainties, and regional supply chain dependencies.

The prominence of Taiwan in the global supply chain and trade tensions with the Chinese mainland are significant concerns for semiconductor executives that could affect the industry's supply chain and revenue growth. Overall, 47 percent of respondents said that they plan to improve their company's supply chain agility and resiliency by increasing the geographical diversity of their supply chain in the next 12 months. That response jumped to 53 percent when the question was asked with a 13–36-month timeline. The other top actions were investing in digitizing the supply chain and building a more sustainable supply chain.

The US government's increasingly protectionist stance when it comes to trade is a key factor for companies to seek suppliers from a wider scope of geographies, thereby maintaining supply chain integrity and ensuring continued growth.

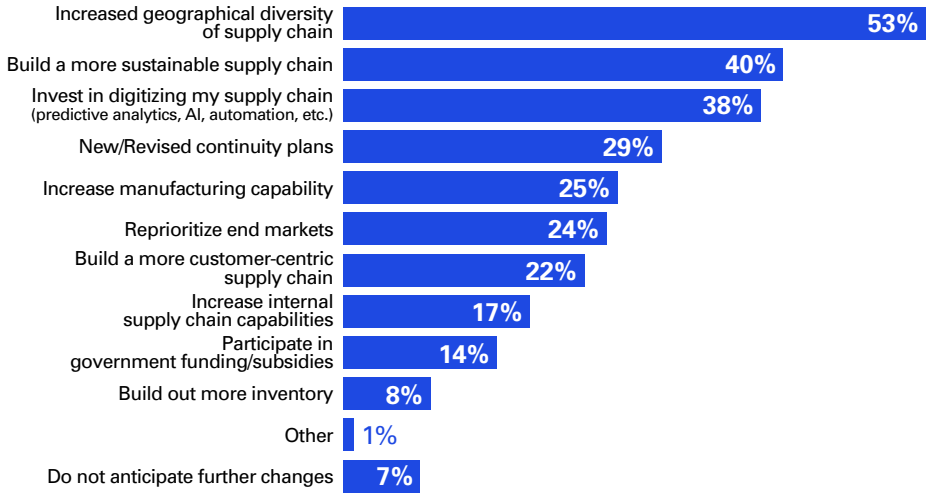
What changes do you expect to make to improve your company's supply chain agility and resiliency?
(select all that apply)

Within the next 12 months



Source: KPMG Global Semiconductor Industry Outlook Survey 2025, n=156.
Multiple responses allowed; percentages do not sum to 100%.

In the next 13–36 months



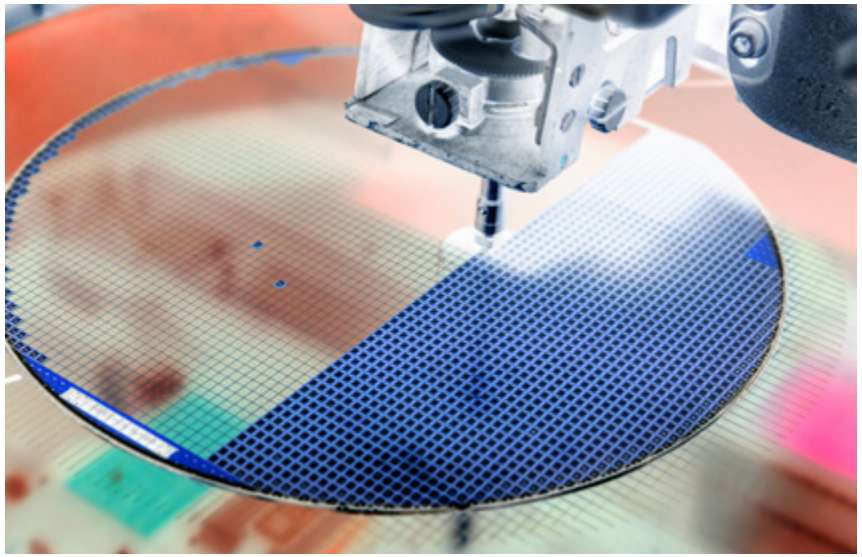
Source: KPMG Global Semiconductor Industry Outlook Survey 2025, n=156.
Multiple responses allowed; percentages do not sum to 100%.

Next steps

Digital transformation and GenAI

The semiconductor industry, standing at the forefront of technology, should continue to pursue digital transformation and leverage emerging technologies like GenAI to stay competitive and innovative.

- Define clear objectives for digital transformation, such as increasing production efficiency, reducing time-to-market, enhancing product design, or improving predictive maintenance.
- Plan specific applications for GenAI, such as design modeling, automated system testing, predictive analytics for equipment maintenance, and optimization algorithms for supply chain management.
- Recruit AI and machine learning specialists, data scientists, and digital transformation experts. Provide training and continuous learning opportunities for existing employees to upskill them in new technologies and methodologies relevant to digital transformation.
- Develop a robust data governance framework to manage the quality, security, and accessibility of data, which is crucial for effective AI applications.



Geopolitical risks

The semiconductor industry, being a critical and strategic sector with significant geopolitical implications, should consider adopting a multifaceted approach to manage and mitigate geopolitical risks.

- Avoid heavy reliance on a single source or region for materials, manufacturing, or intellectual property to reduce vulnerability to regional disruptions caused by geopolitical tensions or conflicts.
- Implement advanced risk assessment tools to monitor geopolitical developments continuously, including setting up a dedicated team or department responsible for assessing geopolitical risks and advising on strategic decisions.
- Prepare a comprehensive crisis management plan that includes scenarios related to geopolitical risks.

Tariffs and export controls

Addressing proposed tariffs, export controls, and increased protectionism requires a strategic and proactive approach from the semiconductor industry.

- Establish partnerships or joint ventures in key markets to navigate local regulatory environments more effectively and benefit from local incentives.
- Develop an agile business model that can quickly adapt to new trade policies and regulations. This includes having flexible manufacturing and distribution strategies that can be adjusted as required.
- Continuously invest in R&D to reduce dependency on foreign technologies and materials. Focusing on homegrown innovation can also help in circumventing some export controls targeted at specific foreign technologies.

Next steps

Supply chain

To achieve a more efficient, secure, and reliable supply chain, the semiconductor industry needs to address multiple areas of its operations. Here are key strategies to consider:

- Avoid reliance on a single supplier or region by establishing relationships with multiple suppliers across various geographical locations. Where possible, source materials and components closer to manufacturing facilities to reduce transit times, costs, and dependency on international shipping.
- Leverage predictive analytics to forecast demand more accurately and anticipate disruptions. Employ inventory management techniques such as just-in-time and safety stock models to optimize inventory levels and reduce holding costs.
- Treat suppliers as strategic partners. Regular interactions, shared goals, and mutual benefits can lead to a more reliable and committed supply chain network. Invest in supplier development programs to improve the suppliers' capabilities, which in turn enhances their performance and reliability.

Talent

Addressing the talent gap in the semiconductor industry is crucial for sustaining innovation and meeting growth goals. Here are several strategies the industry can employ:

- Offer continuing education programs for current employees to keep their skills up to date with the latest technologies and processes. Encourage obtaining certifications and advanced degrees.
- Define clear career pathways within the organization to help employees understand their potential career progression. Establish mentorship programs where experienced professionals can guide newer employees, providing them with advice, support, and knowledge transfer.
- Employ automation and AI to handle routine tasks, allowing human workers to focus on more complex and intellectually stimulating work. This not only improves efficiency but can also make positions more appealing.

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 across the globe work with semiconductor clients of all sizes to look beyond today's pressing industry challenges and anticipate the strategic choices that can best position them for both short- and long-term success.

For more information, please visit kpmg.com/semiconductors.

Global Semiconductor Alliance

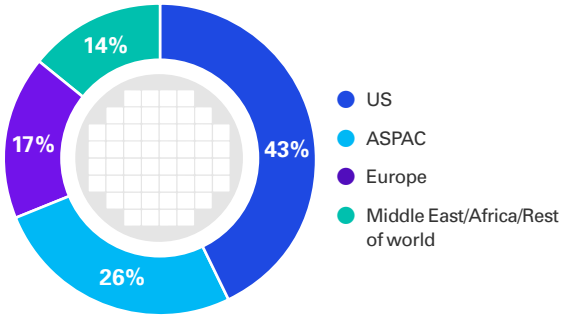
The GSA is Where Leaders Meet to establish an efficient, profitable, and sustainable high-technology global ecosystem encompassing semiconductors, software, solutions, systems, and services. A leading industry organization that represents more than 300 corporate members, including more than 120 public 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.

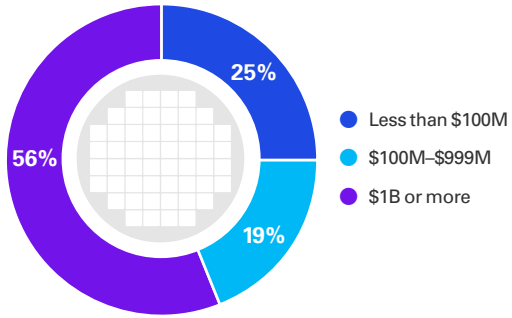
Research methodology

The survey was conducted in conjunction with the GSA. Data was collected from 156 global respondents in the fourth quarter of 2024 using an online survey. The charts below provide the respondent profile.

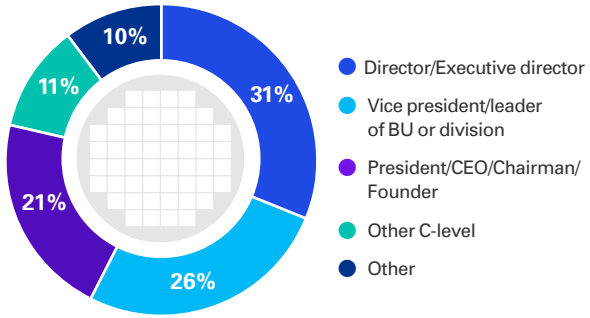
Location



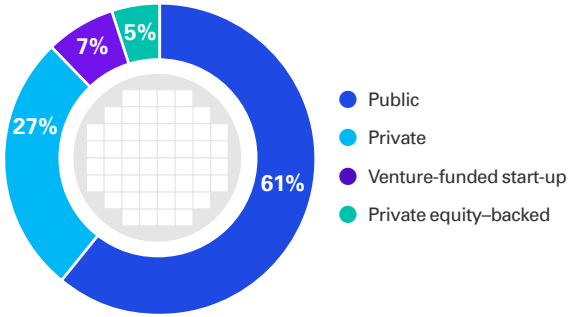
Annual company revenue



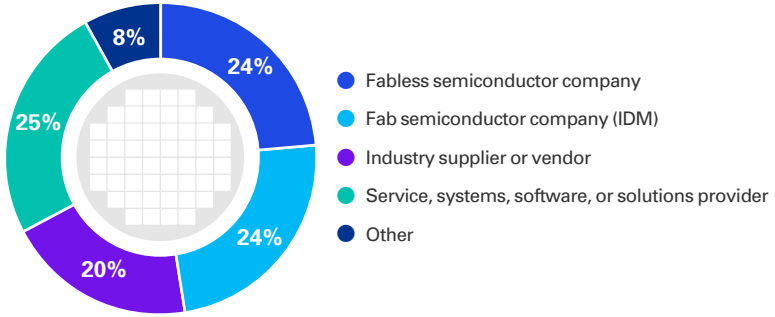
Respondent title



Company type



Industry segment



Source: KPMG Global Semiconductor Industry Outlook Survey 2025, n=156.
Percentages may not sum to 100% due to rounding.

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Chris Gentle is the leader of the KPMG Global Semiconductor practice and a member of the KPMG Technology, Media & Telecommunications practice in the US. He has 30 years of experience providing financial statement audit and deal advisory services to public and private companies in the semiconductor, software, and life sciences sectors both in the US and the UK. Having served as lead partner for a number of Fortune 500 semiconductor companies, Chris has extensive experience with debt & equity offerings, business combinations, and divestitures.

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Mark Gibson is the Technology, Media & Telecommunications global sector leader for KPMG International. During his 35 years in public accounting and advisory, he has served clients in the technology, consumer products, and retail industries as both an Audit and Advisory partner. He serves as the account executive for several large clients in the Seattle and Silicon Valley markets and as global lead partner for a leading technology company, where he works with KPMG professionals from Audit, Tax, and Advisory in more than 15 countries. Prior to his current role, Mark was the Seattle office managing partner.

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