BRIOCEAN

July 2024

Monthly Market Updates

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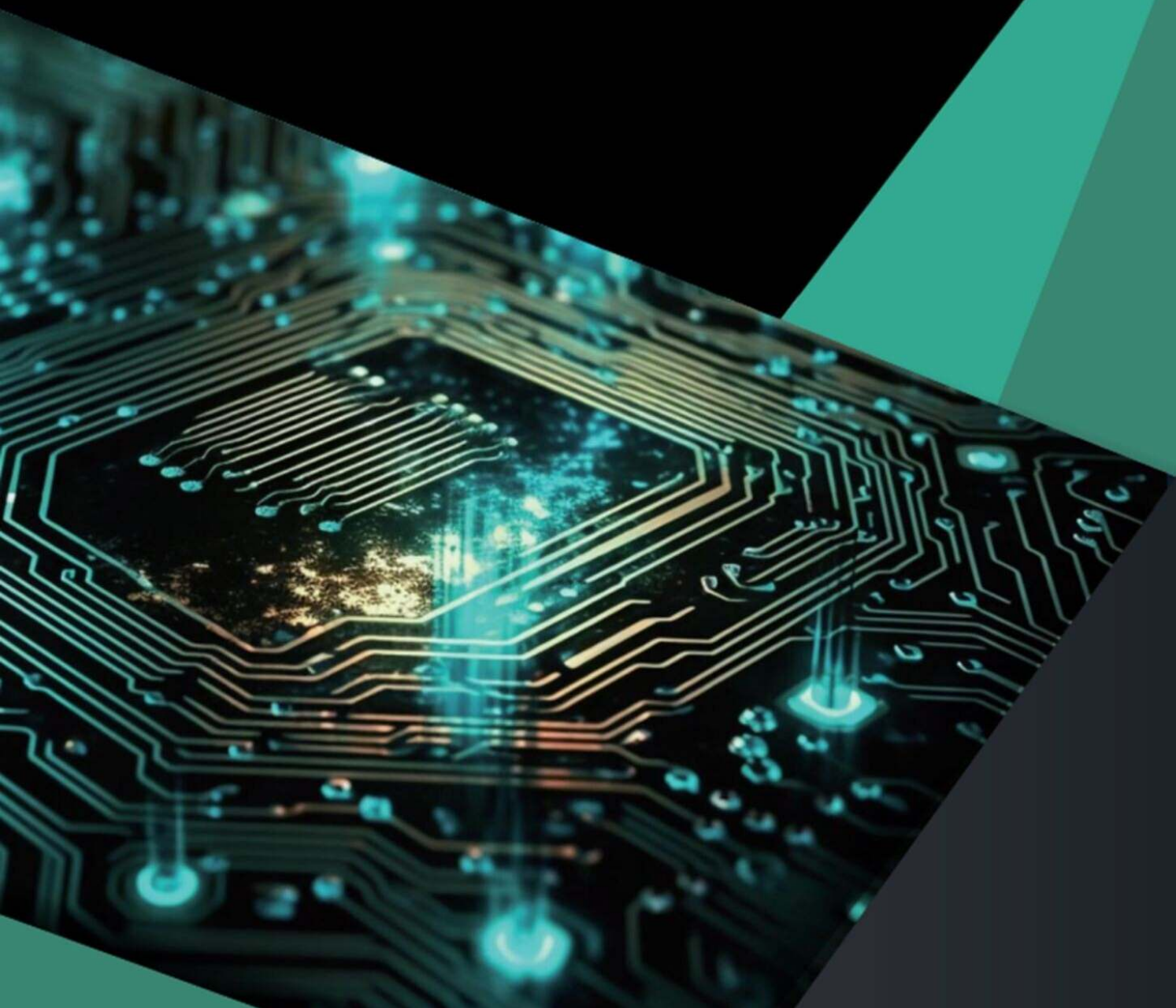

About Briocean

Briocean was established in 2008 as ISO9001:2005, and ANSI/ESD S20.20-2021 certified leading independent electronic component distributor, with our headquarters in Singapore. Our company specialises in sourcing and supply chain management services for the electronic manufacturing clients across a broad range of industries.

Our global network of over 10,000 vetted suppliers allows us to respond to the unique needs of our clients, from reducing component shortages to achieving significant cost savings. Our robust supplier management system and two state-of-the-art quality assurance centres in Shenzhen and Hong Kong ensure that we deliver reliable, traceable procurement services.

At Briocean, quality is our cornerstone. Our commitment is to ensure that every component we source is of the highest quality.

Executive Summary

The global manufacturing sector exhibited mixed performance in July 2024, as evidenced by the contraction of the Manufacturing PMI to 46.80 from June's 49.50. While India and South Korea led growth with PMIs of 58.50 and 51.40, respectively, other major economies like the United States, Japan, and the Eurozone faced contractions. The U.S. PMI stood at 48.50, reflecting ongoing challenges such as labour shortages and inflation, while the Eurozone's PMI was 45.80, indicating significant slowdowns due to weaker demand and rising energy costs. China's PMI maintained a slight expansion at 50.20, supported by strong domestic demand.

The semiconductor market, however, showed robust growth in June 2024, with global sales reaching USD49.98 billion, an 18.3% YoY increase. The Americas led this surge with a 43.60% YoY growth, driven by high demand for advanced technologies. China's semiconductor sector also performed well, with sales of USD15.09 billion, despite modest YoY growth of 0.80%. Conversely, Europe and the Asia Pacific regions faced slight contractions, highlighting regional disparities.

Notable market activities include the sharp rise in the U.S. 10-year Treasury yield to 4.1% in July 2024, reflecting renewed inflationary pressures and stronger economic data. The Philadelphia Semiconductor Index neared its 52-week high, driven by recovery in end markets and the rise of generative AI. In Canada, a significant investment of USD120 million was announced to support the semiconductor industry, while the European Commission initiated a probe into China's commodity silicon production due to market flood fears.

Geopolitical tensions impacted the semiconductor industry, with the Biden administration potentially tightening export restrictions to China, leading to a sell-off in tech stocks globally. The reliance of U.S. semiconductor equipment makers on China for 40% of their sales underscores the vulnerability to policy changes. Additionally, China's strategic shift to enhance domestic semiconductor capabilities positions it as a growing competitive force in the global market.

Key industry trends include the rising prices of DRAM and NAND Flash due to production cuts and strong demand from AI and cloud computing sectors. Power devices and microcontrollers (MCUs) also faced extended lead times due to raw material shortages and geopolitical tensions. Strategic initiatives, such as Samsung's formation of a new HBM Development Team and SK Hynix's investment in the Yongin Semiconductor Cluster, reflect ongoing efforts to innovate and expand manufacturing capabilities.

Content

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Macro Environment Overview

1. Macro Environment Overview

1.1 Global Manufacturing PMI Contracts in July 2024 Amid Mixed Regional Performance; India and South Korea Lead Growth

The global Manufacturing PMI for July 2024 stands at 46.80, indicating a contraction in the manufacturing sector. This is a notable decline from the previous month's figure of 49.50 and highlights ongoing challenges in the global manufacturing landscape. Factors contributing to this downturn may include supply chain disruptions, reduced demand in certain markets, and economic uncertainties.

China's Manufacturing PMI remains above the critical threshold at 50.20, signalling continued expansion in the sector. Despite a slight decrease from the previous month, China maintains its growth trajectory, supported by strong domestic demand and effective management of supply chain issues.

Japan's Manufacturing PMI is slightly below 50 at 49.10, indicating a marginal contraction. This represents a decline from June's 50.00, suggesting that Japanese manufacturers are facing headwinds, possibly from weaker export markets and internal economic challenges.

South Korea's Manufacturing PMI of 51.40 reflects continued expansion, albeit slightly down from June's 52.00. The manufacturing sector remains robust, driven by strong performance in electronics and automotive industries, despite facing external economic pressures.

India's Manufacturing PMI remains significantly high at 58.50, indicating robust growth and expansion in the manufacturing sector. This figure is consistent with June's 58.30, underscoring India's strong manufacturing momentum, supported by domestic demand and government initiatives to boost industrial production.

The United States' Manufacturing PMI stands at 48.50, indicating a contraction in the sector. This is a slight improvement from June's 48.50 but still below the expansion threshold. U.S. manufacturers are likely grappling with challenges such as labour shortages, inflationary pressures, and supply chain disruptions.

The Eurozone's Manufacturing PMI of 45.80 suggests a continued contraction, slightly up from June's 45.60. The Eurozone is facing significant manufacturing slowdowns due to weaker demand, rising energy costs, and geopolitical uncertainties impacting trade and supply chains.

The manufacturing PMI data for July 2024 paints a mixed picture across regions. While India and South Korea continue to exhibit strong manufacturing growth, other major economies such as the United States, Japan, and the Eurozone are facing contractions. China's manufacturing sector shows modest expansion, maintaining stability amid global economic uncertainties. The overall global PMI contraction highlights the need for strategic interventions to address the challenges faced by the manufacturing sector and stimulate growth.

Global Regional Manufacturing PMIs

Timeline	Global	China	Japan	South Korea	India	United States	Eurozone
2023-07	48.70	49.30	49.60	49.40	57.70	46.40	42.70
2023-08	49.00	49.70	49.60	48.90	58.60	47.60	43.50
2023-09	49.10	50.20	48.50	49.90	57.50	49.00	43.40
2023-10	48.80	49.50	48.70	49.80	55.50	46.70	43.10
2023-11	49.30	49.40	48.30	50.00	56.00	46.70	44.20
2023-12	49.00	49.00	47.90	49.90	54.90	47.40	44.40
2024-01	50.00	49.20	48.00	51.20	56.50	49.10	46.60
2024-02	50.30	49.10	47.20	50.70	56.90	47.80	46.50
2024-03	50.60	50.80	48.20	49.80	59.10	50.30	46.10
2024-04	49.90	50.40	49.60	49.40	58.80	49.20	45.70
2024-05	49.80	49.50	50.40	51.60	57.50	48.70	47.30
2024-06	49.50	49.50	50.00	52.00	58.30	48.50	45.60
2024-07	46.80	50.20	49.10	51.40	58.50	48.50	45.80

Data Source: Fastbull

1.2 Global Semiconductor Sales Surge in June 2024, Driven by Strong Performances in the Americas and China

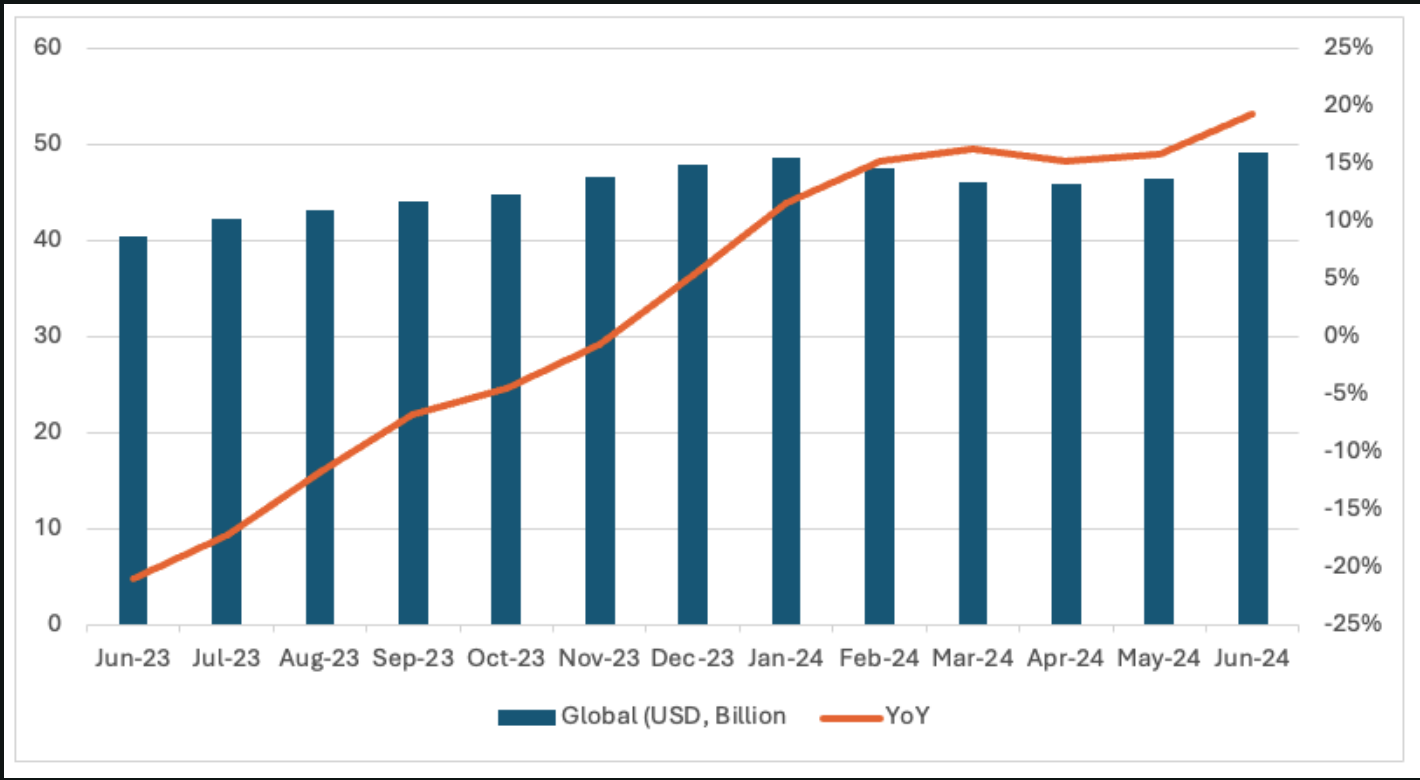
In June 2024, the global semiconductor market experienced a notable growth, with sales reaching USD49.98 billion, marking an 18.3% year-over-year (YoY) increase. This upward trend reflects the sector's recovery and expansion, driven by various regional dynamics. The Americas led this surge with a remarkable 43.60% YoY growth, showcasing a significant rebound from previous periods of contraction. This growth can be attributed to increased demand for advanced technologies and strategic investments in semiconductor capabilities within the region.

China also contributed significantly to the global semiconductor market's performance, with a YoY growth of 0.80% and sales totalling USD15.09 billion. Despite facing challenges in previous months, China's semiconductor sector showed resilience and steady improvement. The sustained demand for consumer electronics and the country's efforts to bolster its semiconductor industry played crucial roles in this growth. However, it's noteworthy that Europe's semiconductor market contracted slightly by 1.0% YoY, indicating potential challenges in the region's market dynamics.

Japan's semiconductor market showed a positive trend with a 1.80% YoY growth, reflecting a gradual recovery from previous contractions. Sales reached USD3.78 billion, highlighting the region's steady demand for semiconductor components. In contrast, the Asia Pacific/All Others region experienced a slight decline of 1.40% YoY, with sales amounting to USD12.15 billion. This dip suggests varied market conditions and potential challenges in maintaining growth momentum across different regions within Asia.

Overall, the semiconductor market's performance in June 2024 underscores the sector's resilience and the varying dynamics across different regions. The strong growth in the Americas and the steady improvement in China highlight the critical role of strategic investments and technological advancements in driving market expansion. However, the mixed results in Europe and the Asia Pacific/All Others region indicate the need for ongoing adaptation and strategic focus to sustain growth in the global semiconductor industry.

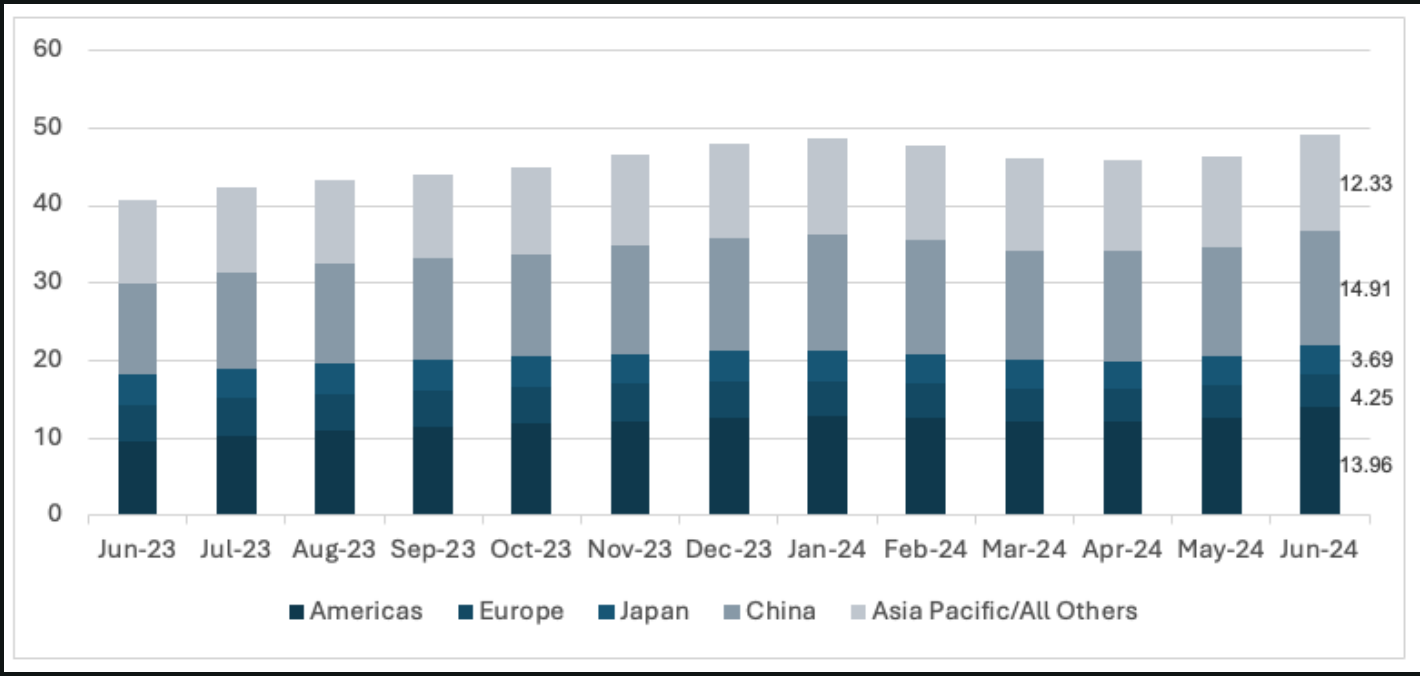
Global Semiconductor Sales (USD, Billion)



Data Source: SIA

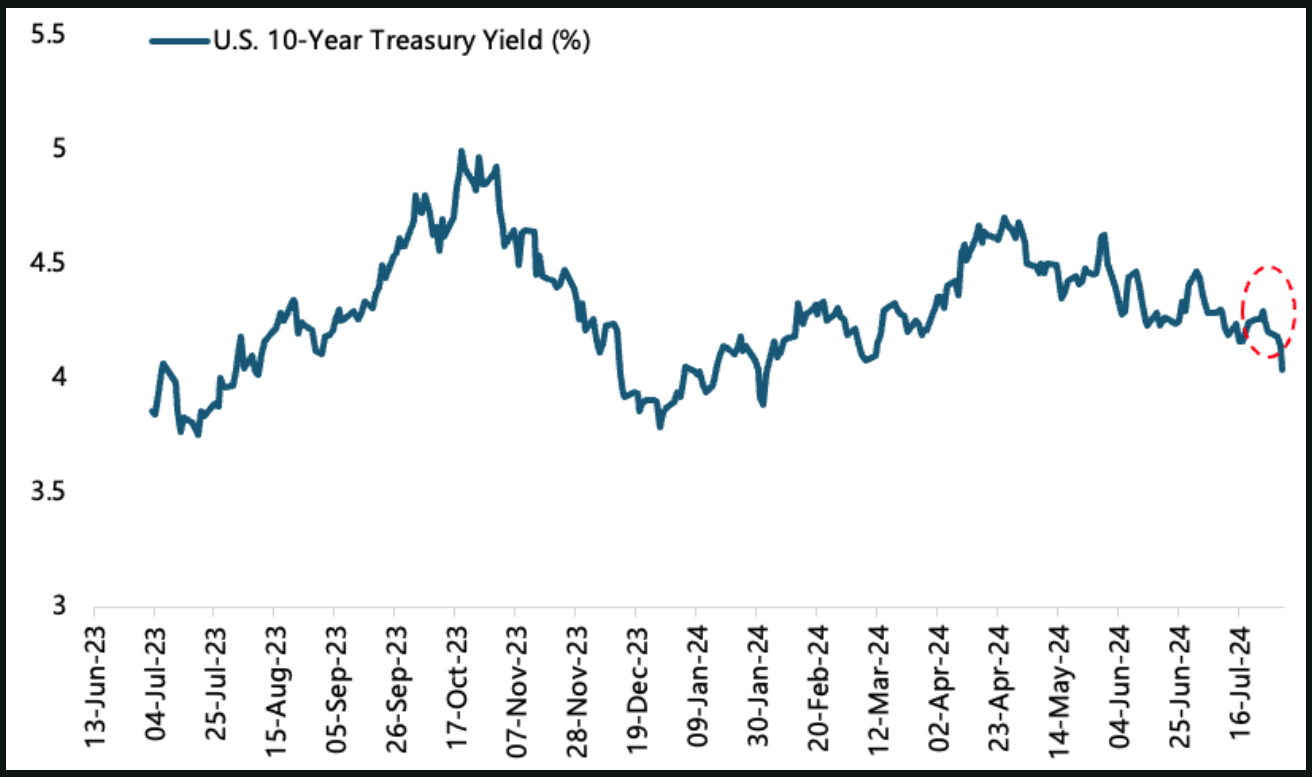
Regionally, the semiconductor sales for June 2024 reveals diverse market dynamics, with the Americas and China leading growth, while Europe and Asia Pacific/All Others face challenges. Japan shows signs of recovery, highlighting the complex and evolving landscape of the global semiconductor industry.

Semiconductor Sales by Regions (USD, Billion)



Data Source: SIA

U.S. 10-year Treasury Yield (%)



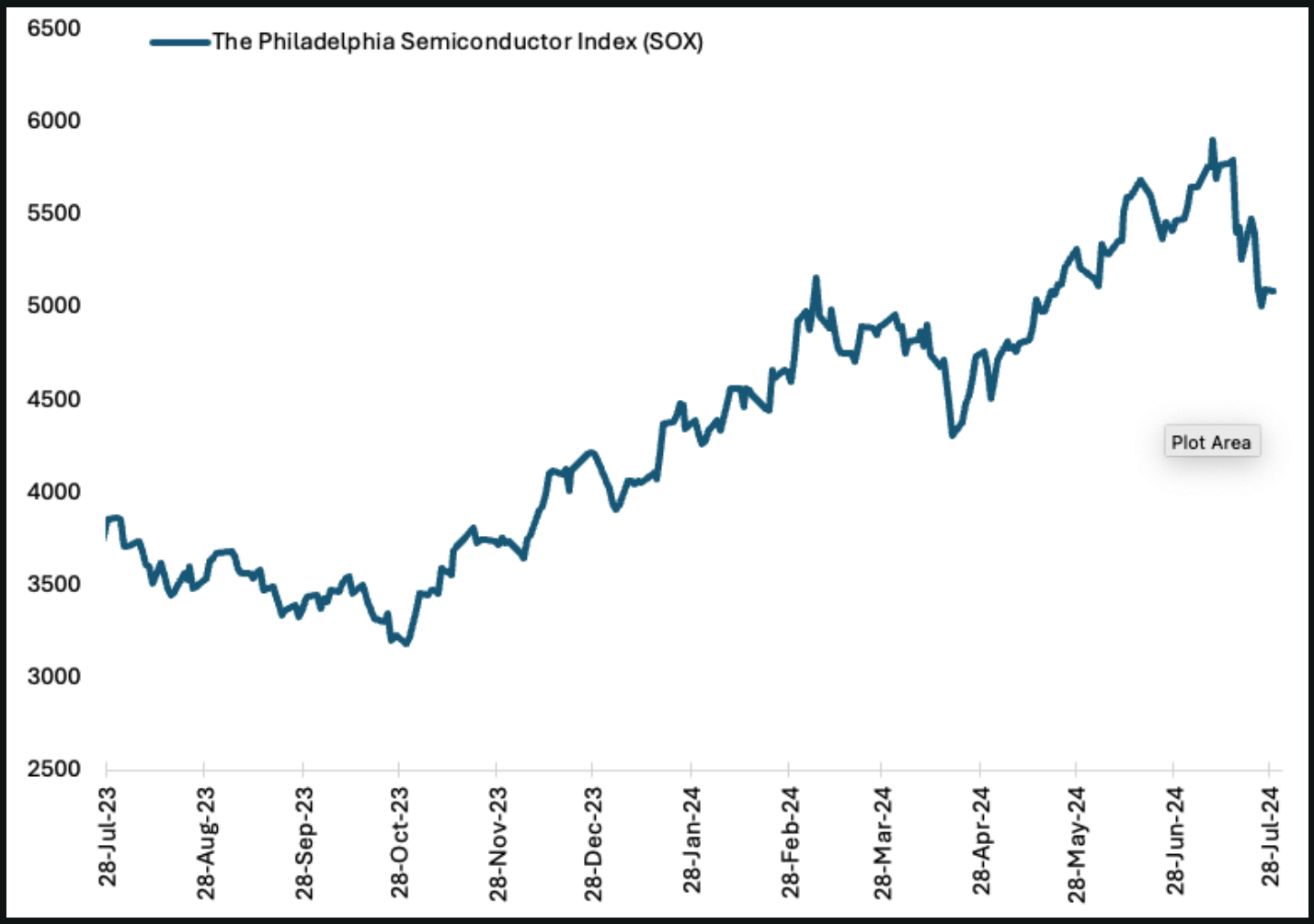
Data Source: Marketwatch

In July 2024, the U.S. 10-year Treasury yield exhibited notable movements compared to June 2024. During June, the yield hovered around 3.8%, reflecting a cautious optimism in the market as inflation showed signs of moderation and the Federal Reserve hinted at a potential pause in rate hikes. However, in July, the yield rose sharply to 4.1%, driven by renewed inflationary pressures and stronger-than-expected economic data, which revived concerns about further monetary tightening. This upward trend in yields indicates heightened market anxiety about the Fed's future policy actions and the sustainability of economic growth amidst persistent inflation. The increase also reflects a shift in investor sentiment towards risk aversion, as geopolitical tensions and uncertainties in the global semiconductor market contributed to a flight to safety, pushing up demand for government bonds and, consequently, their yields.

1.3 The Philadelphia Semiconductor Index has been Showing Signs of Recovery and Growth

The Philadelphia Semiconductor Index in July 2024 appears to be performing strongly, reflecting the overall recovery and growth in the semiconductor industry. The index is near its 52-week high, suggesting significant improvement from previous months, driven by factors such as the rise of generative AI, recovery in end markets, and the rebound of the memory chip segment.

Philadelphia Semiconductor Index (SOX)



Data Source: Marketwatch

1.4 Government of Canda Supporting Manufacturing and Commercialisation of Semiconductors

The Government of Canada has announced a USD120 million investment through the Strategic Innovation Fund to support CMC Microsystems' USD220 million project aimed at enhancing the country's semiconductor industry. This initiative will establish the Fabrication of Integrated Components for the Internet's Edge (FABrIC) network, fostering innovation in semiconductor manufacturing and commercialisation. The project is expected to create 325 highly skilled jobs and bolster the domestic production of semiconductors, enhancing Canada's economic and national security while improving North American competitiveness and supply chain resilience.

1.5 Fear of Commodity Chip Flood Sparks EU Probe into China's Silicon Ambitions

The European Commission is investigating China's ramp-up in commodity silicon production, which has raised fears of market flooding and price drops. With plans to double its manufacturing capacity in the next five to seven years, China's focus on legacy chips (28nm and above) for sectors like household appliances and automotive could disrupt global markets. The EU and the U.S. are jointly assessing dependencies on these mature semiconductors and may develop measures to address potential market distortions caused by China's heavy subsidisation.

1.6 Chip Stocks Drop on Fears U.S. to Toughen China Rules

The global semiconductor industry experienced significant volatility driven by geopolitical tensions and policy uncertainties. The Biden administration's potential move to further tighten export restrictions on semiconductor equipment to China has sparked widespread concern, leading to a sharp sell-off in tech stocks globally. The Nasdaq index dropped 2.7%, with major semiconductor companies like Nvidia and AMD plummeting by 6.6% and over 10%, respectively. Similarly, European and Asian markets saw substantial declines, with ASML shares tumbling nearly 11% and Tokyo Electron down around 8.8%. Additionally, comments from former President Donald Trump regarding Taiwan's defense costs further fueled fears of disruption in chip supplies from the world's leading producer. Despite these immediate market reactions, industry experts like Marco Mezger from Neumonda remain optimistic about the long-term growth trajectory of the semiconductor sector.

1.7 U.S. Chip Equipment Makers Rely on China for 40% of Sales

U.S. semiconductor equipment manufacturers rely heavily on the Chinese market, with China accounting for 40% of their sales. This significant dependency highlights the crucial role China plays in the global semiconductor supply chain. However, this reliance also poses risks due to ongoing geopolitical tensions between the U.S. and China. Changes in trade policies or restrictions could impact revenue and operations for these companies. To manage these risks, U.S. semiconductor firms may need to diversify their market presence, stay informed on policy changes, and invest in technological innovation.

1.8 U.S. Reportedly Targeting China's Mature Semiconductor Processes Next

The U.S. is reportedly focusing on restricting China's access to advanced semiconductor technologies, specifically those related to mature process nodes. This strategic move aims to address national security concerns and curb China's advancements in semiconductor manufacturing. The implications of this policy shift could impact global semiconductor supply chains and influence strategic decisions for companies operating in the industry. Firms will need to navigate these regulatory changes while adapting their strategies to mitigate potential disruptions and capitalise on emerging opportunities.

1.9 China's Semiconductor Industry Ushers in a New Period

Driven by substantial investment and policy support, China's semiconductor sector is evolving with a focus on enhancing domestic capabilities and reducing reliance on foreign technologies. The industry is witnessing advancements in both semiconductor design and manufacturing processes. This strategic shift positions China to potentially strengthen its competitive stance in the global semiconductor market. Companies and stakeholders will need to closely monitor these developments, as they could influence global supply chains and market dynamics.

1.10 PCB Manufacturing in Thailand Poised for Exponential Growth

Thailand is actively advancing its technology sector through substantial investments in infrastructure and innovation, aiming to enhance its global market position. The country is focusing on attracting international tech firms and supporting local startups by developing technology hubs and providing increased support for emerging businesses. These efforts are designed to drive growth and bolster Thailand's competitiveness in the global tech landscape. As these developments unfold, stakeholders should keep a close watch on the potential impact on market dynamics and opportunities for strategic alignment.

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Semiconductor Industry Updates

2. Semiconductor Industry Updates

Semiconductor Industry Overview

Impact	Manufacturer	Updates	Aanalysis
Short-term	Nvidia	Stock drops due to semiconductor market downturn from fluctuating demand and supply chain issues	May lead to short-term chip prices fluctuations
Short-term	GlobalFoundaries	Hires aggressively to boost semiconductor production capacity	Stabilise or lower chip prices by improving supply chain efficiency
Short-term	Samsung	Worker strike raises concerns about labour conditions and production impacts	Potentially raising prices due to supply shortages
Mid-term	Apple/Micron	Apple and Micron executives visit China amid U.S. chip export restrictions, highlighting the market's importance	Might mitigate severe supply chain disruptions, helping maintain stable pricing
Mid-term	Amkor	SIA supports CHIPS Act incentives for Amkor's new Arizona semiconductor facility	Potentially reducing dependency on foreign suppliers and stabilising prices
Long-term	Samsung	Creates a team to advance High Bandwidth Memory (HBM) technology for AI and high-performance computing	May lead to advanced, cost-effective memory solutions, influencing future component pricing
Long-term	SK hynix	Invests in the Yongin Semiconductor Cluster to expand manufacturing and technology capabilities	Could increase supply of memory chips, potentially lowering prices in the long term
Long-term	BESI	Reports strong Q2 2024 results with significant revenue growth and improved profit margins	Might contribute to stable or lower component pricing
Long-term	TSMC	TSMC's Foundry 2.0 proposal addresses antitrust concerns and regulatory impacts on the semiconductor industry	Could influence market dynamics and pricing strategies, potentially leading to price adjustments across the industry

2.1 Short-term Implications

2.1.1 Nvidia, Semiconductor Stocks Seesaw After Wednesday's Meltdown

Nvidia, a leading semiconductor manufacturer, is experiencing a decline in stock performance amidst a downturn in the semiconductor market. Contributing factors include fluctuating demand, ongoing supply chain disruptions, and macroeconomic uncertainties. The struggle reflects broader industry trends, impacting investor sentiment and stock valuations. Companies within the semiconductor space must navigate these adverse conditions while adapting to evolving market dynamics. Strategic adjustments and innovative solutions will be critical for maintaining competitive positioning and achieving future growth.

2.1.2 GlobalFoundaries Races to Find Semiconductor Talent as Demand for Chips Soars

As the semiconductor industry experiences heightened demand driven by technological advancements and growing applications across various sectors, GlobalFoundries is ramping up its hiring to bolster production capabilities and support its growth objectives. This move reflects the company's proactive approach to addressing supply chain pressures and meeting market needs. The hiring initiative is expected to enhance GlobalFoundries' operational capacity and strengthen its position in the competitive semiconductor landscape.

2.1.3 Samsung Workers Down Tools Marking the First Strike in 55-Year History

Samsung workers have initiated their first strike in the company's 55-year history, marking a significant labour action. The strike highlights issues with working conditions or labour policies at Samsung, potentially impacting its production, revenue, and reputation. This unprecedented event may prompt other tech companies to review their own labour practices and could influence broader discussions on workers' rights within the industry. Samsung will need to address the workers' concerns, improve labour conditions, and manage communication with stakeholders to mitigate the impact of the strike.

2.2 Mid-term Implications

2.2.1 Apple and Micron Leaders Visit China as U.S. Ramps Up Chips Curbs

Top executives from Apple and Micron have recently visited China amid escalating U.S. restrictions on semiconductor exports. This visit underscores the strategic importance of the Chinese market for both companies, despite the heightened geopolitical tensions and regulatory challenges. Apple's and Micron's engagements highlight their efforts to navigate the complexities of the current trade environment and maintain crucial business relationships. These developments are critical for stakeholders to monitor, as they could significantly influence global supply chain dynamics, market access strategies, and the competitive landscape within the semiconductor and consumer electronics industries.

2.2.2 SIA Applauds CHIPS Act Incentives for Amkor Facility in Arizona

The Semiconductor Industry Association (SIA) has expressed strong support for the CHIPS Act incentives granted to Amkor Technology for its new facility in Arizona. This initiative is part of a broader effort to bolster domestic semiconductor manufacturing capabilities and enhance the resilience of the U.S. semiconductor supply chain. The incentives aim to attract significant investments, create high-tech jobs, and advance the U.S.'s position in the global semiconductor industry. Amkor's new facility will focus on advanced packaging and testing services, crucial for the development of next-generation semiconductor technologies. Stakeholders should consider the implications of these incentives on industry competitiveness, supply chain stability, and technological innovation within the U.S. semiconductor sector.

2.3 Long-term Implications

2.3.1 Samsung Forms New HBM Development Team to Focus on Next-Generation HBMs

Samsung has established a new High Bandwidth Memory (HBM) Development Team aimed at advancing its capabilities in the artificial intelligence (AI) market. This team will focus on developing cutting-edge HBM technology, which is critical for high-performance computing and AI applications. The move reflects Samsung's strategic initiative to enhance its technological leadership and address the growing demand for advanced memory solutions in AI and other high-tech fields. By investing in HBM development, Samsung seeks to strengthen its position in the competitive AI market and drive innovation in memory technology.

2.3.2 SK hynix Board Approves Yongin Semiconductor Cluster Investment Plan

SK hynix's board has approved the investment plan for the Yongin Semiconductor Cluster, marking a significant development in the company's growth strategy. This substantial investment is aimed at expanding SK hynix's manufacturing capacity and enhancing its technological capabilities in semiconductor production. The Yongin cluster will serve as a critical hub for advancing semiconductor technologies and meeting the increasing global demand for memory and logic chips. This initiative aligns with SK hynix's long-term objectives to fortify its position in the semiconductor industry. Stakeholders should consider the potential impacts on global supply chains, competitive positioning, and market dynamics within the semiconductor sector.

2.3.3 BE Semiconductor Industries N.V. Announces Q2-24 Results

BE Semiconductor Industries N.V. (BESI) has reported its financial results for Q2 2024, demonstrating a robust performance amid a fluctuating market environment. The company achieved revenues of EUR278.4 million, reflecting a notable 11.2% year-over-year increase, driven by strong demand across its semiconductor packaging solutions. Gross profit margins expanded to 45.8%, up from 42.6% in the previous quarter, underscoring BESI's effective cost management and operational efficiency. The firm's backlog remained healthy at EUR560 million, indicating sustained client confidence and future growth prospects. BESI's strategic focus on advanced technology and innovation continues to position it favourably within the semiconductor industry, despite global economic uncertainties.

2.3.4 TSMC Proposed Foundry 2.0 to Alleviate Antitrust Concerns

Recent developments in the semiconductor industry have been significantly impacted by regulatory actions, as highlighted by the latest Digitimes article. Taiwan Semiconductor Manufacturing Company (TSMC) faces potential antitrust scrutiny that could reshape competitive dynamics within the sector. The scrutiny arises from concerns over TSMC's market dominance and its potential influence on pricing and supply chain practices. Despite these regulatory challenges, TSMC's robust sales performance remains a testament to its pivotal role in the semiconductor ecosystem. The company's strong revenue growth underscores its resilience and strategic positioning, even as the industry navigates evolving regulatory landscapes and intensifying competitive pressures. This scenario highlights the need for stakeholders to closely monitor regulatory developments and their implications for market strategies and industry stability.

03

Application Updates

3. Application Updates

Application Overview

Category	Manufacturer	Updates	Analysis
Artificial Intelligence	Microsoft/Lumen Technologies	Partner to advance AI and drive digital transformation	Could lower component prices and boost AI technology growth
Artificial Intelligence	Intel	Aims to surpass AMD in the AI chip market by accelerating AR technology development	May increase competition and impact semiconductor prices
Artificial Intelligence	Alibaba/Tencent	Adopt Meta's AI large language model to enhance AI capabilities	Might advance AI technologies and affect market dynamics.
Artificial Intelligence	Samsung	Q2 profit surges due to AI-driven demand and strategic investments	Could increase investments in AI components, affecting prices and availability
New Energy	China Evergrande	China Evergrande New Energy Vehicle shares rise, reflecting strong investor confidence	Suggests growth in EV sector, influencing component demand and pricing
New Energy	Aramco	Acquires a 50% stake in Air Products Qudra's blue hydrogen company	Could advance hydrogen technology and impact semiconductor sector competition
Automotive	Stellantis/Nissan	Struggle with sales in the competitive U.S. car market	May require strategic adjustments, affecting component supply chains
Automotive	Tesla	Thrives in the Dutch EV market despite sector challenges	Could increase demand for high-quality components and drive innovation
Automotive	Xpeng	Launches G6 and G9 electric SUVs in Australia to expand its global footprint	Offers opportunities and competitive threats in the EV market, impacting component demand and pricing

3.1 Artificial Intelligence

3.1.1 Microsoft and Lumen Technologies Partner to Power the Future of AI and Enable Digital Transformation to Benefit Hundreds of Millions of Customers

Microsoft and Lumen Technologies have announced a strategic partnership aimed at advancing artificial intelligence (AI) and driving digital transformation across various industries. This collaboration leverages Microsoft's AI capabilities and Lumen's edge computing infrastructure to enhance performance and scalability for enterprises. The partnership is designed to deliver advanced solutions that support digital transformation and improve customer experiences on a large scale. This development highlights the growing emphasis on AI and edge computing in driving innovation and efficiency and presents significant opportunities for businesses to leverage these technologies for competitive advantage and enhanced operational capabilities.

3.1.2 Intel Plans to Beat AMD for Second Place in the Artificial Intelligence (AI) Chip Race

Intel has outlined its strategic plan to surpass AMD and secure the second position in the augmented reality (AR) market. The company's approach involves accelerating the development of its AR technologies and enhancing its product offerings to gain a competitive edge. Intel's focus is on leveraging its advanced semiconductor capabilities and innovation in AR solutions to capture a larger market share. This move underscores the increasing competition in the AR sector and highlights Intel's commitment to strengthening its position against key competitors. Stakeholders should monitor Intel's progress and its impact on market dynamics, as well as potential shifts in competitive positioning within the AR industry.

3.1.3 Alibaba and Tencent Lap Up Meta’s AI Large Language Model

Alibaba and Tencent are integrating Meta's AI large language model, marking a significant development in their AI capabilities. This adoption allows both Chinese tech giants to enhance their product offerings and services by leveraging advanced AI technology from Meta. The integration is expected to boost their competitive edge in the rapidly evolving AI landscape, particularly in natural language processing and other AI-driven applications. This move also underscores the strategic importance of AI collaborations and technology sharing among leading global firms. Stakeholders should consider the implications of this development on the competitive dynamics within the AI market and the potential for accelerated innovation and service enhancements.

3.1.4 AI Frenzy Expected to Have Boosted Samsung Q2 Profit 13-Fold

Samsung Electronics has reported a remarkable 13-fold increase in its Q2 2024 profit, largely attributed to the surge in demand for artificial intelligence (AI) technologies. According to the Business Times, the company's substantial profit growth is a direct result of its strategic investments and innovations in AI, which have significantly boosted its semiconductor and electronics divisions. The AI-driven demand has enhanced Samsung's competitive edge, reinforcing its position as a key player in the tech industry. This performance underscores the growing importance of AI in driving technological advancements and profitability, suggesting that companies with robust AI strategies are likely to experience accelerated growth and market leadership.

3.2 New Energy

3.2.1 Shares of China Evergrande New Energy Vehicle Set to Open Up 9%

Shares of China Evergrande New Energy Vehicle Group are set to rise by 9%, signalling strong investor confidence and positive market sentiment towards the company. This surge reflects optimism about Evergrande's strategic initiatives in the electric vehicle (EV) sector, despite the broader financial challenges faced by its parent company. The market's response highlights the potential growth opportunities within the new energy vehicle market in China. Stakeholders should monitor Evergrande's progress and the implications for the competitive landscape in the EV industry, as well as the broader impact on China's transition to sustainable transportation solutions.

3.2.2 Aramco to Acquire 50% Stake in Air Products Qudra's Blue Hydrogen Industrial Gases Company

Aramco has announced its acquisition of a 50% stake in Air Products Qudra's blue hydrogen and industrial gases company. This strategic investment underscores Aramco's commitment to advancing its hydrogen capabilities and contributing to the global energy transition. The partnership aims to leverage Air Products Qudra's expertise in hydrogen production and distribution, positioning Aramco as a key player in the burgeoning blue hydrogen market. This acquisition aligns with Aramco's broader strategy to diversify its energy portfolio and support sustainable energy solutions. Stakeholders should evaluate the potential impacts on the hydrogen market, the acceleration of clean energy initiatives, and the competitive landscape in the industrial gases sector.

3.3 Automotive

3.3.1 U.S. Market Proves a Headache for Global Carmakers

Stellantis and Nissan are facing significant challenges in the U.S. car market. Both automakers are struggling with sluggish sales and increased competition. Stellantis, formed from the merger of Fiat Chrysler and PSA Group, and Nissan are both experiencing difficulties in gaining traction amid shifting consumer preferences and heightened market competition. Factors contributing to their struggles include supply chain issues, changing automotive trends, and intensified competition from other manufacturers.

3.3.2 Tesla Thrives in a Struggling Dutch EV Market

Tesla is demonstrating robust performance in the Dutch electric vehicle (EV) market, despite broader sector challenges. While the Dutch EV market contends with reduced incentives and economic pressures, Tesla has continued to excel, attributed to its strong brand presence, comprehensive model lineup, and strategic marketing. Tesla's resilience and market dominance highlight its competitive advantage and may set benchmarks for other industry players. This performance underscores Tesla's capacity to leverage market conditions effectively and could influence competitive dynamics and strategic planning within the European EV sector.

3.3.3 Xpeng G6 Electric SUV Arrives in Australia Alongside Large G9

Xpeng has introduced its G6 and G9 electric vehicles (EVs) to the Australian market, marking a significant step in its international expansion strategy. The G6 and G9 models, featuring advanced autonomous driving capabilities and competitive pricing, are expected to attract a substantial customer base in Australia. This entry into the Australian market demonstrates Xpeng's commitment to increasing its global footprint and competing with established EV manufacturers. Industry stakeholders should monitor Xpeng's progress and its potential impact on the Australian EV market, including shifts in consumer preferences and competitive dynamics.

04

Product Updates

4. Product Updates

4.1 Semiconductor Pricing Trends: DRAM and NAND Lead the Way

In July 2024, the semiconductor industry experienced notable pricing trends across various segments, with distinct movements in DRAM, NAND Flash, power devices, and microcontrollers (MCUs).

4.1.1 DRAM

DRAM prices increased by 13-18% due to strategic production cuts and strong demand from sectors like AI, cloud computing, and consumer electronics. Lead times for DRAM extended to 10-16 weeks, reflecting the ongoing market uncertainty and production adjustments by major manufacturers such as Samsung, SK hynix, and Micron.

Product Type	Manufacturer	Jul Pricing	Aug Pricing (Forecast)	Jul Lead Time
DDR4	Micron	USD4.50 – 9	USD4.30 – 8.60	4 – 6 weeks
DDR4	Samsung	USD4.40 – 8.80	USD4.20 – 8.50	4 – 8 weeks
DDR4	SK hynix	USD4.30 – 8.60	USD4.10 – 8.40	4 - 6 weeks
DDR5	Micron	USD9 – 18	USD8 – 17	6 – 10 weeks
DDR5	Samsung	USD8.50 – USD17.50	USD8 – 16.50	6 – 10 weeks
DDR5	SK hynix	USD8 – 17	USD7.80 – 16.50	8 – 12 weeks

Data Source: Marketplaces and Data Aggregators Platforms

4.1.2 NAND Flash

NAND Flash also saw price hikes of 15-20%, driven by similar production cuts and increased purchasing to prevent potential shortages. The lead times for NAND Flash mirrored this trend, extending to 10-15 weeks, influenced by supply chain constraints.

Product Type	Manufacturer	Jul Pricing	Aug Pricing (Forecast)	Jul Lead Time
SLC NAND	Micron	USD1.50 – 3	USD1.40 – 2.80	4 – 8 weeks
SLC NAND	Samsung	USD1.45 – 2.90	USD1.40 – 2.80	4 – 8weeks
SLC NAND	Western Digital	USD1.60 – 3.20	USD1.50 – 3	6 – 10 weeks
MLC NAND	Micron	USD0.80 – 2	USD0.75 – 1.90	4 – 8 weeks
MLC NAND	Samsung	USD0.75 – 1.90	USD0.70 – 1.85	4 – 6 weeks
MLC NAND	Western Digital	USD0.85 – 2.10	USD0.80 – 2	4 – 8 weeks
TLC NAND	Micron	USD0.40 – 1	USD0.35 – 0.90	4 – 6 weeks
TLC NAND	Samsung	USD0.38 – 0.95	USD0.35 – 0.90	4 – 6 weeks
TLC NAND	Western Digital	USD0.42 – 1.05	USD0.40 – 1	4 – 8 weeks

Data Source: Marketplaces and Data Aggregators Platforms

4.1.3 Storage Chip

In the storage chips segment, including eMMC and SSD products, prices surged significantly, with SSD prices rising by 18-23%. This increase is primarily due to constrained supply and high demand from cloud computing and digitalisation sectors. Lead times for eMMC and SSD solutions remained stable at around 9-13 weeks, as manufacturers like Western Digital, Toshiba, and Samsung managed to balance high demand with supply constraints.

Product Type	Manufacturer	Jul Pricing	Aug Pricing (Forecast)	Jul Lead Time
eMMC	Samsung	USD2 – 6	USD1.90 – 5.80	4 - 6 weeks
eMMC	SK hynix	USD1.90 – 5.80	USD1.80 – 5.60	4 - 6 weeks
eMMC	Micron	USD1.80 – 5.60	USD1.70 – 5.50	4 - 6 weeks
UFS	Samsung	USD4 – 12	USD3.80 – 11.50	6 - 10 weeks
UFS	SK hynix	USD3.80 – 11.50	USD3.70 – 11	6 - 10 weeks
UFS	Micron	USD3.70 – 11	USD3.60 – 10.50	6 - 10 weeks

Data Source: Marketplaces and Data Aggregators Platforms

4.1.4 Power Devices

Power devices experienced relatively stable prices, though they are subject to fluctuations caused by raw material shortages and high logistics costs. Lead times for these components varied widely, ranging from 15-37 weeks, depending on the specific type of power device and the ongoing supply chain disruptions.

Product Type	Manufacturer	Jul Pricing	Aug Pricing (Forecast)	Jul Lead Time
MOSFETs	Infineon	USD0.50 – 4	USD0.45 – 3.80	6 - 10 weeks
MOSFETs	ON Semiconductor	USD0.45 – 3.80	USD0.40 – 3.60	6 - 10 weeks
MOSFETs	Texas Instrument	USD0.40 – 3.50	USD0.35 – 3.40	6 – 12 weeks
IGBTs	Infineon	USD2 – 15	USD1.90 – 14	8 - 12 weeks
IGBTs	ON Semiconductor	USD1.90 – 14	USD1.80 – 13.50	8 - 12 weeks
IGBTs	Texas Instrument	USD1.80 – 13.50	USD1.70 – 13	8 - 12 weeks

Data Source: Marketplaces and Data Aggregators Platforms

4.1.5 Microcontrollers (MCUs)

For microcontrollers (MCUs), prices remained relatively stable despite the extended lead times, which ranged from 15-37 weeks. The extended lead times are due to raw material shortages and geopolitical tensions affecting production schedules of manufacturers like Texas Instruments, NXP, and Microchip Technology.

MCU Lead Time Situation by Manufacturer

Manufacturer	Product Type	Part No.	Jul Pricing	Aug Pricing (Forecast)	Aug Lead Time (Forecast)
Microchip	8-bit MCU	ATmega328P	USD2.50	USD 2.40	16 – 18 weeks
Microchip	8-bit MCU	IC16F877A	USD 4	USD 3.90	17 – 19 weeks
NXP	ARM Cortex-M3 MCU	LPC1768	USD 6.50	USD 6.30	18 – 22 weeks
NXP	ARM Cortex-M4 MCU	MK64FN1M0VLL12	USD 8	USD 7.80	20 – 24 weeks
STMicroelectronics	ARM Cortex-M3 MCU	STM32F103C8T6	USD 3.80	USD 3.70	14 – 18 weeks
STMicroelectronics	8-bit MCU	STM8S003F3P6	USD 1.50	USD 1.45	16 – 20 weeks
Texas Instruments	16-bit MCU	MSP430G2553IN20	USD 2.20	USD 2.10	20 – 24 weeks
Texas Instruments	ARM Cortex-M4 MCU	Tiva C TM4C123GH6PM	USD 5	USD 4.90	22 – 28 weeks
Renesas	RL78 MCU	R5F100LEA	USD 3	USD 2.90	16 – 21 weeks
Renesas	32-bit MCU	RX62N	USD 10	USD 9.80	18 – 23 weeks

Data Source: Public Information on the Internet

The semiconductor industry in July 2024 is characterised by rising prices and extended lead times across most components. DRAM, NAND Flash, and storage chips all saw price increases, while power devices and MCUs experienced stable pricing but extended lead times. These trends are driven by strategic production adjustments, high demand in key sectors, raw material shortages, and geopolitical tensions. Manufacturers and buyers must navigate these complex market dynamics to effectively manage their operations and supply chains.

05

Key Market Trends

5. Key Market Trends

5.1 AI, Automotive, and 5G Propel the Semiconductor Industry Forward in July 2024

The semiconductor industry is at a critical juncture in July 2024. The projected growth is underpinned by strong demand in AI, automotive, and 5G sectors, signalling a recovery from the downturn experienced in 2023. However, this optimism is tempered by ongoing challenges in talent acquisition, geopolitical uncertainties, and supply chain complexities.

The rise of AI as a key revenue driver represents a significant shift in the industry landscape. Companies that can effectively capitalise on AI-related opportunities, particularly in microprocessor and GPU development, are likely to see substantial growth.

The automotive sector's continued importance underscores the increasing integration of advanced technologies in vehicles. This trend is expected to persist, offering sustained opportunities for semiconductor manufacturers.

Despite the positive outlook, the industry must navigate carefully. The talent shortage remains a critical issue, potentially constraining growth if not addressed effectively. Additionally, the geopolitical landscape continues to pose risks, particularly in terms of trade policies and supply chain disruptions.

The focus on advanced technologies like chiplets and co-packaged optics indicates a shift towards more efficient and powerful semiconductor solutions. Companies investing in these areas may gain a competitive edge in the evolving market.

5.2 Semiconductor Market Adapts to Global Geopolitical Challenges

As of July 2024, geopolitical tensions continue to heavily influence the global semiconductor industry, particularly in terms of exports. Trade disputes between major economies, especially the United States and China, have created a complex landscape for semiconductor manufacturers and their global supply chains. Export controls on advanced node manufacturing equipment and technologies, primarily led by the United States to limit China's access to cutting-edge semiconductor technologies, are reshaping global supply chains. Companies are diversifying their manufacturing and sourcing strategies to mitigate risks, particularly in the advanced AI chip sector where export restrictions are creating significant challenges.

These geopolitical tensions have accelerated the trend towards regional semiconductor ecosystems. Initiatives like the U.S. CHIPS Act and similar programs in Europe and Asia are fostering domestic semiconductor capabilities, altering traditional export patterns and creating new opportunities and challenges. The current geopolitical climate is driving companies to adopt more nuanced and flexible export strategies. While these restrictions pose challenges, they are also spurring innovation and investment in alternative markets and technologies. Companies that navigate these complex regulations while maintaining technological leadership are likely to emerge as industry leaders. To maintain resilience, it is crucial for companies to monitor policy developments, develop contingency plans, and diversify supply sources and customer bases. Adapting quickly to regulatory changes and leveraging emerging regional ecosystems will be key to thriving in this volatile environment.

Conclusion

The global manufacturing sector continues to navigate through a landscape marked by contractions in key economies and moderate expansions in others. The mixed performance across regions underscores the importance of strategic interventions to address supply chain disruptions, economic uncertainties, and geopolitical tensions.

The semiconductor industry, while showing robust growth and resilience, faces significant challenges from geopolitical dynamics and supply chain constraints. The strong performance in the Americas and steady improvement in China highlight the critical role of strategic investments and technological advancements. However, the slight contractions in Europe and Asia Pacific regions indicate ongoing market complexities.

As the semiconductor sector evolves, it is crucial for stakeholders to monitor geopolitical developments and regulatory changes closely. Companies must adapt to these changes by diversifying their market presence, investing in innovation, and leveraging strategic partnerships. The ongoing advancements in AI, automotive, and 5G sectors present substantial opportunities for growth, driving the need for continuous innovation and strategic alignment to maintain competitive positioning in the global market.

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