KPMG Global Semiconductor Outlook 2016

Seismic shifts underway

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About the survey

KPMG LLP's (KPMG) annual Global Semiconductor Survey identifies current and emerging trends and issues affecting the world's leading semiconductor companies, and provides an index reflecting industry leaders' expectations about revenue, profitability, workforce growth, spending, and other factors influencing the global semiconductor industry over the next three years.

This is KPMG's 11th edition of the Global Semiconductor Survey. The Web-based survey was conducted in the third and fourth quarters of 2015. Participants included 163 senior executives from leading global semiconductor companies.

Respondents from the United States comprised 49 percent of the survey. China respondents accounted for 15 percent, and the rest of ASPAC 28 percent. Europe and other countries comprised 9 percent.

Segmented by revenue, companies with \$1 billion or more annual revenue accounted for 67 percent of survey respondents. Companies with less than \$1 billion annual revenue accounted for 33 percent. The data source for all graphs is the 2015 KPMG Global Semiconductor Survey.

Note that percentages in some charts may not equal 100% due to rounding.

While executives remain positive about the semiconductor industry's prospects, overall optimism declined this year in response to falling average selling prices and higher development and manufacturing costs. Survey respondents expect a shift toward China as the center of the semiconductor industry's geographic growth, and additional consolidation as more companies moderate capital, headcount, and R&D investments.

— Gary Matuszak, Global and U.S. chair, Technology, Media & Telecommunications, KPMG

In this year's Global Semiconductor Outlook, we see seismic changes redefining the global semiconductor industry:

- **China is viewed as a rising center** of semiconductor influence, as well as the industry's most attractive growth market.
- **Rapid M&A activity** is reshaping the semiconductor landscape at an unprecedented rate.
- Is Moore's Law slowing down? The ramifications could be significant.

Semiconductor Industry Confidence Index

Perhaps these forces help explain why executive confidence is the lowest since 2011. After several years of optimistic sentiment, global semiconductor executives have lowered their expectations for 2016. This year's Semiconductor Industry Confidence Index shows a value of 46, the lowest since 2011. Forecasts for 2016 revenue, profitability and spending are flatter or at lower growth rates.

China climbs the charts

China replaced the United States as the industry's top market for revenue growth in both the oneyear and three-year outlooks as well as the top market for headcount growth. Growing consumer demand, and the Chinese government's planned investment in semiconductors, have clearly stoked the collective opinion that China is critical to the industry's future.

M&A is reshaping the industry

Survey respondents expect the pace of M&A activity to remain the same, or increase, in 2016. Driving this activity is the premium placed on intellectual property and inorganic revenue growth. The need to achieve scale and cost efficiency in R&D and manufacturing are also driving industry consolidation.

The future of the industry

The foundation of the semiconductor industry, Moore's Law, is starting to show some signs of age. Executives are concerned that Moore's Law could slow, leading to longer innovation cycles. We have already started to see potential ramifications such as higher R&D costs, a war for talent, and increased consolidation.

We trust you will find the report insightful and welcome any feedback you have, along with the opportunity to discuss how KPMG can help your business achieve its financial and performance goals.

Gary Matuszak

Global and U.S. chair, Technology, Media & Telecommunications, KPMG

Lincoln Clark

Partner in charge, Global Semiconductor Practice, KPMG in the U.S.



Packy Kelly

Partner, Global Semiconductor Practice, KPMG in the U.S.

Industry confidence lowest since 2011

In this year's survey, a significant decrease in KPMG's Semiconductor Industry Confidence Index reflects a shift to uncertainty and negative sentiment among industry leaders. After three years of cautious optimism, respondents believe 2016 offers only flat to modest growth. The index expresses, in a single figure, responses to questions on changes in the next fiscal year regarding:

- Revenue
- Profitability
- Capital spending
- Research & development (R&D)
 spending
- Global workforce expansion

Semiconductor Industry Confidence Index: 2009–2015



An index value above 50 can be interpreted as an optimistic outlook on the business environment for the next 12 months; conversely, an index value below 50 reflects a pessimistic view.

C As a result of slowing revenue growth, lower average selling prices, and a turbulent *M&A* environment, semiconductor companies report higher uncertainty about the industry's short-term prospects, and that's reflected in this year's Confidence Index. Executives are less willing to invest right now in capital spending, *R&D*, and headcount.

As president of the GSA, I've observed the sector remarkably adapt through several business cycles, new technological advances and economic trends. I'm excited to see what the future holds for our incredible industry! Thank you to KPMG for their continued thought leadership, insight, and support.

— Jodi Shelton, president, GSA (Global Semiconductor Alliance)

Revenue expectations slowing

What is your outlook for your company's semiconductor revenue growth in the next fiscal year?

Semiconductor leaders expect a slowdown in revenue growth in the next year.

While they maintain an overall positive outlook, executives are transitioning from a growth mind-set to a steady-state, no-change viewpoint.

Slower revenue growth, similar to pauses we've seen during previous industry cycle downturns, is combining with increased product complexity, development costs, and manufacturing expenses to dampen expectations for next year. Although growth forecasts remain stronger in China and Asia Pacific, leaders of companies in the United States and Europe are calling for flat or muted results.



Profitability estimates declining

What is your estimate for the change in the annual profitability of the global semiconductor industry over the next year?

Similar to expectations for their specific companies, there is a notable decline in the percentage expecting profitability growth for the broader semiconductor sector over the next fiscal year.

Last year's high optimism has been overtaken by a greater "no-change" mind-set.



Spending flattening as cost control grows

What is your outlook for semiconductor-related spending (both equipment and software) by your

company for the next fiscal year?

As expectations for revenue and profitability growth decline, cost control is becoming more important. Companies are forecasting flat to modest growth in capital investments.

Although half of the semiconductor executives are calling for capital spending increases, this total is down from the 8 in 10 expecting growth in 2014 and 2013. The percentage of executives expecting no change in capital spending over the next year reached 39 percent, almost tripling the number from 2014.



What is your outlook for semiconductor-related R&D spending by your company for the next fiscal year?

Reflecting the decrease in capital spending, there is a marked decrease in expectations of R&D investment over the next year.

Although 6 in 10 respondents believe R&D spending will grow, this compares with 8 in 10 last year, and there was a more than doubling of the respondents saying research spending will not increase over the next year.



C The war for talented engineers, higher software development costs and the costs of advanced node prototypes are putting pressure on *R&D* budgets. These advanced process development costs tie into the industry's other challenges regarding technology breakthroughs and the high cost of capital equipment.

— Packy Kelly, partner, Global Semiconductor Practice, KPMG in the U.S.

Headcount expectations decrease

During the next fiscal year do you expect your company's global semiconductor workforce to expand or contract?



Key Takeaway

Forecasts for 2016 revenue, profitability and spending are flat or at lower growth rates than 2015. We believe factors influencing these are macroeconomic and foreign exchange risks, pricing pressure in many sectors, and higher inventory levels. Time will tell if these attitudes represent a pause in the industry's traditional robust performance or the start of a prolonged cycle of much more moderate results. Optimism remains for the long term

Respondents more optimistic three years out

What is your outlook for your company's semiconductor revenue growth three years from today?

Overall expectations about revenue growth and profitability remain high over a three-year horizon, and are nearly the same as those in 2014.

This stability indicates respondents are expecting a short-lived pause in the marketplace next year that reflects past industry cycles, with growth returning shortly thereafter.

Looking three years out, we see more positive sentiment about where the industry is going reflecting a change in product mix, growing momentum in Asia Pacific, and digestion of the M&A taking place at the moment. People see more consistency and expect the industry to return to increases we've been seeing over the past three years.





What is your estimate for the change in the annual profitability of the global semiconductor industry three years from today?

C Throughout the history of the survey, we've seen that the three-year profitability metric has been very consistent. That could be an indication of the strength of the changing business model to lean manufacturing, so even if revenue turns down, companies continue to be able to be profitable based on a more nimble cost structure.

— Lincoln Clark, partner in charge, Global Semiconductor Practice, KPMG in the U.S.

What is your outlook for semiconductor-related spending (both equipment and software) by your company three years from today?



On a three-year horizon, respondents report continued high expectations for growth in capital and R&D spending (see next page).

Detailed Findings – Three-Year Outlook



What is your expectation for the change in semiconductor R&D spending by your company three years from today?

C During periods of slow revenue growth, pressured R&D budgets can prevent the level of product development necessary to spur future revenue growth. That creates a cycle in which a company's inability to fund necessary R&D leads to market share erosion and greater revenue declines, making them a possible acquisition target.

— Gary Matuszak, Global and U.S. chair, Technology, Media & Telecommunications, KPMG

Key Takeaway

While cutting costs in uncertain markets is understandable, investments in R&D and capital equipment are still critical to long-term health. Successful companies will be able to maintain an effective balance between controlling costs today and maintaining R&D investments necessary to create future growth opportunities.

China takes top ranking for future growth

Following a year marked by highprofile acquisitions and investment, China replaced the United States as the geographic market most likely to provide year-over-year revenue growth.

Global leadership of the semiconductor industry has been designated as a priority of the Chinese government, leading to local investment incentives as well as an international acquisition strategy to obtain talent and intellectual property (discussed in the next section). China's State Council has published goals of achieving worldclass manufacturing capabilities by 2020, with key sectors reaching top-tier global status by 2030.

As one sign of China's growing importance, Taiwan Semiconductor Manufacturing Co.

announced plans in December 2015 to build a 12-inch wafer factory and design services center in China. Earlier in the year, Qualcomm Corp. entered into a collaboration agreement with Chinese entity Semiconductor Manufacturing International Corp., and Intel Corp. said in October it planned to invest in a fabrication plant in Dalian, China, to make advanced memory chips.

China overtakes United States as top future revenue growth market

Please rate the the importance of the following geographic areas in terms of semiconductor revenue growth for your company in 2016.

1 = least important, 10 = most important

Graph shows the percentage who answered 8–10.

As China shifts its focus to emphasize domestically developed innovation, more tech firms are adjusting their market strategies to include alliances and joint ventures with Chinese companies.

In China, government/industry collaboration and massive addressable markets are combining to foster innovation in areas such as e-commerce, artificial intelligence, and other areas.

In KPMG's annual Tech Innovation survey, China has ranked as one of the top innovation leaders the last two years. Tech innovation in China is powered by the sophistication of the consumer, especially on mobile devices.

Continued momentum in mobile, data and analytics, development and commercialization of artificial intelligence, Internet of Things and robotics will be led by innovative companies based in ASPAC.



G Growing sentiment about China's importance is fueled by the Chinese government's investment in, and stated intentions to develop, a native semiconductor industry.

— Lincoln Clark, partner in charge, Global Semiconductor Practice, KPMG in the U.S.

...and increases revenue momentum in three year outlook

Please rate the the importance of the following geographic areas in terms of semiconductor revenue growth for your company three years from today.

1 = least important, 10 = most important

Graph shows the percentage who answered 8–10.

On a three-year horizon, the shift toward China as a promising market is more pronounced.

Korea, United States, Japan, and Taiwan are among the countries where respondents also expect growth but fall far short of the importance attached to China.

Chinese companies are shifting their focus from merely manufacturing products designed elsewhere to developing innovations for domestic and international markets. That ability to innovate is becoming as much of an important characteristic for the Chinese tech sector as its well-honed manufacturing capabilities.

Chinese manufacturers are undergoing a shift in industrial production, from 'made in China' to 'innovate in China for China'. Given the huge demand volumes, many companies are likely to focus on the Chinese market and design products that are tailored for China. We see increasing numbers of entrepreneurs, angel investors and venture capitalists establishing a presence in China and seeking out new innovative ideas and projects. Their actions are helping to create an ecosystem similar to Silicon Valley, but accentuated with unique Chinese characteristics.

Chinese companies are increasingly realizing the benefits of adopting emerging technologies and innovating to meet the rising consumer demands. Fostering and commercializing innovation is top of mind for Chinese companies.



C Today, 42 percent of all semiconductor content is consumed in China. A large portion of that content is repackaged for consumption outside of China, but over time, we're seeing a greater percentage of that content remaining in China for end-user consumption.

— Mark Edelstone, managing director, Morgan Stanley

China also tops in future headcount growth

Please indicate the top three markets for headcount growth in the semiconductor industry during the next 12 months.

Executives expect hiring patterns to largely mirror geographic market growth, with increased hiring in China propelling it into the number one ranking at the expense of the United States and India.

Korea and Taiwan also saw a marked increase in expectations for headcount growth.

China continues to have a strong showing as multiple "Silicon Valleys" spring up around the world. In KPMG's annual Tech Innovation survey, both Shanghai and Beijing ranked in the top four of cities seen as becoming leading technology innovation hubs.



Key Takeaway

Despite concerns over China's economy, the growing consumer middle class, as well as the Chinese government's planned investment in semiconductors, has clearly stoked the collective opinion that China is a critical market in the industry's future.



M&A deals maintain torrid pace

What is your prediction for the expected rate of change in the number of global M&A deals in the next calendar year—2016?

(2014) What is your prediction for the expected rate of change in the number of global M&A deals in the next fiscal year, based on the previous three-year average?



KPMG's 2016 M&A Survey found that respondents anticipate the heaviest deal activity to take place in the technology sector (70 percent), up significantly from 47 percent in 2015.

Following more than a year of headlinegrabbing transactions, executives believe the semiconductor industry will maintain or increase its current pace of consolidation in 2016.

Continuing the theme of China's growing importance in the semiconductor industry, China is playing a leading role in semiconductor consolidation. In late 2015, for instance, China's state-owned Tsinghua Unigroup Ltd. announced plans to invest in Taiwan-based chip companies Siliconware Precision Industries Co. and ChipMOS Technologies Inc.

Following intense M&A activity and domestic growth, China now boasts nine of the top 50 semiconductor companies, compared with one in 2009.

M&A drivers

What is the key factor driving the high rate of M&A activity in the industry?

In a new question this year, respondents are nearly split about the acquisition of intellectual property and revenue growth as leading transaction goals.

The importance of innovation as a key success factor for tech providers is leading to a number of transactions.

The increasing cost of R&D and the need to improve manufacturing cost efficiencies were also cited as notable factors for completing deals.



L Higher R&D costs mean fewer companies can continue to innovate. This ultimately leads to increased consolidation. There is also an appetite right now to reap financial benefit and synergies by acquiring complementary assets – not to mention removing a potential competitor.

— Lincoln Clark, partner in charge, Global Semiconductor Practice, KPMG in the U.S.

Industry moving towards new stage

What stage of the industry cycle best describes 2016/2015?

The semiconductor sector has enjoyed several years of positive growth since the 2008–9 financial crisis, but respondents believe the industry's momentum may be slowing.

Overall, respondents believe the semiconductor industry remains in an expansion stage, but expectations about the length of that expansion have shifted to more negative sentiment. On a geographic basis, China and Asia Pacific respondents view the industry in an early expansion stage, while those in the United States and Europe cite a later-stage expansion.

Geographical demographics for respondents who see the industry as no longer being cyclical are also more concentrated in Asia, perhaps as a function of the sheer demand and consumption of semiconductor content in the Asia Pacific and China markets.



Consolidation focused on Americas

Which region will experience the most industry consolidation?

Executives expect the greatest degree of industry consolidation in the Americas, followed by Asia Pacific and Europe.

Asia Pacific's strong showing reflects respondents' forecasts for a broader shift in the sector's expansion to higher-growth markets in Asia Pacific, and reflects current activity in the M&A market.

However, in the global deals that have been announced or completed as of late 2015, all the acquired companies have been U.S.-based.

In addition, the vast majority (79 percent) of respondents to KPMG's 2016 M&A Survey chose the United States as the most active area for M&A activity in 2016. This is not surprising due to the country's relatively robust economic prospects.



C If an expansion cycle seems to be in its latter stages, it's important to control R&D costs and maintain operating margins by focusing on products or transactions that are synergistic with your company, because you can't waste resources trying to develop a business that you don't understand or have traction in already.

- Raymond Zinn, cofounder and former chairman, CEO and president of Micrel, Inc.

Key Takeaway

Many companies will soon need to decide if they are best positioned to remain independent, acquire attractive assets, or find a strategic buyer or partner. If the industry continues to consolidate into fewer, larger companies, will this slow down innovation since each generation of technology will carry a larger economic risk?



Moore's law is alive and well within the walls of only a few semiconductor companies that have become the exceptions, not the rule. Rising R&D costs mean fewer designs must produce revenue growth, so the importance of each new product has increased. These create massive risks that only several companies can take.

--- Scott Jones, managing director, KPMG in the U.S.

The end of Moore's Law?

Which of the following best describes your perspective on the outlook for Moore's Law?

Respondents' expectations remain mixed about the future applicability of Moore's Law. About an equal number of respondents say its effects will continue, and the timing of those effects will take longer to be realized. As transistors become smaller and more complex, the intervals between generations are likely to shift from two years to three years or longer.



Moore's Law threats

What is the largest threat to the economy associated with the potential end of Moore's Law?

The promise of semiconductor technology is beneficial to so many durable goods in our economy that 72 percent of the respondents identified macro-economic threats resulting from the potential end of Moore's Law. Of all the economic threats identified with the potential end of Moore's Law, industry consolidation was viewed as the largest.



C The development of 20 nanometer is the first time where semiconductor firms have gone from one node to the next where the cost per transistor has actually gone up. The whole industry depends on chips being faster, smaller and cheaper, and that's basically because Moore's Law is working for them. That's now breaking, and leading to potential structural problems in the industry and increased consolidation.

— Mark Edelstone, managing director, Morgan Stanley

Almost half say transition to 450mm wafer will occur after 2020

When do you think the transition to the 450mm wafer will occur?

Considering a potential transition to 450mm wafers, most respondents expect to see a technology shift in about four or five years. This marks a longer time frame than expectations in last year's findings.

There was an increase this year in executives saying they're not sure about the timing of a 450mm shift, reflecting broader uncertainty about industry trends and markets.

Despite the promise of improvements in manufacturing efficiency, the shift to 450mm wafers is being delayed in part by industry uncertainty and consolidation, as well as reductions in capital and R&D investments.

Majority say production of 450mm wafers and production at a sub 20nm technology node will have the same impact on the industry

Thinking about the future of production technology, which will have a greater impact on the semiconductor industry: production at a sub-20nm technology node, or the production of 450mm wafers?

Asked whether a shift to 450mm or 20nm technologies would have a larger effect on the sector, there was a more than doubling of the percentage of respondents who believe both shifts would have about equal implications for semiconductor companies.

With the concern over eroding ASPs, reducing cost has become paramount. In the last two years, respondents felt there was more opportunity to drive down manufacturing cost by using larger 450mm wafers as opposed to making smaller sub-20nm transistors. This year, however, respondents felt either technique would yield the same benefit, and neither approach offers a clear advantage in reducing manufacturing costs.





Future growth and revenue opportunities

Which of the following sectors will provide the strongest growth opportunity in 2016 for the semiconductor industry?



How important are each of the following application markets in driving your company's semiconductor revenue stream over the next fiscal year?



As in recent years, semiconductor executives expect to see year-overyear growth for wireless, automotive sensors and infotainment systems, as well as wireline communications.

Expectations for cloud, renewable energy, and wearable technology all declined as these technologies enter the mainstream and are no longer expected to outpace growth in broader technology markets.

In KPMG's 2015 Technology Industry Outlook Survey, mobile technology ranked as the biggest driver of company revenue over the next 24 months.



Which of the following end markets will provide the strongest growth opportunity in 2016 for the semiconductor industry?

Asked about compelling end markets for the next year, respondents forecast steady expectations for networking and communications, automotive, and computing.

Expectations are slightly lower for consumer and industrial markets.

Executives report a large decline in positive sentiment for medical opportunities as mass-market adoption has, thus far, failed to meet the industry's once-high expectations for wearable health-related devices.

Looming challenges

What do you see as the biggest issues facing the semiconductor industry during the next three years?

Issues	Total	U.S.	China	ASPAC	EMEA
Increasing R&D costs	45%	48%	25%	38%	63%
Technology breakthroughs	41%	26%	88%	61%	38%
ASP erosion	40%	49%	46%	28%	38%
High cost for plant and equipment	35%	48%	17%	23%	25%
Keeping pace with customer demands	30%	19%	50%	42%	38%
Production capacity constraints	23%	19%	13%	26%	38%
Availability of expansion capital	20%	24%	0%	14%	13%
Other	3%	3%	0%	4%	0%

Respondents in China cited technology breakthroughs, ASP erosion, and keeping up with the pace of customer demands as their leading concerns. In the United States, concerns about ASPs, along with plant and equipment cost, increasing R&D costs, received about equal weighting as potential challenges.

Multiple responses allowed

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Increasing R&D costs and technology breakthroughs remain leading concerns of technology executives, but erosion in average selling price made a significant jump in this year's findings.

We believe that if a company develops a point of differentiation, the shelf life of that differentiation is shorter than it was five years ago. Technology is increasing productivity, but it's also impacting the way competitors can deliver the product or develop new business models. Along with technological innovation, true success relies on business model flexibility and agility. The ability to monitor technological innovations and to adapt to changing marketplace shifts have become critical.



Semiconductor industry faces several issues during the next three years, led by increasing R&D costs

L In 2015, ASP erosion surpassed meeting customer requirements as a concern of the industry. This indicates that semiconductor companies remain confident about being able to deliver advanced products that meet customer needs but are concerned about being fairly rewarded for their innovation.

— Packy Kelly, partner, Global Semiconductor Practice., KPMG in the U.S.

Key Takeaway

For five decades, Moore's Law has been foundational to the growth and success of the semiconductor industry. That momentum is now being challenged by physical limitations at the materials and production technology levels. Potential implications range from increased semiconductor industry consolidation to far-reaching macroeconomic impacts like higher costs for consumer electronics, reduced innovation and lower employment.

Conclusion

This year's findings revealed a number of major changes in executive outlook that raise intriguing questions about the future of the industry.

Confidence for 2016 revenue, profitability and spending are the lowest since 2011. We believe the influences affecting the confidence level include macroeconomic and foreign exchange risks, pricing pressure in many sectors, and higher inventory levels.

Even though sentiment in the three-year outlook

characteristically remains optimistic, that level of optimism is still down year-over-year. This poses the question if 2016's outlook is a short hiatus in the industry's traditional vigorous performance or the start of a prolonged cycle of much more moderate results.

When the projection for future revenue is murky, many companies protect their bottom line by cutting costs.

While this can be a sound strategy, investing in R&D and capital equipment is vitally important to position yourself for future revenue growth. The most successful companies are those that can control short-term costs while maintaining R&D investments necessary for future growth.

The industry is recognizing China as fertile territory for semiconductor consumption and workforce growth, buoyed by the emergent middle class' disposable income as well as the government's "Made in China 2025" plan. However, this paradigm might take time to be fully realized as the Chinese government's plans extend late into the next decade and other ASPAC countries are vying for their place at the table.

If the rate of M&A activity in 2016 stays at the same rate or

increases as many executives predict, numerous companies may have to reconsider their strategic plans. Economies of scale in manufacturing and R&D (i.e. innovation) are becoming increasingly crucial. Without obtaining them, either organically or inorganically, a company can become vulnerable and its future less certain.

The frequency of innovation cycles is slowing. Moore's Law is being tested like never before. The technology roadmap is not as clear as once thought, nor is the optimal manufacturing method. Possible implications to the macro-economy are stunning since semiconductors are integral components in all modern technology.

Semiconductor executives have a number of imperatives to address in the next year, including:

- Their strategy to maximize growth and profitability in a maturing industry
- The correct approach to optimize long-term capital and R&D spending
- How to keep the innovation engine running
- Which key applications, geographic markets and customers to align with
- The most accurate method to forecast demand in volatile channels and end markets
- Whether the best path forward is to execute your core business plan, be an acquirer, or find a strategic buyer or partner

Whatever a company's strategic direction might be, KPMG has the knowledge and services to help you attain your goals.

KPMG Global Semiconductor Practice

Our network of professionals has extensive experience working with global semiconductor and technology companies ranging from the Fortune 500 to pre-IPO startups. In addition to providing Audit, Tax and Advisory services, we aim to go beyond today's challenges to anticipate the potential long- and short-term consequences of shifting business, technology and financial strategies. With a worldwide presence, KPMG continues to build on our member firms' successes thanks to our clear vision, maintained values, and our people in 155 countries, we have the knowledge and experience to navigate the global landscape.

KPMG Strategy focuses on delivering corporate and private equity strategies based on our proprietary 9 Levers of Value framework, along with end-to-end implementation that helps companies get from strategy to results. Our dedicated strategy professionals have deep strategic advisory experience, particularly in building equity value and accelerating growth.

KPMG's Deal Advisory practice assists clients with evaluation and execution of investments, including M&A transactions, from pre-deal planning and target identification to due diligence and business integration.

Our Corporate Finance practice provides a broad range of investment banking and advisory services to its domestic and international clients. Our professionals have the experience and depth of knowledge to advise clients on global mergers and acquisitions, sales and divestitures, buyouts, financings, debt restructurings, equity recapitalizations, infrastructure project finance, capital advisory, real estate, portfolio solutions, fairness options and other advisory needs.

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He represents KPMG in a number of organizations affecting the industry and has influenced the development of key positions on several issues that impact the technology sector. Gary is a frequent spokesperson for the organization on technology industry trends, emerging technology business strategies, and C-suite industry outlooks. Lincoln Clark is the leader of the firm's Global Semiconductor Industry practice and a member of KPMG's Technology, Media & Telecommunications practice. He has over 29 years of experience providing auditing and accounting services, including as lead audit partner for a significant number of Fortune 500 companies. Lincoln has extensive experience working with semiconductor companies on initial public offerings, debt financings, acquisitions and equity financing. Lincoln has international experience working in England and Australia. Packy Kelly is a member of the firm's Technology, Media & Telecommunications (TMT) practice. He has over 25 years of experience providing auditing and accounting services and has served major semiconductor companies in SEC reporting, mergers and acquisitions and debt and equity capital raises. His semiconductor clients have included Synaptics, National Semiconductor, Volterra Semiconductor, Infineon, Intersil and Micrel. Packy has personal experience with each of the business models found in the industry, including fabless, fab lite, and IDM.

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